

**Minutes of the Oil and Gas Technical Advisory Board Meeting**  
**DEP Southcentral Regional Office, Susquehanna Room**  
**Harrisburg, PA**  
**September 16, 2010**  
**10:00 A.M.**

A meeting of the Oil and Gas Technical Advisory Board (TAB) was held on September 16, 2010 in the Susquehanna Room of the DEP Southcentral Regional Office, Harrisburg. TAB members present were Chairman Robert Watson, Burt Waite, Art Yingling, Sam Fragale, and Gary Slagel. Scott Perry, Dave English, Shamus Malone, Gene Pine, Bruce Jankura, Susan Ghoweri, Elizabeth Nolan, Martina Mcgarvey, June Black, Doug Brennan, Aaren Alger, and Millie Raudabaugh attended from DEP. Also attending were Jim Erb (API), Peter Nielsen (Stantec Consulting), John Bolakas (Stantec Consulting), Ronald Ruman (Shelly communications), Jim Brant (Kriebel Gas), Dave Oclis (Kriebel Gas), Mike Moyer (Env Science Labs, Inc), Joe McNally (GeoServices, Ltd), Tom Wilson (K&W Engineers), Carla Suszkowski (Range Resources), Sue Wilson (CAC), Mary Ann Babich (EQT Production), Ted Barowski (DCNR), and Nathan Bennett (DCNR).

**Agenda Item 1 – Introduction and Opening Remarks**

The meeting was called to order by Chairman Robert Watson at 10:00 a.m. and was followed by introductions.

**Agenda Item 2 – Approval of Draft Minutes from the previous Advisory Board Meeting**

The motion to approve the minutes from the March 25, 2010, Technical Advisory Board (TAB) meeting was made by Robert Watson, with a second by Sam Fragale. Minutes were approved.

**Agenda Item 3 – Laboratory methods for Methane Testing**

Chairman Robert Watson brought to the attention of the board that currently there is not a single standardized test method for methane. He also mentioned that the Bureau of Oil and Gas Management has accredited labs to do oil and gas testing for methane. Chairman Watson stated that he felt it would be beneficial to choose a standardized test method, due in part to varying results, as well as issues on stray and migrating gas.

This was followed by speakers from PA DEP Laboratories, describing the three current test methods used in detecting methane, ethane, ethylene, and propane.

June Black spoke of the methods currently used by laboratories for detecting methane, the first of which being the traditional RSK175 Standard Operating Procedure (SOP). In this SOP the instrumentation is calibrated using gaseous standards. Water samples are then analyzed by headspace, where water is put into a closed vial that has headspace, and

then the headspace is sampled. She stated the downside to this type of analysis is the instrument is calibrated using gaseous standards, followed by a series of fairly complex calculations that are used to back calculate from what was found in the headspace over the water to what was actually in the water. The calculations are scientifically based, but there are a lot of areas where errors could potentially be made.

She mentioned a second approach, RSK 175 modified, often referred to as the “PA DEP Method” and formally known as PA DEP Methane/Ethane method. In this method, instead of using gaseous standards to calibrate the instrument, gas is taken and bubbled through water to the point of saturation. The saturated concentration of the gas in the water is a known quantity, published amount, and then the calibration standards are prepared from dilutions of that, so the standards of that are already in an aqueous solution, and the samples are aqueous too, so it isn’t necessary to go through the same complex calculations as the normal RSK 175.

Lastly, she speaks of 8015 which is a published Environmental Protection Agency (EPA) method. She stated that it is a patch all procedure of sorts, a generic gas chromatography method. Methane is not listed for testing in this technique, so method 5021 is coupled with it, for headspace analysis. 8015 does not directly address how to compare and analyze gaseous calibration standards. What is recommended is preparing a standard in a solvent and then diluting that into water. This method works when you can buy analytical standards for gaseous compounds that are dissolved in a solvent. Then it is diluted in the water. She stated that she is personally not aware that you are able to purchase methane dissolved in a solvent. They are still doing a modification of 8015 to use it for methane analysis.

Aaren Alger informed the board of oil and gas certification having existed for decades. She stated that north central Pennsylvania area labs have applied for the certification in the past. These labs were using the PA DEP method. Only recently when Marcellus Shale became the hot topic did we see other labs request accreditation for using the RSK 175 method or the 8015 EPA method. Historical data collected by DEP is from the PA DEP Method.

There are only 3 labs in Pennsylvania accredited to do the RSK 175 method. The rest are using either the 8015 method or the PA DEP method. Aaren states DEP does have accreditation where the laboratories and their data inspected. This inspection is done every 2-3 years. The lab asking for accreditation would be contacted if there were any questions.

Robert Watson then made a recommendation for a standardized method for testing for methane gas. Scott Perry followed by asking what would need to be done to make a standard method for testing. It was suggested that regulation would be needed if a standard method was to be chosen.

Scott said he did not think it would be appropriate to mandate a test method for tracking methane data when all methods are scientifically valid. It was then voiced by one of the

DEP Laboratory technicians that the RSK method is heavily based on calculations and there is no way to check the results physically. The question was then asked if there are proficiency tests, which was answered in that there are not.

It was brought to attention that sampling could be a concern, because there is no formal protocol for it, and not only could variation happen due to different testing methods, but also because of sampling.

Scott Perry asked if there should be a motion for a recommendation. TAB member Burt Waite requested a motion for the Department to look into and recommend a laboratory methodology and sample collection protocol. These items will be reviewed by the regulating community and the labs where the testing is done or other circles of interest, and acted out at another time.

Chairman Robert Watson then asks if the meeting could move forward to the fourth agenda item.

#### **Agenda Item 4 – Coal Pillar Study**

Gary Slagel announced that the coal and gas industries want to look at amending act 214, which addresses well spacing in coal areas. This was focused upon by the fact that Marcellus producers and operators want to put wells on a single path, and under existing requirements due to a 1957 study by the Department of Mineral Industries, oil and gas division, they cannot put wells closer than 900 feet together unless they are drilled as conservation wells.

Currently the methodology used in mining in the Southwest, called longwall mining, produces 3 gate entries, and inside the mine there are areas between the longwall panels where pillars are produced. While these pillars, known as abutment pillars, are very stable and have the ability to support multiple wells, they do not conform to the 1957 guidelines. The configuration called for in 1957 study will not allow operators and producers to use the pillars effectively. Because of this, coal and gas industries would be willing to pay for a study to investigate the data to make revisions to the 1957 study that are more appropriate for current mining methods used in Pennsylvania.

It was questioned if TAB would support the undertaking of this study, just in the form of recommendation to the DEP, without a need for financial commitment on the Department's part other than the personnel to work with the coal and gas industries to move this issue forward. Gary believes the revisions are necessary to act 214 and the studies will show the difference from the 1957 study.

A motion for recommendation was made by Gary Slagel that DEP support any undertaking to look at a revision to the 1957 study.

### **Agenda Item 5 – Review of proposed amendments to 25PA Code Chapter 78**

Scott Perry talked about the last meeting being an open meeting, stating over 2,000 comments were received on these regulations, along with many detailed technical comments, from industry groups and other interested parties alike. Many of the comments are reflected in these changes, and he appreciated everyone's flexibility on the review time. He explained the issues associated with gas migration are so critical that postponing the implementation of regulations is not an acceptable option for DEP. He stated some gas migration problems are related to shallow gas drilling and zones, but gas migration is not related to hydraulic fracturing. He felt it is absolutely critical to finalize these resolutions outlined in this regulation by the end of this year. He had a number of comments related to the definition of casing. Scott discussed revisions made to the code for the duration of this agenda item, answering and clarifying the changes and addressing issues as they arose.

### **Agenda Item 6 – TAB Recommendation to Final 25PA Code Chapter 78 Revisions**

Scott Perry asked for concurrence or non concurrence of TAB for the final revisions of 25PA Code Chapter 78. The TAB committee held off on giving a yea or nay to the revisions, wanting to review them further with the intent of giving a definitive response by the October 12, 2010 Environmental Quality Board meeting.

### **Agenda Item 7 – Comments from the public**

Questions from the public were addressed and answered during this portion of the meeting. A member from the Environmental Defense Fund (EDF) had three different topics representing the ideas of the EDF that were not included with the revisions. He discussed annular over pressurization leading to gas migration, retention of well construction records by operators indefinitely, and a clear definition of protected ground water. Next a question from Stantec Consulting was raised about the controlled disposal section of 25PA Code Chapter 78. Clarification was asked to be made of the annular spacing in 25PA Code Chapter 78 by a DEP member, which was clarified by Scott Perry. His following question was already rectified by the revisions made to the code.

Motion for adjournment followed. All were in favor and the meeting adjourned at 3:15 p.m.

Respectfully submitted,

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Darek Jagiela