

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF WEST VIRGINIA

EQT PRODUCTION COMPANY,

Plaintiff,

v.

Civil Action No. 1:18-cv-72
(Judge Keeley)

AUSTIN CAPERTON,
in his official capacity as
Secretary of West Virginia Department
of Environmental Protection,

Defendant.

AMICUS CURIAE BRIEF OF
WEST VIRGINIA SURFACE OWNER'S RIGHTS ORGANIZATION

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1. Introduction.

The principal thrust of the Complaint in this action is that *W.Va. Code* §22-6-8 is an unconstitutional violation of the Contracts Clause. The statute, first enacted in 1982, has never been challenged before. It was enacted thirty-four years ago, it was as recodified with the creation of the Department of Environmental Protection in 1994, and it was amended in the 2018 Regular Session of the West Virginia Legislature.

This brief will not address the adverse economic impact that would occur, if EQT would succeed in this action, to all other lessee/producers who do not have substantial flat-rate lease holdings and who would have to compete with EQT's gas in the marketplace when EQT essentially does not have to pay any royalty for the gas it produces. Similarly this brief will not address the adverse economic impact on the substantial number of mineral owners whose mineral interests will not be leased or whose leases will not be produced because EQT and others holding substantial numbers of flat-rate leases can produce gas more cheaply from those flat-rate leases because they would in essence have to pay no royalty.

This brief will focus on the constitutionality of the statute because the flat-rate statute is the State exercising its police power to eliminate unforeseen, un-contemplated windfall profits. Also the egregiously erroneous claim in Paragraph 22 of the Complaint in this action that mineral owner lessors are somehow getting windfalls will be debunked.

2. A state regulation that eliminates unforeseen windfall profits does not violate the Contracts Clause.

The United State Supreme Court in *Energy Reserves Group, Inc. v. Kansas Power and Light Co.* 459 U.S. 400, 103 S.Ct. 69, 774 L.Ed.2d 569 (1983) at U.S. 410 said, "Although the language of the Contract Clause is facially absolute, its prohibition must be accommodated to the

inherent police power of the state 'to safeguard the vital interest of its people.' [Citation omitted]." The Court continued at U.S. 411, "[S]tate regulation that restricts a party to gains it reasonably expected from the contract does not necessarily constitute a substantial impairment [of a contract][Citations omitted]." And further, at U.S. 412, and most relevant to this action, "One legitimate state interest is the elimination of unforeseen windfall profits. [Citation omitted]."

It is exactly the unforeseen and un-contemplated windfalls to EQT arising from flat-rate leases that are eliminated by the statute which justify and establish the constitutionality of the flat-rate statute. The flat-rate statute eliminated windfall profits caused by leases with flat-rate gas royalty provisions many of which were signed before the Model T Ford was first produced (1908) or the Wright Brothers flew in North Carolina (1903).

Note that the transactions in question are leases. Leases are not only a contract. Leases are a contract and a conveyance. *McCullough Oil, Inc. v. Rezek*, 176 W.Va. 638, 346 S.E.2d 788 (1986). Syl Pt. 1. A contract can be abrogated based on mutual mistake or unconscionability. A conveyance, or attributes of it, can be abrogated if not in the contemplation of the parties. *Moore v. Hope Natural Gas Company*, 140 W.Va. 745, 86 S.E.2d 564 (1915), *West Virginia –Pittsburgh Coal v. Strong*, 129 W.Va. 832, 42 S.E.2d 46 (1947), *Kell v. Appalachian Power Co.* 170 W.Va. 14, 289 S.E.2d 450 (1982), *Energy Developmental Corp. v. Moss*, 214 W.Va. 577, 591 S.E.2d 135 (2003) Mutual mistake and unconscionability may have more significant hurdles, but abrogating the conveyance side of a lease because its consequences were not in the contemplation of the parties can be done without all the requirements for the contract remedies.

3. EQT continues to reap windfall profits from wells drilled before 1982 even with the passage of the flat-rate statute in effect.

In 1900 Andrew Jackson Bates and his wife Mary signed a lease that provided 1/8th royalty for oil produced on their 115-acre tract of land, but only \$300 a year flat-rate royalty for gas produced from each well on the tract. See Exhibit #1. State record keeping of any kind only began in 1927, but it can be deduced from the terms of the lease and names and other data the West Virginia Geological and Economic Survey ("WVGES") has gathered for the wells, that two wells were drilled pursuant to the lease shortly after the lease was signed.¹ See Exhibit #2.

One member of WVSORO is the great-great-granddaughter and one of now several heirs of Andrew Jackson Bates. She receives quarterly payments totaling \$48 dollars a year in flat-rate royalties (See Exhibit #3) and assumes that the remainder of the total of \$600 due is being distributed to, or held in suspense, for the other heirs. It is not worth it to her to spend the money or time to confirm that. She and her predecessors have been paid that for more than 100 years.

The two wells are still producing. Production reported by the operator since 1981 is available on the WVGES website (See Exhibit #2) and shows that the well with the State/American Petroleum Institute well number for Doddridge County of 01747 has produced 114,139 MCF² of gas (and no oil) since 1981. The other well, numbered 02349, has produced 76,320 MCF of gas (and no oil). That is a total of 190,459 MCF. Counsel has been able to find

¹The "surface owner" is "A.J. Bates". The spud date is blank no doubt because it was spudded before record keeping. The permit activity giving rise to entry in the data base appeared to be drilling deeper, working over, or just entering location.

²Thousand cubic feet of gas. MCF is the standard measurement for volumes of gas. Another measurement is of the heating value, MMBTU, which can vary between gas produced in one formation vs gas produced in another formation. However, the numbers reported for MMBTU and MCF generally correspond closely enough to be used interchangeably for the point of this analysis.

the average market value of gas back to 1997.³ The average for that previous 22-year time period is \$4.37 per MCF. Assuming a more modest \$3.00 per MCF and multiplying that times the total MCF since only 1981, the wells on this lease have generated \$571,377.00 worth of gas.

If Andrew Jackson Bates heirs had been paid 1/8th royalty for that period of time, EQT would have paid them \$71,422.00. Instead EQT or its predecessors kept that money, except for \$13,200 they paid out in flat-rate royalties for those years. And that is only for 37 years, and EQT or its predecessors have been getting gas from those wells for 111 years.

That is a windfall.

And regardless of the outcome of this law suit, that is a windfall that EQT will continue to get because the flat-rate statute does not apply to these wells -- wells that were drilled prior to the enactment of the flat-rate statute in 1982.

4. Under a recent West Virginia Supreme Court decision, EQT gets another windfall.

Gas wells obviously do not produce revenues until after they are drilled and put into production. So drilling the wells costs money up front. The driller itself, or its investors, put up the money. Once the well starts producing, the driller pays back itself or its investors for the cost of drilling the well out of the sale of the gas (after paying the mineral owners' royalty). When that cost has been recouped or paid back to the financier of the well, the well will have reached a point called "paid out".⁴ After that the driller or its investors gets to keep all the money except

³Attached Exhibit #4 is the Historical_Inside_FERC publisehd index price for Dominion Transmission Inc. Page 2 shows averages per year.

⁴This aspect of oil and gas well drilling financing by working interest owners/investors does not appear directly in statute or regulation or in any cases that could be found. It is recognized indirectly in statutes that provide forced pooling that provide for a "risk penalty" before working iinterest owners who were forced in as "carried" working interest owners can

for the much smaller ongoing costs of maintaining the well, transporting the gas etc., and except for the royalty payments.

It is understandable that the driller wants a lease that allows it to keep 7/8ths of the value of the gas so it can pay back the up front cost of drilling the well. But even after payout, the person who owned the gas only gets 1/8th of its value! In the reheard decision in *Leggett v. EQT Production Company*, 239 W.Va. 264, 800 S.E.2d 850 (2017), in the context of the royalties required by the flat-rate statute, the Court lets the driller keep even more than 7/8ths. What is the 7/8ths for after payout? And in the case of EQT, the attached Exhibit #5 shows that EQT will deduct as much as 40% out of the 1/8th.

This ability to keep 7/8ths after payout and still deduct post-production costs out of the mineral owners' 1/8th royalty is a second windfall, though it pales compared to the windfall that will occur if the flat-rate statute is nullified and a horizontal shale well is drilled as explained below.

5. Un-contemplated advancements in natural gas exploration and development.

Although there is no direct evidence of it, in 1900 some advancements in technology might have been contemplated. Even if the lease was signed after the Wright Flyer success three years later, that does not mean that they contemplated a 747 carrying more than 500 or 600 passengers, or the military SR-71 spy plane that can travel three times the speed of sound.

Another member of WVSORO has gas wells on his property that shows the array of advancements that surely could not have been contemplated. (Information about production

begin receiving working interest money. See *W.Va. Code* §22C-9-7(b)(6) regarding deep wells, and *W.Va. Code* 22-21-17(h).

volumes from modern wells discussed later will reinforce this point.) This WVSORO member does not own the minerals. The minerals under him are leased to EQT pursuant to a 1901 lease from Joseph and Bell Carr to B. Hamilton that provided for \$300 a year flat-rate royalty for gas.

Exhibit #6 is a photograph of a well drilled on his property with the State/American Petroleum Institute well number for Doddridge County of 00096. It was drilled in 1939 and is likely the well, or one of the wells, holding the old lease for this tract before Marcellus Shale horizontal wells were drilled. It is a fairly simple facility. Other wells drilled in 1910 and 1916 appear to be plugged.

Exhibit #7 is a photograph of a well on his property with State/American Petroleum Institute well number for Doddridge County of 04193. It was drilled in 1995. The photograph was taken in 2014. It is a slightly more technical facility.

Exhibit #8 is a photograph that also shows the same well shown in Exhibit #7 on the far left of the Exhibit #8 photograph. The remainder of the photograph is the well pad for nine new Marcellus Shale horizontal wells drilled next to it. The picture was taken after the Marcellus Shale wells were drilled but before equipment was placed on the pad to enable production. A seriously more technical enterprise hardly contemplated/foreseen when wells were drilled by "cable tools" with essentially a chisel on the end of a cable hanging from a spring pole.

Further and more direct support for the position in favor of the constitutionality of the statute can be found in authorities. Professor Eugene Kuntz in his *A Treatise on the Law of Oil and Gas* verifies that in the beginning there was no market for gas. Drilling a well that produced no oil, only gas, was a misfortune. He stated that the ultimate value of the gas could not be

foreseen which lead to leases with percentage royalties in them instead of flat-rate royalties. And he stated that drillers with flat-rate leases were receiving a windfall.⁵

5

In the early days of operations under the oil and gas lease, the primary objective of exploration and drilling operations was the discovery of oil, and it was justifiably regarded as a major misfortune if gas alone were found. Although gas had a value it was difficult to market.

The circumstances surrounding the use and the value of gas apparently had an effect upon the development of the part of the royalty clause which deals with gas . . . [Even though oil was the desired product and a 1/8th royalty was paid for that,] If the lessee marketed the gas and thereby held the lease, the lessor undoubtedly thought that the lessee should be required to pay for the privilege, and accordingly, provision was made for the lessee to make a fixed periodic payment to the lessor while the lease was so held. . . . At this stage of the development of the royalty clause, provision was made for fixed periodic payment for producing gas from gas well and for selling or using any gas off of the premises.

As the natural gas industry developed and natural gas pipelines were extended over the country creating and expanding the market for gas, the value of gas increased. It also became apparent that the ultimate value of gas and the value of the right to extract and sell gas could not be foreseen or determined at any given time of leasing. Accordingly instead of merely increasing the amount of the fixed periodic payment to be made as the gas royalty, the parties to oil and gas leases changed their practices and began to provide for a royalty on gas which is measured either by volume or by the value of the gas produced. [Emphasis added.]

3 Kuntz, A Treatise on the Law of Oil and Gas, §40.1 at pp. 311-312 (footnotes omitted).

Professor Kuntz further stated:

It is not uncommon for a very old oil and gas lease to be held by many years of production of oil followed by a recent discovery of gas. When such event occurs, the lessor and lessee are frequently surprised to find that the royalty clause provides for a small fixed annual rate per well. Rather than take advantage of the windfall, many lessors have voluntarily modified their leases to provide for a one-eighth royalty. Many other lessees have not been so inclined. [Emphasis added.]

Kuntz, Id., §40.2 at pp. 315-316.

6. A windfall of all windfalls will go to EQT and others if the flat-rate statute is nullified and a Marcellus Shale well is drilled on a flat-rate lease.

The 1900 Andrew Jackson Bates lease, Exhibit #1, is for 115 acres. A horizontal well bore could be drilled to drain just that tract.⁶

The conventional well pictured in Exhibit #7 and on the left of Exhibit #8, in its first full calendar year of production, 1996, reported producing 21,917 MCF of gas. See Exhibit #9. One of the horizontal Marcellus Shale wells pictured on the right of Exhibit #8 is State/American Petroleum Institute well number for Doddridge County of 06061 that had a horizontal well bore 6560 feet in length (about the middle length for the wells drilled on this pad). In its first full calendar year of production it reported producing 2,360,277 MCF of gas.⁷ See Exhibit #10. So its first full calendar year of production, the Marcellus Shale horizontal well produced 107 times the gas that the conventional vertical well next to it produced in its first full calendar year of production.

At our approximated \$3.00 per MCF price, that would yield \$7,080,831.00 worth of gas sold in the first full calendar year. With the flat-rate statute in effect, the driller will have to pay a 1/8th royalty of \$885,103.87 to the mineral landowners. If the flat-rate statute is nullified, EQT will have to pay then only \$300.00 in royalties for that year. That is a windfall of \$884,803.87 to EQT depriving landowners in this state of income vital to their fortunes and

⁶A 5000-foot horizontal well bore on typical industry spacing from the next parallel horizontal well bore will frac/drain about 120 acres. So this is conceivable, though the shape of the tract and economics requiring multiple-well pads may make this unlikely.

⁷The first six months of production for this well were the last six months of the preceding calendar year. In those first six months it produced more MCF's than the following full calendar year figure set out in the text.

families and the State's economy -- a windfall that the State has a legitimate interest in preventing. And that is one year, one well! xxx

That is a potential, unprecedented, unforeseen, un-contemplated windfall that the flat-rate statute, exercising the state's police power, has a legitimate interest to constitutionally prevent.

7. Even if the flat-rate statute is upheld and EQT is required to pay a 1/8th royalty, EQT will be receiving a third windfall, and so the "Unaffiliated-Sale-Without-Deduction-Royalty Provisions" the 2018 amendment is no windfall for the lessor.

When the flat-rate statute was enacted in 1982 almost all drilling was for vertical wells and almost every lease provided for a "standard" 1/8th (12.5%) royalty.

The author of this brief, in addition to being paid by a public interest law firm to be cofounder of WVSORO, went into a part-time private practice in 2008 representing small and medium mineral owners in lease negotiations (as well as surface owners with their issues). The market for royalty amounts has changed since 1982 as a result of the drastic change of drilling economics made possible by horizontal shale drilling. The market royalty percentage in any new lease transaction in which there is any negotiation is now 16% to 18% with no, or very limited, deductions. The State of West Virginia always gets 20%. Corporate, larger landowners also get 20% because they know the economics of the industry, and who the drillers know are not extra motivated (in real estate terms) to sign a lease by very personal plans for the money and unjustifiable scared of the driller walking away if they insist on 20%.

Most drillers do not even start with 12.5% royalty leasing offers. There are a few drillers will still first approach a mineral owner with a 1/8th, 12.5%, royalty lease, but that is not the market. The market is 16% to 18% or more. No doubt some citizens sign the 12.5% leases because they are habituated to signing boiler plate documents like those for purchasing a car or

house where consumer protections are presumed. The author knows of no driller who will insist on only 12.5% for a new lease.

So when EQT is required by the flat-rate statute to pay only a 12.5% royalty from a new well on a flat-rate lease, EQT is getting a windfall low royalty rate below the current market. It is getting the market lease royalty rate from 1982. So the requirement that EQT must pay 12.5% with no deductions, with the sale amount calculated from a sale to an unaffiliated third party does not constitute a windfall to the lessor. It is about right -- as also judged to be right by the Legislature.

8. Other issues with allegations of Complaint.

Paragraph 10 of the Complaint in this action states that the flat-rate leases will be held as long as oil or gas is produced. Generally if a lease is silent as to when a lease eventually ends after a producing well is drilled, the common law says the lease is over when the wells drilled pursuant the lease are no longer producing in "paying quantities". See Syllabus Point 1, *Goodwin v W.B. Wright*, 163 W.Va. 264, 255 S.E.2d 924 (1979). But that is not true of flat-rate leases. A syllabus point of *Bruen v. Columbia Gas Transmission Corp.*, 188 W.Va. 730, 426 S.E.2d 522 (1992) holds that,

If an oil and gas lease contains a clause to continue the lease for a term "so long thereafter as oil or gas is produced," but also provides for "flat-rate" rental payments, then quantity of production is not relevant to the expiration of the term of the lease if such "flat-rate" rental payments have been made by the lessee.

So the allegation of Paragraph 10 is a questionable statement.

Citizen mineral land owners subject to flat-rate leases are not only stuck with a lease with terrible royalty terms, unless there are specific unusual terms they are stuck with them even after

the production from wells on the tract is no longer in paying quantities, or perhaps at all. They are stuck with these terribly bad leases for a longer period of time compared to lessors with a royalty based on a percentage in their leases.

Paragraph 14 implies that mineral owners would not negotiate amendments to leases with EQT. Attached as Exhibit #11 is the lease amendment offered by EQT to the WVSORO member first mentioned in this brief. It offers to modernize her lease by adding a pooling clause. It makes no offer to modernize/change to the royalty. In the experience of counsel, rarely if ever will EQT negotiate to change the lease royalty amount in any amendment. The amendment attached also includes other unfavorable modifications of the lease. It includes a provision that says the lease no longer expires under its own terms -- EQT has to record a release for the lease to be over. It includes a provision in which the mineral owner states that EQT "is not in violation of any terms or provisions of the lease, including any royalty or rental payment terms" which takes the mineral owner out of the class actions brought against EQT for underpayment of royalties. Other EQT lease amendments counsel has seen have other unfavorable terms. With amendments offered like this, no informed mineral owner would sign the amendnemtn "negotiated" by EQT.

Finally, Paragraph 22 of the complaint states in part, "West Virginia's attempts to alter economics of EQT's flat rate leases have increased costs and forced EQT to look elsewhere for development opportunities." Counsel lobbied the Legislature against legislation EQT wanted that would imply a pooling clause into existing leases. The failure of West Virginia to have enacted that legislation was the reason given for EQT's planning more wells in Pennsylvania than in West Virginia. If there was more than one reason for planning fewer wells in West Virginia, that should have been stated in the Complaint in this action.

Finally, in Paragraph 5 of the complaint in this action, EQT notes that it owns 1,700 unmodified flat-rate leases. The first mentioned WVSORO member above only owns a fractional interest in the tract subject to her lease. She shares ownership with a large number of members of the descendants of her great-great-grandfather. This is almost always true for older leases! So the flat-rate statute, just in the case of EQT, protects not 1,700 individuals from EQT's windfall, but a public many times that number.

Respectfully Submitted:

/s/ David McMahon

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LB 27/7a

Linda Stinnell

72

See Lease Bk. 186, Pg 61

In Consideration of West Virginia

and the Agreements hereinafter mentioned, A. J. Bates and Mary J. Bates, his wife

first party, hereby grant unto Carroll National Bank of Charleston second party, here and assigns all the oil and gas in and under the following described premises, together with the right of ingress and egress of all flows for the purpose of drilling and operating for oil, gas or water and to conduct all operations and lay all pipes necessary for the production and transportation of same, reservoir, however, to first party, the equal one-eighth part of all oil produced and saved from said premises, to be delivered in the pipe lines to the credit of first party, free of charge, all that certain lot of land situate in the District of McCollum County of Woodridge bounded and described as follows, to-wit:

North by lands of J. J. Carver, et al.

East by lands of B. B. Allen

South by lands of The Commonwealth

West by lands of Dr. J. J. Carver, et al. & B. B. Allen

containing one hundred and twenty five (125) acres, more or less.

To Have and To Hold the above premises unto the party of the second part, here and assigns for and during the term of ten years or such part of said term as second party may consider it valuable for oil and gas purposes, and comply with the terms hereinafter mentioned and no longer thereafter as oil or gas is produced by paying quantities.

If gas only is found second party agrees in any of the rate of 0.30 per 1000 feet Dollars each year, payable quarterly in advance for the product of each well while the same is being used off the premises. First party may have the privilege of using gas for the house by making connections to a well on this lease as long as second party may pipe well, care being taken not to waste.

When first party shall request it second party shall bury all gas lines on tillable land so as not to interfere with plowing (excepting small lines to drilling wells).

No well shall be drilled closer than 300 feet to house or barn on said premises.

Provided, however, no well is recommenced on these premises within 31 days months from this date (from this grant shall in case become well and sold as to both parties, provided that said second party may prevent such forfeiture from quarter to quarter and no longer by paying to the first party in advance or within ten days thereafter at the rate of \$1.00 per acre annually or quarterly per acre annually or quarterly until such well is recommenced.

The second party shall have the right to use sufficient water to run all necessary machinery on this and adjoining tracts held by second party and the right to use gas on this tract for drilling and operating same, and to remove all machinery or fixtures at any time.

All money that may become due under this grant payable to A. J. Bates at The Bank of Smithfield, Smithfield, Maryland, Co., Md.

It is further agreed that the second party shall by paying all moneys due have the right to surrender this grant at any time to the first party and thereafter be fully discharged from any and all claims whatsoever arising from any neglect or non-fulfillment of the foregoing contract.

It is understood between the parties to this agreement that all conditions between the parties hereto shall extend to their heirs, executors and assigns.

In witness whereof the parties hereto have set their hands and seals this 17th day of September A. D. 1906

Witness, sealed and delivered in the presence of A. J. Bates

A. J. Carver (Witness A. J. Bates)

H. B. Allen

H. B. Allen

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STATE OF WEST VIRGINIA,
Woodridge County, County Clerk's Office, Smithfield, W. Va.
The foregoing writing and the several certificates were this day admitted to record in this office. H. B. Allen Clerk.





Select County: (017) Doddridge | Select date/range: (Check All) | Location | Owner/Completion | Pay/Show/Water | Logs | Production | Strategy | Plugging | Sample | Bim Hole Loc

WV Geological & Economic Survey

Location Information: View Map | COUNTY PERMIT TAX DISTRICT QUAD_75 QUAD_15 LAT_DD LON_DD UTIME UTMN

470101747 Doddridge 1747 McClellan Center Point 39.392707 -80.63596 531379.9 42560420.5

There is no Bottom Hole Location data for this well

Well: County = 17 Permit = 01747

Report Time: Tuesday, May 29, 2018 3:32:15 PM

- Table Descriptions: County Code Translations, Permit/Numbering Suffix, Layer Names, Completion, Description, WVGES Main, Pipeline-Phase: New

Operator Information: Well Information: CMP DT SUFFIX STATUS SURFACE OWNER WELL_NUM CO_NUM LEASE LEASE_NUM MINERAL_OWN OPERATOR AT COMPLETION PROP_YD PROP_TRGT_FM TFM_EST_PR

Table with columns for well ID, suffix, status, surface owner, well number, etc.

Completion Information: CMP DT SUFFIX DT DEV DATUM FIELD DEEPEST_FM DEEPEST_FWT INITIAL_CLASS FINAL_CLASS TYPE RIG CMP_MTHD TWD TMD NEW_FIG KOD G_BEF G_AFT O_BEF O_AFT NGL_BEF NGL_AFT P_BEF T1_BEF P_AFT T1_AFT BH_P_BEF BH_P_AFT G

Table with columns for completion details, including dates, depths, and classifications.

Pay/Show/Water Information: CMP DT ACTIVITY PRODUCT SECTION DEPTH_TOP FM_TOP DEPTH_BOT FM_BOT G_BEF G_AFT O_BEF O_AFT WATER_QNTY

Table with columns for activity, product, section, and various depth/quantity measurements.

Production Gas Information: (Volumes in Mcf) PRO_YEAR ANN_GAS JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DGM

Large production data table with columns for years (1981-2008), ANN_GAS, and monthly production (JAN-DGM).

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

Table with columns for PRO_YEAR, ANN_OIL, and monthly production (JAN-DGM) for various operators.



Production Water Information: (Volumes in Gallons)

PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470101747	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2022	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2023	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2024	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2025	0	0	0	0	0	0	0	0	0	0	0	0	0
470101747	2026	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470101747	2016	0	0	0	0	0	0	0	0	0	0	0	0	0

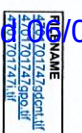
Stratigraphy Information:

ARR	SUFFIX	FM	QUALITY	DEPTH	TOP	DEPTH	QUALITY	THICKNESS	THICKNESS	QUALITY	ELEV	DATUM
470101747	Original Loc	Little Lime	Well Record	1690	Reasonable	14	Reasonable	772	Ground Level	772	Ground Level	
470101747	Original Loc	Brewer's Group	Well Record	1720	Reasonable	191	Reasonable	772	Ground Level	772	Ground Level	
470101747	Original Loc	Big Hilln (Smb)	Well Record	1812	Reasonable	101	Reasonable	772	Ground Level	772	Ground Level	
470101747	Original Loc	Well Record	2518	Reasonable	9	Reasonable	772	Ground Level	772	Ground Level		
470101747	Drilled Deeper	Well Record	2518	Reasonable	7	Reasonable	772	Ground Level	772	Ground Level		
470101747	Drilled Deeper	Well Record	4844	Reasonable	13	Reasonable	772	Ground Level	772	Ground Level		

Wellbore (E-Log) Information:

LOG_TOP	LOG_BOT	DEEPEST_FML	LOGS_AVAIL	SCAN	DIGITIZED	GR_TOP	GR_BOT	D_TOP	D_BOT	N_TOP	N_BOT	L_TOP	L_BOT	T_TOP	T_BOT	S_TOP	S_BOT	O_TOP	O_BOT	INCH2	INCH2	INCHS	REDUCED	KOP	LOGMD	ELEV_KB	ELEV_GL	ELEV_DF	LOG_MSRD_FROM
470101747	2890	4967	2890	4929	2690	4936	2690	4936	2690	4950	2700	4881	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Downloadable Log Images: We advise you to save the log image file to your PC for viewing. To do so, right-click the .tif image of interest and select the save option. Then you can direct the file to a location of your choice. Please note these images vary in size and some may take several minutes to download, especially if using a 56k or slower dialup connection.



- Quick Reference Guide for Log File Names For more info about WVGES scanned logs click [here](#)
- g geologic log types:
 - d density (includes bulk density, compensated density, density, density porosity, grain density, matrix density, etc.)
 - e photoelectric absorption (PE or Pe, etc.)
 - f formation factor
 - g induction (includes dual induction, medium induction, deep induction, etc.)
 - l laterolog
 - m dipmeter
 - n neutron (includes neutron porosity, sidewall neutron-SWN, etc.)
 - o other¹
 - s sonic or velocity
 - t temperature (includes borehole temperature, BHT, differential temperature, etc.)
 - z spontaneous potential or potential
- mechanical log types:
- b cement bond
 - c caliper
 - p perforation depth control or perforate
- ¹Other logs may include, but are not limited to, such curves as audio, bit size, CCL-casing collar locator, continuous meter, directional survey, gas detector, guard, NCTL-Nuclear Cement Top Locator, radioactive tracer, uranium

There is no Plugging data for this well
There is no Sample data for this well

4701702379	EQT Production Company	2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4701702379	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

4701702379	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4701702379	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0

There is no Stratigraphy data for this well

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well



Production Company

P.O. Box 23536
Pittsburgh, PA 15222
PH: 412-395-3328; FAX: 412-553-7820

Remittance Statement



Owner Number: 193885
Check Number: 1684167

Prod. Date	Prod. Type	Int. Type	Net Price	Decimal Interest	Gross Volume Owner	Gross Revenue Owner	Gross Taxes Owner	Gross Deducts Owner	Well Net Revenue Owner
10/2015	SMS	RT	00	00000000	Doddridge, WV .00	.00 9.00	.00 .00	.00 .00	.00 9.00
					Gross Totals:	.00	.00	.00	.00
					Net Totals:	.00	.00	.00	.00
					Check Amount:				9.00

Direct any questions to Land Administration at the address/phone above.





Production Company

P.O. Box 23536
 Pittsburgh, PA 15222
 PH: 412-395-3328; FAX: 412-553-7820

Remittance Statement



Owner Number: 198885
 Check Number 1940096

Prod. Date	Prod. Type	Int. Type	Net Price	Decimal Interest	Sales Volume Owner Volume	Sales Revenue Owner Revenue	State Severance Owner Taxes	Gross Deducts Owner Deducts	Well Net Revenue Owner Net
650691		BATES 278							
03/2018	GAS	K1	.00	.00000000	.00	3.00	.00	.00	.00
					Doddridge, WY				
					.00	3.00	.00	.00	.00
					Gross Totals:	.00	3.00	.00	.00
					Net Totals:	.00	3.00	.00	3.00
					Check Amount:				

Direct any questions to Land Administration at the address/phone above.

Dominion Transmission Inc. (Appalachia)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1996									
1997	4.50	3.20	1.93	2.04	2.32	2.46	2.31	2.33	2.71
1998	2.44	2.15	2.40	2.50	2.46	2.19	2.47	2.06	1.79
1999	1.95	1.95	1.78	2.09	2.51	2.35	2.42	2.80	3.07
2000	2.53	2.91	2.79	3.06	3.28	4.59	4.56	4.02	4.85
2001	10.91	6.68	5.39	5.73	5.19	3.95	3.38	3.33	2.42
2002	2.79	2.20	2.59	3.59	3.54	3.55	3.47	3.13	3.38
2003	5.33	6.36	11.20	5.54	5.60	6.36	5.72	5.23	4.88
2004	6.54	6.51	5.68	6.40	6.64	6.61	6.19	5.74	5.25
2005	6.51	6.47	7.40	7.72	6.87	7.52	7.86	9.68	12.76
2006	11.93	8.70	7.53	7.61	7.50	6.25	6.20	7.40	7.03
2007	6.11	7.26	7.94	7.92	8.01	8.16	7.31	6.43	5.61
2008	7.73	8.53	9.45	10.14	11.84	12.51	13.73	9.87	8.67
2009	6.61	5.03	4.44	3.94	3.65	3.78	4.18	3.57	2.93
2010	6.21	5.57	5.10	4.03	4.46	4.35	4.87	4.94	3.70
2011	4.57	4.52	3.93	4.46	4.56	4.48	4.49	4.49	3.90
2012	3.16	2.64	2.47	2.20	2.07	2.44	2.74	2.99	2.52
2013	3.22	3.13	3.41	4.03	4.12	4.10	3.43	2.95	3.17
2014	3.46	5.36	4.57	4.20	4.01	3.31	2.88	2.40	2.05
2015	1.75	1.75	2.04	1.45	1.34	1.41	1.28	1.24	1.16
2016	1.30	1.37	1.00	1.19	1.31	1.39	1.98	1.28	1.22
2017	3.33	2.98	2.06	2.71	2.60	2.68	1.81	1.73	1.71
2018	2.29	2.89							



Oct	Nov	Dec	Avg.
1.99	3.05	4.50	3.18
3.32	3.59	2.70	2.78
2.22	2.25	2.23	2.26
2.73	3.28	2.28	2.43
5.63	4.79	6.39	4.12
2.02	3.37	2.42	4.57
3.82	4.43	4.44	3.41
4.91	4.79	6.36	6.02
6.45	6.15	6.95	6.26
14.11	10.08	13.67	9.22
4.23	7.48	8.70	7.55
6.57	7.59	7.69	7.22
7.60	6.83	7.45	9.53
3.78	4.57	4.75	4.27
3.91	3.42	4.48	4.59
3.84	3.61	3.53	4.20
2.96	3.46	3.77	2.79
3.25	3.24	3.31	3.45
2.04	2.08	2.97	3.28
1.17	1.24		1.44
0.88	1.12	2.40	1.37
1.10	1.57	2.50	2.23

Remittance Statement

[REDACTED]

Owner Number: [REDACTED]
 Check Number: [REDACTED]

Prod. Date	Prod. Type	Int. Type	Net Price	Decimal Interest	Sales Volume Owner Volume	Sales Revenue Owner Revenue	State Severance Owner Taxes	Gross Deducts Owner Deducts	Well Net Revenue Owner Net
10/2017	GAS	RI	1.29		92,787.90 161.09	119,485.52 207.44	3,139.20 5.45	45,601.90 79.17	70,144.37 122.82
10/2017	GAS	RI	1.29		103,686.00 180.01	133,511.13 231.79	3,507.84 6.09	50,958.80 88.47	79,044.53 137.23
10/2017	GAS	RI	1.29		94,550.50 164.15	121,754.96 211.38	3,202.56 5.56	46,471.70 80.68	72,080.69 125.14
10/2017	GAS	RI	1.29		72,046.10 125.08	92,770.62 161.06	2,436.48 4.23	35,406.70 61.47	54,927.40 95.36
Gross Totals:					363,070.50	467,522.23	12,286.08	178,439.10	276,796.99
Net Totals:					630.33	811.67	21.33	309.79	480.55

Direct any questions to Land Administration at the address/phone above.
 1- Price ~ Well Below Market
 2- Severance Tax - 5% Owed by Producer.
 3- DEBITS: No Explanation

4- 11% DA DUSTIONS (2+3 is Total Ded) 331 from low priced Gas





tabbles®
EXHIBIT
6



tabbles[®]
EXHIBIT
7





Select County: (017) Doddridge Select datatypes: (Check All)

Enter Permit #: 04193 Location Production Plugging

Get Data Reset Owner/Completion Stratigraphy Sample

Pay/Show/Water Logs Bim Hole Loc

[Table Descriptions](#)
[County Code Translations](#)
[Energy Numbering Schemas](#)
[Energy Numbers](#)
[Contact Information](#)
[Disclaimer](#)
[WGESS Main](#)
[Pipeline-Plus - New](#)

WV Geological & Economic Survey: Report Time: Thursday, May 31, 2018 2:11:11 PM

Well: County = 17 Permit = 04193

There is no Bottom Hole Location data for this well

Other Information: **View Map**

API # 470704193 COUNTY PERMIT TAX_DISTRICT QUAD_75 QUAD_15 LAT_DD LON_DD UTIME UTMN

470704193 Doddridge 4193 Grant Smithburg Centerpoint 39.36393 -80.697315 526074.3 4357279.4

Completion Information: **View Map**

API # 470704193 CWP_DT STUFFIX STATUS SURFACE_OWNER WELL_NUM CO_NUM LEASE LEASE_NUM MINERAL_OWN OPERATOR_AT_COMPLETION PROP_VD PROP_TRGT_FIM TFM_EST_PPR

470704193 5/21/1995 1162 Ground Level Simm-Fine-Sida Greenleaf Gap Fm Benson 3 DEEPEST_FIM DEEPEST_FIMT INITIAL_CLASS FINAL_CLASS TYPE RIG CWP_MTHD TVD TMD NEW_FTG KOD G_BEF G_AFT O_BEF O_AFT NGL_BEF NGL_AFT P_BEF T1_BEF P_AFT T1_AFT BH_P_BEF BH_P_AFT G-

Production Gas Information: (Volumes in Mcf)

API #	PRODUCING_OPERATOR	PRO_YEAR	ANM	GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470704193	Eastern American Energy Corp.	1996	3,134	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	1997	21,917	2,284	2,375	2,241	2,107	1,924	1,860	1,866	1,14	1,939	1,693	1,693	1,678	1,678
470704193	Eastern American Energy Corp.	1998	15,393	1,528	1,407	1,501	1,366	1,481	1,285	832	794	1,403	1,274	1,195	1,195	1,195
470704193	Eastern American Energy Corp.	1999	11,944	1,146	1,123	1,094	1,128	829	438	992	1,070	1,048	971	970	970	970
470704193	Eastern American Energy Corp.	2000	11,026	959	823	940	890	1,773	169	670	1,086	812	1,022	908	973	973
470704193	Eastern American Energy Corp.	2001	8,382	725	827	853	776	691	651	693	670	414	386	767	929	929
470704193	Eastern American Energy Corp.	2002	7,323	746	688	714	606	641	413	590	602	506	515	668	633	633
470704193	Eastern American Energy Corp.	2003	6,708	483	545	505	536	578	555	557	348	229	412	317	439	439
470704193	Eastern American Energy Corp.	2004	6,708	483	545	505	536	578	555	557	348	229	412	317	439	439
470704193	Eastern American Energy Corp.	2005	4,907	397	324	327	367	446	397	332	310	422	389	401	361	361
470704193	Eastern American Energy Corp.	2006	4,486	412	322	412	349	358	394	382	345	382	394	356	410	410
470704193	Eastern American Energy Corp.	2007	3,501	318	358	318	346	381	374	287	269	155	173	264	248	248
470704193	Eastern American Energy Corp.	2008	3,275	289	279	308	277	362	311	295	204	182	263	247	258	258
470704193	Eastern American Energy Corp.	2009	2,948	275	291	232	258	271	237	183	152	207	289	252	291	291
470704193	Eastern American Energy Corp.	2010	2,646	271	240	234	268	248	234	230	214	307	353	308	339	339
470704193	Eastern American Energy Corp.	2011	3,488	360	323	319	281	290	297	288	298	278	214	280	280	280
470704193	Eastern American Energy Corp.	2012	3,388	225	247	339	357	345	540	312	222	254	184	232	331	331
470704193	Eastern American Energy Corp.	2013	5,127	470	404	457	457	457	457	457	457	457	457	457	377	377
470704193	Eastern American Energy Corp.	2014	4,577	389	371	350	383	424	429	383	363	415	326	396	368	368

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API #	PRODUCING_OPERATOR	PRO_YEAR	ANM	OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470704193	Eastern American Energy Corp.	1996	4	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	1997	4	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API #	PRODUCING_OPERATOR	PRO_YEAR	ANM	NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470704193	Eastern American Energy Corp.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470704193	Eastern American Energy Corp.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API #	PRODUCING_OPERATOR	PRO_YEAR	ANM	WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
470704193	Eastern American Energy Corp.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API #	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV DATUM
470704193		FM						



4707704193	Original Loc	Hills Line	Well Record	2036	Reasonable	14	Reasonable	1162	Ground Level
4707704193	Original Loc	Big Lin	Well Record	2076	Reasonable	18	Reasonable	1162	Ground Level
4707704193	Original Loc	Kramer	Well Record	2194	Reasonable	47	Reasonable	1162	Ground Level
4707704193	Original Loc	Big Injun (undif)	Well Record	2241	Reasonable	33	Reasonable	1162	Ground Level
4707704193	Original Loc	Squaw	Well Record	2274	Reasonable	28	Reasonable	1162	Ground Level
4707704193	Original Loc	Weir	Well Record	2453	Reasonable	135	Reasonable	1162	Ground Level
4707704193	Original Loc	Beeva Sa	Well Record	2690	Reasonable	20	Reasonable	1162	Ground Level
4707704193	Original Loc	Geeton	Well Record	2854	Reasonable	58	Reasonable	1162	Ground Level
4707704193	Original Loc	Trin	Well Record	3170	Reasonable	23	Reasonable	1162	Ground Level
4707704193	Original Loc	Spring	Well Record	3250	Reasonable	40	Reasonable	1162	Ground Level
4707704193	Original Loc	Spring	Well Record	3296	Reasonable	39	Reasonable	1162	Ground Level
4707704193	Original Loc	Salpaw	Well Record	4292	Reasonable	56	Reasonable	1162	Ground Level
4707704193	Original Loc	River	Well Record	4730	Reasonable	50	Reasonable	1162	Ground Level
4707704193	Original Loc	Santon	Well Record	5210	Reasonable	50	Reasonable	1162	Ground Level

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well



Select County: (017) Doddridge Select date type: (Check All)

Enter Permit #: 06061 Location Production Plogging

Get Data Owner/Completion Stratigraphy Sample

Reset Pay/Show/Water Logs Bim Hole Loc

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[County Code Translations](#)
[Terms Underlying Status](#)
[Field Names](#)
[Contact Information](#)
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[WVGES Main](#)
[Pipeline-Plus New](#)

WV Geological & Economic Survey: Well: County = 17 Permit = 06061

Report Time: Thursday, May 31, 2018 2:22:19 PM

Location Information: [View Map](#)

ASD COUNTY PERMIT TAX_DISTRICT QUAD_75 QUAD_15 LAT_DD LON_DD UTMN
 429200681 Doddridge 6061 Grant Smithburg Centerpoint 39.367405 -80.69707 528095.1 4357593

Block Hole Location Information:

APD EP FLAG UTMN LON_DD LAT_DD
 429200681 1 As Proposed 527504.1 43585818.3 -80.697076 39.35137

Owner Information:

ASD CMP_DT SUFFIX STATUS SURFACE_OWNER WELL_NUM CO_NUM LEASE LEASE_NUM MINERAL_OWN OPERATOR_AT_COMPLETION PROP_YD PROP_TRGT_FM TFM_EST_PR
 429200681 10222013 Dvd Crnl Loc Completed Behn Crowder & David Wentz WV 514209 Carr 106916090499 P J & R K Orfieldin Ritter et al EQT Production Company Marcellus Sh 4723

Completion Information:

ASD CMP_DT SUFFIX FIELD DEEPEST_FM DEEPEST_FMT INITIAL_CLASS FINAL_CLASS TYPE RIG CMP_MTHD TWD NEW_FIG KOD G_BEF_G_AFT O_BEF_O_AFT NGL_NGL_AFT P_BEF_TL_BEF P_AFT_TL_AFT BH_P_BEF BH_P_AFT
 429200681 10222013 5/4/2013 1179 Ground Level Smr-Fin-Sdb Marcellus Sh Marcellus Sh Development Well Development Well Oil and Gas Rotary Fractured 7135 15056 15056 1416 12117 1416 12117 3265 54

Pay/Show/Water Information:

ASD	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
429200681	10222013	Water	Fresh Water	Vertical			344	Pennsylvanian System					
429200681	10222013	Water	Salt Water	Vertical			187	Pennsylvanian System					
429200681	10222013	Pay	Oil & Gas	Deviated	8007	Marcellus Sh	8129	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8157	Marcellus Sh	8229	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8310	Marcellus Sh	8429	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8457	Marcellus Sh	8579	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8607	Marcellus Sh	8729	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8757	Marcellus Sh	8879	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	8907	Marcellus Sh	9029	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9057	Marcellus Sh	9179	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9207	Marcellus Sh	9329	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9357	Marcellus Sh	9479	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9527	Marcellus Sh	9679	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9657	Marcellus Sh	9779	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9807	Marcellus Sh	9929	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	9957	Marcellus Sh	10079	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10107	Marcellus Sh	10229	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10257	Marcellus Sh	10379	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10407	Marcellus Sh	10529	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10557	Marcellus Sh	10679	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10707	Marcellus Sh	10829	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	10857	Marcellus Sh	10979	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11007	Marcellus Sh	11157	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11157	Marcellus Sh	11307	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11307	Marcellus Sh	11457	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11457	Marcellus Sh	11579	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11607	Marcellus Sh	11729	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11757	Marcellus Sh	11879	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	11907	Marcellus Sh	12029	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12057	Marcellus Sh	12179	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12207	Marcellus Sh	12329	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12357	Marcellus Sh	12479	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12420	Marcellus Sh	12579	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12567	Marcellus Sh	12729	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12807	Marcellus Sh	12929	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	12957	Marcellus Sh	13079	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13107	Marcellus Sh	13229	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13257	Marcellus Sh	13379	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13407	Marcellus Sh	13529	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13557	Marcellus Sh	13679	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13707	Marcellus Sh	13829	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	13857	Marcellus Sh	13979	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14007	Marcellus Sh	14157	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14157	Marcellus Sh	14279	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14307	Marcellus Sh	14429	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14457	Marcellus Sh	14579	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14607	Marcellus Sh	14729	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14757	Marcellus Sh	14879	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	14907	Marcellus Sh	14999	Marcellus Sh					
429200681	10222013	Pay	Oil & Gas	Deviated	15028	Marcellus Sh	15031	Marcellus Sh					

Production Gas Information: (Volumes in M3)

ASD	PRODUCTION_OPERATOR	PRD_YEAR	ANNUAL_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
429200681	EQT Production Company	2014	2,410,774	0	0	0	109,612	369,023	406,048	382,024	408,930	395,091	338,856		
429200681	EQT Production Company	2015	2,380,277	892,408	233,798	224,977	271,408	212,475	178,485	158,050	155,174	147,775	146,193	116,182	283,351
429200681	EQT Production Company	2016	2,104,570	235,223	213,591	213,338	190,650	168,203	167,621	163,388	153,563	145,006	146,088	134,383	131,046
429200681	EQT Production Company	2017	1,293,690	121,418	109,693	114,899	106,934	108,125	103,149	94,036	107,072	95,693	96,448	92,548	86,529

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

ASD	PRODUCTION_OPERATOR	PRD_YEAR	ANNUAL_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
429200681	EQT Production Company	2014	883	0	0	0	0	0	0	0	0	0	0	0	0
429200681	EQT Production Company	2015	0	0	0	0	141	409	146	66	102	17	0	0	0
429200681	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
429200681	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil
 APD PRODUCTION_OPERATOR PRD_YEAR ANNUAL_NGL JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DCM
 429200681 EQT Production Company 2014 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0



Well ID	Company	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
4701706061	EOT Production Company	2015	2016	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4701706061	EOT Production Company	2015	2016	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4701706061	EOT Production Company	2015	2016	2017	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

ASB	PRODUCING_OPERATOR	PRD_YEAR	ANW_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4701706061	EOT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4701706061	EOT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4701706061	EOT Production Company	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

ASB	SUPERX	FM	FM_QUALITY	DEPTH	TOP_DEPTH	QUALITY	THICKNESS	THICKNESS	QUALITY	ELEV	BATHM
4701706061	Dvd Oprl Loc	Weir	Well Record	2482	Reasonable	189	Reasonable	14	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Bears Ss	Well Record	2871	Reasonable	67	Reasonable	110	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Gantz	Well Record	2685	Reasonable	110	Reasonable	23	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Fifty-foot	Well Record	2752	Reasonable	154	Reasonable	140	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Thirty-foot	Well Record	2885	Reasonable	3039	Reasonable	357	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Gordon	Well Record	2885	Reasonable	3178	Reasonable	327	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Parish	Well Record	3039	Reasonable	3725	Reasonable	49	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Fin	Well Record	3178	Reasonable	4096	Reasonable	49	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Speeblwy	Well Record	4096	Reasonable	4485	Reasonable	731	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Balltown	Well Record	4485	Reasonable	5218	Reasonable	389	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Bedford	Well Record	5218	Reasonable	5605	Reasonable	622	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Benson	Well Record	5605	Reasonable	6044	Reasonable	144	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Alexander	Well Record	6044	Reasonable	6985	Reasonable	148	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Elk	Well Record	6985	Reasonable	6985	Reasonable	115	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Sprays Group	Well Record	6985	Reasonable	6985	Reasonable	115	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Ninesteps Sh	Well Record	6985	Reasonable	6985	Reasonable	28	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Genesee Sh	Well Record	6985	Reasonable	6985	Reasonable	28	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Genesee Sh	Well Record	6985	Reasonable	6985	Reasonable	28	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Tully Ls	Well Record	6985	Reasonable	6985	Reasonable	28	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Hamilton	Well Record	7020	Reasonable	7020	Reasonable	54	Reasonable	1179	Ground Level
4701706061	Dvd Oprl Loc	Mercellis Sh	Well Record	7020	Reasonable	7020	Reasonable	54	Reasonable	1179	Ground Level

There is no Wireline (E-Log) data for this well
 There is no Plugging data for this well
 There is no Sample data for this well

Lease No. 705575

AMENDMENT AND RATIFICATION OF OIL AND GAS LEASE

This Amendment and Ratification of Oil and Gas Lease (this "Amendment") is made and entered into this 9th day of March, 2010, by and between [REDACTED],

with an address of [REDACTED] ("Lessor"), and EQT Production Company, a Pennsylvania Corporation with an office at 1710 Pennsylvania Avenue, Charleston, West Virginia, 25302 ("Lessee").

WHEREAS, Lessor and Lessee are parties to that certain mineral lease (the "Lease") dated April, 24, 1900, between [REDACTED] as lessor, and Carnegie Natural Gas Company of Pittsburgh, as lessee, recorded in the Office of the Clerk of the County Commission of Doddridge County, State of West Virginia, in Book [REDACTED], at Page [REDACTED], as amended or modified from time to time, whether or not such amendments or modifications are of record, and covering 115 acres, more or less (the "Leased Premises"); and

WHEREAS, Lessor and Lessee now desire to ratify the Lease as being in full force and effect and to amend and modify certain provisions of the same.

NOW THEREFORE, for and in consideration of the foregoing recitals, other good and valuable consideration, and the mutual advantage to the parties hereto, the sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **Recitals Incorporated By Reference.** Lessor and Lessee adopt the recitals set forth above as part of the Lease and such recitals are confirmed to be true and accurate by each party.

2. **Amendments.** The Lease is hereby amended and modified to include the following provisions:

a. **Unitization and Pooling.** Lessee is hereby given the right at its option, at any time from the date hereof while this agreement shall be in effect and from time to time within such period, to pool all or any part or parts of the leased premises or rights therein with any other land in the vicinity thereof, or with any leasehold, operating or other rights or interests in such other land to create units of such size and surface acreage as Lessee may desire, but containing not more than 640 acres plus 10% acreage tolerance. If at any time larger units are required under any then applicable law, rule, regulation or order of any governmental authority for the drilling, completion, or operation of a well, any such unit may be established or enlarged to conform to the size specified. Each unit may be created by governmental authority or by a written declaration-notice executed by Lessee and delivered to Lessor containing a description of the unit so created, specifying the mineral stratum or horizon so pooled, if so limited. Any well which is commenced, or is drilled or is producing on any part of any lands theretofore or thereafter so pooled shall, except for the payment of royalties, be considered a well commenced, drilled, and producing on the lands hereby leased. There shall be allocated to the portion of the leased premises included in any pooling such proportion of the actual production from all lands so pooled as such portion of the leased premises, computed on an acreage basis, bears to the entire acreage of the lands so pooled. The production so allocated shall be considered for the purpose of payment or delivery of royalty to be the entire production from the portion of the leased premises included in such pooling in the same manner as though produced from such portion under the terms of this Agreement. Each of said options may be exercised by Lessee from time to time, and a unit may be formed either before or after a well has been drilled or production has been established on the leased premises or on a portion of the leased premises which is included in the pool or on other lands which are pooled therewith. Lessor waives any rights to notice, hearing and objection concerning the pooling or unitization of the leased premises under federal, state and local laws, statutes and regulations

b. **Shut-In.** When all wells, except gas storage or disposal wells, on said land are shut in by

Revision Date: July 30, 2009



Lessee for a continuous period of thirty (30) days or longer after the expiration of the primary term, the Lessee shall pay to the Lessor a shut-in royalty in the amount of Five Dollars (\$5.00) per net acre annually, prorated on a monthly basis, payable monthly, quarterly, annually, or at the end of such shut in period.

c. Expiration, Termination, Abandonment, Etc. This Lease shall not be presumed abandoned, forfeited, terminated, expired, or otherwise lost unless a release of the same is executed and recorded by Lessee; this provision shall not override or supersede any provisions of this Lease with respect to the term hereof.

3. Ratification of Remaining Lease Provisions. Lessor and Lessee hereby (i) ratify and agree that the Lease is valid and in effect, (ii) agree that Lessee is not in violation of any terms or provisions of the Lease, including any royalty or rental payment terms thereof, (iii) ratify and affirm all of the terms and provisions of the Lease to the extent that they are not changed, altered or amended by this Amendment.

4. Instrument Is Binding. The provisions hereof shall be binding upon the parties, their heirs, legatees, devisees, personal representatives, successors, and assigns.

5. Counterparts. This Amendment may be executed in one or more counterparts, each of which will be deemed to be an original copy of this Amendment and all of which will be deemed to comprise one single instrument.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first set forth above.

LESSOR:

LESSEE:

[REDACTED]

EQT Production Company

By: Rex C. Ray

Its: Attorney in Fact

STATE OF _____:

COUNTY OF _____:

Before me, _____, a Notary Public, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed said instrument. Given under my hand and seal of office this ____ day of _____, 20____.

(SEAL)

Notary Public

My Commission expires _____

STATE OF WEST VIRGINIA:

COUNTY OF KANAWHA:

Before me, _____, a Notary Public, on this day personally appeared **Rex C. Ray**, known to me to be the person whose name is subscribed to the foregoing instrument, and known to be the **Attorney in Fact** of **EQT Production Company**, a Pennsylvania corporation, and acknowledged to me that he executed said instrument for the purposes therein expressed as the act of said company. Given under my hand and seal of office this ____ day of _____, 20____.

(SEAL)

Notary Public

My Commission expires _____

Prepared in blank form by Benjamin M. Sullivan, Senior Attorney, EQT Production Company, 1710 Pennsylvania Avenue, Charleston, WV 25302