

COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL QUALITY BOARD

* * * * *

IN RE: AMENDMENTS TO CHAPTER 78

PUBLIC HEARING

* * * * *

BEFORE: HELEN HUMPHRIES, Chair
HEARING: Thursday, July 22, 2010
7:01 p.m.
LOCATION: Pennsylvania Department of Environmental
Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222
WITNESSES: Rod Vogel, Tom Hoffman, Florian Bechtold,
Robert S. Hedin, Ph.D., Jack Solomon

Reporter: Barbara J. Jones

Any reproduction of this transcript
is prohibited without authorization
by the certifying agency

E X H I B I T S

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

<u>Number</u>	<u>Description</u>	<u>Page</u> <u>Offered</u>
---------------	--------------------	-------------------------------

NONE OFFERED

P R O C E E D I N G S

1
2 -----
3 CHAIR:

4 Thank you for coming. My name is Helen
5 Humphries. I'd like to welcome you to the
6 Environmental Quality Board's public hearing on the
7 proposed regulation regarding oil and gas well casing
8 and cementing. I am an information specialist
9 supervisor for the Department of Environmental
10 Protection here in the Southwest Regional Office, and
11 I'm representing the EQB. If you'd like to speak,
12 please sign in.

13 In addition to this hearing, the EQB held
14 similar hearings on the proposed regulations in
15 Tunkhannock on Monday, July 19 and in Williamsport on
16 Wednesday, July 21. The EQB will also hold hearings
17 on the proposed regulations this evening in Meadville
18 and again on Monday here in the Southwest Regional
19 Office in Pittsburgh.

20 The proposed rulemaking, which was
21 adopted by the EQB on May 17, 2010, updates existing
22 requirements in 25 Pa.C. Chapter 78 regarding the
23 drilling, casing, cementing, testing, monitoring and
24 plugging of oil and gas wells, and the protection of
25 water supplies. The proposed rulemaking includes

1 updated material specifications in performance testing
2 and amended design, construction, operational,
3 monitoring, plugging, water supply replacement and gas
4 migration reporting requirements. The additional
5 requirements will minimize gas migration and will
6 provide an increased degree of protection for both
7 public and private water supplies.

8 In order to give everyone an equal
9 opportunity to comment on this proposal, I would like
10 to establish the following ground rules. And we're a
11 small group, so I think it's going to be pretty easy
12 tonight. But I will call on the first witnesses who
13 have pre-registered to testify at the hearing. After
14 hearing from these witnesses, I will provide any other
15 interested parties with an opportunity to testify at
16 that time. Testimony is limited to ten minutes for
17 each witness. I will keep track of the time. And at
18 about eight minutes, if you go that long, I'll raise
19 my hand. At nine minutes, I'll say one minute. And
20 at ten, we'll go to the next person.

21 Organizations are requested to designate
22 one witness to present testimony on its behalf. Each
23 witness is asked to submit three written copies of his
24 or her testimony to aid in transcribing the hearing.
25 Please hand me your copies prior to presenting your

1 testimony. Also, and this is important, I'll remind
2 you to do it if you forget, please state your name,
3 address and affiliation for the record prior to
4 presenting your testimony. The EQB would appreciate
5 your help by spelling names and terms that may not be
6 generally familiar so that the transcript can be as
7 accurate as possible.

8 Because the purpose of the hearing is to
9 receive comments on the proposal, EQB or DEP staff may
10 question witnesses. However, we are unable to respond
11 to your questions. So again, the purpose of tonight's
12 meeting is to receive your comments, and we won't be
13 able to respond to questions you ask, although Alan
14 Eichler, our program manager, is here. I am here. We
15 can talk after the hearing if you'd like.

16 In addition to or in place of oral
17 testimony presented at today's hearing, interested
18 persons may also submit written comments on this
19 proposal. All comments must be received by the EQB on
20 or before August 9, 2010. Comments should be
21 addressed to the Environmental Quality Board, Post
22 Office box 8477, Harrisburg, Pennsylvania, 17105-8477.
23 Comments may also be e-mailed to regcomments,
24 R-E-G-C-O-M-M-E-N-T-S, @state.pa.us.

25 All comments received at this hearing as

1 well as written comments received on or before August
2 9, 2010 will be considered by the EQB and will be
3 included in a comment response document provided by
4 the Department and reviewed by the EQB prior to the
5 EQB taking its final action on this regulation.

6 Anyone interested in receiving a copy of the
7 transcript of today's hearing may contact the EQB for
8 further information.

9 And I would now like to call the first
10 witness, Rod Vogel from EQT. Let me get you the
11 podium. And this is the most important woman in the
12 room tonight because she needs to hear everything you
13 say so that she can take it down.

14 MR. VOGEL:

15 My name is Rod Vogel. I'm the director
16 of drilling engineering for EQT Production. Our
17 address is 625 Liberty Avenue, Pittsburgh,
18 Pennsylvania, 15603. EQT is one of the largest
19 natural gas producers in the Appalachian Basin and the
20 United States. We've been based in Pittsburgh for
21 over 120 years. EQT has drilled approximately 70
22 Marcellus wells and currently is operating 10 drilling
23 rigs dedicated to Marcellus production.

24 EQT appreciates this opportunity to
25 comment upon two of the proposed amendments to Chapter

1 78. First, existing rules and experience dictate that
2 a fifth alternative to address situations in which
3 cement is not circulated to the surface during the
4 drilling of wells should be added to proposed
5 78.83(b). 78.83(j) already provides that, quote, if it
6 is anticipated that cement used to permanently cement
7 the surface casing cannot be circulated to the
8 surface, a cement basket may be installed immediately
9 above the depth of the last anticipated lost
10 circulation zone, closed quote. The existing
11 regulation further provides that a casing should be
12 permanently cemented by the displacement method.
13 Additional cement may be added above the cement
14 basket, if necessary, by pumping through a pour string
15 from the surface to fill the annular space, closed
16 quote.

17 The method described in 78.83(j) is the
18 most effective method of filling voids in the vent
19 that cement is not permanently circulated to the
20 surface. The four alternative methods in the proposed
21 78.83(b) will not as effectively address the situation
22 where there is an issue with cementing at the location
23 somewhere other than the casing shoe. That situation
24 can only be addressed by running baskets and cementing
25 down the backside or venting as contemplated by

1 78.83(i).

2 Secondly, 78.85 should be modified
3 because waiting on cement for eight hours is not
4 always necessary to obtain minimum required
5 compressive strengths and assume that gas migration
6 will not occur. Using minimum compressive strength as
7 the standard for determining the efficiency of a
8 cement job is the most effective and efficient method
9 of ensuring that gas migration does not occur.

10 EQT appreciates this opportunity to
11 address the best standards for preventing gas
12 migration. We look forward to continuing to work with
13 DEP to develop standards for the safe drilling and
14 operation of natural gas wells in the Commonwealth of
15 Pennsylvania. Thank you. That concludes my prepared
16 comments.

17 CHAIR:

18 Thank you. Tom Hoffman, Clean Water
19 Action.

20 MR. HOFFMAN:

21 My name is Tom Hoffman. I am the western
22 Pennsylvania director for Clean Water Action. Our
23 organization is about 40 years old. We have a million
24 members nationwide and 150,000 in Pennsylvania.

25 So we talk extensively to our members and

1 community residents in communities like Hickory and
2 Demmick (phonetic), where Marcellus drilling is going
3 on. I talk to people like Stephanie and Chris
4 Hallowich in Hickory, who got a check from the gas
5 company that doesn't quite pay for the bottled water
6 that they have to buy because their water isn't safe
7 anymore. I just bring that up because I think that
8 story always --- their story always needs to be front
9 and center of these discussions. At the hearing last
10 night that Allegheny County was holding, a guy from
11 the gas company said, well, statistically, accidents
12 are very rare. Probably true, but not much comfort
13 for Stephanie and Chris.

14 So that said, there are five points we'd
15 like to make about these regs. Our organization has
16 been a big fan of the New York strategy on sort of
17 holding off on Marcellus drilling until they get some
18 of these regs right, try to do it right the first time
19 before they start.

20 So the casing standard in this we feel
21 needs to be at least as good as New York, which is 100
22 feet below the water line or the bedrock, whichever is
23 further. We feel that the pre and post-testing should
24 be paid for by the driller, but the labs should be
25 hired by an independent third party just to ensure the

1 quality of the results. The standards need to list
2 the chemicals they should test for, such as non-
3 fracking fluids and other chemicals used onsite. The
4 rules need to cover the spills that fracking includes,
5 which happens. And the rules need to make it clear
6 that the members of --- neighbors of the drilling
7 sites have the capability of reporting problems as
8 they hear them or smell them or see them.

9 So Clean Water would like to thank you
10 for the opportunity to make a statement today. Like I
11 said, I will write this up for you after vacation.

12 CHAIR:

13 Enjoy yourself.

14 MR. HOFFMAN:

15 Thanks.

16 CHAIR:

17 The next person is Suzanne Seppe. Will
18 you check and make sure nobody's out there just in
19 case? This room is too small for me to assume.
20 Suzanne Seppe. She's not coming?

21 UNIDENTIFIED SPEAKER:

22 It's not me.

23 CHAIR:

24 Oh, yes. No. I looked at you because I
25 thought you might know. Nathaniel Madin? EQT already

1 spoke. Okay. And Ron, you said you weren't?

2 RONALD BARGIEL:

3 No.

4 CHAIR:

5 And I presume Dan, you are not either?

6 DANNIEL HUFTON:

7 No.

8 CHAIR:

9 I'm going to have trouble reading this.

10 Becktin (phonetic)?

11 MR. BECHTOLD:

12 Bechtold.

13 CHAIR:

14 Bechtold.

15 MR. BECHTOLD:

16 I didn't come to comment.

17 CHAIR:

18 Okay. You just came to listen. Robert

19 Liddell?

20 MR. LIDDELL:

21 I'd like to make a comment, but I don't

22 want it to be that formal to get up there and ---.

23 CHAIR:

24 She needs to hear you. Beyond that ---.

25 It's easier for her to hear you if you're up there.

1 MR. BECHTOLD:

2 Okay. Fine. You want me to write stuff
3 up? Because I obviously didn't do that?

4 CHAIR:

5 Oh, you can write it up and send it to
6 us.

7 MR. BECHTOLD:

8 I'm sorry?

9 CHAIR:

10 If you would like to, you can write it up
11 and send it to us. If you don't want to write it up,
12 then you can leave it to chance that we'll get it
13 right.

14 MR. BECHTOLD:

15 That's fine.

16 CHAIR:

17 Sargent's usually gets it right. I will
18 tell you that.

19 MR. BECHTOLD:

20 I'm not that formal. Let me tell you my
21 background. I am, first of all, one of the property
22 owners who is going to be within 1,000 feet of a well.
23 I mean, it's been permitted already, hasn't started.
24 And so I, obviously, have concerns because not only do
25 I have a well that I can be drinking from, but I also

1 --- my cottage, which I built myself, you know what I
2 mean, is --- has a potential of going through it.

3 Also, too, I want to say that I have a
4 Ph.D. in chemistry as well as I work most of my time
5 in the pharmaceutical industry. And as such, the
6 problem is that I find out, you know, just from my
7 experience that what people know about any biological
8 function is little to none. In fact, it is laughable
9 how little science knows. And as such, your idea of
10 having the chemicals they are using onsite and
11 reporting them all, not only what's going down the
12 well, but also what they're using onsite, is a really
13 good one, because if something ends up in my well or
14 somebody else's well a year or five years later, you
15 know what I mean, and say, hey, you did it to me, fix
16 it. You know what I mean? There shouldn't be any
17 time limit on it. You know what I mean? Simply
18 because I'm probably 800 feet away. I mean, it'll
19 maybe take five years for it to migrate into my well,
20 because aquifers don't move very fast. So that's one
21 thing --- that's all I would say. Thank you.

22 CHAIR:

23 Oh, thank you. Bob Hedin?

24 MR. HEDIN:

25 My name is Bob Hedin and I own Hedin

1 Environmental, which is an environmental consulting
2 firm located at 195 Castle Shannon Boulevard in
3 Pittsburgh, PA. And my experience and expertise is
4 with contaminated coal mine drainage.

5 In northwestern Pennsylvania, Jefferson,
6 Clarion, Venango and Butler Counties, there are
7 hundreds of acid mine drainage discharges that flow
8 from abandoned, corroded gas wells. These flows occur
9 when acid mine drainage from higher elevation mines
10 infiltrates into underlying aquifers. Often these
11 aquifers have neutralization capacities due to the
12 presence of carbonate rocks, and the acid mine
13 drainage is neutralized so it had a pH of 5.7 --- five
14 to seven. Because the aquifers are confined, the
15 acidity of the discharge is maintained in the form of
16 carbonic acid. Old well casing in this corrosive
17 environment is commonly corroded and compromised.
18 These waters are highly corrosive to new well
19 materials as well. Over several years of contact, the
20 acidity is capable of dissolving concrete and
21 corroding steel casing.

22 I don't know how this works, but I have
23 attached photos of well casing from a gas well in
24 Jefferson County. The well is located in an area with
25 historic surface mining and widespread contamination

1 of shallow aquifers with acid mine drainage. I was
2 shown the well by a well field manager, who indicated
3 the well had failed in less than five years. When the
4 casing was pulled, it was found to be highly corroded
5 and breached in the shallow aquifer 50 to 100 feet
6 below the surface. After the casing was pulled, the
7 well produced an artesian flow of water with pH 6 and
8 high concentrations of carbon dioxide and sulfate.
9 This is typical of water chemistry for AMD-
10 contaminated shallow aquifers in this part of
11 Pennsylvania.

12 These aquifers appear benign because of
13 their near-neutral pH, but are highly corrosive
14 because of the acid mine drainage origins. Deep high-
15 pressure gas wells that are being drilled through
16 these aquifers --- are being drilled through these
17 aquifers without knowledge of their highly corrosive
18 nature. These wells are in danger of premature
19 failure due to the dissolution of cement casing and
20 corrosion of steel pipe.

21 Several improvements to current practices
22 are recommended to lessen the likelihood of well
23 failure under these circumstances. First, drillers
24 should properly characterize shallow waters that are
25 intercepted during drilling. Measurements of pH,

1 alkalinity, acidity, iron, aluminum and carbon dioxide
2 should be made my accredited laboratories. These are
3 standard mine drainage parameters, and the
4 measurements can be made within 24 hours at modest
5 cost.

6 Second, when acidic aquifers are
7 encountered, all well components placed permanently in
8 that zone should be selected for appropriate corrosion
9 resistance. Acid-resistant cement is available, as is
10 steel casing with higher resistance to acid corrosion.

11 Third, many of these contaminated
12 aquifers discharge to the surface through old corroded
13 wells. These discharges would be good locations to
14 monitor the groundwater chemistry for natural gas that
15 would be present if corrosion caused a high-pressure
16 well to leak. Thank you.

17 CHAIR:

18 Thank you. Did you submit your
19 testimony? It's right there? Okay. Is there anybody
20 else who wanted to provide testimony whose name I
21 haven't read? Thank you for those.

22 MR. HEDIN:

23 You're equally welcome.

24 CHAIR:

25 Jack Solomon?

1 MR. SOLOMON:

2 My name is Jack Solomon. I'm former
3 president of the Three Rivers Birding Club, but I
4 don't think I'm here in any official capacity for any
5 organization. I'm simply an old guy who remembers
6 when strip mining was rampant in this Commonwealth and
7 coal and other minerals and gas were extracted from
8 the land. And the operators and extractors had long
9 disappeared and taken the wealth that they extracted
10 with them. And the problems remain: acid mine
11 drainage, creeks running red with iron compounds.

12 I have no real idea if these regulations
13 are effective or not, but I know that things appear
14 decades later sometimes that don't appear at the time.
15 Problems appear that don't appear apparent at the time
16 the extraction is done. And I implore the authorities
17 that be to make sure that funds are received, obtained
18 from those who extract this wealth and set aside in
19 the form of bonds or some kind of secure fashion so
20 that when the inevitable, unforeseeable and unforeseen
21 problems arise, there's someone to deal with it
22 besides our children and grandchildren. Thank you.

23 CHAIR:

24 Can you give your address?

25 MR. SOLOMON:

1 Yes. 2230 Shady Avenue, Pittsburgh, PA,
2 15217. Is that it?

3 CHAIR:

4 That's it.

5 MR. SOLOMON:

6 Thanks.

7 CHAIR:

8 Anybody else whose name I haven't read
9 but would like to speak? Well, if you change your
10 mind, we'll be here again Monday and you're welcome to
11 come. There is an EPA meeting, which we're done in
12 time you can make the better part of the EPA meeting
13 in Washington County. And they sent their press
14 release out at about the same time we sent out press
15 release out, and everybody went --- actually, EPA
16 didn't, but we did. Oh, my. And so we added a night
17 to be sure that anybody who wanted to attend both
18 meetings would at least have the opportunity. That's
19 it.

20 * * * * *

21 HEARING CONCLUDED AT 7:25 P.M.

22 * * * * *

23

24

25

CERTIFICATE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I hereby certify that the foregoing proceedings, public hearing held before Chairperson Humphries, was reported by me on 07/22/2010 and that I Barbara J. Jones read this transcript and that I attest that this transcript is a true and accurate record of the proceeding.

Barbara J. Jones
Court Reporter