pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

May 9, 2011

**CERTIFIED MAIL NO. 7010 1670 0001 9470 9624**

Mr. Phillip Stalnaker
Vice President, Regional Manager
Cabot Oil & Gas Corporation
Five Penn Center West Suite 401
Pittsburgh, PA 15276-0120

Re: December 15, 2010 Consent Order and Settlement Agreement
Department Review and Analyses of Submissions from Cabot
Dimock and Springville Townships, Susquehanna County

Dear Mr. Stalnaker:

The Department has completed its review and analyses of the documents that Cabot Oil & Gas Corporation ("Cabot") submitted to the Department from December 21, 2010 through April 29, 2011, relating to Cabot's obligations under the Consent Order and Settlement Agreement, dated December 15, 2010 ("2010 Agreement").[1] The Department has also obtained additional information from other sources relating to these obligations.

As you are aware, Paragraph 4 of the 2010 Agreement provides that Cabot may not begin any hydrofracturing or new drilling within the "Affected Area" defined in the 2010 Agreement until it receives written notice from the Department of Cabot's compliance with the requirements of the 2010 Agreement. Based upon the Department's review and analyses, Cabot has yet to achieve full compliance with some of the requirements of the 2010 Agreement, and further information from and actions by Cabot, as described below, are necessary before the Department can determine whether or not Cabot is in compliance with other requirements of the 2010 Agreement. For these reasons, the Department is unable to provide Cabot with written authorization to commence any hydrofracturing or new drilling within the "Affected Area" at this time.

Following are the Department's requests for further information from and actions by Cabot that are necessary for Cabot to achieve compliance with certain of the requirements of the 2010 Agreement, or for the Department to determine whether or not Cabot is in compliance with other requirements of the 2010 Agreement.

[1] The specific documents submitted by Cabot and reviewed and analyzed by the Department are listed in Exhibit A, and copies of these documents have been placed in the public file for this matter, which is located in the Department's Northcentral Regional Office in Williamsport, PA.

## I. Compliance with Environmental Laws and Regulations

Paragraph 3.a. of the 2010 Agreement states, in pertinent part, that:

> *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 laws and regulations, including all applicable provisions of the Clean Streams Law, Oil and Gas Act, and the Regulations.*

Listed below are violations that the Department identified in January of 2011, and that Cabot has not resolved to date. **Within thirty (30) days of the date of this letter**, the Department requests that Cabot submit documentation (including, but not limited to, Department inspection reports documenting Cabot's resolution of these violations, consent orders and agreements, and/or consent assessments of civil penalty) to show that Cabot has resolved these violations in compliance with applicable provisions of the Clean Streams Law, Oil and Gas Act, the Regulations, and Paragraph 3.a. of the 2010 Agreement.

- Greenwood 6 Well, Permit 115-20223 – Notice of Violation, dated January 21, 2011, for violations of 25 Pa. Code §78.86 (Defective Casing and Cementing), and Section 207(b) of the Oil and Gas Act (Protection of fresh groundwater; casing requirements);

- Greenwood 7 Well, Permit 115-20224 – Notice of Violation, dated January 21, 2011, for violations of 25 Pa. Code §78.86 (Defective Casing and Cementing), and Section 207(b) of the Oil and Gas Act (Protection of fresh groundwater; casing requirements); and

- Greenwood 8 Well, Permit 115-20284 – Notice of Violation dated January 21, 2011, for violations of 25 Pa. Code §78.86 (Defective Casing and Cementing), and Section 207(b) of the Oil and Gas Act (Protection of fresh groundwater; casing requirements).

## II. Gas in the Annuli of Cabot Wells in the Affected Area

Paragraph 5.a. of the 2010 Agreement requires Cabot to test the gas pressure in the accessible annuli of its gas wells located in the Affected Area. Cabot submitted reports on December 21, 2010, January 4, 2011, January 11, 2011, April 1, 2011, and April 14, 2011, of the results of the tests that Cabot conducted since November 2010 on 43 wells in the Affected Area.

These reports also contained the results of remedial squeezes and other actions that Cabot has taken since December 2010 at certain of the Cabot gas wells within the Affected Area. Cabot conducted no pressure tests on the Baker 1, Gesford 3, and Gesford 9 gas wells because these three gas wells were plugged by Cabot in accordance with the 2009 Modified Agreement with the Department, which was replaced by the 2010 Agreement. The memorandum attached to this

letter at Exhibit B documents the Department's review and analyses of all of the gas pressure test data and other information in Cabot's reports, dated December 21, 2010, January 4, 2011, January 11, 2011, April 1, 2011, and April 14, 2011.

As a general rule, gas (as shown by gas pressure) 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 §78.86, 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" (emphasis added).

The reports submitted by Cabot indicate that Cabot conducted gas pressure tests on some of its wells in November and early December of 2010, while it was negotiating the 2010 Agreement with the Department. The reports also show that Cabot found gas in the annular space(s) of some of the gas wells that Cabot tested in November and early December of 2010. For example, from November 11 through November 14, 2010, Cabot tested the gas pressure in the annular space between the 7" casing and the 9 5/8" casing of the Gesford 2 gas well. Cabot later reported to the Department a final gas pressure of 78 pounds per square inch this annular space.

As you know, the Gesford 2 gas well is within 1000 feet of the Affected Water Supply that serves the Ronald and Jean Carter family and the Todd (now deceased) and Jeanette Carter family. In addition, the Gesford 2 gas well was one of 14 "Defective Wells" identified by the Department in the 2009 Modified Agreement between the Department and Cabot. Nonetheless, Cabot did not inform the Department within 24 hours of discovery of the gas in the Gesford 2 gas well and in the other gas wells that Cabot tested in November and early December. In fact, Cabot did not inform the Department of this gas in the annular space of the Gesford 2 gas well and other gas wells until *after* execution of the 2010 Agreement. The Department requests that, **within thirty (30) days of the date of this letter,** Cabot provide a written explanation about why it did not inform the Department of these material facts within 24 hours of discovery and before execution of the 2010 Agreement.

Paragraph 5.a.iv. of the 2010 Agreement states, in pertinent part, that:

> *If the pressure data . . . 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.*

The reports submitted by Cabot indicate that natural gas continues to exist in the cemented annuli of multiple Cabot gas wells. Accordingly, further information from, testing by, and/or corrective actions by Cabot are necessary before the Department can determine whether or not the Cabot wells with natural gas in their annular space(s) comply with 25 Pa. Code Chapter 78, and the 2010 Agreement.

As documented in the memorandum attached at Exhibit B, the Department has placed the 43 gas wells that Cabot has tested into four categories, as follows:

- Category I -- six (6) Cabot gas wells with gas present in the annular space(s) between the intermediate casing and the surface casing;

- Category II -- eight (8) Cabot gas wells with gas present in the annular space(s) between the production and the intermediate or surface casing;

- Category III -- eight (8) Cabot gas wells with gas present in the annular space(s) between the production casing and the intermediate casing, but open formations/intervals may explain the presence of gas in the space(s); and

- Category IV – twenty one (21) Cabot gas wells with no gas present in any annular space.

The gas that is of the most concern is the gas present in one or more annular spaces in the 14 Cabot gas wells that the Department has identified in Categories I and II. The presence of gas in the annular space(s) of these 14 Cabot gas wells indicates that the gas well: (1) is leaking from the casing or well head; and/or (2) has defective, insufficient, or improperly cemented casing, and/or other defect. Moreover, the presence of gas in these wells does not appear to be related to any one type of well construction or type of cement used by Cabot.

Thus, for the 14 Cabot gas wells in Categories I and II, the Department requests that, **within thirty (30) days of the date of this letter**, Cabot submit sufficient further information to show whether the gas present in the annular space(s) is from a leak in the casing or well head, and/or coming from defective, insufficient, or improperly cemented casing, and/or other defect.

For the 8 Cabot gas wells in Category III, the Department requests that, **within thirty (30) days of the date of this letter**, Cabot submit sufficient further information to show whether the gas present in the annular space(s) is from a shallow formation, or from a leak in the casing or well head, and/or from defective, insufficient, or improperly cemented casing, and/or other defect. No further information/corrective action is necessary for the 21 Cabot gas wells in Category IV.

**Within sixty (60) days of the date of this letter**, for each Cabot Gas Well in Categories I-III, the Department requests that Cabot: submit sufficient written information to show that Cabot has completed all corrective actions necessary to fix the leak, and/or fix the defective, insufficient, or improperly cemented casing, and/or other defect in compliance with 25 Pa. Code §78.86, and that tests show no gas pressure for the well; or submit a written plan, for approval by the Department, that identifies the specific corrective actions that Cabot will take to fix the leak, and/or fix the defective, insufficient, or improperly cemented casing, and/or other defect in compliance with 25 Pa. Code §78.86. The Department requests that Cabot complete all corrective actions within ninety (90) days of receipt of the Department's approval of its plan.

## III. Screenings and Sampling of Affected Water Supplies

Paragraph 5.b.i. of the 2010 Agreement states, in pertinent part, that:

> *. . . Beginning upon execution of this Consent Order and Settlement Agreement, Cabot shall: i. at least once every two weeks, screen the well head at each [of the 18 Affected Water Supplies] for percentage of free combustible gas, and sample the well water at each [of the 18 Affected Water Supplies].*

As you know, the 2010 Agreement covers eighteen (18) Affected Water Supplies that serve nineteen (19) families. Since the 2010 Agreement was executed, Cabot has been screening the well head space and sampling the well water at the Affected Water Supplies that serve the following seven (7) families: Ed and Becky Burke; Frederick and Jessica Hein; Michael and Suzanne Johnson; Timothy and Deborah Maye; Loren Salsman; Richard and Wendy Seymour; and Richard Stover.

The eleven (11) other Affected Water Supplies that are the subject of the 2010 Agreement serve the following twelve (12) families (one Affected Water Supply serves the two Carter families): Ronald and Jean Carter; Todd and Jeanette Carter; Michael and Andrea Ely; Bill and Sheila Ely; Nolan ("Scott") and Monica Ely; Norma Fiorentino; Ray and Victoria Hubert; Raymond Kemble; Eric and Susan Roos; Craig and Julie Sautner; Jimmy Lee and Victoria Switzer; and Ronald Teel. These 12 families (collectively the "Appellants") have also appealed the 2010 Agreement to the Environmental Hearing Board at Docket No. 2011-003-L.

The information that Cabot has provided to date indicates that an Attorney for the Appellants, Ms. Leslie Lewis, had denied Cabot access to the Appellants' properties to conduct the water sampling and well head screening required under Paragraph 5.b. of the 2010 Agreement. Recently, the Department received information indicating that Ms. Lewis is no longer an attorney for the Appellants. Accordingly, the Department requests that, **within thirty (30) days of the date of this letter**, Cabot meet with the current Attorneys for the Appellants and take any and all other reasonable actions necessary to obtain the Appellants' consent to access their properties to conduct the water sampling and well head screening as required under Paragraph 5.b. of the 2010 Agreement.

If, **within forty (40) days of the date of this letter**, Cabot provides sufficient information, in writing, to show that, after meeting(s) and other reasonable actions by Cabot, the current attorneys for the Appellants continue to deny Cabot the necessary access, the Department will consider the option of the Department obtaining access from the Appellants and conducting the water sampling and well head screening at their properties in accordance with Paragraph 5.b. of the 2010 Agreement. However, the Department will consider this option only upon Cabot's agreement, in writing, to reimburse the Department within thirty (30) days of receipt of the

invoice for all applicable costs incurred by the Department for the previous month. Applicable costs include Department employee salary, travel, lab costs, and/or any other costs incurred by the Department to conduct Cabot's obligations under Paragraph 5.b. of the 2010 Agreement relating to the 11 Affected Water Supplies that serve the Appellants.

## IV. Ely 2H and Ely 6H Gas Wells

Paragraph 5.c. of the 2010 Agreement states in pertinent part that:

> *Beginning no more than 30 days from the date of this Consent Order and Settlement Agreement and continuing each day until 120 days from the date of this Consent Order and Settlement Agreement, Cabot shall complete any and all actions necessary, if any, to bring the Ely 2H Gas Well and Ely 6H Gas Well into compliance with the Oil and Gas Act, the Clean Streams Law, and the Regulations.*

Based upon our review and analyses of the information in the documents submitted by Cabot, and of other information that the Department has obtained to date regarding this matter, the Department has determined that the Ely 2H and Ely 6H gas wells are now in compliance with the Oil and Gas Act, Clean Streams Law, and Regulations. Accordingly, Cabot has complied with its obligations under Paragraph 5.c. of the 2010 Agreement.

## V. Escrow Funds and Temporary Water

### a. Untimely establishment of 19th Escrow Fund

Paragraphs 6.a.i, 6.a.ii., and 6.b. of the 2010 Agreement identify the requirements for establishment and notice of nineteen (19) Escrow Funds for the 19 families who are served by the 18 Affected Water Supplies that are the subject of the 2010 Agreement. Specifically, Paragraph 6.a.i. requires Cabot to establish the 19 Escrow Funds within thirty days after execution of the 2010 Agreement, *i.e.* by January 15, 2011.

Cabot established and provided notice of only 18 Escrow Funds by January 15, 2011. Cabot did not establish or provide notice of the Escrow Fund for the Todd and Jeanette Carter family until March 21, 2011, *i.e.* 65 days late. To resolve the civil penalty for Cabot's untimely compliance with Paragraph 6.a.i., the Department offers a settlement civil penalty of $13,000. The Department requests that, **within thirty (30) days of the date of this letter**, Cabot execute the Consent Assessment of Civil Penalty attached at Exhibit C and submit to me the executed document and settlement penalty payment.

b. Request that Cabot continue to provide temporary potable water

As of the date of this letter, the Department has received sufficient information to show that Cabot has now completed the following actions:

- Established the 19 Escrow Funds;

- Provided each of the 19 families that are served by the 18 Affected Water Supplies with written notice of the Escrow Funds and the procedure by which each of the families can obtain payment. The families of Ed and Becky Burke, Frederick and Jessica Hein, Michael and Suzanne Johnson, Timothy and Deborah Maye, Loren Salsman, Richard and Wendy Seymour, and Richard Stover have accepted payment from their respective Escrow Funds. To date, the Appellants have not yet accepted payment from their respective Escrow Funds; and

- Provided each of the 19 families that are served by the 18 Affected Water Supplies with written notice that Cabot will install, at its sole expense, a whole house gas mitigation device for each of the 18 Affected Water Supplies. Cabot has installed or will soon install such devices at the 7 Affected Water Supplies that serve the families of Ed and Becky Burke, Frederick and Jessica Hein, Michael and Suzanne Johnson, Timothy and Deborah Maye, Loren Salsman, Richard and Wendy Seymour, and Richard Stover. To date, the Appellants have not agreed to the installation of any such devices by Cabot.

Cabot's completion of the actions identified above satisfies the requirements under Paragraphs 6.b. through 6.f. of the 2010 Agreement.

Although the requirements of Paragraphs 6.b. through 6.f. are satisfied, the Department requests that Cabot continue to provide and maintain temporary potable water to the families of Ed and Becky Burke, Frederick and Jessica Hein, Michael and Suzanne Johnson, Timothy and Deborah Maye, Loren Salsman, Richard and Wendy Seymour, and Richard Stover, until Cabot has finished installing a whole house gas mitigation device at each of the seven (7) Affected Water Supplies that serve those families, and the installed device operates correctly for at least fourteen (14) consecutive days.

Regarding the Appellants, the Department requests that Cabot continue to provide and maintain temporary potable water for them until Cabot receives written notice from the Department that it has met the Department's requests identified in this letter, and that it has complied with all of its obligations under the 2010 Agreement.

The Department requests that, **within thirty (30) days of the date of this letter**, Cabot provide written notice of its decisions regarding the Department's requests to: (1) continue to provide and maintain temporary potable water for the seven (7) families that have accepted the gas mitigation devices for the time period described above; and (2) continue to provide and maintain temporary potable water for the Appellants for the time period described above.

## VI. Request for New Drilling/Hydro-fracturing Within The Affected Area

Cabot has requested approval to begin hydro-fracturing the seven (7) Cabot gas wells identified in Paragraph 4.a. of the 2010 Agreement, and may complete drilling and/or begin drilling new gas wells within the Affected Area. In accordance with Paragraph 4 of the 2010 Agreement, Cabot may only begin such hydro-fracturing and drilling after it receives written notice from the Department that Cabot is in compliance with the requirements of the 2010 Agreement. However, no such notice can be provided yet because, as described above, Cabot has yet to achieve full compliance with some of the requirements of the 2010 Agreement, and further information from and actions by Cabot are necessary before the Department can determine whether or not Cabot is in compliance with other requirements of the 2010 Agreement.

The requests that are contained in this letter are neither an order nor any other final action of the Department, and this letter neither imposes nor waives any enforcement action available to the Department under any of its statutes, regulations, and/or the 2010 Agreement. If the Department determines that an enforcement action is appropriate, Cabot will be notified of the action.

In the meantime, if you have any questions about the Department's requests in this letter, or if you need more time to respond to any of the Department's requests, please contact me at 814.332.6860.

Sincerely,

S. Craig Lobins
Regional Manager
Oil and Gas Management

cc: C. Lobins/R. Neville/ J. Kosco
NWRO File
NCRO File
D. Duffy
Geoff Ayers
Jennifer Means

SCL:jb

**Exhibit A**

**Documents Submitted By Cabot To Date Under 2010 Agreement:**

1. Letter from Cabot, dated December 21, 2010, with Attachments regarding Cabot's compliance with Dimock/Carter Road Gas Well Pressure Testing requirements under 2010 Agreement.

2. Letter from Cabot, dated January 20, 2011, with Attachments regarding Cabot's compliance with the 2010 Agreement.

3. Letter from Cabot, dated February 1, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

4. Letter from Cabot, dated February 21, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

5. Letter from Cabot, dated February 23, 2011, with Attachments regarding Cabot's compliance with Escrow Funds and Whole House Gas Mitigation Device requirements under the 2010 Agreement.

6. Letter from Cabot, dated February 28, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

7. Letter from Cabot, dated March 8, 2011, with Attachments that are supplement to Cabot's letter, dated January 20, 2011, regarding Cabot's compliance with the 2010 Agreement.

8. Letter from Cabot, dated March 21, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

9. Letter from Cabot, dated March 21, 2011, with Attachments that are supplement to Cabot's letters, dated January 20, 2011 and March 8, 2011, regarding Cabot's compliance with the 2010 Agreement.

10. Letter from Cabot, dated March 31, 2011, with Attachments regarding Cabot's compliance with the 2010 Agreement.

11. Letter from Cabot, dated March 31, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

12. Letter from Cabot, dated April 12, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

13. Letter from Cabot, dated April 14, 2011, with Attachments regarding Cabot's compliance with the 2010 Agreement.

14. Letter from Cabot, dated April 29, 2011, with Attachments regarding Cabot's compliance with Water Testing/CGI Screening requirements under the 2010 Agreement.

**Exhibit B**

**Department Analyses Of Cabot Submissions Regarding Gas In Annuli of Cabot Wells**

**COMMONWEALTH OF PENNSYLVANIA**
**Department of Environmental Protection**
**Northwest Regional Office**
May 9, 2011
Tel: 814-332-6860
Fax: 814-332-6121

**SUBJECT:** Cabot/Dimock Township; December 15, 2010 Agreement
Analyses of Gas Pressure Tests And Corrective Actions On Cabot Gas Wells

**TO:** S. Craig Lobins SCL
Regional Manager
Oil and Gas Management

**FROM:** Douglas W. Welsh
Oil and Gas Inspector Supervisor
Oil and Gas Management

## Introduction

Under Paragraph 5.a. of the Consent Order And Settlement Agreement between the Department and Cabot, dated December 15, 2010 ("2010 Agreement"), Cabot was required to test the gas pressure in the accessible annuli of all of its gas wells located in the Affected Area in Dimock Township, Susquehanna County. On December 21, 2010, January 4, 2011, January 11, 2011, April 1, 2011, and April 14, 2011, Cabot submitted reports to the Department that identified results from the pressure tests that it had conducted since November 2010 on 43 gas wells in the Affected Area. These reports also contained the results of remedial squeezes and other corrective actions that Cabot had taken since December 2010 at certain of the gas wells within the Affected Area.

Cabot conducted no pressure tests on the Baker 1, Gesford 3, and Gesford 9 gas wells because these three gas wells were plugged by Cabot in accordance with the 2009 Modified Agreement with the Department. The 2009 Modified Agreement was replaced by the 2010 Agreement.

In general, if a gas well has sufficient and properly cemented casing, no gas (as shown by no gas pressure) should be present in any annular spaces. Based upon the results of Cabot's pressure test, I have placed the 43 tested gas wells in four categories, as follows:

* **Category I -- six (6) Cabot gas wells** with gas present in the annular space between the intermediate casing and the surface casing;

* **Category II -- eight (8) Cabot gas wells with** gas present in the annular space between the production and the intermediate or surface casing;

* **Category III -- eight (8) Cabot gas wells** with gas present in the annular space between the production casing and the intermediate casing, but open formations/intervals may explain the presence of gas in this annular space; and

* **Category IV – twenty one (21) Cabot gas wells** with no gas present in any annular space.

Some of Cabot's gas wells in all four of the Categories also had shows of shallow gas. These shallow gas shows range from detectable by mud logging tools to measurable at the Ratzell well pad site (which contains three gas wells). Where no shallow gas is reported, but Cabot did not use mud logging equipment, shallow gas may still be present as Cabot's drilling contractor may not have noticed the small volumes of shallow gas that mud logging would otherwise detect. In any case, I am not concerned with these shows of shallow gas. I expect some gas to be present during a shut-in pressure test of a gas well where, as with the Cabot gas wells, the production casing is neither cemented to the surface nor into another casing.

The gas that is of the most concern is the gas present in one or more annular spaces in the 14 Cabot gas wells that the Department has identified in Categories I and II. In my opinion, the presence of gas in the annular space(s) of these 14 Cabot gas wells indicates either that the gas well: (1) is leaking from the casing or well head; and/or (2) has defective, insufficient, or improperly cemented casing, and/or other defect. Moreover, the presence of gas in these wells does not appear to be related to any one type of well construction or type of cement used by Cabot.

Thus, for the 14 Cabot gas wells in Categories I and II, I recommend that Cabot provide the Department with sufficient further information to show whether the gas present in the annular spaces is coming from a leak in the casing or well head, and/or coming from defective, insufficient, or improperly cemented casing, and/or other defect. For the 8 Cabot gas wells in Category III, I recommend that Cabot provide the Department with sufficient further information to show if the gas present in the production casing annular space is from a shallow formation, or from a leak in the casing or well head, and/or from defective, insufficient, or improperly cemented casing, and/or other defect. No further information or corrective action is necessary for the 21 Cabot gas wells in Category IV.

If the further information that we obtain from Cabot shows that the gas in an annular space is from a leak, Cabot should promptly fix the leak to bring the gas well into compliance with the 2010 Agreement, the Oil and Gas Act, and applicable Regulations. However, if the further information shows that the gas in an annular space is from defective, insufficient, or improperly cemented casing, then the Oil and Gas Act Regulations at 25 Pa. Code §78.86, require Cabot to "correct the defect," or submit a plan to the Department to "correct the defect for approval by the Department within 30 days. If the defect cannot be corrected or an alternate method is not approved by the Department, the well shall be plugged [by Cabot] ..."

Following is a summary of my review of Cabot's reports to the Department, dated December 21, 2010, January 4, 2011, January 11, 2011, and April 1, 2011.

## I. Cabot Gas Wells With Gas Present In The Annular Space Between The Intermediate Casing And The Surface Casing

1. **Brooks 1--115-20051**. This Cabot Gas Well has a Packer Plus System on the 4 1/2" casing, and the annulus is open to the isolation packer at 1417'. Cabot reported no shallow gas shows.

On 11/20/10 through 11/22/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 11/20/10 through 12/22/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. ***Cabot reported a final gas pressure of 110 pounds per square inch ("psi") in this annular space.***

2. **Ely 4--115-20035**. Cabot performed a remedial squeeze on this gas well by perforating the 4 1/2" casing, and squeezing cement into the annular space with a cement top in the 7" casing. Cabot reported a gas show at 4181', which Cabot cemented over by squeezing cement in the annular space of the 4 1/2" casing.

On 11/4/10 through 11/6/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 12/19/10 through 12/21/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. ***Cabot reported a final gas pressure of 2 psi in this annular space.***

***The Ely 4 gas well is one of 6 "Defective Wells" identified by the Department in the 2010 Agreement.***

3. **Ely 5H--115-20054**. In this Cabot gas well, the annulus of the 4 1/2" casing is cemented into the 7" casing. Cabot reported no shallow gas shows.

On 11/14/10 through 11/16/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casings. ***Cabot reported a final gas pressure of 29 psi in this annular space.***

On 11/14/10 through 11/16/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. ***Cabot reported a final gas pressure of 14 psi in this annular space. Note-two other Cabot gas wells-Ely 1H and Ely 7H-are also drilled on this well pad, and they may be influencing the Ely 5H well.***

4. **Gesford 2--115-20033**. Cabot performed a remedial squeeze on this gas well by perforating the 4 1/2" casing and squeezing cement into the annular space with a cement top in the 7" casing. Cabot reported no shallow gas shows.

On 11/12/10 through 11/14/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 11/12/10 through 11/14/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casings. ***Cabot reported a final gas pressure of 78 psi in this annular space.***

***The Gesford 2 gas well is within 1000 feet of the Carter Affected Water Supply (which serves two residences), and this gas well is one of 14 "Defective Wells" identified by the Department in the 2009 Modified Agreement between the Department and Cabot.***

**5. Ratzell 2H--115-20152.** The annulus of the 4 1/2" casing is open from 2350' to 1492'. Cabot reported no shallow gas shows.

On 11/20/10 through 11/22/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported a final gas pressure of 380 psi in this annular space. However, the open formation/interval at this gas well, and a 25,000 cubic feet/day shows of shallow gas on the neighboring Ratzell 1H gas well (see Category III) may explain the presence of gas in this annular space.

On 11/20/10 through 11/22/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. ***Cabot reported a final gas pressure of 2 psi in this annular space. Note-two other gas wells-Ratzell 1H and Ratzell 3V-are also located on this well pad, and they may be influencing the Ratzell 2H gas well.***

***The Ratzell 2H gas well is within 1000 feet of the Stover and Salsman Affected Water Supplies, and this gas well is one of 14 "Defective Wells" identified by the Department in the 2009 Modified Agreement between the Department and Cabot.***

**6. Ratzell 3V--115-20117.** The annulus of the 4 1/2" casing was cemented into the 7" casing. Cabot reported no shallow gas shows.

On 11/16/10 through 11/18/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. ***Cabot reported a final gas pressure of 100 psi in this annular space.***

On 11/16/10 through 11/18/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. ***Cabot reported a final gas pressure of 15 psi in this annular space.***

***The Ratzell 3V gas well is within 1000 feet of the Roos Affected Water Supply. Note-two other gas wells-Ratzell 1H and Ratzell 2H-are also located on this well pad, and they may be influencing the Ratzell 3V gas well.***

## II. Cabot Gas Wells With Gas Present In the Annular Space Between The Production Casing And The Intermediate Or Surface Casing

1. **Costello 1--115-20036.** Cabot performed a remedial squeeze on this gas well by perforating the 4 1/2" casing and squeezing cement into the annular space with a cement top in the 7" casing. Cabot reported no shallow gas shows.

On 11/16/10 through 11/18/10, Cabot conducted a pressure test of the annular space between the 4 1/2" production casing and the 7" casing. ***Cabot reported a final pressure of 2 psi in this annular space.***

***This Gas Well is within 1000 feet of the Johnson Affected Water Supply, and is slightly more than 1000 feet of the Bill Ely, Kemble, and Seymour Affected Water Supplies.***

2. **Ely 1H--115-20049.** The annulus of the 4 1/2" casing is cemented to surface. Cabot reported shallow shows of gas between 2930' to 3015', 3350' to 3480', and at 3749'.

On 12/28/10 and 12/30/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. ***Cabot reported a final gas pressure of 325 psi in this annular space. Note-two other gas wells-Ely 5H and Ely 7H-are also located on this well pad, and they may be influencing the Ely 1H gas well.***

On 12/28/10 through 12/30/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

3. **Grimsley 1--115-20095.** The annulus of the 5 1/2" casing is cemented into the 9 5/8" casing. Cabot reported shallow gas shows which are behind cemented casing at 1970', 2265', 3420', 3520', 3855', 3969', and 4030'.

On 12/28/10 through 12/30/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 7" casing. ***Cabot reported a final gas pressure of 70 psi in this annular space.***

4. **Heitsman 4H-NW--115-20162.** A Packer Plus System is on 4 1/2" casing, and the annulus of the 4 1/2" casing was cemented from a port collar at 6181' into the 9 5/8" casing.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casings. ***Cabot reported a final pressure of 70 psi in this annular space.***

5. **Hubbard 5H--115-20148.** The annulus of the 4 1/2" casing is cemented from 6105' to surface. Cabot reported no shallow gas shows.

On 11/12/10 through 11/14/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. **Cabot reported a final pressure of 48 psi in this annular space.**

On 11/14/10 through 11/16/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

6. **Hull 1H-SE--115-20122**. The annulus of the 5 1/2" casing was cemented from perforations at 6000' into the 9 5/8" casing. Cabot reported shallow gas shows at 2865', 3250', 3410', 3650', 3808', 4110', 4600', and between 4870' and 4880', and all are now behind cemented casing.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. ***Cabot reported a final pressure of 65 psi in this annular space.***

7. **Teel 6--115-20011**. Cabot performed a remedial squeeze on this well by perforating the 4 1/2" casing and squeezing cement into the annular space with a cement top in the 7" casing. Cabot reported no shallow gas shows.

On 12/14/10 through 12/16/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. ***Cabot reported a final pressure of 60 psi in this annular space.***

On 12/13/10 through 12/15/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

8. **Teel 13V--115-20116**. The calculated top of the cement of the 4 1/2" casing in the 6 1/4" hole is at 1565'. The 7" casing is set at 1502'. Cabot reported no shallow gas shows.

On 1/3/11 and 1/5/11, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. ***Cabot reported a final pressure of 110 psi in this annular space.***

On 1/3/11 through 1/5/11, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

## III. Cabot Gas Wells With Gas Present In The Annular Space Between The Production Casing And The Intermediate Casing, But The Open Formations/Intervals May Explain Presence Of Gas

1. **Ely 7H--115-20160**. The annulus of the 4 1/2" casing is open from 3000' to 1510'. Cabot reported shallow gas shows behind cemented casing.

On 11/14/10 through 11/16/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casing. Cabot reported a final pressure of 68 psi. However, the open formation/interval in this gas well may explain the presence of gas in this annular space.

2. **Gesford 1--115-20040**. The annulus of the 4 1/2" casing is open from 2350' to 1543'. Cabot reported no shallow shows of gas.

On 11/12/10 through 11/14/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 8 5/8" casing. Cabot reported a final pressure of 18 psi. However, the open formation/interval in this gas well may explain the presence of gas in this annular space.

3. **Hubbard 1--115-20039**. The annulus of the 4 1/2" casing is open from 5614' to 1643'. Cabot reported no shallow shows of gas.

On 11/18/10 through 11/20/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported a final pressure of 8 psi. However, the open formation/interval in this gas well may explain the presence of gas in this annular space.

On 11/18/10 through 11/20/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

4. **Kelly 1H-SE--115-20196**. The annulus of the 5 1/2" casing is cemented to a calculated top of 2100', and this annulus is open from 2100' to 1544'. Cabot reported shallow gas shows at 832', 885', 1250', 1380', and between 1450' and 1585', and all are now behind cemented 9 5/8" casing. Cabot reported shallow gas shows at 1775' in the open formation/interval. Finally, Cabot reported shallow gas shows between 2225' and 3380', between 3470' and 4600', between 4802' and 4965', and all are now behind cemented 5 1/2" casing.

On 12/19/10 through 12/21/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. Cabot reported a final pressure of 1200 psi in this annular space. Subsequently in 2011 (no date identified), Cabot retested this gas well and reported a pressure in the annular space between the 5 1/2" casing and the 9 5/8" casing of 168 psi in 24 hours, and 300 psi in 48 hours. ***However, the gas in this annulus may be from a shallow source because the well is not fracked and the hole is open from 2100' to 1544'. I recommend that Cabot verify the source of the gas in this annulus.***

5. **Ratzell 1H--115-20047**. The annulus of the 4 1/2" casing is open from 2650' to 1524'. Cabot reported shallow gas shows at 1558', 1775', and 2240', and reported other gas shows behind cemented casing. The gas show at 1558' was measured as flowing 25,000 cubic feet/day.

On 11/18/10 through 11/20/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported a final pressure of 225 psi. However, the open formation/interval in this gas well and the 25,000 cubic feet/day gas may explain the presence of gas in this annular space.

On 11/20/10 through 11/2210, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

***The Ratzell 1H gas well is within 1000 feet of the Roos, Stover, and Salsman Affected Water Supplies, and this gas well is one of 14 "Defective Wells" identified by the Department in the 2009 Modified Agreement between the Department and Cabot.***

6. **Teel 2--115-20010**. The annulus of the 4 1/2" casing is open from 5880' to 1460'. Cabot reported no shallow shows of gas.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casing. Cabot reported a final pressure of 10 psi. However, the open formation/interval in this gas well may explain the presence of gas in this annular space.

7. **Teel 5--115-20042**. The annulus of the 4 1/2" casing is open from 4750' to 1518'. Cabot reported no shallow shows of gas.

On 11/10/10 through 11/12/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported a final pressure of 205 psi. The open formation/interval in this gas well may have explained the presence of gas in this annular space. However, on 2/6/11 through 2/13/11, Cabot performed various operations to squeeze cement into this annular space. Subsequently, on 2/21/11 through 2/23/11, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Thereafter, Cabot reported no gas pressure in this annular space.

On 11/8/10 through 11/10/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

8. **Teel 7--115-20023**. The annulus of the 4 1/2" casing is open from 4700' to 1496'. Cabot reported shallow gas shows at 2575' and 3008'.

On 11/6/10 through 11/8/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casings. Cabot reported a final pressure of 458 psi. The open formation/interval in this gas well may have explained the pressure of gas in this annular space. However, on 2/6/11 through 2/26/11, Cabot performed various operations to squeeze cement into this annular space. Subsequently, on 2/11/11 through 2/23/11, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Thereafter, Cabot reported no gas pressure in this annular space.

On 11/8/10 through 11/10/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

## IV. Cabot Gas Wells With No Gas Present In Any Annular Spaces

1. **Baker 3H--115-20226**. The annulus of the 5 1/2" casing is cemented to a calculated surface.

On 11/4/10 through 11/6/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

2. **Black 1H-SE--115-20048**. A Packer Plus System exists on the 4 1/2" casing, and the annulus is open to an isolation packer at 1490' which is set inside the 7" casing. Cabot reported gas shows at 2250' to 2255', 2230' to 2310', 2535' to 3010', and 3300' to 4500'.

On 12/9/10 through 12/11/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casings. Cabot reported no gas pressure in this annular space.

3. **Black 2H--115-20056**. A Packer Plus System exists on the 4 1/2" casing, and the annulus is open to an isolation packer at 1585' which is set inside the 7" casing. Cabot reported no shallow shows of gas.

On 12/9/10 through 12/11/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

4. **Costello 2--115-20043**. Cabot performed a remedial squeeze on this gas well by perforating the 5 1/2" casing and squeezing cement into the annular space with a top in the 8 5/8" casing. Cabot reported a show of oil at 3275' to 3000'. Not sure why oil would be present at this interval.

On 12/28/10 through 12/30/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 8 5/8" casing. Cabot reported a final gas pressure of 650 psi in this annular space. On January 27, 2011, Cabot also reported that the well head packing had been leaking gas into this annular space and that it had fixed the leak. Subsequently, on 2/9/11 through 2/11/11, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 8 5/8" casing. Thereafter, Cabot reported no gas pressure in this annular space.

5. **Ely 2H--115-20015**. The annulus of the 4 1/2" casing is cemented from 7129' to 5730', with a packer set at 1480' inside of the 7" casing and grouted with cement above the packer. Cabot reported no shallow gas shows.

On 11/6/10 through 11/8/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported a final gas pressure of 8 psi in this annular space.

The Ely 2H gas well is one of 6 "Defective Wells" identified by the Department in the 2010 Agreement. Under Paragraph 5.c. of the 2010 Agreement, Cabot was required to, within 120 days of

the date of the 2010 Agreement, "complete any and all actions necessary, if any, to bring the Ely 2H Gas Well and the Ely 6H Gas Well into compliance with the Oil and Gas Act, the Clean Streams Law, and the Regulations." On 1/2/11 through 2/10/11 Cabot took actions to correct this gas problem. Subsequently, on 2/18/11 through 2/20/11, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Thereafter, Cabot reported no gas pressure in this annular space.

6. **Ely 6H--115-20041**. A Packer Plus System exists on the 4 1/2" casing, and the annulus is open to an isolation packer at 3004'. Cabot reported no shallow shows of gas.

The Ely 6H gas well is one of 6 "Defective Wells" identified by the Department in the 2010 Agreement. Under Paragraph 5.c. of the 2010 Agreement, Cabot was required to, within 120 days of the date of the 2010 Agreement, "complete any and all actions necessary, if any, to bring the Ely 2H Gas Well and the Ely 6H Gas Well into compliance with the Oil and Gas Act, the Clean Streams Law, and the Regulations."

On 2/15/11 through 3/22/11, Cabot re-worked the well by removing the isolation packer and attempting squeeze cement behind the 7" casing. Subsequently, on 3/25/11 through 3/27/11, Cabot conducted a pressure test of the annular space between the 4/1/2" casing and the 7" casing. Thereafter, Cabot reported no gas pressure in this annular space.

At the same time Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

7. **Gesford 4R--115-20091**. The annulus of the 4 1/2" casing is open from 2940' to 1508". Cabot reported no shallow shows of gas.

On 12/10/10 and 12/12/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 12/10/10 through 12/12/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

8. **Gesford 5H-NW--115-20201**. A Packer Plus System exists on the 4 1/2" casing. The annulus of the 4 1/2" casing is cemented from a port collar at 5766' to 4730', with the annulus being open from 4730' to 1500'. Cabot reported shallow gas shows at 1703', 1740', 2100', and 2402'.

On 11/10/10 through 11/12/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

9. **Gesford 7H--115-20163**. A Packer Plus System exists on the 4 1/2" casing, and the annulus of the 4 1/2" casing is cemented from a port collar at 5734' to 1550'. Cabot reported shallow gas shows at 2396', 3010', and 3062', and all gas shows are now behind cemented pipe.

On 11/18/10 through 11/20/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**10. Gesford 8H-NW--115-20039**. The annulus of the 4 1/2" casing is open from 3170' to 990'. Cabot reported no shallow shows of gas.

On 12/14/10 through 12/16/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

**11. Grimsley 2H-SE--115-20171**. Baker Packers were set in the horizontal section, and the annulus of the 5 1/2" casing was cemented from perforations at 6336' to surface. Cabot reported shallow gas shows at 522', 790', 880', 965', and between 1105' and 1160', and all are now behind cemented 9 5/8" casing. Cabot also reported shallow gas shows at 2775', between 3314' and 3375', 3721', 4099', 4275', 4975', 5095', and 5800', and all are now behind cemented 5 1/2" casing.

On 12/16/10 through 12/18/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**12. Heitsman 1H--115-20050**. A Packer Plus System exists on the 4 1/2" casing, the annulus is open to an isolation, packer at 1544' inside the 7" casing. Cabot reported a shallow show of gas at 3550'.

On 12/19/10 through 12/21/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

**13. Heitsman 2--115-20140**. The annulus of the 4 1/2" casing is open from 820' to 620'. Cabot reported no shallow shows of gas.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**14. A & M Hibbard 2H-NW--115-20149**. A Packer Plus System exists on the 5 1/2" casing. The annulus of the 5 1/2" casing is cemented from a port collar at 5945' to 1800', with the annulus open from 1800' to 1532'. Cabot reported shallow gas shows at between 675' and 725', 1050', and 1290', and all are now behind the cemented 9 5/8" casing.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**15. A & M Hibbard 4H-SE--115-20222**. The annulus of the 5 1/2" casing is cemented to a calculated top of 2025'. Cabot reported shallow gas shows at 520' and 665', and all are now behind the cemented 9 5/8" casing.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 5 1/2" and the 9 5/8" casings. Cabot reported no gas pressure in this annular space.

**16. Hubbard 6H--115-20147**. A Packer Plus System exists on the 4 1/2" casing, and the annulus of the 4 1/2" casing was cemented from a port collar at 6007' to 1600'. Cabot reported no shallow shows of gas.

On 11/4/10 and 11/6/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 11/4/10 through 11/6/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**17. Hull 2H--115-20121**. A Packer Plus System exists on the 5 1/2" casing, and the annulus of the 5 1/2" casing is cemented from a port collar at 6126' to 3296'. Cabot reported a shallow gas show at 394', which is now behind cemented 9 5/8" casing. Cabot also reported shallow gas shows at 3905', 4097', 4570', and 5041', and all are now behind cemented 5 1/2" casing.

On 12/17/10 through 12/19/10, Cabot conducted a pressure test of the annular space between the 5 1/2" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**18. Lewis 1--115-20035**. The annulus of the 4 1/2" casing is open from 5640' to 1794'. Cabot reported no shallow shows of gas.

On 12/13/10 through 12/15/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing the 7" casing. Cabot reported no gas pressure in this annular space.

**19. Lewis 2--115-20160**. The annulus of the 4 1/2" casing is open from 5200' to 1521'. Cabot reported shallow gas shows at 2140', 3200', and 3960' to 3970'.

On 11/6/10 through 11/8/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

**20. Rozanski 1--115-20057**. The annulus of the 4 1/2" casing is cemented into the 7" casing. Cabot reported shallow gas shows at 2951', 3629', and 5718', and all are now behind the cemented 4 1/2" casing.

On 12/15/10 through 12/17/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

On 12/15/10 through 12/17/10, Cabot conducted a pressure test of the annular space between the 7" casing and the 9 5/8" casing. Cabot reported no gas pressure in this annular space.

**21. Teel 1--115-20007**. The annulus of the 4 1/2" casing is open from 5950' to 2726'. Cabot reported gas shows at 815', 1010', and 1492', and all are now behind the cemented 7" casing. Cabot also reported a shallow gas shows at 3020'.

On 12/15/10 through 12/17/10, Cabot conducted a pressure test of the annular space between the 4 1/2" casing and the 7" casing. Cabot reported no gas pressure in this annular space.

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