BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

VERA SCROGGINS Complainant	: :	
v.	:	Docket No. C-2023-3039609
PENNSYLVANIA-AMERICAN WATER COMPANY Respondent	:	

PRELIMINARY OBJECTIONS OF Complainant, VERA SCROGGINS TO PRELIMINARY OBJECTIONS OF PENNSYLVANIA-AMERICAN WATER COMPANY TO AMENDED COMPLAINT

And Now, Vera Scroggins, pro se, hereby files objections to Pennsylvania-American Water Company ("PAWC"), by their attorneys Stevens & Lee, P.C., requesting dismissal of my Amended Complaint based on "lack of standing" and "lack of jurisdiction" and for "legal insufficiency".

I will proceed to address these points.

FIRST PRELIMINARY OBJECTION

Lack of Standing Pursuant to 52 Pa. Code § 5.101(a)(7)

16. I will assert again that I am a customer of the PAWC. I have my account number in the Amended Complaint, which is no. 1024210033850897. I have attached a copy of my PAWC Bill.

17. The Utility Service Address and Customer is connected with me. Craig Stevens has Utility Address at Ritztex Rd., Montrose, Pa., 18801. I am connected with this address as being listed on the bill as c/o Vera Scroggins and with Craig's Address of 1527 Silver Creek Rd., Montrose, Pa. 18801. Neither Craig or I live at the Utility Address on Ritztex Rd.. This Utility Address contains a hydrant to withdraw water for those who need it and have lost water at their homes from gas drilling.

18. Craig Stevens asked to add my name to the account with my permission. I have since applied for utility service from the Company and am now a joint account holder with Craig Stevens.

None of us live at the Ritzek Rd. address; it is a commercial hydrant.

19. I partake of PAWC water from Ritztek Rd., Montrose, Pa., as well as using water in the town of Montrose when I frequent their restaurants.

I have an interest in this PAWC water and why I am making this complaint.

a. I have a substantial interest in this matter. I have witnessed water results of PAWC water and have seen contaminant issues of concern. The water testing of Zacariah Hildenbrand from Texas has tested PAWC water from the hydrant and found contaminant issues. His testing results are included attached to Exhibit in this Response. Mr. Hildenbrand was procured by the Pa. Attorney General's Office to test PAWC water and water wells in Dimock, Pa..

20. The Test Results of Mr. Hildenbrand represent a "discernible adverse effect", other than an "abstract interest". I am requesting testing of the Public Water as a joint account holder of the Company.

21. I reiterate again that I am a customer of PAWC as seen on the bill and in Company records.

A copy of Company bill is added to attached Exhibit of this Response. So, I ask not to be dismissed.

22. I again assert I have sufficient standing being a joint account holder now customer of the Company.

23. I again assert I have sufficient standing.

24. I again assert I have sufficient standing.

25. I assert I have standing.

26. I assert I am a customer and joint account holder on Craig Stevens Account with the Company. I have applied for and was not denied Service by the Company.

SECOND PRELIMINARY OBJECTION

Lack of Commission Jurisdiction Pursuant to 52 Pa. Code §5.101(a)(1) Legal Insufficiency Pursuant to 52 Pa. Code §5.101(a)(4)

27. Addressing the PUC, the Commission Powers, as described in the Public Utility Code, 66 Pa. C.S. 1501, "Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities...."

I am questioning the "safe", safety of the water from PAWC to the customers of Montrose, Pa.. Commission has legal jurisdiction to ensure safe water from the Company to the public

28. I have legal sufficiency.

29. I have legal sufficiency of pleading (demurrer).

30. I am claiming legal sufficiency of pleading (demurrer)

31. I am appealing to the Commission to assure the safety of Lake Montrose Water.

32. I am alleging possible violation by the Company by not posting all their

water test results to assure public that there are no concerns.

33. Where are the water results, especially the annual list of Contaminants on the Company's Website in their Annual Water Reports?

34. As per Pa. safe Drinking Water Act, 35 P.s. 721.1-721.17 and Federal Safety Drinking Water Act, 42 U.S.C. 300j-10, enforcement is by Pa. DEP and Federal EPA. "When Water Quality and Purity is compromised,.. ...the Commission can...certify to the DEP a question ...about the purity or quality of the water supplied to the public ".

a. I am asking for more testing especially of possible radiation in Lake Montrose since more gas wells are added in the 9 year span between testing. There are over six gas well sites with multiple gas wells surrounding the Lake within 2 miles. I have attached DEP Inspection reports with Violations of spills and casing failures on these sites which could impact the nearby Lake Montrose

and the aquifer.

35. We, Craig Stevens and myself, are alerting the PUC Commission that water quality may be and is at risk from the industrial activities of the gas industry surrounding the body of water known as Lake Montrose, in Montrose, Pa.. See water tests results from Hildebrand and the criminal charges by the Pa. Attorney General Office on a gas company, Cabot/Coterra of polluting the waters of dozens of water wells in our Susquehanna County, Pa.. I am asking for further investigation on the Safety of the water and requesting the Commission to certify to DEP concerns on the purity, quality, safety of the water.

36. This should be sufficient alert that water quality testing needs to be investigated further and see if sufficient testing is done on Montrose Lake Water particularly around radiation.

a. The Constitution of the Commonwealth, Article 1, Sec. 27, guarantees the right for all citizens to clean water. This includes all public water supplies and private wells.

This is a public safety and health issue.

Given the systematic contamination of the water wells in the area, more investigation is needed and assurance of the safety of the water.

Hildebrand says testing is inadequate for the area by PAWC.

We are concerned about the water being used by residents at the hydrant at Ritztek Rd., Montrose, Pa. is safe enough. Bulk water is being challenged for safety, which is delivered to some residents with PAWC water.

I drink water from my supermarket, Price Chopper, at their fountain, at County Courthouse, Restaurants, supplied from PAWC and want it to be safe.

b. I have been noting and investigating the water contamination Issues in my County since 2008 from the Gas Industry.

And am concerned about the safety of the PAWC Facility.

I keep track of the water contamination from the gas industry activities.

I have several DEP Violations lists for the surrounding gas wells around Lake Montrose showing possible impacts to the Lake and aquifer because of spills and casing failures at these gas well sites.

We need more information of test results and what is tested for to assure us of the safety of the PAWC water and for all the results to be made public and on the Company's Website or link where to find such.

c. The testing of water for Dimock, Pa. residents in July 2021, and the results to this date have not been released to the residents tested.

This was ordered from Pa. Attorney General Shapiro's Office , now Governor.

They tested 27 water wells in the Dimock Area and the cost was about

250,000 and Coterra/Cabot was ordered to pay millions for the Company to drill water wells in the Dimock area to supply water to the affected residents.

There are sufficient impacts to the Commonwealth waters in our County since the Gas Industry Industrialization here.

We are also appealing to our elected officials that oversee the regulations for water testing and asking for more protections and enhanced regulations.

Title 25: from Pa. DEP:

§ 109.201. Authority.

Under the act, the EQB will adopt MCLs and treatment technique requirements no less stringent than those promulgated under the Federal act for contaminants regulated under the Federal regulations. The Board may adopt MCLs and treatment technique requirements more stringent than those promulgated under the Federal act, and may adopt MCLs or treatment technique requirements for contaminants for which no MCL or treatment technique requirement has been promulgated under the Federal act.

Source

The provisions of this S 109.201 adopted December 7, 1984, effective December 8, 1984, 14 Pa.B. 44

PUC can consider appealing to the Pa. DEP or the EQB (Environmental Hearing Board) for more stringent testing and data of water quality from

PAWC.

37. I am legally sufficient by questioning the safety of the Lake Montrose water and treatment thereof, because of the heavy Gas Industry Industrialization that keeps increasing the past ten years or so.

I am requesting annual radiological testing of Lake Montrose water, raw water and after treatment by certified, independent lab and the certified, independent lab do the sampling. Therefore,

I am requesting that my Complaint not be dismissed.

REQUEST OF COMMISSION

WHEREFORE, for all the reasons stated herein, Complainant, Vera Scroggins, respectfully requests that the Commission grant my requests

in my Amended Complaint and subsequent Responses to have the Company

prove that Company's treated water from Montrose Lake is safe for public use.

The Commission is to assure safe and reasonable service to provide safe

Water. I am requesting the Commission not dismiss my Complaint.

Respectfully submitted:

Vera Scroggins

Vera Scroggins

Vera Scroggins, pro se
71 Gus Park Lane
Brackney, Pa. 18812
607-237-9685, veraduerga@gmail.com

Date: January 12, 2024

C-2023-3039609 – VERA SCROGGINS v. PENNSYLVANIA AMERICAN WATER COMPANY

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the Preliminary Objections of Complainant , Vera Scroggins to Preliminary Objections of Pennsylvania-American Water Company to Amended Complaint with Exhibits upon the parties listed below, in accordance with the requirements of 52 Pa. Code §1.54 (relating to service by a party)

eService to all

Michael A. Gruin Esquire
Stevens & Lee
17 North Second Street
16th Floor
Harrisburg, Pa. 17101
717-255-7365 717-234-1090
michael.gruin@stevenslee.com

Theresa K. Harrold Esquire
Pennsylvania American Water Company
852 Wesley Drive
Mechanicsburg, Pa. 17055
717-550-1562 717-303-8381
teresa.harrold@amwater.com

Vera Scroggins

Vera Scroggins
71 Gus Park Lane, Brackney, Pa. 18812, veraduerga@gmail.com
Dated: January 12, 2024

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

VERA SCROGGINS	:	
Complainant	:	
v.	:	Docket No. C-2023-3039609
PENNSYLVANIA-AMERICAN WATER COMPANY	:	
Respondent	:	

PRELIMINARY OBJECTIONS FROM COMPLAINANT , VERA SCROGGINS TO ANSWER AND NEW MATTER OF RESPONDENT, PENNSYLVANIA-AMERICAN WATER COMPANY, TO AMENDED COMPLAINT

Pursuant to 52 Pa. Code § 5.61, Vera Scroggins, Complainant, responds to Answer and New Matter of Respondent, Pennsylvania-American Water Company ("Respondent" or "Company" or PAWC) filed by its attorneys Stevens & Lee, P.C.. In support thereof, Vera Scroggins avers as follows:

1. Denied. Vera Scroggins is a customer of the Company's. I am on the same account as the individual, Craig Stevens. I do not have to reside at the same property. The account number is 1024-210033850897. Craig Stevens thought he added my name in May 2023 and called it in and all the customer service did was put in c/o because there was another joint account holder. That has been corrected to reflect what Mr. Stevens thought was done last year and that was his intention to have me as his joint account holder. And now I am the joint account holder with full access to the account.

   a. Page 7 of the 2021 Water Quality Report, first paragraph, „"Protecting drinking water at its **source** is an important part of the process to treat and deliver high quality water…..**Everyone, (including Vera Scroggins) …..**who lives, works, and **plays** has a **role and stake in clean water supplies**."

2. Company admits: "that Report speaks for itself" and …my characterization of questioning the accuracy or compliance of the

Report, "the Company denies any such characterization." I do question the compliance and accuracy of the Report.

a. I aver that the 2022 Water Quality Report for Montrose as seen online at the PAWC Website does not include all the constituents that are tested for yearly. There is a whole list tested for yearly.

b. The annual list tested for includes: Arsenic, Barium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Antimony, Beryllium, Thallium, Nitrate, Nitrite.

c. On the 2022 Annual Report all these are not listed and their results.

d. The elements not listed publicly in the 2022 Annual Report are: Barium, Cadmium, Chromium, Cyanide, Mercury, Nickel, Selenium, Antimony, Beryllium and Thallium.

e. The 2021 Water Quality Report has even less information! What's the point of a Report which gives little information, a skeleton Report.

What is tested for and found in the source water at Lake Montrose?

I have enclosed both Reports in the attached Exhibits.

How do we know what is really being tested for? Such Data needs to be available to the public on their website.

3. The Company admits that it expects to extend its service to Dimock, Pa. and needs "approval by the Commission!?" I haven't heard that before about Commission approval.

When will Commission approve this vital service paid for by Coterra Gas? Families in Dimock still wait for clean water since the Gas Industry Industrialization in their area since 2008 and is still ongoing.

I still encourage and insist on more testing relative to gas drilling industry impacts in Dimock, Pa. and other areas near gas wells to keep our water safe.

4. The "Company admits that Section 1501 of Public Utility Code addresses safe and reasonable service."

a. I allege that I am not assured of or convinced of the safety of the Company's Water. I aver that the Company needs to test yearly the constituents they list and make it public and not just give a short list of results.

I don't feel safe unless there is full transparency and disclosures of their testing.

The Commission in Sec. 1501 of the Public Utility Code (66 Pa. C.S. § 1501) addresses "safe service".

. b. The Constitution of the Commonwealth, Article 1, Sec. 27, guarantees the right for all citizens to clean water. This includes all public water supplies and private wells. This is a public safety and health issue.

c. I am alleging that the "safety" of the water is not assured with little public information of the water testing results. The Company is violating the Public Utility Code by limiting the information made public.

Public needs easy access to all test results in each yearly Report. Otherwise, how can we be sure that the results are there and are within accepted safety levels.

5. **"We monitor and test your water at multiple points throughout our process of drawing it from its source, treating it to meet drinking water**

standards, and distributing it through our pipeline systems. In fact, we test for about 100 regulated contaminants as required by state and federal drinking water standards". Words from MIKE DORAN President, Pennsylvania American Water on page 3 of 2021 Annual Water Quality

Report on PAWC Website.

Reveal the about 100 regulated contaminants you test for at the Montrose, Pa. Plant from the Source, Lake Montrose, and post the results for the public to see and assure us of our safe water. Make these test results accessible to the public.

a. My original letter to PAWC regional manager contact, Don Kessler, in December 6, 2022 asking for information on whether you test for "heavy metals, solvents, radiums, VOCs, benzene, methane, ethane, propane, ethylene glycol, barium, manganese, lithium, selenium, strontium, arsenic, toluene, etc." and asked for test results before and after treatment, and send a list of what PAWC tests for at their Lake Montrose Treatment Facility, was met with this response from Mr. Kessler "...visit Pa.

American Water website….and bring up the Water Quality report…"

That is not answering my questions and request. The Water Quality Reports only show a handful of results and what is tested for. Correspondence between me and Mr. Kessler is included in attached Exhibit.

I am asking for Full Transparency to be assured of the safety of the Lake Montrose Water Facility that is surrounded by several gas well sites that have DEP Violations of spills and casing failures. See attached DEP Violation Reports from Gas Well Sites within one to three miles of Lake Montrose.

b. We live in an industrialized area near our Commonwealth Waters and extra precautions, testing and transparency of test results are needed to assure the public of water safety.

c. I have been observing and noting the water issues and water changes in Susquehanna County since 2008 to the present and have my own Citizen Environmental Group, Citizens for Clean Water.

d. I aver that the Company has not revealed all they test for and have the results made available to the public. Testing that is being done annually especially needs to be in the Water Quality Reports.

6. See previous responses that contain my position on this.

7. What does Pa. DEP require the Company to test for and how often?

On page 14 of the PAWC 2021 Water Quality Report, "Regulated contaminants not listed in this table were not found in the treated water supply."

What is the list of Regulated Contaminants tested for in source water and the results? Were any found? And can treatment remove all the regulated contaminants if found? How often are the regulated contaminants tested for?

My concerns are: Is PAWC providing "Safe" Water to the public?

We need more results provided to the public to assure that safety.

8. My response here is to aver my concerns again on the safety of the water.

9. My response here is to aver my concerns again that were related to the Company's Reps and not receiving the assurance and testing results to prove the safety of the water.

NEW MATTER

10. Understood

11. Understood

12. Denied

13. Agree

14. Denied

15. Agree

16. Account now belongs to both Craig Stevens and Vera Scroggins

Address of 11081 State Route 3023, Montrose, Pa. is incorrect.

17. On May 19, 2023, "individual" that changed account was Mr. Stevens.

    Agree Customer of Record is Mr. Stevens and he added Vera Scroggins

    to the account.

18. Denied

19. Denied

My summary and further conclusions about the safety of Lake Montrose water:

1. The Company's 2021 Water Quality Reports asserts that "The Pennsylvania Department of Environmental Protection (DEP) completed a source water assessment for the Montrose System in 2002 to meet Federal requirements of the Safe Drinking Water Act. The study looked at the drainage area and ranked its vulnerability to contamination. The water supply is considered vulnerable to runoff from fertilizer application, construction areas, and roads. Seasonal waterfowl also pose potential issues with raw water quality."

The Company admits to several vulnerabilities to our Lake Montrose Water since 2002.

DEP Assessment was last done in 2002; that was 22 years ago in 2002.

Our Susquehanna County Gas Industry Industrialization started in 2008 and is still ongoing.

A new DEP source water assessment needs to be done to reflect the additional risk factor of Industrial Gas Drilling near our Lake Montrose water source.

Again, I reiterate, the "safe" water, safety of the Company's water needs further investigation and results to assure its safety to the public.

2. I am attaching emails from the Company's attorney, Michael Gruin, in response to my emails where he repeatedly tells me to contact him for information that the Company may have.

I have the right to contact the public phone numbers of PAWC on their website to ask for more information about the water testing and safety. Attorney Gruin has yet to answer my questions about such to my satisfaction and I need to hear from other sources.

Why is he restricting me in my investigation and searches?

REQUEST TO COMMISSION

WHEREFORE, for all the reasons stated herein, Complainant Vera Scroggins respectfully requests that your Honorable Commission continue and allow this Complaint.

Respectfully,

Vera Scroggins

Vera Scroggins, pro se
71 Gus Park Lane
Brackney, Pa. 18812

607-237-9685
veraduerga@gmail.com

Dated: January 12, 2024

C-2023-3039609 – VERA SCROGGINS v. PENNSYLVANIA AMERICAN WATER COMPANY

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the Preliminary Objections of Complainant , Vera Scroggins to Answer and New Matter of Respondent, Pennsylvania-American Water Company to Amended Complaint with Exhibits upon the parties listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a party)

eService to all

Michael A. Gruin Esquire
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17 North Second Street
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Vera Scroggins

Vera Scroggins
71 Gus Park Lane, Brackney, Pa. 18812, veraduerga@gmail.com
Dated: January 12, 2024

EXHIBIT E

PENNSYLVANIA AMERICAN WATER

WE KEEP LIFE FLOWING™

Statement

Account No. **1024-210033850897**

Total Amount Due:	**$46.60**
Payment Due By:	**January 8, 2024**

Service Address:
CRAIG STEVENS
RITZTEX RD
MONTROSE, PA 18801

Billing Date:	December 15, 2023
Service Period:	Nov 11 to Dec 13 (33 Days)
Total Gallons:	0

THANK YOU FOR BEING OUR CUSTOMER

Important Account Messages

- Want to get to know us better? Visit www.pennsylvaniaamwater.com to learn more about the services we provide.
- Want more convenience and less clutter? Try paperless billing. We send an email when your bill is available for viewing and include an option to pay. It's simple to sign up, just register or log into My Account at amwater.com/myaccount and make the selection for paperless billing.

For more information, visit www.pennsylvaniaamwater.com

Account Summary – *See page 3 for Account Detail*

Prior Billing:		$46.60
Payments - Thank You!	−	$46.60
Balance Forward:	=	**$0.00**
Service Related Charges:	+	$46.60
Total Amount Due:	=	**$46.60**

View your account information or pay your bill anytime at: www.amwater.com/MyAccount

Pay by Phone*: Pay anytime at 1-855-748-6066

Customer Service: 1-800-565-7292
M-F 7:00am to 7:00pm – Emergencies 24/7

PENNSYLVANIA AMERICAN WATER
PO BOX 371412
PITTSBURGH, PA. 15250-7412

Please return bottom portion with your payment. DO NOT send cash. Retain upper portion for your records. 013670/053733 VC384P ETM1C00007 (VC384P0010136730103000

PENNSYLVANIA AMERICAN WATER

WE KEEP LIFE FLOWING™

P.O. BOX 91623
RANTOUL, IL 61866-8623

Account No. **1024-210033850897**

Total Amount Due:	**$46.60**
Payment Due By:	**January 8, 2024**

If paying after 1/8/24, pay this amount: $47.30

Service to: RITZTEX RD
MONTROSE, PA 18801

Amount Enclosed $

013670 1 AV 0.495 13670/013670/053733 65 03 VC384P 008

CRAIG STEVENS
C/O VERA SCROGGINS
1527 SILVER CREEK RD
MONTROSE PA 18801-9658

PENNSYLVANIA AMERICAN WATER
PO BOX 371412
PITTSBURGH, PA. 15250-7412

00010242100338508970000000000004660011

Craig Stevens Statement 1-11-24

clscraigstevens@gmail.com

PUC And PAWC,

My name is Craig Stevens and I am a client of PAWC since early 2012 when former CEO Kathy Pape authorized the installation of the Commercial Hydrant to provide Clean Water to Dimock Pa residents and for my use at my home in Silver Lake Township 15 miles south and access to my Neighbor Vera Scroggins who lives just a few miles up the road from me in Brackney Pa.

My Account number is 1024-210033850897 it is mailed to my address at 1527 Silver Creek Road Montrose, Pa. 18801-9658 and the service is located at Ritztex Road Montrose Pa. 18801 On November 29th of 2022 Attorney General Shapiro and Governor Elect prosecuted Cabot / Coterra in Susquehanna Courthouse and they plead No Contest to Contaminating Dimock.

On Monday December 5th 2022 Montrose Borough had their meeting and the Dimock Public Water System included in the court case was being discussed and Don Kessler was present. The Borough was concerned that the water was going to be drawn from PAWC Lake Montrose Supply which they were going to challenge but were informed by Mr Kessler that it was not.

Vera Scroggins and I asked Mr Kessler whether the Water System PAWC was building with $16 Million of Coterra Money was going to be tested for the same things that they were prosecuted. Mr Kessler was not interested in answering our questions and We decided to also include the request of what is being tested in Lake Montrose surrounded by 6 or more Gas Wells nearby.

I asked Vera who has been fighting for All Of Our Constitutional Rights to Clean Water are Protected hence her group Citizens For Clean Water and we decided to investigate further. We sent an email to Susan Turcmanovich and CEO Justin Ladner asking if Lake Montrose and the Dimock Public Water System were being tested for Oil & Gas constituents in the area.

We were told to check your website and found it to be seriously lacking in timely testing of Dangerous Chemicals and Radioactivity that has been found in Private Water Wells nearby. I told Vera I would add her to my account and called in but they online added her as care of instead of Joint Account Holder as I was getting ready to travel extensively later in the year.

I have known Vera since 2010 and she has received Water from my hydrant herself and I trust her to be on my account in case I need her to handle the bill when I am gone she can do it. The amount of Refusal to answer direct questions and consider that PAWC could be testing the Source Water more often than Legally required Vera filed a Formal Complaint with the PA PUC.

I am personally giving Tours with Elected Officials from all over PA including House ERE Chair Greg Vitali, Rep Jonathan Fritz, ERE Senate Minority Chair Carolyn Comitta among others. We have addressed Our concerns with them including COS for the PA House Majority Leader Bradford and Zoom with the Speaker Of The House Joanna McClinton and they have concerns.

We are currently asking for Legislation to be written as we are concerned that Public Water Providers won't expand their testing without being forced by Law, Which is Unfortunate.

Craig L. Stevens 1-11-24

Craig L. Stevens, (949) 456-6104

Water Testing Expert Report - hired by Pa. Attorney General Office - June 2021 - Excerpts -

Medusa Analytical, LLC
2415 Taylor Street
Southlake, TX 76092

www.medusaanalytical.com

Expert Report

Zacariah L. Hildenbrand, Ph.D. and Kevin A. Schug, Ph.D.
Partners, Medusa Analytical, LLC, 2415 Taylor Street, Southlake, TX 76092

Regarding:

Drinking Water Treatment and Sourcing in Susquehanna County, Pennsylvania

1. Education, Qualifications, and Expertise (Zacariah L. Hildenbrand, Ph.D.)

I received a Bachelor's of Science degree (BSc.) in chemistry (2007) and a Doctorate (Ph.D.) in biochemistry (2010) from the University of Texas at El Paso. During my doctoral studies, I was awarded the *Bridge to the Doctorate Award* from the National Science Foundation (NSF Grant #0832951) and my dissertation was awarded the *Best Doctoral Dissertation for the College of Science* in the fall 2010 semester. I started investigating the potential environmental implications of unconventional oil and gas development (UD) in 2011 while also completing a post-doctoral fellowship at the University of Texas Southwestern Medical Center in Dallas, Texas. My research has always been targeted towards understanding the causes of environmental contamination events and developing effective remediation strategies. I have collected and analyzed more than 1,000 samples from private, public, and agricultural water wells across the states of Texas, Louisiana, and Pennsylvania. I have analyzed groundwater quality in the Barnett Shale, the Cline Shale, the Haynesville Shale, the Eagle Ford Shale, the Marcellus Shale, and the Alpine High regions. I have also collected and analyzed more than 300 samples of produced oilfield waste (produced water and flowback waste). This research has yielded over 40 peer-reviewed publications and a textbook by Elsevier entitled *Advances in Chemical Pollution, Environmental Management and Protection: Environmental Issues Concerning Hydraulic Fracturing, Volume 1*. This research has garnered more than $2.5 Million in research funding from various private donations, governmental and industry contracts. Past and current partnerships include one with the Apache Corporation to monitor groundwater quality in the Alpine High play of the Permian Basin, and others with Challenger Water Solutions, Ecologic Solutions, Frank Millard Company, Biota, and Infinity Water Solutions to evaluate various multimodal produced water recycling processes in multiple shale basins.

I also serve as an advisor to the Texas Desalination Association, the Texas Alliance of Energy Producers, the Texas Produced Water Consortium (Texas Tech), the New Mexico Produced Water Research Consortium (NMSU), and the Department of Energy's Produced Water Application for Beneficial Reuse, Environmental Impact and Treatment Optimization (PARETO) initiative in favor of greater produced water treatment, reuse and recycling in the energy sector.

I am currently a Research Professor in the Department of Chemistry and Biochemistry at the University of Texas El Paso, as well as co-founder and affiliate of the Collaborative Laboratories for Environmental Analysis and Remediation (CLEAR) at the University of Texas Arlington. I am the principal founder of Inform Environmental, LLC and a partner in Medusa Analytical, LLC.

2. Education, Qualifications, and Expertise (Kevin A. Schug, Ph.D.)

My primary employment is as a Professor and the Shimadzu Distinguished Professor of Analytical Chemistry at the University of Texas Arlington. I am co-founder and Director of the CLEAR labs at U.T. Arlington. I received a Bachelor's of Science degree in Chemistry from the College of William & Mary (Williamsburg, VA) in 1998, and Ph.D. degree in Chemistry from Virginia Tech (Blacksburg, VA) in 2002. From 2003 - 2005, I was a postdoctoral fellow in the Department of Analytical Chemistry at the University of Vienna in Vienna, Austria. I was hired as an Assistant Professor by U.T. Arlington in 2005. I received tenure and was promoted to Associate Professor in 2011, and I was promoted to full Professor in 2015. From 2017 - 2018, I served as Interim Associate Dean for Research and Development in the College of Science.

3.1 Commercial Sources

The two primary options for commercial water providers in Susquehanna County are Pennsylvania American Water (PWS ID: PA-2580024) and Aqua (PWS ID: PA2580012).

For their Susquehanna system, Pennsylvania American Water sources water from Comfort Lake and Hallstead well #2, with 90% of their volume coming from surface water. With only 10% of the total volume being sources from groundwater, it is unlikely that this composite water source is susceptible to oil and gas and/or hydraulic fracturing-related contamination events. Unfortunately, the available water quality data is very limited, which makes it challenging to comprehensively assess the safety of this water source. Lead and copper concentrations are below their respective maximum contaminant levels stipulated by the US Environmental Protection Agency, as are the levels of total coliform and *E. coli* (Figure 1)[1]. Additionally, low levels of total organic carbon (TOC) and turbidity are indicators of healthy water that is relatively devoid of organic and biological matter. However, this water provider uses chlorination strategies for disinfection, which can lead to the penetrance of residual disinfection byproducts (DBPs) (Figure 2, top section)[1]. While the levels of specific DBPs have been found to be within compliance limits, the lack of available data on other DBPs is a concern. As a whole, the lack of available data (i.e., other pertinent metals such as arsenic, iron, and manganese, total petroleum hydrocarbons, and select volatile organic compounds such as benzene and xylene) make it difficult to comprehensively assess water quality from the Susquehanna system.

LEAD AND COPPER MONITORING PROGRAM - At least 20 tap water samples collected at customers' taps every 3 years

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	Action Level (AL)	90th Percentile	No. of Homes Sampled	Homes Above Action Level	Typical Source
Lead (ppb)	2019	Yes	0	15	0	20	0	Corrosion of household plumbing systems.
Copper (ppm)	2019	Yes	1.3	1.3	0.126	20	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 5 samples collected each month in the distribution system

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Samples	Typical Source
Total Coliform [3]	2021	Yes	0	*TT = No more than 1 positive monthly sample	0	Naturally present in the environment.
E. Coli [4]	2021	Yes	0	MCL = No confirmed samples	0	Human and animal fecal waste.

Figure 1. Direct image from Pennsylvania American Water's 2021 Annual Water Quality Report, Susquehanna system (PWS ID: PA-2580024) illustrating pertinent water quality parameters[1].

DISINFECTION BYPRODUCTS - Collected in the Distribution System

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
Total Trihalomethanes (TTHMs) (ppb)	2021	Yes	NA	80	54.3	22.2 to 83.6	By-product of drinking water disinfection.
Haloacetic Acids (HAAs) (ppb)	2021	Yes	NA	60	41.8	29.3 to 46.1	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.

DISINFECTANTS - Collected in the Distribution System and at the Treatment Facilities

Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual Required	Compliance Result	Range Detected	Typical Source
Susquehanna Surface Water Treatment Plant Entry Point Chlorine Residual (ppm) [1]	2021	Yes	4	4	0.20	1.21	1.21 to 2.51	Water additive used to control microbes.
Hallstead Well Ground Water Entry Point Chlorine Residual (ppm) [2]	2021	Yes	4	4	0.30	0.55	0.55 to 1.52	Water additive used to control microbes.
Distribution System Chlorine Residual (ppm) [3]	2021	Yes	4	4	0.2	1.81	0.82 to 2.48	Water additive used to control microbes.

1 - Result represents the lowest residual entering the distribution system from the surface water treatment plant.
2 - Result represents the lowest residual entering the distribution system from the ground water station, which was not less than the required minimum for more than 4-hours.
3 - Result represents the highest monthly average of chlorine residuals measured throughout the distribution system.

Figure 2. Direct image from Pennsylvania American Water's 2021 Annual Water Quality Report, Susquehanna system (PWS ID: PA-2580024) illustrating residual chlorine levels and the prevalence of corresponding DBPs.

Similar to that of Pennsylvania American Water, Aqua's 2021 Water Quality Report from the Hop Bottom Water System (PWS ID: PA-2580012) is lacking comprehensive water quality information (Figure 3)[2]. While being compliant for select metals (barium, copper, and lead) and DBPs, the information in the list in the latest water quality report is extremely limited [2]. In several instances, the provided data dates back to 2016, which is a sign of limited sample collection and monitoring. Further to this point, the water utility operator was in violation for reporting important water quality data to the Department of Environmental Protection after the required deadline (November 2021) [2]. Collectively, these results make it very difficult to comprehensively assess the quality and safety of the water being produced by the PA-2580012 water source. This particular water source also draws from two water wells in close proximity to the 'contamination zone' in Susquehanna County. As such, given the seemingly systemic contamination of groundwater in the region, it is possible these two wells have experienced some degree of drilling-related contamination; however, that cannot be assessed based on the limited water quality data provided by Aqua.

Aqua Pennsylvania, Inc. Hop Bottom Water System, PWSID# PA2580012

Contaminants	Average Detection	Range of Detections	MCL	MCLG	Sample Date	Violation Y/N	Major Sources in Drinking Water
Chlorine, ppm	1.2	1.1 – 1.3	MRDL = 4	MRDLG = 4	2021	N	Water additive used to control microbes
Inorganic Contaminants							
Barium, ppm	0.13	NA	2	2	2021	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride, ppm	0.1	NA	2	2	2021	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Radiological Contaminants							
Combined radium, pCi/L	1.2	NA	5	0	2016	N	Erosion of natural deposits
Uranium, pCi/L	1.1	NA	30	0	2016	N	Erosion of natural deposits
Disinfection Byproducts							
Total Trihalo-methanes, ppb	3	NA	80	NA	2021	N	Byproduct of drinking water disinfection

Contaminants	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Sample Date	Violation Y/N	Major Sources in Drinking Water
Entry Point Disinfectant Residual – *PA Ground Water Rule*: This rule requires that no well station operate below specific minimum free chlorine levels for more than 4 hours.						
Chlorine, ppm	0.4	0.7	0.7 – 2.2	2021	N	Water additive used to control microbes

Lead and Copper	90th Percentile	Total Number of Samples	Samples Exceeding Action Level	Action Level	MCLG	Sample Date	Violation Y/N	Major Sources in Drinking Water
Copper, ppm	0.07	5	0	1.3	1.3	2019	N	Corrosion of household plumbing
Lead, ppb	ND	5	0	15	0	2019	N	

Figure 3. Direct image from Aqua's 2021 Annual Water Quality Report, Hop Bottom Water System (PWS ID: PA-2580012) illustrating pertinent water quality parameters.

3.2 Treating Contaminated Groundwater

A comprehensive water quality analysis has been performed to characterize the affected groundwater wells in Dimock, PA. While water quality was judged to be impaired, knowledge of the individual contaminants responsible for impairment makes it feasible to design effective water treatment solutions on-site. The use of on-site water treatment also avoids the use of a water source, which has not been comprehensively characterized, as well as its transportation and storage, and the concerns those processes bring for potential water contamination.

The contamination of groundwater well water quality in Dimock primarily pertains to elevated iron, manganese, and methane levels (Table 1). These can be readily removed using on-site water treatment processes. Treatment can be accomplished by first exposing the water stream to a low dose of ozone to precipitate metals. Precipitated metals can be extracted by passage through a subsequent carbon and/or particulate filter [3,4]. Residual ozone and methane are then removed by venting of gases

to the external environment. This equipment can be readily installed, as most houses with affected wells maintain their water wells and pressure tanks in the basement.

Some degree of maintenance and monitoring may be necessary, depending on the length of time the treatment systems are in operation. We perceive that the degree of maintenance associated with an ozone/carbon filtration treatment system will be significantly less than other potential options. For example, reverse osmosis (RO) is a viable treatment option, but RO membranes are susceptible to recurring membrane fouling. On the other hand, the capacity and lifetime of activated carbon as an adsorbent is relatively predictable and the size of filtration columns can be varied. Importantly, disinfection using ozone eliminates concerns associated with the production of DBPs from chlorine-based disinfection strategies. With methane as a common water contaminant, chlorination could readily produce toxic chloromethane DBPs in these water sources. With the aforementioned water treatment configuration, quarterly monitoring will be required to ensure that the treated water remains in compliance with the federal drinking water standards, and that there are no performance issues across the multiple treatment modalities.

Table 1. Contamination status of affected water wells previously investigated. values of 0.3 and 0.05 mg/L were used to define impairment for iron and manganese, respectively. These values represent primary and secondary drinking water standards stipulated by the Environmental Protection Agency's Safe Drinking Water Act (SDWA).

Water Well	Dissolved Methane	Elevated Iron (>0.3 mg/L)	Elevated Manganese (>0.05 mg/L)	Treatment
[redacted]				
Kemble		✓	✓	Oxidation and carbon filtration with venting
[redacted]				

Page 6

4. Conclusions

The primary options for a limited-term supply of clean water for the affected residents are either to provide water from an external source or to apply water treatment strategies to their existing water sources. The external source waters considered for this interim supply are from Pennsylvania American Water (PWS ID: PA-2580024) and Aqua (PWS ID: PA2580012), both of which have been shown to pass standard, but with limited water quality parameters. The quality of external water has not been comprehensively assessed to the extent of the affected residents' groundwater well supplies. The external sources are also composites of surface water and groundwater from the area. The latter is taken proximal to that for the affected residents and has not been assessed for the presence of a wide range of contaminants. Additionally, the supply of external water requires transportation and storage. These processes can introduce additional water contamination and have significant logistical challenges. In particular, the intermittent transportation of water from a commercial source to an above-ground storage tank (AST, i.e., water buffalo) can lead to the proliferation of unwanted microbial contaminants. The relative sterility of fresh water during transportation is always a concern, and, more specifically, ASTs are notorious for housing microbial films if not properly maintained with extensive disinfection. Under this scenario, affected residuals could experience bouts of microbially-induced skin irritation and/or gastroenteritis if the commercial source of water is contaminated at some point in the supply chain. Irrespective of which water source is selected, some degree of water quality monitoring will be required to ensure that the provided water is safe to drink and in compliance with the federal drinking water standards. From a logistical perspective, this monitoring may be harder to coordinate when dealing with the transportation and storage of an external source, compared to the monitoring of treatment effluent, which can be performed *in situ*. Collectively, with water quality and logistical challenge in mind, we recommend that the affected residents use treated groundwater as their interim source of fresh water.

5. References

1. 2021 Annual Water Quality Report, Pennsylvania American Water, Susquehanna System (PWS ID: PA-2590024). Accessed 01/10/23. https://www.amwater.com/ccr/susquehanna.pdf.

2. 2021 Annual Water Quality Report, Aqua, Hop Bottom Water System (PWS ID: PA-2580012). Accessed 01/10/23. https://www.aquaamerica.com/WaterQualityReports/2021/PA/PA2580012.pdf.

3. Hildenbrand, Z.L., Santos, I.C., Liden, T., Carlton, D.C., Varona-Torres, E., Martin, M.S., Reyes, M.L., Mulla, S.R., and Schug, K.A. (2018) Characterizing variable biogeochemical changes during the recycling of produced oilfield waste. *Science of the Total Environment* 634, 1519-1529.

4. Liden, T., Santos, I.C., Hildenbrand, Z.L., and Schug, K.A. (2018) Treatment modalities for the reuse of produced waste from oil and gas development. *Science of the Total Environment* 643, 107-118.

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88 Willow Ave

Susquehanna, PA 18847

Correspondence with PAWC Rep - Don Kessler

From: Vera Scroggins <veraduerga@gmail.com>
Sent: Tuesday, December 6, 2022 2:04 PM
To: Don A Kessler <Don.Kessler@amwater.com>
Subject: hi, Mr. Kessler; question about water testing?

hi, Don,

I heard you speak yesterday at Montrose Borough Meeting.

Can you send a list of what PA American Water tests for at their Montrose Lake

Treatment Facility?

Do you test for any gas drilling, fracking possible contaminants like heavy metals,

solvents, radiums, VOC's, Benzene, gases like methane, ethane, propane, ethylene glycol, barium, manganese, lithium, selenium, strontium, arsenic, toluene, etc..?

Do you test for the gas industry pollutants and impacts similar to the suite that DEP tests for? Gas Wells are near Montrose Lake.

and can you send me a recent set of water test results before and after treatment?

how often do you test the water at Montrose Lake?

thanks, for your help with this,

Vera Scroggins

Brackney, Pa.

Gmail

Vera Scroggins <veraduerga@gmail.com>

hi, Mr. Kessler; question about water testing?

Don A Kessler <Don.Kessler@amwater.com> Thu, Dec 8, 2022 at 11:24 AM
To: Vera Scroggins <veraduerga@gmail.com>

Ms Scroggins

The information below is all that I will be supplying.

Thanks
Don Kessler

From: Vera Scroggins <veraduerga@gmail.com>
Sent: Thursday, December 8, 2022 10:46 AM
To: Don A Kessler <Don.Kessler@amwater.com>
Subject: Re: hi, Mr. Kessler; question about water testing?

EXTERNAL EMAIL: **The Actual Sender of this email is veraduerga@gmail.com "Think before you click!".**

Mr. Kessler:

Please answer specifically my specific questions.

Either yes or no and the proof showing if "yes".

thank you for your attention to this,

Vera Scroggins
607-237-9685

On Thu, Dec 8, 2022 at 7:26 AM Don A Kessler <Don.Kessler@amwater.com> wrote:

> Ms. Scroggins
>
> Feel free to visit Pa American Water web site at https://www.amwater.com/paaw/ and hover over Water Quality in the banner at the top. In the drop down click on Water Quality Reports. You will be able to scroll down and find the Montrose system and bring up the Water Quality report that includes testing results that PA American Water provides.
>
> The source water monitoring along with the finished water monitoring are performed according to PA Department of Environmental Protection (PA DEP) Safe Drinking water regulations. Those regulations can be found at PA DEP website
>
> Don A. Kessler, Jr
>
> Sr. Manager NEPA Operations

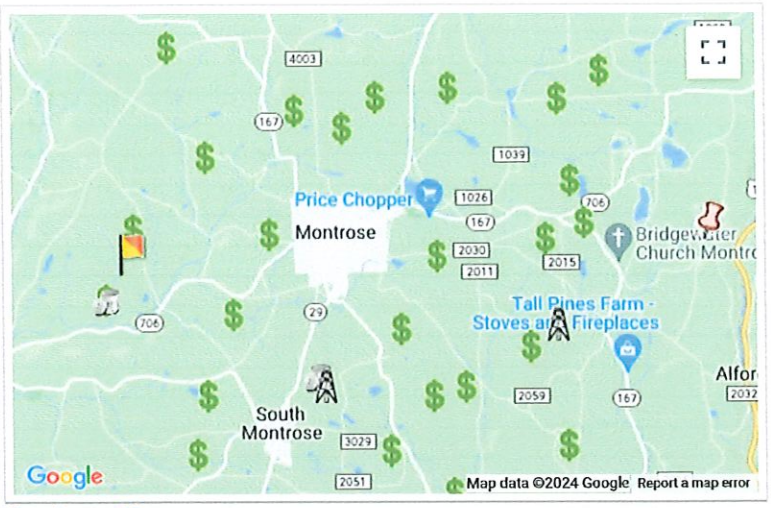
DEP DATA ON
DEP VIOLATIONS
FOR GAS WELLS
IN SUSQUEHANNA
COUNTY
NEAR LAKE MONTROSE
PAWC FACILITY

Total Bridgewater Twp. Wells - Gas Wells

MarcellusGas.Org

Permit Information Updated ***Jan 7th, 2024***

Information Related to Pennsylvania Deep Gas Well Activity



View Larger Map

Choose a County: (required)
Susquehanna

Choose a Township: (recommended)
Bridgewater * indicates no permitted wells - or

Choose Gas Company: (optional)
All Companies

Search by Phrase ()

Show Only Items Added Since:
Show All Permits

Show/Hide More Options

---> SHOW RESULTS <--- clear form/result

Search Results:

- **191 wells** permitted on **25** well sites in **Bridgewater** township

Within a 4 mile radius of Bridgewater township, there are:

- **241 wells** permitted, located on **33** well sites
- **193 wells** drilled or being developed

Well information is displayed in the tables below, or click on the icons on the map above.

Show/Hide Icon Descriptions

A ELLSWORTH Well-Pad Show on Map | Well-Pad Report (2) wells Bridgewater Township Susquehanna County

A ELLSWORTH 1 (DEP permit #115-20776)	View Report Show on Map	Drilling Map **$10.00** (retrieved: Apr/2012 2 pgs) Claim as my FREE Drilling Map	Well Packet **$25.00** (retrieved Apr/2012 13 pg Add to Cart
A ELLSWORTH 4 (DEP permit #115-20777)	View Report Show on Map	Drilling Map **$10.00** (retrieved: Jun/2013 1 pg) Claim as my FREE Drilling Map	Well Packet **$25.00** (retrieved Jun/2013 40 pg Add to Cart

ABBOTT D Well-Pad Show on Map | Well-Pad Report (7) wells Bridgewater Township Susquehanna County

ABBOTT D 3 (DEP permit #115-22390) 2 permitted wells share this name	View Report Show on Map	Drilling Map **$10.00** (retrieved: Jan/2018 3 pgs) Claim as my FREE Drilling Map	Request Well Packet
ABBOTT D 11 (DEP permit #115-22181)	View Report Show on Map	Drilling Map **$10.00** (retrieved: Dec/2016 3 pgs) Claim as my FREE Drilling Map	Well Packet **$25.00** (retrieved Dec/2016 92 pgs) Add to Cart
ABBOTT D 3 (DEP permit #115-22177) 2 permitted wells share this name	View Report Show on Map	Drilling Map **$10.00** (retrieved: Mar/2016 4 pgs) Claim as my FREE Drilling Map	Well Packet not available until production starts
ABBOTT D 5 (DEP permit #115-22178)	View Report Show on Map	Drilling Map **$10.00** (retrieved: Mar/2016 4 pgs) Claim as my FREE Drilling Map	Request Well Packet
ABBOTT D 7 (DEP permit #115-22179)	View Report	Drilling Map **$10.00** (retrieved: Mar/2016 4 pgs)	Request Well Packet

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Permit Information Updated ***Jan 7th, 2024***

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The **FONTANA C 2 Well-Pad** currently has **3 permitted** wells. **3** of the permitted wells are developed. You chose to view the well report for the FONTANA C 2 well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

FONTANA C 2
FONTANA C 4
FONTANA C 6

Well-Pad Drilling History

Sep 2014 | 3 wells

[click link(s) for well names]

Totals for Entire FONTANA C Well-Pad:

Yearly Production Graphs:   click for graphs

Gas production: 31,524,967 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 93,629,151.99 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 6,147,368.57 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 3,394 Mcf (per well) | $ 10,080.66 ATW dollars

Total Production Days: 9,288

Liquid Waste: 2,368,162 Gallons (56,385 Bbls)

Site Inspections: 92 inspections

Violations Cited: 3 violations

Notifications Sent by Gas Company to PA DEP **(18)** notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **FONTANA C 2** Show Wellsite on Map

MGOrg ID: 19253 (DEP permit number: 115-21814)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: Sep 18th, 2014
PA PUC well status: Active

Well Production Values: Show/Hide Production Report 

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 32 Inspections have been performed
3 Violations have been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id:	**2294049**
Date:	08/01/14
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Jonathan Sassi
Description:	No Violations Noted

Comment:	The Department was on site at the Fontana well site located at 2639 Post Pond Road Bridgewater Township to conduct a Routine Complete Inspection. I reviewed the E&S Inspection Log which stated that Sam Wiernusz conducted the most recent inspection on 2/2/17 and it was a Post Precipitation Inspection. The site appeared to meet temporary stabilization requirements. Several areas on the site appeared to have been recently seeded and mulched/covered in erosion control blanket.

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Inspection Id:	**2600432**
Date:	05/30/17
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Viol(s) Noted & Immediately Corrected
Comment:	The Department received a report from Cabot Oil and Gas concerning a release that occurred on 5/25/17 at 1700 hours. Mr. Watson contacted the DEP after hours hotline at 1753 and received a return call from Bob Bisignani (DEP). It was reported as less than 1bbl, but the exact volume was not determined. A well was being flowed black into a flow back tank in an attempt to increase gas production on the 2H well. A well tubing hanger was temporarily removed, to increase the diameter of the well, and the well was flowed to a flowback tank. When the well was turned back in line fluid in the gas supply line (not typical) was forced to the GPU. I met with Mr. Watson on site to conduct the inspection. The inspection was conducted during a heavy rainstorm. .
Violation Id:	**787278**
Violation Date:	05/30/17
Violation Code:	78.57(a) - CONTROL, STORAGE AND DISPOSAL OF PRODUCTION FLUIDS - Operator failed to collect the brine and other fluids produced during operation, service and plugging of the well in a tank, pit or a series of pits or tanks, or other device approved by the Department or Operator discharged brine or other fluids on or into the ground or into waters of the Commonwealth.
Violation Comment:	Production fluid impacted the well pad surface.
Resolved Date:	05/30/17

Show all fields

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Inspection Id:	**2600432**
Date:	05/30/17
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Viol(s) Noted & Immediately Corrected
Comment:	The Department received a report from Cabot Oil and Gas concerning a release that occurred on 5/25/17 at 1700 hours. Mr. Watson contacted the DEP after hours hotline at 1753 and received a return call from Bob Bisignani (DEP). It was reported as less than 1bbl, but the exact volume was not determined. A well was being flowed black into a flow back tank in an attempt to increase gas production on the 2H well. A well tubing hanger was temporarily removed, to increase the diameter of the well, and the well was flowed to a

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Permit Information Updated ***Jan 7th, 2024***

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The **STARZEC E 6 Well-Pad** currently has **12 permitted** wells. **10** of the permitted wells are developed. You chose to view the well report for the STARZEC E 6 well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

STARZEC E 6
STARZEC E 3
STARZEC E 4
STARZEC E 5
STARZEC E 001
STARZEC E 002
STARZEC E 004
STARZEC E 005
STARZEC E 007
STARZEC E 008
STARZEC E 009
STARZEC E 010

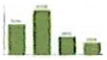
Well-Pad Drilling History

Sep 2013 | 2 wells

May 2022 | 8 wells

[click link(s) for well names]

Totals for Entire STARZEC E Well-Pad:

Yearly Production Graphs:   click for graphs

Gas production: 38,280,652 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 113,693,536.44 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 7,464,727.14 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 4,294 Mcf (per well) | $ 12,754.49 ATW dollars

Total Production Days: 8,914

Liquid Waste: 25,904,216 Gallons (616,767 Bbls)

Site Inspections: 95 inspections

Violations Cited: 3 violations

Notifications Sent by Gas Company to PA DEP (**69**) notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **STARZEC E 6** Show Wellsite on Map

MGOrg ID: 17100 (DEP permit number: 115-21406)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: Sep 17th, 2013
PA PUC well status: Active

Well Production Values: Show/Hide Production Report 

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 25 Inspections have been performed
3 Violations have been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id:	**2204931**
Date:	09/13/13
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	Gene Rickard
Description:	No Violations Noted
Comment:	refer to inspection ID 2204927

MarcellusGas.Org

Inspection Id:	**2207809**
Date:	09/19/13
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	Gene Rickard
Description:	No Violations Noted
Comment:	refer to inspection # 2207807

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Inspection Id:	**2215053**
Date:	10/22/13
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Trudy Graby
Description:	Violation(s) Noted
Comment:	H&P Flex rig 371. Well drilled to TD using riser attached to conductor pipe. No loss of circulation while drilling as riser was attached to pump and fluids transferred to mud tanks. While preparing to run casing and cement, riser was disconnected and cellar was used to circulate bentonite drilling fluid. Report from Cabot states that approx 100 bbls of bentonite drilling mud was lost. (55 bbls while circulating and 45 bbls during running casing. Drilling fluid consists of mostly water (provided by Marcy and Brooks pumping stations) along with approx 30 sacks of bentonite and 4 sacks of lime. No known expressions at this time. Unsure of where water went. Lost of fluid was due to hole in cement of cellar between mouse hole and side wall of cellar. Pumped 11.2 bbls (15.6#) of cement into hole in which 4 bbls was lost. Performed visual inspection in which cement dropped approx 1 1/2 inches during curing process. Reason for loss: Poorly constructed cellar used for circulating while running casing in prep to cement.
Violation Id:	**681800**
Violation Date:	10/22/13
Violation Code:	402CSL - Failure to adopt pollution prevention measures required or prescribed by DEP by handling materials that create a danger of pollution.
Violation Comment:	Loss of 100 bbls of Bentonite drilling mud and 4 bbls of cement into subsurface due to poorly constructed cellar used for circulating while running casing in prep to cement. Adequate NOV response rec\'vd 11/21/13, investigation revealed no impacts discove
Resolved Date:	11/21/13
Enforcement Id:	304158

Show all fields

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Inspection Id:	**2215053**

Date:	10/22/13
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Trudy Graby
Description:	Violation(s) Noted
Comment:	H&P Flex rig 371. Well drilled to TD using riser attached to conductor pipe. No loss of circulation while drilling as riser was attached to pump and fluids transferred to mud tanks. While preparing to run casing and cement, riser was disconnected and cellar was used to circulate bentonite drilling fluid. Report from Cabot states that approx 100 bbls of bentonite drilling mud was lost. (55 bbls while circulating and 45 bbls during running casing. Drilling fluid consists of mostly water (provided by Marcy and Brooks pumping stations) along with approx 30 sacks of bentonite and 4 sacks of lime. No known expressions at this time. Unsure of where water went. Lost of fluid was due to hole in cement of cellar between mouse hole and side wall of cellar. Pumped 11.2 bbls (15.6#) of cement into hole in which 4 bbls was lost. Performed visual inspection in which cement dropped approx 1 1/2 inches during curing process. Reason for loss: Poorly constructed cellar used for circulating while running casing in prep to cement.
Violation Id:	**681801**
Violation Date:	10/22/13
Violation Code:	78.56(1) - Pit and tanks not constructed with sufficient capacity to contain pollutional substances.
Violation Comment:	Loss of 100 bbls of Bentonite drilling mud and 4 bbls of cement into subsurface due to poorly constructed cellar used for circulating while running casing in prep to cement. Adequate NOV response rec\'vd 11/21/13, investigation revealed no impacts discove
Resolved Date:	11/21/13
Enforcement Id:	304158

Show all fields

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Inspection Id:	**2215053**
Date:	10/22/13
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Trudy Graby
Description:	Violation(s) Noted
Comment:	H&P Flex rig 371. Well drilled to TD using riser attached to conductor pipe. No loss of circulation while drilling as riser was attached to pump and fluids transferred to mud tanks. While preparing to run casing and cement, riser was disconnected and cellar was used to circulate bentonite drilling fluid. Report from Cabot states that approx 100 bbls of bentonite drilling mud was lost. (55 bbls while circulating and 45 bbls during running casing. Drilling fluid consists of mostly water (provided by Marcy and Brooks pumping stations) along with approx 30 sacks of bentonite and 4 sacks of lime. No known expressions at this time. Unsure of where water went. Lost of fluid was due to hole in cement of cellar between mouse hole and side wall of cellar. Pumped 11.2 bbls (15.6#) of cement into hole in which 4 bbls was lost. Performed visual inspection in which cement dropped approx 1 1/2 inches during curing process. Reason for loss: Poorly constructed cellar used for circulating while running casing in prep to cement.
Violation Id:	**681802**

Violation Date:	10/22/13
Violation Code:	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.
Violation Comment:	Loss of 100 bbls of Bentonite drilling mud and 4 bbls of cement into subsurface due to poorly constructed cellar used for circulating while running casing in prep to cement. Adequate NOV response rec\'vd 11/21/13, investigation revealed no impacts discove
Resolved Date:	11/21/13
Enforcement Id:	304158

Show all fields

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Inspection Id:	**2218444**
Date:	10/28/13
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Kevin Costello
Description:	No Violations Noted

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Inspection Id:	**2234494**
Date:	01/06/14
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	Jonathan Sassi
Description:	No Violations Noted
Comment:	Details associated with this inspection can be referred to in the Starzec 3H 1-6-14 inspection report. Permit number is 115-21409. E-facts identification number is

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Inspection Id:	**2254887**
Date:	03/10/14
Type:	Routine/Partial Inspection
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	No Violations Noted

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Inspection Id:	**2368978**
Date:	05/12/15
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	No Violations Noted

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Inspection Id:	**2434137**
Date:	12/18/15
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	No Violations Noted
Comment:	At time of inspection, arrived on site at 11:35 a.m., the cellar was about a quarters full of water, the (13x9)

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The **MEAD B 1 Well-Pad** currently has **10 permitted** wells. **9** of the permitted wells are developed. You chose to view the well report for the MEAD B 1 well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

MEAD B 1
MEAD B 5
MEAD B 7
MEAD B 8
MEAD B 002
MEAD B 003
MEAD B 005
MEAD B 006
MEAD B 009
MEAD B 010

Well-Pad Drilling History

Nov 2013 | 3 wells

Oct 2018 | 6 wells

[click link(s) for well names]

Totals for Entire MEAD B Well-Pad:

Yearly Production Graphs:   click for graphs

Gas production: 108,765,521 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 323,033,597.37 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 21,209,276.60 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 5,633 Mcf (per well) | $ 16,731.42 ATW dollars

Total Production Days: 19,307

Liquid Waste: 10,598,233 Gallons (252,339 Bbls)

Site Inspections: 194 inspections

Violations Cited: 5 violations

Notifications Sent by Gas Company to PA DEP **(51)** notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **MEAD B 1** Show Wellsite on Map

MGOrg ID: 17358 (DEP permit number: 115-21419)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: Nov 26th, 2013
PA PUC well status: Active

Well Production Values: Show/Hide Production Report 

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 36 Inspections have been performed
5 Violations have been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id:	**2201233**
Date:	09/04/13

Inspection Id:	**2258082**
Date:	03/19/14
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Trudy Graby
Description:	No Violations Noted
Comment:	Responded to spill that occured at appprox 3/19/14 at 1AM. Approx 25 bbl water based mud (mixed with 5% diesel) spilled to containment. Turbo glider broke off and lodged into flowline. Company noticed decrease in mud pit. Estimated that 60 bbl of mud went into cellar whil 25 bbl went onto containment. Cabot to notify us when mats and liner pulled for further investigation.

Inspection Id:	**2258087**
Date:	03/27/14
Type:	Follow-up Inspection
Category:	Primary Facility
Inspector:	Trudy Graby
Description:	Pending
Comment:	Followup of spill that occured at appprox 3/19/14 at 1AM. Approx 25 bbl water based mud (mixed with 5% diesel) spilled to containment. Turbo glider broke off and lodged into flowline. Company noticed decrease in mud pit. Estimated that 60 bbl of mud went into cellar whil 25 bbl went onto containment. Cabot notified us that mats and liner being pulled 3/6 and 3/27/14. Upon inspection, drilling mud was discovered on the surface of the location outside of the cellar.

Inspection Id:	**2262876**
Date:	04/01/14
Type:	Follow-up Inspection
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Violation(s) Noted
Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15. The Dept (Frank Hoehle and I) on site to conduct Follow-Up Inspection of Trudy Graby's inspections dated 3/19/14 & 3/27/14. During this insp the Dept spoke with Heath Denton (Consultant) who explained that containment had been installed on well site on 3/28/14. At this time, the Dept discovered sheen on several areas of the well site. Also noted was what appeared to be hydraulic fuel in a puddle on the well site. The Dept requested that the operator immediately resolve this issue. The operator explained that they would have a vacuum truck remove the standing water on the well site. Based on OGI Graby's 3/27/14 insp, it was determined that a pollutional substance had impacted the surface of the ground at the well site. Staining was clearly visible around the well head which is a violation. The Dept requests that the operator make a notification when they will be removing the containment so that the Dept may conduct an inspection.
Violation Id:	**693349**
Violation Date:	04/01/14

Violation Code:	SWMA301 - Failure to properly store, transport, process or dispose of a residual waste.
Violation Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15.
Resolved Date:	08/05/14
Enforcement Id:	309869

Show all fields

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Inspection Id:	**2262876**
Date:	04/01/14
Type:	Follow-up Inspection
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Violation(s) Noted
Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15. The Dept (Frank Hoehle and I) on site to conduct Follow-Up Inspection of Trudy Graby's inspections dated 3/19/14 & 3/27/14. During this insp the Dept spoke with Heath Denton (Consultant) who explained that containment had been installed on well site on 3/28/14. At this time, the Dept discovered sheen on several areas of the well site. Also noted was what appeared to be hydraulic fuel in a puddle on the well site. The Dept requested that the operator immediately resolve this issue. The operator explained that they would have a vacuum truck remove the standing water on the well site. Based on OGI Graby's 3/27/14 insp, it was determined that a pollutional substance had impacted the surface of the ground at the well site. Staining was clearly visible around the well head which is a violation. The Dept requests that the operator make a notification when they will be removing the containment so that the Dept may conduct an inspection.
Violation Id:	**693352**
Violation Date:	04/01/14
Violation Code:	78.54* - Failure to properly control or dispose of industrial or residual waste to prevent pollution of the waters of the Commonwealth.
Violation Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15.
Resolved Date:	08/05/14
Enforcement Id:	309869

Show all fields

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Inspection Id:	**2262876**
Date:	04/01/14
Type:	Follow-up Inspection
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Violation(s) Noted
Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15. The Dept (Frank Hoehle and I) on site to conduct Follow-Up Inspection of Trudy Graby's inspections dated 3/19/14 & 3/27/14. During this insp the Dept spoke with Heath Denton (Consultant) who explained that containment had been installed on well site on 3/28/14. At this time, the Dept discovered sheen on several areas of the well site. Also noted was what appeared to be hydraulic fuel in a puddle on the well

site. The Dept requested that the operator immediately resolve this issue. The operator explained that they would have a vacuum truck remove the standing water on the well site. Based on OGI Graby's 3/27/14 insp, it was determined that a pollutional substance had impacted the surface of the ground at the well site. Staining was clearly visible around the well head which is a violation. The Dept requests that the operator make a notification when they will be removing the containment so that the Dept may conduct an inspection.

Violation Id:	**693353**
Violation Date:	04/01/14
Violation Code:	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution
Violation Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15.
Resolved Date:	08/05/14
Enforcement Id:	309869

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Inspection Id:	**2262876**
Date:	04/01/14
Type:	Follow-up Inspection
Category:	Primary Facility
Inspector:	Briana Cunningham
Description:	Violation(s) Noted
Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15. The Dept (Frank Hoehle and I) on site to conduct Follow-Up Inspection of Trudy Graby's inspections dated 3/19/14 & 3/27/14. During this insp the Dept spoke with Heath Denton (Consultant) who explained that containment had been installed on well site on 3/28/14. At this time, the Dept discovered sheen on several areas of the well site. Also noted was what appeared to be hydraulic fuel in a puddle on the well site. The Dept requested that the operator immediately resolve this issue. The operator explained that they would have a vacuum truck remove the standing water on the well site. Based on OGI Graby's 3/27/14 insp, it was determined that a pollutional substance had impacted the surface of the ground at the well site. Staining was clearly visible around the well head which is a violation. The Dept requests that the operator make a notification when they will be removing the containment so that the Dept may conduct an inspection.
Violation Id:	**693354**
Violation Date:	04/01/14
Violation Code:	691.1 - Clean Streams Law-General. Used only when a specific CLS code cannot be used
Violation Comment:	NERO EC&B Act 2 ROL granted 8/5/14, MBC data claaen-up 5/6/15. 402-potential pollution
Resolved Date:	08/05/14
Enforcement Id:	309869

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Inspection Id:	**2262876**
Date:	04/01/14
Type:	Follow-up Inspection

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The **CASTROGIOVANNI A 4 Well-Pad** currently has **4 permitted** wells. **4** of the permitted wells are developed. You chose to view the well report for the CASTROGIOVANNI A 4 well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

CASTROGIOVANNI A 4
CASTROGIOVANNI A 1
CASTROGIOVANNI A 5
CASTROGIOVANNI A 8

Well-Pad Drilling History

May 2013 | 4 wells

[click link(s) for well names]

Totals for Entire CASTROGIOVANNI A Well-Pad:

Yearly Production Graphs: click for graphs

Gas production: 38,635,138 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 114,746,359.86 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 7,533,851.91 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 2,681 Mcf (per well) | $ 7,963.52 ATW dollars

Total Production Days: 14,409

Liquid Waste: 3,743,048 Gallons (89,120 Bbls)

Site Inspections: 103 inspections

Violations Cited: 3 violations

Notifications Sent by Gas Company to PA DEP (11) notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **CASTROGIOVANNI A 4** Show Wellsite on Map

MGOrg ID: 16483 (DEP permit number: 115-21242)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: May 24th, 2013
PA PUC well status: Active

Well Production Values: Show/Hide Production Report

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 28 Inspections have been performed
3 Violations have been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id:	**2181855**
Date:	05/16/13
Type:	Routine/Partial Inspection
Category:	Primary Facility
Inspector:	Ryan Klemish
Description:	No Violations Noted

Inspection Id:	**2188809**
Date:	08/02/13
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Ryan Klemish
Description:	Viol(s) Noted & Immediately Corrected
Comment:	~147 gallons of dyed diesel fuel was released to a plactic containment mat. The seals between the mat sheets degraded and allowed fuel to impact the pad surface. No additional containment liner was utilized. Spill was reported on 8/1/2013. NERO EC&B Act 2 ROL granted 12/20/13, closed.
Violation Id:	**674295**
Violation Date:	08/02/13
Violation Code:	91.34A - Failure to take all necessary measures to prevent spill. Inadequate diking, potential pollution
Violation Comment:	NERO EC&B Act 2 ROL granted 12/20/13, closed. Containment system failed during spill of diesel fuel.
Resolved Date:	12/20/13

Show all fields

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Inspection Id:	**2367122**
Date:	05/05/15
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	No Violations Noted

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Inspection Id:	**2439124**
Date:	09/07/15
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	Scott Kuchta
Description:	No Violations Noted
Comment:	Inspection associated with the NOT inspection of the Bridgewater pipeline. No issues observed at the time of the inspection.

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Inspection Id:	**2438277**
Date:	01/06/16
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	No Violations Noted
Comment:	At time of inspection, arrived on site at 11:55 a.m., the cellar had ice at the bottom, the (13x9) vent pipe was open and venting to a tank, the (9x5) vent pipe was open and venting to a tank, there was 583psi on the production casing. I took a walk around the location and everything looked OK. I left the site at 12:35 p.m.

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Inspection Id:	**2538853**
Date:	11/22/16

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The **ABBOTT D 3 Well-Pad** currently has **7 permitted** wells. **5** of the permitted wells are developed. You chose to view the well report for the ABBOTT D 3 well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

ABBOTT D 3
ABBOTT D 3
ABBOTT D 5
ABBOTT D 9
ABBOTT D 7
ABBOTT D 11
ABBOTT D 9

Well-Pad Drilling History

Apr 2016 | 2 wells

Jul 2018 | 3 wells

[click link(s) for well names]

Totals for Entire ABBOTT D Well-Pad:

Yearly Production Graphs: click for graphs

Gas production: 32,156,005 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 95,503,334.85 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 6,270,420.98 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 3,243 Mcf (per well) | $ 9,630.26 ATW dollars

Total Production Days: 9,917

Liquid Waste: 5,678,838 Gallons (135,210 Bbls)

Site Inspections: 124 inspections

Violations Cited: 3 violations

Notifications Sent by Gas Company to PA DEP: **(35)** notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **ABBOTT D 3** Show Wellsite on Map
2 permitted wells share this name

MGOrg ID: 23798 (DEP permit number: 115-22390)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: Jul 27th, 2018
PA PUC well status: Active

Well Production Values: Show/Hide Production Report

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 22 Inspections have been performed
3 Violations have been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id:	**2661624**
Date:	11/14/17
Type:	Routine/Complete Inspection

residual frac fluid from the line spilled off containment onto the tank pad surface. The spill was reported to the Department within the 2-hour reporting requirement at 5:50 pm. It was reported that at the time of the notification the spill area had been coned off, covered with plastic, and secured for the night. On 12/13/2018 remediation efforts were to be put into place. Resource Environmental will be overseeing all remediation activities. On 12/13/2018, I met with Abby Vogler and Christian Mondy from Resource Environmental. Prior to excavating the area impacted by the release, it was noted that the highest recorded conductivity at any of the screened sampling points was found to be 0.446 millisiemens. After excavation the highest reading in the affected area was 0.148 millisiemens . The excavation (Photo 4) was about 2-4 inches deep in an area about 25\' x 25\'. There were approximately 3-4 yards of pad material excavated into a rolloff container (Photo 5). I spoke with Herb Swiney, Contract Safety Consultant,on site as well, who stated the site was secured immediately after the release and a rolloff container was called for. The container was to arrive the following morning, 12/13/2018, and excavation started upon arrival. The site was reportedly covered overnight and due to the freezing conditions, the release stayed mostly surficial. By phone, I then spoke with Steve Watson, Cabot representative. He indicated that systematic random sampling for Act 2 would occur this afternoon, (December 13, 2018). The rolloff container would either go to Alliance or Keystone landfill. A report will be prepared detailing the sampling results. While onsite, I also performed a RTNC E&S inspection. The access road (Photo 7) and pad surfaces were solid and stable, as was the cut and fill slopes of the tank and well pads (Photos 6 and 8). The vegetation was visible through the snow and appeared to meet stabilization requirements. There were no erosional anomalies noted during the inspection. There are violations attached to this inspection.

Violation Id:	**837066**
Violation Date:	12/13/18
Violation Code:	SWMA 301 - MANAGEMENT OF RESIDUAL WASTE - Person operated a residual waste processing or disposal facility without obtaining a permit for such facility from DEP. Person stored, transported, processed, or disposed of residual waste inconsistent with or unauthorized by the rules and regulations of DEP.

Show all fields

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Inspection Id:	**2815889**
Date:	12/13/18
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Francis Hoehle
Description:	Violation(s) Noted
Comment:	I performed an INCDT inspection upon notice of a release of produced water reported to the Department on the Abbott Pad. The weather at the time of inspection was overcast and about 31 degrees F. According to the spill notice, CID#338740, Steve Watson (Cabot Oil & Gas) notified DEP Answering Service who contacted Jonathan Ulanoski (NERO - ER). Jonathan notified Mike O\'Donnell (Scranton Office - O&G) that on 12/12/18 Tetra (water transfer contractor) was disconnecting a section of the transfer line on the tank pad. While doing so, approximately 1-2 bbls of residual frac fluid from the line spilled off containment

onto the tank pad surface. The spill was reported to the Department within the 2-hour reporting requirement at 5:50 pm. It was reported that at the time of the notification the spill area had been coned off, covered with plastic, and secured for the night. On 12/13/2018 remediation efforts were to be put into place. Resource Environmental will be overseeing all remediation activities. On 12/13/2018, I met with Abby Vogler and Christian Mondy from Resource Environmental. Prior to excavating the area impacted by the release, it was noted that the highest recorded conductivity at any of the screened sampling points was found to be 0.446 millisiemens. After excavation the highest reading in the affected area was 0.148 millisiemens . The excavation (Photo 4) was about 2-4 inches deep in an area about 25\' x 25\'. There were approximately 3-4 yards of pad material excavated into a rolloff container (Photo 5). I spoke with Herb Swiney, Contract Safety Consultant,on site as well, who stated the site was secured immediately after the release and a rolloff container was called for. The container was to arrive the following morning, 12/13/2018, and excavation started upon arrival. The site was reportedly covered overnight and due to the freezing conditions, the release stayed mostly surficial. By phone, I then spoke with Steve Watson, Cabot representative. He indicated that systematic random sampling for Act 2 would occur this afternoon, (December 13, 2018). The rolloff container would either go to Alliance or Keystone landfill. A report will be prepared detailing the sampling results. While onsite, I also performed a RTNC E&S inspection. The access road (Photo 7) and pad surfaces were solid and stable, as was the cut and fill slopes of the tank and well pads (Photos 6 and 8). The vegetation was visible through the snow and appeared to meet stabilization requirements. There were no erosional anomalies noted during the inspection. There are violations attached to this inspection.

Violation Id:	**837065**
Violation Date:	12/13/18
Violation Code:	78a56(a) - TEMPORARY STORAGE - Operator failed to contain regulated substances and wastes used at or generated at a well site in a tank, series of tanks or other storage structures approved by the Department.
Violation Comment:	Failure to contain fluid resulted in impact to the well pad surface.

Show all fields

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Inspection Id:	**2815889**
Date:	12/13/18
Type:	Incident- Response to Accident or Event
Category:	Primary Facility
Inspector:	Francis Hoehle
Description:	Violation(s) Noted
Comment:	I performed an INCDT inspection upon notice of a release of produced water reported to the Department on the Abbott Pad. The weather at the time of inspection was overcast and about 31 degrees F. According to the spill notice, CID#338740, Steve Watson (Cabot Oil & Gas) notified DEP Answering Service who contacted Jonathan Ulanoski (NERO - ER). Jonathan notified Mike O\'Donnell (Scranton Office - O&G) that on 12/12/18 Tetra (water transfer contractor) was disconnecting a section of the transfer line on the tank pad. While doing so, approximately 1-2 bbls of residual frac fluid from the line spilled off containment

onto the tank pad surface. The spill was reported to the Department within the 2-hour reporting requirement at 5:50 pm. It was reported that at the time of the notification the spill area had been coned off, covered with plastic, and secured for the night. On 12/13/2018 remediation efforts were to be put into place. Resource Environmental will be overseeing all remediation activities. On 12/13/2018, I met with Abby Vogler and Christian Mondy from Resource Environmental. Prior to excavating the area impacted by the release, it was noted that the highest recorded conductivity at any of the screened sampling points was found to be 0.446 millisiemens. After excavation the highest reading in the affected area was 0.148 millisiemens . The excavation (Photo 4) was about 2-4 inches deep in an area about 25\' x 25\'. There were approximately 3-4 yards of pad material excavated into a rolloff container (Photo 5). I spoke with Herb Swiney, Contract Safety Consultant,on site as well, who stated the site was secured immediately after the release and a rolloff container was called for. The container was to arrive the following morning, 12/13/2018, and excavation started upon arrival. The site was reportedly covered overnight and due to the freezing conditions, the release stayed mostly surficial. By phone, I then spoke with Steve Watson, Cabot representative. He indicated that systematic random sampling for Act 2 would occur this afternoon, (December 13, 2018). The rolloff container would either go to Alliance or Keystone landfill. A report will be prepared detailing the sampling results. While onsite, I also performed a RTNC E&S inspection. The access road (Photo 7) and pad surfaces were solid and stable, as was the cut and fill slopes of the tank and well pads (Photos 6 and 8). The vegetation was visible through the snow and appeared to meet stabilization requirements. There were no erosional anomalies noted during the inspection. There are violations attached to this inspection.

Violation Id:	**837064**
Violation Date:	12/13/18
Violation Code:	CSL 402(b) - POTENTIAL POLLUTION - Conducting an activity regulated by a permit issued pursuant to Section 402 of The Clean Streams Law to prevent the potential of pollution to waters of the Commonwealth without a permit or contrary to a permit issued under that authority by the Department.

Show all fields

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Inspection Id:	**2815933**
Date:	12/13/18
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	Francis Hoehle
Description:	No Violations Noted
Comment:	I was originally onsite to perform an inspection in response to a release which occurred onsite. While onsite, I also performed a RTNC E&S inspection of the site. The weather was approximately 31 degrees F. and overcast. The site signage was legible and up to date, as was the E&S log. The access road and pad surfaces were solid and stable, as was the cut and fill slopes of the tank and well pads. The vegetation was visible through the snow and appeared healthy. There were no erosional anomalies noted during the inspection. There were no violations related to E&S issues noted.

MarcellusGas.Org

Permit Information Updated ***Jan 7th, 2024***

Information Related to Pennsylvania Deep Gas Well Activity

Home
+How To Use This Site
+Membership Information
Royalty/Production Calculator
NEW: Royalty Well Head Pricing Averages
+Well Watch: Alerts & Reports
+Record Setting Wells
Recent Production Reports
Township/County History Reports
Permit to Production Time Line Reports
+Impact Fee Reports
+Gas Company Information
+Graphs and Statistics
Compressor Facility Information
Waste Facility Information
Tainted Water Well Reports
State Maps
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Related Sites & Links
Privacy Policy
Terms Of Use

Show Susquehanna County Highlights - Show Bridgewater Township Highlights

Return to Last Search

The **FRYSTAK CENTRAL 5H Well-Pad** currently has **11 permitted** wells. **7** of the permitted wells are developed. You chose to view the well report for the FRYSTAK CENTRAL 5H well, shown first in the link list below. Click on the links immediately below/left to view individual Well Data Reports, or scroll down the page to view the individual reports for each well.

FRYSTAK CENTRAL 5H
FRYSTAK CENTRAL 6H
FRYSTAK CENTRAL 2H OG WELL
FRYSTAK CENTRAL 3H OG WELL
FRYSTAK CENTRAL 4H OG WELL
FRYSTAK CENTRAL 2H
FRYSTAK CENTRAL 3H
FRYSTAK CENTRAL 4H
FRYSTAK CENTRAL 1H
FRYSTAK EAST 7H
FRYSTAK EAST 8H

Well-Pad Drilling History

Jan 2012 | 6 wells

Sep 2012 | 2 wells

[click link(s) for well names]

Totals for Entire FRYSTAK CENTRAL Well-Pad:

Yearly Production Graphs: click for graphs

Gas production: 29,418,132 MCF (up to Oct 31st, 2023 [DEP data date: 12/20/2023])

Dollar value: $ 87,371,852.04 (Market ATW $ 2.97 per MCF)

Estimated Royalties: $ 5,736,535.74 (Crowd Sourced ATW of 1.56 @ 12.5%)

Avg Per Day Production: 1,918 Mcf (per well) | $ 5,696.43 ATW dollars

Total Production Days: 15,338

Liquid Waste: 12,202,337 Gallons (290,532 Bbls)

Site Inspections: 180 inspections

Violations Cited: 21 violations

Notifications Sent by Gas Company to PA DEP: **(53)** notifications available
Click to display in pop-up window

Show More Pad Details

Production reporting through: Oct 31st, 2023 [DEP data date: 12/20/2023] *DEP Data Disclaimer*

Individual Well Data Reports Below:

Well Name: **FRYSTAK CENTRAL 5H** Show Wellsite on Map

MGOrg ID: 13034 (DEP permit number: 115-20825)

Municipality / County: Bridgewater township, Susquehanna county

Well Development Started: PA PUC start date: Jan 5th, 2012
PA PUC well status: Active

Well Production Values: Show/Hide Production Report

Waste Report Values: Show/Hide Waste Report

Inspections/Violations: 23 Inspections have been performed
1 Violation has been cited
Show/Hide Inspections & Violations Report

Click Here to Show Violations Only

Inspection Id: **2112220**

FRYSTAK - Page 2

Date:	11/01/12
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Kevin Costello
Description:	Pending
Comment:	well drilling has progressed to a depth 6650,top of Onandaga is approx. 6413 Conservation formation entered to a depth of 732\'

MarcellusGas.Org

Inspection Id:	**2113268**
Date:	11/05/12
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Stephen Watson
Description:	Violation(s) Noted
Comment:	Drilled Pilot hole to 7080\'. Tagged Onondaga at 6674\' md. Drilled into Oriskany @ 7015\' md. Set two cement plugs and have skidded over to Frystak 8H East. Expect to be spudding that well tomorrow morning. Drillers log on site and up to date for Frustak 5H. Violations cited for penetrating Onondaga without a permit to drill a Conservation Well.
Violation Id:	**653034**
Violation Date:	11/05/12
Violation Code:	78.12* - Oil or gas well drilled, altered or operated not in accordance with a permit or the regulations.
Resolved Date:	01/07/13

Show all fields

MarcellusGas.Org

Inspection Id:	**2125251**
Date:	12/05/12
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Stephen Watson
Description:	No Violations Noted
Comment:	Operator contacted DEP on 12/4/12 and reported drilling into Onondaga formation. Formation shallower than anticipated. Onondaga encountered at 6687\' md; 6460 TVD. Oriskany 7018\' MD; 6791 TVD. Top of pilot hole 7080\' MD. Plugged back - plug #1 = 6215\' - 7080\' 15 ppg 50/50 poz. Plug #2 = 5350\' - 6215\' 17ppg Class H. Sidetracked - TOC at 5385\'. At 5409 in new hole - TD of well = 11028\'.

MarcellusGas.Org

Inspection Id:	**2176496**
Date:	06/19/13
Type:	Drilling/Alteration
Category:	Primary Facility
Inspector:	Kevin Costello
Description:	No Violations Noted
Comment:	pre-frac inspection no problems discovered

MarcellusGas.Org

Inspection Id:	**2344173**
Date:	02/13/15

FRYSTAK - Page 3

Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Violation(s) Noted
Comment:	At time of inspection, arrived on site at 11:15a.m., the cellar was full of water with no bubbling noticed, the (13x9) annulus was venting into the atmosphere with gas detected at 100% LEL and 19% methane with no measurable flow. The (9x5) vent pipe was open and venting into a tank. I took a walk around the location and there were no obvious concerns noticed. The well was granted inactive status on 2/25/15. I left the site at 12:20p.m.
Violation Id:	**772154**
Violation Date:	11/10/16
Violation Code:	78a85(a)5 - CASING AND CEMENTING - CEMENT STANDARDS - Operator failed prevent gas flow in the annulus and use gas block additives and low fluid loss slurries in areas of known shallow gas producing zones.

Show all fields

MarcellusGas.Org

Inspection Id:	**2535798**
Date:	11/10/16
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Violation(s) Noted
Comment:	At time of inspection, arrived on site at 11:15a.m., the cellar was full of water with no bubbling noticed, the (13x9) annulus was venting into the atmosphere with gas detected at 100% LEL and 19% methane with no measurable flow. The (9x5) vent pipe was open and venting into a tank. I took a walk around the location and there were no obvious concerns noticed. The well was granted inactive status on 2/25/15. I left the site at 12:20p.m.
Violation Id:	**772153**
Violation Date:	11/10/16
Violation Code:	78a86 - CASING AND CEMENTING - DEFECTIVE CASING OR CEMENTING - Operator failed to report defect in a well that has defective, insufficient or improperly cemented casing to the Department within 24 hours of discovery. Operator failed to correct defect or failed to submit a plan to correct the defect for approval by the Department within 30 days.

Show all fields

MarcellusGas.Org

Inspection Id:	**2624179**
Date:	08/09/17
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Outstanding Violations - Viols Req'd
Comment:	At time of inspection, arrived on site at 9:15a.m. The cellar was full of water with no bubbling noticed. The (9x5) annulus vent pipe was open and venting into the production tank. The valve on the production line and at the GPU were closed. The well is drilled to TD but hasn't been stimulated. It was granted inactive status on 2/25/15. I took a walk around the location and there

FRYSTAK- Page 4

	were no obvious concerns noticed. I left the site at 10:10a.m. Gas was detected during a routine inspection on 12/17/15, it was determined the gas was coming from the (13x9) annulus during a follow up inspection on 12/18/15.
Violation Id:	**793841**
Violation Date:	08/09/17
Violation Code:	78a86 - CASING AND CEMENTING - DEFECTIVE CASING OR CEMENTING - Operator failed to report defect in a well that has defective, insufficient or improperly cemented casing to the Department within 24 hours of discovery. Operator failed to correct defect or failed to submit a plan to correct the defect for approval by the Department within 30 days.

Show all fields

MarcellusGas.Org

Inspection Id:	**2624179**
Date:	08/09/17
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Outstanding Violations - Viols Req'd
Comment:	At time of inspection, arrived on site at 9:15a.m. The cellar was full of water with no bubbling noticed. The (9x5) annulus vent pipe was open and venting into the production tank. The valve on the production line and at the GPU were closed. The well is drilled to TD but hasn't been stimulated. It was granted inactive status on 2/25/15. I took a walk around the location and there were no obvious concerns noticed. I left the site at 10:10a.m. Gas was detected during a routine inspection on 12/17/15, it was determined the gas was coming from the (13x9) annulus during a follow up inspection on 12/18/15.
Violation Id:	**793840**
Violation Date:	08/09/17
Violation Code:	78a85(a)5 - CASING AND CEMENTING - CEMENT STANDARDS - Operator failed prevent gas flow in the annulus and use gas block additives and low fluid loss slurries in areas of known shallow gas producing zones.

Show all fields

MarcellusGas.Org

Inspection Id:	**2731178**
Date:	05/17/18
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Outstanding Violations - Viols Req'd
Comment:	At time of inspection. The well was granted regulatory inactive status on 2/25/15. There was water 3\' below grade in the cellar and there was no bubbling noticed, there was no gas detected in the remainder of the cellar. There was gas detected at the (13x9) annulus at 100% LEL and 17% methane. The well hasn\'t been stimulated but the Department received a pressure test notification on 3/29/18. There were three 500bbl tanks on containment and the containment appeared to be in good condition. The main valve on the production line was closed. I took a walk around the location and there were no obvious concerns noticed.

FRYSTAK - Page 5

Violation Id:	**817239**
Violation Date:	11/10/16
Violation Code:	78a85(a)5 - CASING AND CEMENTING - CEMENT STANDARDS - Operator failed prevent gas flow in the annulus and use gas block additives and low fluid loss slurries in areas of known shallow gas producing zones.

Show all fields

MarcellusGas.Org

Inspection Id:	**2731178**
Date:	05/17/18
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	Outstanding Violations - Viols Req'd
Comment:	At time of inspection. The well was granted regulatory inactive status on 2/25/15. There was water 3\' below grade in the cellar and there was no bubbling noticed, there was no gas detected in the remainder of the cellar. There was gas detected at the (13x9) annulus at 100% LEL and 17% methane. The well hasn\'t been stimulated but the Department received a pressure test notification on 3/29/18. There were three 500bbl tanks on containment and the containment appeared to be in good condition. The main valve on the production line was closed. I took a walk around the location and there were no obvious concerns noticed.
Violation Id:	**817238**
Violation Date:	11/10/16
Violation Code:	78a86 - CASING AND CEMENTING - DEFECTIVE CASING OR CEMENTING - Operator failed to report defect in a well that has defective, insufficient or improperly cemented casing to the Department within 24 hours of discovery. Operator failed to correct defect or failed to submit a plan to correct the defect for approval by the Department within 30 days.

Show all fields

MarcellusGas.Org

Inspection Id:	**2772329**
Date:	09/07/18
Type:	Routine/Complete Inspection
Category:	Primary Facility
Inspector:	David Schoonover
Description:	No Violations Noted
Comment:	At time of inspection. Met with company men Larry Gerard and Tom Mattern. Halliburton was on site to frac the 1H, 2H, 3H, 6H and 8H wells. The were running a plug and perf in the 3H and pressure testing iron to start stage 24 on the 2H when I arrived on location. The 1H was completed with 20 stages. There were 23 out of 25 stages completed on the 2H. There were 22 out of 24 stages completed on the 3H. The 6H was completed with 20 stages. The 8H was completed with 19 stages. The water was be pumped to the site from the Bush fresh water impoundment and production water was being trucked to the site. I took a walk around the location and there were no obvious concerns noticed. There were no violations noted.

MarcellusGas.Org

Inspection Id:	**2808724**

COTERRA/CABOT GAS COMPANY CHARGED AND FINED FOR WATER CONTAMINATION IN SUSQUEHANNA COUNTY

Attorney General Announces Plea, Public Water Line Construction for Victims of Cabot Oil & Gas

By **Editor** - November 30, 2022

Attorney General Josh Shapiro announced that Coterra Energy Inc., formerly known as Cabot Oil and Gas, has pleaded no contest to charges related to environmental crimes in Northeastern Pennsylvania. As part of the plea Coterra will pay $16.29 million for the construction of a new public water supply in Susquehanna County.

"Residents of Dimock have waited far too long for the clean water Pennsylvania's Constitution is supposed to guarantee all of us," said Attorney General Josh Shapiro at a press conference in Susquehanna County. "Coterra, the corporate successor of Cabot Oil and Gas, took full responsibility for the crimes Cabot committed that polluted resident's water. Under this historic settlement, Coterra will now pay to build a new public water line that will provide clean, reliable drinking water for generations to come."

The Pennsylvania Office of Attorney General charged Coterra Energy Inc. in 2020 after a Grand Jury investigation into the contamination of well water in Dimock, Susquehanna County. The investigation revealed that the company's activities associated with drilling and producing unconventional gas wells were responsible for methane pollution in the local water supply. This contamination led to multiple Dimock residents suffering from impacts to their own personal water supplies, including the explosion of Norma Fiorentino's drinking water well in January 2009.

During the investigation, the Grand Jury heard testimony from several residents who shared stories of their water becoming contaminated after allowing Coterra to drill wells on their property. In some cases the water was so contaminated it even caught fire. These residents and their families were forced to stop drinking their water as it was impacted with metals and high levels of methane. In order to supply their homes with this necessity, residents had to travel miles to pick up drinking water.

When one resident contacted the Pennsylvania Department of Environmental Protections to ask when their water would be clean again, they were told that the water would be clean again in several years. A decade later, at the time of their appearance before the grand jury, the issue had remained unresolved.

Today, Coterra entered a plea to Prohibition Against Discharge of Industrial Wastes, a violation of the Clean Streams Law. As part of the plea agreement, Coterra will pay $16.29 million toward a new regulated public water line as well as payment of 75 years of water bills for the impacted homeowners. This money will also be used to provide treatment systems to treat the homeowners' water supplies and the provision of bottled water while the public water line is under construction.

"This agreement brings justice to the residents of Dimock who for years had been ignored," said AG Shapiro. "People across the country remember what happened here in Dimock, and now, they will know the rule of law won the day. Companies will take notice that we won't allow communities like this to be taken advantage of or forgotten."

The agreement is the result of years of thorough investigation and evaluation by independent experts to sample and analyze the water contamination and develop an engineering plan that would best serve the needs of the residents of Dimock. The construction and operation of the water line will be overseen by Pennsylvania American Water Company, a company with years of experience providing water to the Commonwealth, that is currently serving nearly 19% of Pennsylvanians. While it will take time to construct, this water line will ultimately provide the residents of Dimock with clean, safe drinking water when they turn on their tap. Access to this clean water is a right that has been elusive to these homeowners for more than a decade.

NOVEMBER 29, 2022 | TOPIC:
CRIMINAL
SHARE

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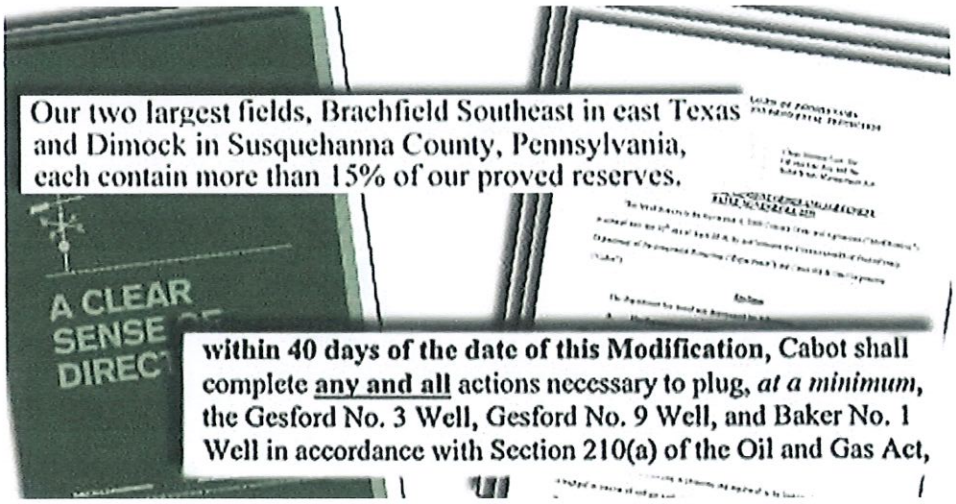
# # #

Cabot Oil & Gas's Marcellus Drilling to Slow After PA Environment Officials Order Wells Closed

Pennsylvania has come down hard on a natural gas company whose drilling contaminated drinking water. Houston-based Cabot Oil and Gas must close some wells, pay nearly a quarter million dollars in fines, and permanently provide drinking water to 14 families.

by Abrahm Lustgarten, April 16, 2010, 11:04 a.m. EDT



More than 15 months after natural gas drilling contaminated drinking water in Dimock, Pa., state officials are ordering the company responsible -- Houston-based Cabot Oil and Gas -- to permanently shut down some of its wells, pay nearly a quarter million dollars in fines, and permanently provide drinking water to 14 affected families.

The order is among the most punitive in Pennsylvania's history and reflects officials' frustrations over a string of drilling-related accidents. The record of spills, leaks and water contamination in Pennsylvania -- several of which are tied to Cabot -- has spotlighted the environmental risks of drilling for natural gas across the country, jeopardized development of the massive Marcellus Shale resource deposit, and contributed significantly to actions by both Congress and the U.S. Environmental Protection Agency to bolster federal oversight of drilling.

"The events at Dimock have been the black eye for the industry and have also been a black eye for Pennsylvania," the state's chief environment official, John Hanger, told ProPublica. "It's been an enormous headache. If

Cabot doesn't get this message, the company has got an amazing hearing problem."

ProPublica was among the first to report about the water contamination problems in Dimock -- and about more than 50 other similar cases that have emerged as drilling development has spread across the state -- in an article published last April that was part of a series about drilling concerns across the country. Since then the state Department of Environmental Protection has more than doubled its enforcement staff, and legislation has been introduced to revise Pennsylvania's rules for drilling and strengthen protections for groundwater.

Cabot did not respond to a request for comment. In a statement Thursday, Cabot Oil and Gas said that it agreed to the DEP's measures and that the state's order represents "a continuing joint effort by Cabot and the PADEP to ensure the safety of people, water resources and the environment of Susquehanna County."

DEP officials determined last fall that methane gas and drilling waste had leaked through cracked underground casing on Cabot's gas wells and seeped into drinking water in the Dimock area. They fined the company, which is also being sued by a group of area residents, $120,000 at the time. In its most recent order, which is an update of that 2009 action, the Department of Environmental Protection expressed frustration with Cabot's failure to address the contamination and said it found gas bubbling up in well water as recently as March, even though the company had submitted a plan to fix it last November.

On Thursday, the DEP gave Cabot -- which Hanger described as one of "the worst" oil and gas operators he has seen -- 40 days to plug the three wells it believes are responsible, and threatened that Cabot would have to plug more if the problems didn't subside. It gave the company a month to install permanent water treatment systems in 14 homes where water was found to contain high levels of methane, iron and other metals, and where residents have complained of headaches, skin rashes and sick animals. In addition, it ordered Cabot to pay a $240,000 fine, plus $30,000 for each month in which it fails to fix the problems.

The DEP is also suspending its review of Cabot's pending applications for new drilling permits across the state and won't allow the company to drill any new wells at all in the Dimock area -- even those already permitted -- for 12 months. It said it will continue to investigate 10 more Cabot wells near Dimock and could order some of them plugged as well.

The Dimock gas wells are among the most important for Cabot Oil and Gas, a $4.2 billion publicly traded corporation. According to Cabot's 2009 annual report, the Dimock field accounts for 15 percent of the corporation's

gas assets and is its second largest development area, after a region in Texas. At current prices the Dimock wells produced $55 million worth of natural gas last year. Much of the company's growth is tied to its plans for expansion in Pennsylvania's part of the Marcellus Shale. It planned to drill 100 new wells in the Dimock area in 2010.

Cabot CEO Dan Dinges, however, promised the enforcement action would "not impact the number of wells scheduled to be drilled under Cabot's 2010 drilling effort, nor will it impact our production guidance," according to the company's statement.

Abrahm Lustgarten

Abrahm Lustgarten writes about human adaptation to climate change, including global migration, demographic change and conflicts in response to a warming planet.

Abrahm.Lustgarten@propublica.org @AbrahmL

917-512-1803 Signal: 917-512-1803

ATTORNEY MICHAEL GRUIN

CORRESPONDENCE WITH ME, VERA SCROGGINS,

PAST MONTH

Gmail Vera Scroggins <veraduerga@gmail.com>

Question about testing the aquifer for the water wells in Dimock by PAWC?

6 messages

Vera Scroggins <veraduerga@gmail.com> Sun, Jan 7, 2024 at 5:29 PM
To: "Gruin, Michael A." <michael.gruin@stevenslee.com>

hi, Michael:

Please send what PAWC will test for before drilling water wells for

public use in Dimock?

What will PAWC test for in the acquiver where the Water Wells will be situated?

And will these water test results be made public?

Thanks, for your response and help with this,

Vera Scroggins
607-237-9685

Gruin, Michael A. <michael.gruin@stevenslee.com> Wed, Jan 10, 2024 at 8:35 AM
To: Vera Scroggins <veraduerga@gmail.com>

Hello Vera

I can ask PAWC whether this information is available.

I was informed that you submitted a new "water quality information request related to the customer confidence report". As a reminder, please send any requests for information directly to me.

Michael A. Gruin

Stevens & Lee

17 N. 2nd Street, 16th Fl.

Harrisburg, PA 17101

T: (717) 255-7365

F: (610) 988-0852

michael.gruin@stevenslee.com

[Quoted text hidden]

Vera Scroggins <veraduerga@gmail.com> Wed, Jan 10, 2024 at 10:23 AM
To: "Gruin, Michael A." <michael.gruin@stevenslee.com>

I have.
Did it after writing to you.
And still not getting any satisfactory
responses

Vera
[Quoted text hidden]

Vera Scroggins <veraduerga@gmail.com> Wed, Jan 10, 2024 at 11:38 AM
To: "Gruin, Michael A." <michael.gruin@stevenslee.com>

I will copy your responses and my letters for the PUC .

I need quick responses and from neutral people and not yourself,

who is trying to deny and kick me off the case.

You have shown yourself as evasive in answering me.

Vera Scroggins
607-237-9685
[Quoted text hidden]

Gruin, Michael A. <michael.gruin@stevenslee.com> Wed, Jan 10, 2024 at 11:45 AM
To: Vera Scroggins <veraduerga@gmail.com>

Ms. Scroggins

I reject your assertion that I am being evasive. The fact is that you have formal litigation pending, therefore, any requests to PAWC must go through formal processes.

Please send your questions to me in writing and PAWC will respond accordingly.

[Quoted text hidden]
[Quoted text hidden]

Vera Scroggins <veraduerga@gmail.com> Wed, Jan 10, 2024 at 11:51 AM
To: "Gruin, Michael A." <michael.gruin@stevenslee.com>

i can send you my questions

and also will continue to contact who I choose to answer my questions.

You have failed to answer my questions promptly and satisfactorily.]

Gmail Vera Scroggins <veraduerga@gmail.com>

Fwd: Question about testing the aquifer for the water wells in Dimock by PAWC? PAWC lawyer again tells me what to do.

1 message

Vera Scroggins <veraduerga@gmail.com> Wed, Jan 10, 2024 at 10:24 AM
To: Craig Stevens <clscraigstevens@gmail.com>

---------- Forwarded message ---------
From: **Gruin, Michael A.** <michael.gruin@stevenslee.com>
Date: Wed, Jan 10, 2024, 8:35 AM
Subject: RE: Question about testing the aquifer for the water wells in Dimock by PAWC?
To: Vera Scroggins <veraduerga@gmail.com>

Hello Vera

I can ask PAWC whether this information is available.

I was informed that you submitted a new "water quality information request related to the customer confidence report". As a reminder, please send any requests for information directly to me.

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T: (717) 255-7365

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michael.gruin@stevenslee.com

From: Vera Scroggins <veraduerga@gmail.com>
Sent: Sunday, January 7, 2024 5:30 PM
To: Gruin, Michael A. <michael.gruin@stevenslee.com>
Subject: Question about testing the aquifer for the water wells in Dimock by PAWC?

hi, Michael:

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Vera Scroggins

607-237-9685

Gmail

Vera Scroggins <veraduerga@gmail.com>

Pennsylvania American Water Company

2 messages

Gruin, Michael A. <michael.gruin@stevenslee.com> Mon, Dec 11, 2023 at 12:55 PM
To: Vera Scroggins <veraduerga@gmail.com>

Hello Ms. Scroggins

As you recall, I am the attorney for Pennsylvania American Water Company ("PAWC") in connection with your PUC complaint against PAWC.

You had recently sent some questions to PAWC about water quality testing. As your PUC complaint case against PAWC is still active, please be sure to direct all communications regarding PAWC to me.

I believe all of the information you are seeking is available from the PA DEP website, and if you have questions about that site and how the reports are organized, you can reach out to the DEP. There are instructions on the DEP website for how to request information and there are also direct numbers for the various DEP regional offices.

Thanks very much

Michael A. Gruin

Stevens & Lee

17 N. 2nd Street, 16th Fl.

Harrisburg, PA 17101

T: (717) 255-7365

F: (610) 988-0852

michael.gruin@stevenslee.com

Vera Scroggins <veraduerga@gmail.com> Mon, Dec 11, 2023 at 2:04 PM
To: "Gruin, Michael A." <michael.gruin@stevenslee.com>

Dear Mr. Gruin:

I have attached my recent list of questions for PAWC reps.
I have contacted DEP and cannot get the answers so far to these questions.
It would be quicker and more efficient to have PAWC reps answer these questions.

Can you find out some answers to my questions like how to get copies of Water Quality Reports for the Montrose, Pa. Plant
from 2014 to 2019 which are not on the PAWC website?
and I would like to know when the last testing for radiation, radiums, uranium , gross alpha was done and the results, since
I don't have copies of such.
And why are not all the test results that are done annually on the water quality reports?

thanks for your help with this,

Vera Scroggins
607-237-9685

[Quoted text hidden]

---------- Forwarded message ----------
From: Vera Scroggins <veraduerga@gmail.com>
To: justin.ladner@amwater.com, Susan.Turcmanovich@amwater.com
Cc:
Bcc: Craig Stevens <clscraigstevens@gmail.com>
Date: Thu, 7 Dec 2023 10:01:02 -0500
Subject: hi, need info on water ? at the Montrose Treatment Plant.
hi, Justin:

I am looking at water quality reports for the Montrose, Pa. water system.
I only see three years on your website.
How to get copies of previous years?
I would like to see six previous years reports.
can you help me with this?

also, when the water report says, "Collected at the Treatment Plant", does this mean collected at "point of entry" before treatment?

what are results after treatment? are these reported and public?

and a number of things are tested for annually and I don't see all of those in the reports. why?

and I would like to see the radiation results, radiums and uraniums and gross alpha? I see they are tested for every nine years?
is this the EPA and DEP requirements of every nine years?

when were the radiation results last tested at the Montrose Treatment Plant?

is there someone else I can talk to also about these questions connected with Montrose Treatment Plant?

thank you for your help with this,

Vera Scroggins
PAWC Customer Account Number: 1024-210033850897
Susquehanna County, Pa.
Montrose, Pa.
607-237-9685

2022 Annual

WATER QUALITY REPORT

MONTROSE SYSTEM
PWS ID: PA-2580023

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AMERICAN WATER

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PAWC~ Montrose, Pa. Water- 2022 Quality Test Results

Water Quality **Results**

Pennsylvania American Water conducts extensive monitoring to determine if your water meets all water quality standards. The detections of our monitoring are reported in the following tables. While most monitoring was conducted in 2022, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting the tables below, see the "Definition of Terms" on the previous page. Some unregulated substances are measured, but maximum contaminant levels have not been established by the government. These contaminants are shown for your information.

NOTE: Regulated contaminants not listed in this table were not found in the treated water supply.

LEAD AND COPPER MONITORING PROGRAM - At least 10 tap water samples collected at customers' taps every 3-years.

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	Action Level (AL)	90th Percentile	No. of Homes Sampled	Homes Above Action Level	Typical Source
Lead (ppb)	2022	Yes	0	15	8	10	1	Corrosion of household plumbing systems.
Copper (ppm)	2022	Yes	1.3	1.3	0.343	10	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 2 samples collected each month in the distribution system

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Samples	Typical Source
Total Coliform [1]	2022	Yes	0	*TT = No more than 1 positive monthly sample	0	Naturally present in the environment.
E. Coli [2]	2022	Yes	0	MCL = No confirmed samples	0	Human and animal fecal waste.

NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples / highest number of positive samples in any month.

1 - The Treatment Technique for Total Coliforms requires that if the maximum number of total coliform positive samples are exceeded a system assessment must be conducted, any sanitary defects identified, and corrective actions completed. Additional Level 1 Assessments or Level 2 Assessments are required depending on the circumstances.

2 - The Treatment Technique for E. Coli requires that for any total coliform positive routine sample with one or more total coliform positive check samples and an E. coli positive result for any of the samples a Level 2 Assessment must be conducted, any sanitary defects identified, and corrective actions completed. The E. Coli MCL is exceeded if routine and repeat samples are total coliform-positive and either is E. coli-positive, or the system fails to take repeat samples following an E. coli-positive routine sample, or the system fails to analyze total coliform-positive repeat samples for E. coli..

DISINFECTION BYPRODUCTS - Collected in the Distribution System							
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
Total Trihalomethanes (TTHMs) (ppb)	2022	Yes	NA	80	44.7	19.5 to 71.2	By-product of drinking water disinfection.
Haloacetic Acids (HAAs) (ppb)	2022	Yes	NA	60	38.0	24.7 to 51.9	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.

DISINFECTANTS - Collected in the Distribution System and at the Treatment Plant								
Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual Required	Compliance Result	Range Detected	Typical Source
Montrose Water Treatment Plant Entry Point Chlorine Residual (ppm)[1]	2022	Yes	4	4	0.20	1.20	1.20 to 3.32	Water additive used to control microbes.
Distribution System Chlorine Residual (ppm)[2]	2022	Yes	4	4	0.2	3.30	2.74 to 3.30	Water additive used to control microbes.

1 - Data represents the lowest residual entering the distribution system from our water treatment plant.
2 - Data represents the highest monthly average of chlorine residuals measured throughout our distribution system.

TREATMENT BYPRODUCTS PRECURSOR REMOVAL - Collected at the Treatment Plant								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Typical Source
Total Organic Carbon (TOC)	2022	Yes	NA	TT	35%	38% to 49%	0	Naturally present in the environment.

TURBIDITY - Continuous Monitoring at the Treatment Plant

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Single Measurement and Lowest Monthly % of Samples ≤0.3 NTU	Sample Date of Highest and Lowest Compliance Result	Typical Source
Turbidity (NTU)	2022	Yes	0	TT: Single result >1 NTU	0.620	11/08/2022	Soil runoff.
	2022	Yes	NA	TT: At least 95% of samples ≤0.3 NTU	99.96%	November 2022	Soil runoff.

OTHER REGULATED SUBSTANCES - Collected at the Treatment Plant

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL/SMCL	Highest Compliance Result	Range Detected	Typical Source
Arsenic (ppb)	2021-2022	Yes	0	10	1	ND to 1	Erosion of natural deposits; Runoff from orchards; Runoff form glass and electronics production wastes.
Nitrate (ppm)	2022	Yes	10	10	0.71	Single Sample	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits.
Fluoride (ppm)	2021-2022	Yes	2	2	0.72	ND to 0.72	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2,4'-D (ppb)	2022	Yes	70	70	0.3	0.1 to 0.3	Runoff from herbicide used on row crops
Simazine (ppb)	2022	Yes	4	4	0.49	0.27 to 0.49	Herbicide runoff
Sodium (ppm)[1]	2022	NA	NA	NA	82	Single Sample	Sodium is a natural constituent of raw water, but its concentration can be increased by pollution sources such as rock salt treatment, run-off, and detergents.

1 - For healthy individuals the sodium intake from water is not important because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit of 20 ppm may be of concern to individuals on a sodium restricted diet.

OTHER SUBSTANCES OF INTEREST - Collected at the Treatment Plant

Substance (with units)	Year Sampled	Average Result	Comments
pH	2022	7.4	pH is a measure of the acid/base properties of water.
Total Hardness (ppm)	2022	65 (3.8 grains per gallon)	Naturally occurring. Represents the total concentration of calcium and magnesium ions, reported as calcium carbonate.
Iron (ppm)[1]	2022	0.02	Corrosion of pipes; Leaching of iron salts from soil and rocks; Industrial pollution. Essential dietary trace nutrient.
Manganese (ppm)[2]	2022	0.03	Naturally-occurring elemental metal; Largely used in aluminum alloy production. Essential dietary trace nutrient.

1 - The SMCL for iron is 0.3 ppm. Iron levels above the SMCL can result in problems with staining and discoloration.
2 - The SMCL for manganese is 0.05 ppm. Manganese levels above the SMCL can result in problems with staining and discoloration.

PAWC 2022 Report

PFAS MONITORING

Before the Pennsylvania Department of Environmental Protection set maximum contaminant levels for PFAS, Pennsylvania American Water performed voluntary sampling to better understand the occurrence of certain PFAS in drinking water sources. This voluntary sampling effort was necessary because protecting public health is always the number one priority. Collecting PFAS data from all our drinking water sources in the state has allowed us to compare our results against health advisory levels set by the EPA, and MCL's set by the state.

PFAS Chemicals					
Parameter	Year Sampled	Units	Average Result	Range Detected	Typical Source
Perfluorooctanoic Acid (PFOA)	2021	ppt	ND	Single Sample	Manufactured chemical(s); used in household goods for stain, grease, heat and water resistance
Perfluorooctanesulfonic Acid (PFOS)	2021	ppt	ND	Single Sample	

In 2022, U.S. EPA set health advisory levels for four PFAS chemicals – PFOA (0.004 part per trillion (ppt)), PFOS (0.02 ppt), GenX (10 ppt), and PFBS (2,000 ppt). These are interim heath advisory levels and will remain in place until EPA establishes a National Primary Drinking Water Regulation. Based on current analytical methods, however, the health advisory levels for PFOA and PFOS are below the level of both detection (determining whether or not a substance is present) and quantitation (the ability to reliably determine how much of a substance is present). This means that it is possible for PFOA or PFOS to be present in drinking water at levels that exceed health advisories even if testing indicates no level of these chemicals.

On January 14, 2023, changes to PA Code 25, Chapter 109 were published in the Pennsylvania Bulletin establishing MCLs and monitoring requirements for PFAS. The regulation sets a maximum contaminant level of 14 ppt for PFOA, and 18 ppt for PFOS. Initial required monitoring will begin in January 2024.

Finally, PFAS chemicals are unique, so two PFAS chemicals at the same level typically do not present the same risk. Therefore, you should not compare the results for one PFAS chemical against the results of another.

For more information on PFAS, please visit https://www.amwater.com/resources/pdf/american-water-PFAS.pdf.

PAWC 2021 Water Quality Report

2021 Annual

WATER QUALITY REPORT

MONTROSE SYSTEM
PWS ID: PA-2580023

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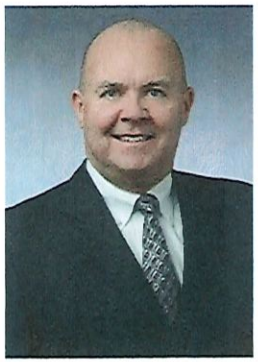
Water Report 2021

A message from **Pennsylvania American Water's President**



MIKE DORAN

President, Pennsylvania American Water

Dear Pennsylvania American Water Customer,

Having access to safe, reliable water service is something that can be easily taken for granted. At Pennsylvania American Water, it's our top priority.

I am pleased to share with you our 2021 Consumer Confidence Report, which is a testament to the hard work and dedication of our employees. As you read through this annual water quality information, you will see that we continue to supply high quality drinking water service to keep your life flowing.

We monitor and test your water at multiple points throughout our process of drawing it from its source, treating it to meet drinking water standards, and distributing it through our pipeline systems. In fact, we test for about 100 regulated contaminants as required by state and federal drinking water standards.

QUALITY: We take water quality so seriously that 33 of our water treatment plants have been nationally recognized with Directors Awards from the U.S. Environmental Protection Agency's (EPA) Partnership for Safe Water program for surpassing federal and state drinking water standards. We remain committed to protecting our sources of drinking water. We utilize advanced technology and detection methods that are paving the way for source water protection across the country.

SERVICE: Last year, we invested nearly $373 million to upgrade our water and wastewater treatment and pipeline systems in the communities we serve. These investments allowed us to improve water quality, water pressure and service reliability for our customers.

VALUE: While costs to provide water service continue to increase across the country, our investments help us provide high quality water service that remains an exceptional value for such an essential service.

We hope our commitment to you and our passion for water shines through in this report detailing the source and quality of your drinking water in 2021. We will continue to work to keep your life flowing – today, tomorrow and for future generations.

Proud to be your local water service provider,

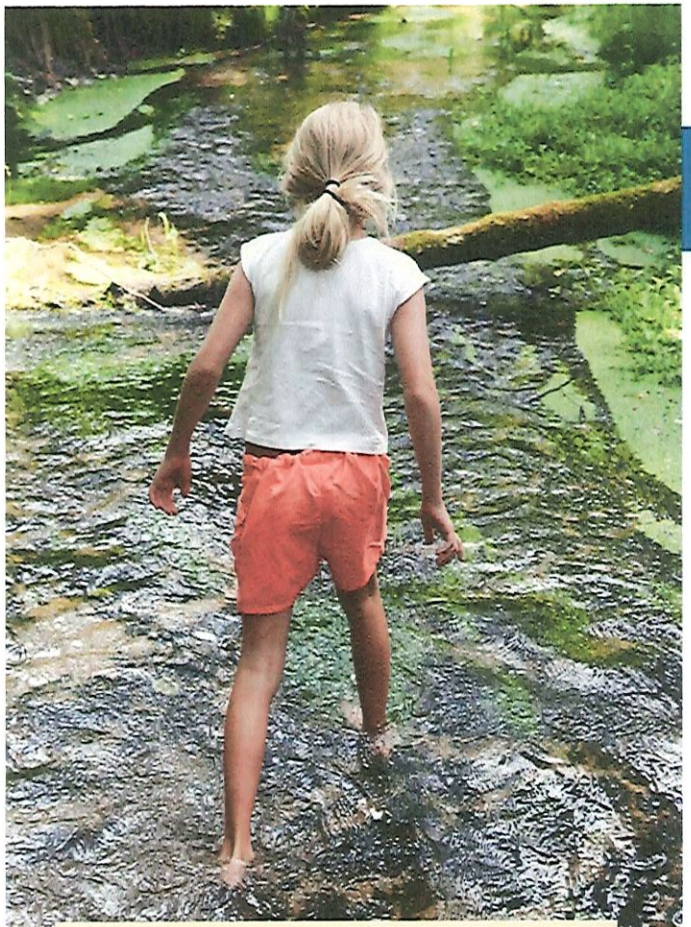
Mike Doran

Mike Doran
Pennsylvania American Water

This report contains important information about your drinking water. Translate it or speak with someone who understands it at (800) 565-7292, Monday-Friday, 7 a.m. to 7 p.m.

ATTENTION: Landlords and Apartment Owners

Please share a copy of this notice with your tenants. It includes important information about their drinking water quality.



SPECIAL HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

What are the **Sources of Contaminants**?

To provide tap water that is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, aquifers and/or groundwater. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:	
Microbial Contaminants	such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
Inorganic Contaminants	such as salts and metals, which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
Pesticides and Herbicides	which may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
Organic Chemical Contaminants	including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also, come from gas stations, urban storm water runoff, and septic systems.
Radioactive Contaminants	which can be naturally occurring or may be the result of oil and gas production and mining activities.

Pg. 7- from 2021 Report -

Protecting **Your Drinking Water Supply**

Protecting drinking water at its source is an important part of the process to treat and deliver high quality water. It takes a community effort to protect our shared water resources. This includes utilities, businesses, residents, government agencies and organizations. Everyone who lives, works, and plays in the area has a role and stake in clean water supplies.

WHAT CAN YOU DO?

Quality drinking water starts upstream. Everyone can help maintain and improve drinking water supplies through the following actions:

- Properly dispose of pharmaceuticals, household chemicals, oils and paints. Materials can impact water ways if poured down the drain, flushed down the toilet, or dumped on the ground.
- Check for leaks from automobiles and heating fuel tanks. Clean up any spills using an absorbent material like cat litter. Sweep up the material and put it in a sealed bag. Check with the local refuse facility for proper disposal.
- Clean up after your pets and limit the use of fertilizers and pesticides.
- Take part in watershed activities.

Report any spills, illegal dumping or suspicious activity to the Pennsylvania DEP:
www.dep.pa.gov/About/ReportanIncident/Pages/EnvironmentalComplaints.aspx

FOR MORE INFORMATION

To learn more about your water supply and local activities, visit us online at www.amwater.com/paaw or contact the regional Source Water Protection Lead, Kristi English at 717-550-1508.

WHAT ARE WE DOING?

Our priority is to provide reliable, quality drinking water service for customers. The source of supply is an important part of that mission. We work to understand and reduce potential risks to your drinking water supply. We have developed a Source Water Protection Plan under the Pennsylvania Source Water Protection Technical Assistance Program (SWPTAP). This is a voluntary program to identify and address potential threats to drinking water supplies. Stakeholder involvement is an important part of the program. We partner with DEP to host annual meetings to review progress on the plan with stakeholders. We also welcome input on the plan or local water supplies through our online feedback form.

Here are a few of the efforts underway to protect our shared water resources:

Community Involvement: We have a proactive public outreach program to help spread the word and get people involved. This includes school education, contests, and other community activities.

Environmental Grant Program: Each year, we fund projects that improve water resources in our local communities.

Pharmaceutical Collection: We sponsor drop box locations across the Commonwealth for residents to safely dispose of unwanted drugs for free. This helps keep pharmaceutical products from entering water supplies.

Protect Our Watersheds Art Contest: Open to fourth, fifth and sixth graders, the contest encourages students to use their artistic skills to express the importance of protecting our water resources.

Water Report 2021

Water Quality **Results**

Pennsylvania American Water conducts extensive monitoring to determine if your water meets all water quality standards. The detections of our monitoring are reported in the following tables. While most monitoring was conducted in 2021, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting the tables below, see the "Definition of Terms" on the previous page. Some unregulated substances are measured, but maximum contaminant levels have not been established by the government. These contaminants are shown for your information.

NOTE: Regulated contaminants not listed in this table were not found in the treated water supply.

LEAD AND COPPER MONITORING PROGRAM - At least 10 tap water samples collected at customers' taps every 3-years.								
Substance (with units)	**Year Sampled**	**Compliance Achieved**	**MCLG**	**Action Level (AL)**	**90th Percentile**	**No. of Homes Sampled**	**Homes Above Action Level**	**Typical Source**
Lead (ppb)	2019	Yes	0	15	2	10	0	Corrosion of household plumbing systems.
Copper (ppm)	2019	Yes	1.3	1.3	0.211	10	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 2 samples collected each month in the distribution system						
Substance (with units)	**Year Sampled**	**Compliance Achieved**	**MCLG**	**MCL**	**Highest No. of Samples**	**Typical Source**
Total Coliform [1]	2021	Yes	0	*TT = No more than 1 positive monthly sample	0	Naturally present in the environment.
E. Coli [2]	2021	Yes	0	MCL = No confirmed samples	0	Human and animal fecal waste.

NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples / highest number of positive samples in any month.

1 - The Treatment Technique for Total Coliforms requires that if the maximum number of total coliform positive samples are exceeded a system assessment must be conducted, any sanitary defects identified, and corrective actions completed. Additional Level 1 Assessments or Level 2 Assessments are required depending on the circumstances.

2 - The Treatment Technique for E. Coli requires that for any total coliform positive routine sample with one or more total coliform positive check samples and an E. coli positive result for any of the samples a Level 2 Assessment must be conducted, any sanitary defects identified, and corrective actions completed. The E. Coli MCL is exceeded if routine and repeat samples are total coliform-positive and either is E. coli-positive, or the system fails to take repeat samples following an E. coli-positive routine sample, or the system fails to analyze total coliform-positive repeat samples for E. coli..

DISINFECTION BYPRODUCTS - Collected in the Distribution System							
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
Total Trihalomethanes (TTHMs) (ppb)	2021	Yes	NA	80	32.4	19.5 to 42.4	By-product of drinking water disinfection.
Haloacetic Acids (HAAs) (ppb)	2021	Yes	NA	60	33.6	23.0 to 46.3	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.

DISINFECTANTS - Collected in the Distribution System and at the Treatment Plant								
Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual Required	Compliance Result	Range Detected	Typical Source
Montrose Water Treatment Plant Entry Point Chlorine Residual (ppm)[1]	2021	Yes	4	4	0.20	1.43	1.43 to 3.34	Water additive used to control microbes.
Distribution System Chlorine Residual (ppm)[2]	2021	Yes	4	4	.0.2	3.25	1.54 to 3.55	Water additive used to control microbes.

1 - Data represents the lowest residual entering the distribution system from our water treatment plant.
2 - Data represents the highest monthly average of chlorine residuals measured throughout our distribution system.

TREATMENT BYPRODUCTS PRECURSOR REMOVAL - Collected at the Treatment Plant								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Typical Source
Total Organic Carbon (TOC)	2021	Yes	NA	TT	35%	35% to 50%	0	Naturally present in the environment.

Water Report 2021

TURBIDITY - Continuous Monitoring at the Treatment Plant							
Substance (with units)	**Year Sampled**	**Compliance Achieved**	**MCLG**	**MCL**	**Highest Single Measurement and Lowest Monthly % of Samples ≤0.3 NTU**	**Sample Date of Highest and Lowest Compliance Result**	**Typical Source**
Turbidity (NTU)	2021	Yes	0	TT: Single result >1 NTU	0.130	12/23/2021	Soil runoff.
	2021	Yes	NA	TT: At least 95% of samples ≤0.3 NTU	100%	NA	Soil runoff.

OTHER REGULATED SUBSTANCES - Collected at the Treatment Plant							
Substance (with units)	**Year Sampled**	**Compliance Achieved**	**MCLG**	**MCL/SMCL**	**Highest Compliance Result**	**Range Detected**	**Typical Source**
Arsenic (ppb)	2021	Yes	0	10	1	Single Sample	Erosion of natural deposits; Runoff from orchards; Runoff form glass and electronics production wastes.
Nitrate (ppm)	2021	Yes	10	10	0.66	Single Sample	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits.
Fluoride (ppm)	2021	Yes	2	2	0.72	0.72	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2,4'-D (ppb)	2021	Yes	70	70	0.3	ND to 0.3	Runoff from herbicide used on row crops
Simazine (ppb)	2021	Yes	4	4	0.52	0.20 to 0.52	Herbicide runoff
Sodium (ppm) [1]	2021	NA	NA	NA	94.6	Single Sample	Sodium is a natural constituent of raw water, but its concentration can be increased by pollution sources such as rock salt treatment, run-off, and detergents.

1 - For healthy individuals the sodium intake from water is not important because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit of 20 ppm may be of concern to individuals on a sodium restricted diet.

OTHER SUBSTANCES OF INTEREST - Collected at the Treatment Plant			
Substance (with units)	**Year Sampled**	**Average Result**	**Comments**
pH	2021	7.1	pH is a measure of the acid/base properties of water.
Total Hardness (ppm)	2021	67 mg/L (3.9 grains per gallon)	Naturally occurring. Represents the total concentration of calcium and magnesium ions, reported as calcium carbonate.
Iron (ppm)[1]	2021	0.02	Corrosion of pipes; Leaching of iron salts from soil and rocks; Industrial pollution. Essential dietary trace nutrient.
Manganese (ppm)[2]	2021	0.05	Naturally-occurring elemental metal; Largely used in aluminum alloy production. Essential dietary trace nutrient.

1 - The SMCL for iron is 0.3 ppm. Iron levels above the SMCL can result in problems with staining and discoloration.
2 - The SMCL for manganese is 0.05 ppm. Manganese levels above the SMCL can result in problems with staining and discoloration.

PFAS MONITORING

PFAS refers to per- and polyfluoroalkyl substances, a class of synthetic chemicals, manufactured for industrial applications and commercial household products such as: non-stick cookware; waterproof and stain resistant fabrics and carpets; firefighting foam and cleaning products. The properties that make these chemicals useful in so many of our every-day products also resist breaking down and therefore persist in the environment. Exposure may be from food, food packaging, consumer products, house dust, indoor and outdoor air, drinking water and at workplaces where PFAS are made or used.

Pennsylvania American Water is currently performing voluntary sampling to better understand certain occurrence of PFAS levels in drinking water sources. This testing allows us to understand how our water compares against the non-enforceable Health Advisory Level set by USEPA of 70 nanograms per liter or parts per trillion for a combination of two PFAS compounds, PFOA and PFOS. Testing also allows Pennsylvania American Water to be better prepared as Pennsylvania DEP is currently developing maximum contaminant levels for PFOA and PFOS. It will also aid us if EPA develops a drinking water standard for those PFAS for which we have USEPA approved testing methods.

The science and regulation of PFAS and other contaminants is always evolving, and Pennsylvania American Water strives to be a leader in research and development. PFAS contamination is one of the most rapidly changing areas in the drinking water field. We have invested in our own independent research, as well as engaging with other experts in the field to understand PFAS occurrence in the environment. We are also actively assessing treatment technologies that can effectively remove PFAS from drinking water, because we believe that investment in research is critically important to addressing this issue.

> This is one of the most rapidly changing landscapes in drinking water contamination. We have invested time and effort on our own independent research, as well as engaging with other experts in the field to understand PFAS occurrence, fate and transport in the environment. We are also actively assessing treatment technologies that can effectively remove PFAS from drinking water, because we believe that investment in research is critical for addressing this issue.
>
> **Lauren Weinrich**
> Principal Scientist,
> Water Research and Development

UNREGULATED PERFLUORINATED COMPOUNDS				
Parameter	**Units**	**Average Result**	**Range Detected**	**Typical Source**
Perfluorooctanoic Acid (PFOA)	ppt	ND	ND	Manufactured chemical(s); used in household goods for stain, grease, heat and water resistance
Perfluorooctanesulfonic Acid (PFOS)	ppt	ND	ND	