

April 25, 2019

CERTIFIED MAIL NO. 7018 1830 0000 2569 9140

Mr. Phil Stalnaker
Cabot Oil & Gas Corporation
2000 Park Lane, Suite 300
Pittsburgh, PA 15276

Re: December 15, 2010 Consent Order and Settlement Agreement
Continuing Compliance Issues

Dear Mr. Stalnaker:

This letter is in response to Cabot Oil and Gas Corporation's (Cabot) letter of March 15, 2019, which was provided in reply to communication from the Department regarding remaining compliance issues under the Consent Order and Settlement Agreement dated December 15, 2010 ("2010 Agreement") between the Department and Cabot.

The Department's most recent review indicates that Cabot has complied with some, but not all, of the obligations under the 2010 Agreement. The intent of this letter is to reply to specific statements or requests within the March 15, 2019 correspondence from Cabot. Not all of the specific requirements of the 2010 Agreement or those identified in earlier letters from the Department are being restated here. Therefore, it should not be assumed or implied that an obligation not referenced in this letter has been fulfilled.

Water supplies that were not part of the 2010 Agreement are identified in Exhibit A, consistent with previous correspondence.

Unresolved Obligations Under 2010 Agreement

Based on the information obtained to date, unresolved obligations exist under Paragraphs 3.a., 5.a.iv., and 5.b.iv.—vi. of the 2010 Agreement. Following is a description of the specific, continuing issues under each of these Paragraphs of the 2010 Agreement.

A. Unresolved Obligations Under Paragraph 3.a. of the 2010 Agreement

Paragraph 3.a. of the 2010 Agreement states that:

3. ***Compliance, Permits Inside the Dimock/Carter Road Area, Cabot Agreement and Statements.***

- a. *Cabot hereby agrees that it shall take all actions necessary including, but not limited to, the requirements set forth in this Consent Order and Settlement Agreement, to comply with all applicable environmental laws and regulations, including all applicable provisions of the Clean Streams Law, Oil and Gas Act, and the Regulations.*

1. **Water Supply #1:** The Stray Gas Migration Closure Report regarding this water supply was received on March 27, 2019. The Department will be providing comments in response to this report via separate correspondence.

B. Unresolved Obligations Under Paragraph 5.a.iv. of the 2010 Agreement

Paragraph 5.a.iv. of the 2010 Agreement states that:

5.a. ***Gas Well Pressure Testing.***

- iv. *If the pressure data required to be provided above indicates that the Gas Well in question is in compliance with Chapter 78 of the proposed regulations or such regulations that are finally enacted, then said Gas Well shall, absent contradictory data reviewed by the Department, be considered to not be discharging natural gas into the aquifer.*

In the Department's letter to Cabot, dated June 11, 2018, the Department identified multiple Cabot Gas Wells that had natural gas in the cemented annuli. As a general rule, gas in an annular space of a gas well indicates that the well has defective, insufficient or improperly cemented casing. The regulations under the Oil and Gas Act at 25 PA. Code § 78a.86, require that "[i]n a well that has defective, insufficient or improperly cemented casing, the operator shall report the defect to the Department within 24 hours of discovery by the operator and shall correct the defect... If the defect cannot be corrected or an alternative method is not approved by the Department, the well shall be plugged under §§ 78a.91 – 78a.98 (relating to plugging)."

The Department's June 11, 2018 letter identified the following Priority Cabot Gas Wells requiring further immediate action and/or evaluation:

- Gesford 7H – API#: 115-20163
- Grimsley 1V – API#: 115-20095
- Grimsley 2H – API#: 115-20171
- Ely 4H – API#: 115-20034
- Ely 5H – API#: 115-20054
- Ely 6H – API#: 115-20041
- Gesford 2V – API#: 115-20033
- Ratzel 3V – API#: 115-20117
- Ratzell 1H – API# 115-20047

- Ratzell 2H – API#115-20152
- Greenwood 1V- API#: 115-20008
- Greenwood 6H – API#: 115-20223
- Greenwood 7H – API#: 115-20224
- Greenwood 8H – API#: 115-20284
- Costello 1V – API#: 115-20036
- Gesford 3 – API#: 115-20019 (*plugged*)
- Gesford 9 – API#: 115-20187 (*plugged*)

Cabot subsequently conducted pressure build-up tests (PBUTs) on all of the above gas wells except the Costello 1V, Gesford 3, and Gesford 9, which are not in a condition to permit similar testing and evaluation. Cabot also conducted remedial work on a number of the above gas wells, based on a prioritization agreed to by the Department.

In its March 15th letter, Cabot requested that the Department acknowledge that a number of the above gas wells are compliant with Chapter 78a regulations and with the 2010 Agreement. As stated in previous correspondence to Cabot, the determination of mechanical integrity and compliance with the 2010 Agreement will be based on a comprehensive evaluation of the gas wells and receptors. The Department does not have enough information to make that determination at this time. Additionally, the Department would like to point out that, based on the most recent PBUT, the Grimsley 2H gas well continues to be in violation of Section 78a.86 of the Department's regulations and does not appear to be scheduled for any further evaluation or remedial work. Specifically, during the PBUT concluded on this well on October 4, 2018, the pressure built to 269 psi in the 5 ½" by 9 5/8" annulus. This annulus is cemented to surface, and the 9 5/8" casing serves as the surface casing in this gas well. Please provide a plan and schedule for further evaluation and/or remediation of this gas well.

The PBUTs continue to be a critical piece of the integrity evaluation of Cabot's gas wells, and more importantly, the prioritization of any gas wells for remedial activity to eliminate the unpermitted discharge of natural gas into the aquifer. The remedial work that has been conducted, was completed much too recently to make a determination as to any effect on possible receptors at this time. Additionally, it should be noted that some of the follow-up PBUTs have been conducted with the temporary plugs still in place. Additional PBUTs should be conducted once the plugs are drilled out.

Pending the outcome of this remedial work, further diagnostic testing on these gas wells, and subsequent monitoring, additional Cabot gas wells may require further evaluation and remediation.

C. Unresolved Obligations Under Paragraph 5. b.iv.-vi. of the 2010 Agreement

Paragraph 5.b.iv.-vi. of the 2010 Agreement states that:

5.b. *Screening/Water Sampling.*

iv. *Cabot shall continue to conduct the screening and sampling under Paragraph 5.b.i., above, once every two weeks at each Water Supply until the results of the screenings and sampling done by the Department in the past and by Cabot under Paragraph 5.b.i., above, show that either no combustible free gas is present at the wellhead for the Water Supply or that such levels of combustible free gas, if properly vented pursuant to applicable regulations and Department practice, do not pose a danger to persons or property and the concentration of dissolved methane is below 7 milligrams/liter ("mg/l"), or meets the standard then prescribed by applicable regulations. However, Cabot may petition the Department, based on information obtained in accordance with this Paragraph for a determination that the concentration of methane in the Water Supply is at background levels for the aquifer that supplies that Water Supply. Cabot may further petition the Department for a determination that the concentration of combustible free gas at the wellhead is at levels that do not present a danger to persons or property if properly vented according to applicable regulations and Department practice;*

v. *for each Water Supply that meets the standards under Paragraph 5.b.iv, above, Cabot shall continue to screen each such Water Supply for free combustible gas and shall sample each such Water Supply at least once per quarter, and shall have the water sample analyzed in a Pennsylvania-licensed laboratory for dissolved methane only. Cabot shall provide the Department a copy of the results of the screening for free combustible gas, and the laboratory analyses of each water sample within five (5) days of Cabot's receipt of the screening results and water sample analyses by its laboratory; and*

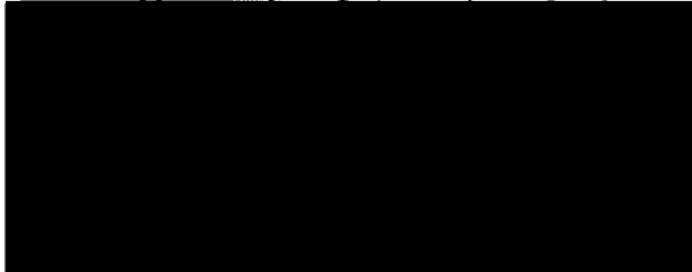
vi. *unless the Department determines that the concentration of methane in the Water Supply is at background levels for the aquifer that supplies that Water Supply, Cabot shall continue such screenings and sampling under Paragraph 5b.v., above, for each quarter until the results of the screenings and sampling done by the Department in the past and by Cabot under this Paragraph 5 show that, for eight consecutive quarters, seventy-five percent of the water samples within each monitoring point over time contain 7 mg/l or less of dissolved methane (or meets the standard then prescribed by applicable regulations), and no individual water sample exceeds two times this standard.*

Obligations under Paragraphs 5.b.iv. – vi. are as follows:

As stated in our February 8, 2019 letter, the Department has determined that the below water supplies do not yet meet the criteria defined in Paragraph 5.b.vi. of the 2010 Agreement. In its March 15th letter, Cabot requested that the Department reconsider the data and approve the cessation of sampling at some of the water supplies. Paragraph 5.b.vi. of the 2010 Agreement clearly states that Cabot shall continue the screening and sampling as described in 5.b.iv. until the criteria of 5.b.vi, above, are met, or the Department determines that the methane

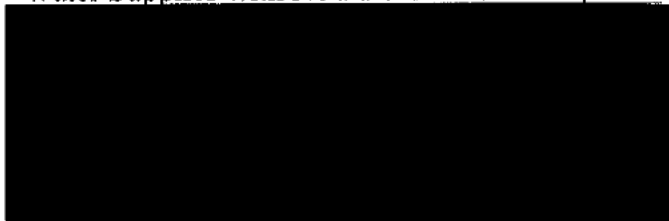
concentration is at background. As noted in Cabot's March 15th letter, the above criteria have not been met for these water supplies, and the Department is not prepared to issue a determination that these water supplies have returned to background conditions at this time. Therefore, in accordance with the 2010 Agreement, Cabot should continue screening and sampling of these water supplies on a quarterly basis. The Department intends to continue such sampling until we are satisfied that the criteria as described above have been met, and will notify Cabot when we will be conducting this sampling. The Department acknowledges that Cabot was denied access to the [REDACTED] property and does not expect Cabot to conduct sampling at that property at this time. Should the property owner reconsider allowing Cabot access to sample the water supply, the Department may request that Cabot resume sampling until sufficient data is collected and compliance with the 2010 Agreement can be determined. The Department intends to continue sampling of the [REDACTED] property for the immediate future.

Water Supplies Requiring Quarterly Sampling:



In regards to the below water supplies where access has been denied, and settlements have been reached, the Department does not intend to send letters to the property owners. Cabot has settlement agreements in place with each of these property owners pertaining to their water supplies. In our February 8th letter, the Department provided notification to Cabot that its obligations related to the 2010 Agreement for these five water supplies have been met.

Water Supplies with No Further Action Required:



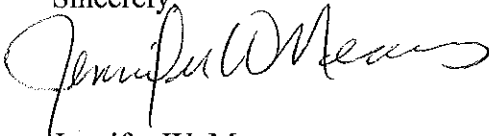
*See Exhibit B for new Property Owners.

In its correspondence dated September 14, 2018 and March 15, 2019, Cabot continues to reference a PowerPoint presentation from a meeting between the Department and Cabot on July 17, 2014 describing some actions anticipated by the Department at that time. Please note that the meeting was purely informational in nature with an expected exchange of information, and the copy of the presentation had been provided in that spirit. However, the presentation in no way represents a final action of the Department, and some of the anticipated action items changed as a result of review of additional information. Therefore, the presentation as it pertains to the unfulfilled obligations of the 2010 Agreement is not relevant.

All of the decisions and determinations expressed in this letter have been made under the 2010 Agreement, and fall within the scope of paragraph 12 of that agreement. None of these decisions or determinations constitutes a final appealable action under 25 Pa. Code § 1021.2, or an adjudication under 2 Pa. C.S.A. § 101.

Please provide an updated remedial action schedule for the Priority Gas Wells, including Cabot's remedial plan for the Grimsley 2H gas well, and a schedule for additional PBUTs on the gas wells where recent remedial activity has been conducted and the temporary plugs remain in place. No further response beyond the updated remedial plan is needed at this time. We look forward to Cabot's continued cooperation in working through the remaining obligations of the 2010 Agreement.

Sincerely

A handwritten signature in cursive script, appearing to read "Jennifer W. Means".

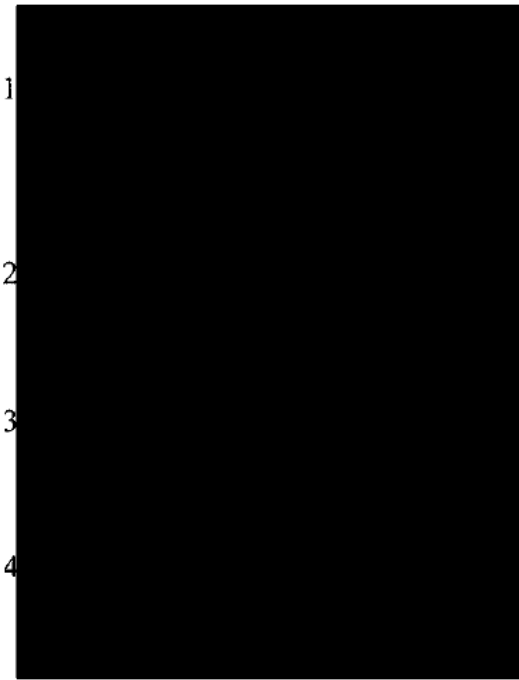
Jennifer W. Means
Environmental Program Manager
Eastern Oil and Gas District

cc: Cabot-Dimock COA File
Geoff Ayers
Michael O'Donnell

CONFIDENTIAL

EXHIBIT A

Affected Water Supplies
Dimock Township, Susquehanna County



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2

3

4

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EXHIBIT B

New Property Owners
2010 Agreement Affected Water Supplies
Dimock Township, Susquehanna County

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

