

February 8, 2019

**CERTIFIED MAIL NO. 7018 1130 0001 2752 8963**

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) letters of September 14, 2018, which were 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 September 14, 2018 correspondence from Cabot. Not all of the specific requirements identified in the Department's June 11, 2018 letter are being restated here, and 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:** In its letter of September 14, 2018, Cabot stated that a Stray Gas Migration Closure Report regarding this water supply would be submitted on or about September 30, 2018. The Department has not yet received this report. However, based on its review of existing data, the Department concurs with Cabot's proposed options regarding the treatment system at the residence. Submittal of the Stray Gas Migration Closure Report for Department review and approval is still required, in accordance with Section 78a.89(h) of the Department's regulations, 25 PA. Code § 78a.89(h). Please provide an update on the status of submittal of the report.
2. **Water Supply #2:** Please provide an update on the status of negotiations with the property owner in regards to permanent restoration/replacement of the Water Supply.
3. **Water Supplies #3 and #4:** While the Department does not agree with Cabot's position regarding these water supplies, the Department does agree with Cabot that further discussion pertaining to permanent restoration/replacement of these water supplies should be deferred until the proposed remedial work at the Ratzel 3V gas well and subsequent monitoring are complete.

4. **Spill Remediation Compliance Schedule:**  
Final reports have been approved and Act 2 Relief of Liability granted for the following sites:

- Black 1H/2H Well Site
- Friedland Farms Tank Pad

Final closure reports have not yet been received for the following sites:

- Aldrich 1 Well Site
- Foltz, J. 8H Gas Well

Please provide an update on the status of submittal of these reports.

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*)

Over the past several months, the Department has participated in, and reviewed the data resulting from, pressure build-up tests (PBUTs) conducted by Cabot on all the gas wells on this list except the Costello 1V, Gesford 3, and Gesford 9. The three excepted wells are not in a condition to permit similar testing and evaluation. Although by no means intending to imply that this will be the only work necessary to eliminate the unpermitted discharge of natural gas into the aquifer, the Department concurs with Cabot's current prioritization of gas wells for remedial work, and the proposed plan and schedule attached as Exhibit B.

Pending the outcome of this remedial work, further diagnostic testing on these gas wells, and subsequent monitoring, other Cabot gas wells may need to be considered for 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:

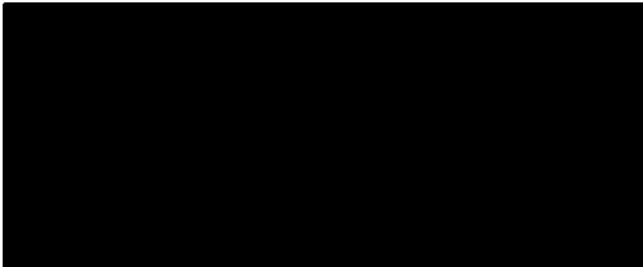
The Department has determined that the following water supplies meet the criteria defined in Paragraph 5.b.vi. of the 2010 Agreement; that is, the concentration of methane in the following water supplies is at background levels for the aquifer that supplies the Water Supplies, and/or the results of screenings and sampling done by the Department and Cabot 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, and no individual water sample exceeds two times this standard.

**Water Supplies in Compliance with Paragraph 5.b.vi.:**



Letters have been sent to the current property owners advising them of this determination.

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; however, these water supplies do meet the criteria defined in Paragraph 5.b.iv. of the 2010 Agreement. Therefore, screening and sampling at these water supplies should continue on a quarterly basis, in accordance with Paragraph 5.b.v., where Cabot has access:



The below property owners have denied, and continue to deny, Cabot and/or the Department access to sample their Water Supplies. Settlement agreements between each of these owners and Cabot relating to their water supply claims have apparently been negotiated and finalized. Under the currently-existing circumstances surrounding those water supplies, the Department considers the obligations related to the 2010 Agreement for these five water supplies as having been met, and will not require that Cabot take any further action in regards to these water supplies at this time:



Mr. Phil Stalnaker

February 8, 2019



\*See Exhibit C for new Property Owners.

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.

We look forward to receiving, by March 15, 2019, Cabot's response to this letter. In the meantime, if you have any questions about this matter, please contact me at 570.321.6557.

Sincerely,

A handwritten signature in cursive script that reads "Jennifer W. Means".

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

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

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**EXHIBIT A**

**Affected Water Supplies**  
**Dimock Township, Susquehanna County**

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2.

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4.

**EXHIBIT B**

**Cabot Gas Well Remediation  
Plan and Schedule**



Schedule Update: 01/30/19

Well Name	Annulus	Plan of Action	Plan Date (from 12/18/18 Meeting)	Status Update	Path Forward
Ely 6	4x7	Review flow measurement data and continue monitoring.	12/20/2018	Initial Submittal on 12/20/18	Continue Monitoring
Gesford 2V	7x9	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
Raze 3V	4x7	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
Raze 3V	7x9	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
Ely 1V	7x9	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
Ely 4R	4x7	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
Ely 5V	7x9	Repeat 72 hr PBUT to validate previous test.	1/4/2019	PBUT Completed on 01/07/19	---
	N/A	Prepare and implement a purge and sampling program.	1/7/2019	Submitted Work Plan on 01/04/19; Completed Initial Field Work on 01/25/19	Continue Automatic Purging; Continue Biweekly Sampling
Gesford 2V	7x9	Squeeze 7" shoe based on PBUT confirmation.	1/8/2019	Wireline Work Completed on 01/24/19; Remedial Work Began 01/30/19 (Scheduling and Weather Delays Encountered to This Point)	Proceed with Remedial Work
Greenwood 8H	9x16	Weld on new 9x16 Vent Lhe.	1/9/2019	Completed 12/28/18	---
Greenwood 8H	9x16	Re-Run PBUT. Further evaluate existing CBL.	1/11/2019	PBUT Completed on 01/14/19	Complete Evaluation of CBL and Submit WSD
Raze 3V	7x9	Squeeze 7" shoe based on PBUT confirmation.	1/29/2019	Waiting on Rig	Proceed with Remedial Work
Gesford 7H	9x13	Weld Cap on 9x13 Open Annulus	1/31/2019	Waiting on Materials	Weld Cap When Materials Are Available -- Will Keep Department Posted on Timing
Ormsley 1V	N/A	Repair 9" on wellhead.	1/31/2019	Contractor is Preparing a Work Plan	Repair Will Be Delayed until Work Plan is Finalized -- Will Keep Department Posted on Timing
Gesford 7	9x13	Run PBUT	2/1/2019	Waiting on Cap Installation	Complete PBUT -- Will Keep Department Posted on Timing
Ormsley 1V	5x9	Repeat 72 hr PBUT to validate previous test.	2/1/2019	Waiting on Repair of 9" on Wellhead	Complete PBUT -- Will Keep Department Posted on Timing
Ely 1V	7x9	Squeeze 7" shoe based on PBUT confirmation.	2/19/2019	Waiting on Rig	P&A the Ely 1V

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EXHIBIT C

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

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