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TRANSCRIPT OF
WATER AND WASTE ADVISORY BOARD MEETING
FRIDAY, SEPTEMBER 25, 2009 AT 9:01 A.M.

FILED
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Jim Ruby, Executive Secretary
Environmental Quality Council

Advisory Board Members present:

- Chairman William S. Welles, Buffalo
- Vice-Chairman Marjorie Bedessem, Laramie
- David Applegate, Casper
- Lorie Cahn, Jackson

Also present:

- Michael Jennings, Natural Resources Program
Principal
- Kevin Frederick, WDEQ/WQD Manager, Groundwater
Section
- John Wagner, WDEQ/WQD Administrator
- Jim O'Connor, Lander geologist
- Mark Thiesse, Lander Groundwater Section
- Steve Jones, Wyoming Outdoor Council and Powder
River Resource Council
- Edie Hardy

1 CHAIRMAN WELLES: My name is Bill Welles.
2 I'm the chairman of the Water and Waste Advisory
3 Board, and I'll call this Board meeting to order.
4 One member is absent, Tim Chesnut, and if he comes,
5 that's fine. Otherwise, we have a quorum.

6 I'd like to call everybody's attention to
7 the two signs, one, "Danger: Talking over
8 classmates causes irritation," especially for the
9 court reporter. The other is, "Slow, listen for
10 new ideas." We're always open to new ideas. So
11 with that, I'll give the floor to Mr. Mike
12 Jennings.

13 MR. JENNINGS: Thank you, Mr. Chairman,
14 appreciate it. Because of the short amount of time
15 that elapsed between our last meeting and this one,
16 there aren't quite so many reimbursement requests
17 here. And I would like to ask -- I sent a request
18 earlier this weekend for one. Did everybody have a
19 chance to get a look at that one? I apologize for
20 the short time on that one, but with an eye towards
21 trying to get folks their money back as quickly as
22 possible, I figured I'd give it a shot.

23 Okay. Without further ado, I'll launch
24 into this. If you've got your agenda, it should be
25 the one that says Revised 9/22/09. That's the one

1 I'm going to be working off of, and if everybody is
2 good to go with that one. Okay. First one I have
3 under full reimbursement, Town of Baggs, it was for
4 their work step, plan preparation. Did anyone have
5 any questions on that?

6 CHAIRMAN WELLES: No questions.

7 MR. JENNINGS: Would you like to hear
8 what we did before, have done previously,
9 Mr. Chairman? Would the Board like to just act on
10 that one, and then we'll work on the partial ones
11 then?

12 CHAIRMAN WELLES: Yep, if we could have a
13 motion.

14 MS. BEDESSEM: I'm going to abstain on
15 this vote.

16 MS. CAHN: I move that we recommend full
17 reimbursement for Baggs.

18 MR. APPLGATE: Second.

19 CHAIRMAN WELLES: We have a motion and
20 second. All those in favor? Aye.

21 MS. CAHN: Aye.

22 MR. APPLGATE: Aye.

23 CHAIRMAN WELLES: One absent.

24 MR. JENNINGS: Mr. Chairman, under
25 partial reimbursement recommendations, first one on

1 the list is Town of Hanna. This is for work plan
2 preparation. And just to let you know, if you had
3 a chance to read the comments that I sent along
4 with this one, there were some expenses accrued for
5 the work plan preparation by the engineering firm
6 that we felt were way beyond the scope of what the
7 project called for. The Town of Hanna was trying
8 to put together some information to potentially
9 justify those charges, but time was growing short,
10 so they would have preferred to have us proceed
11 with this, but they asked us that if they indeed
12 can come up with some additional information, they
13 asked us if we would potentially hear that at a
14 later date. The department has no problem with
15 that, and that's kind of mentioned in here.

16 (Mr. Mark Thiesse entered the room.)

17 MR. JENNINGS: But at any rate, again
18 partial reimbursement for work plan preparation for
19 the Town of Hanna, any questions on it? Yes.

20 MS. BEDESSEM: I recall that there's
21 something in here about some general research of
22 records trying to figure out if they had some
23 ethylene glycol contamination. That wouldn't be
24 normally covered in this kind of groundwater
25 monitoring reimbursement request.

1 MR. JENNINGS: Correct. And that was one
2 of the issues that we felt was beyond the scope of
3 what we were trying to find out, that we were
4 charged with to find out with this project, and so
5 that was -- yeah, the ethylene glycol issue was one
6 of the big-ticket items that we basically said no,
7 that again, if they can produce some sort of
8 justification at some point that's legitimate,
9 we're more than willing to listen to it, but we
10 didn't make any promises.

11 MS. BEDESSEM: I guess I'm not sure what
12 the avenue of justification would be.

13 MR. JENNINGS: I don't know yet. I'm
14 just waiting. They were going to talk to the
15 consulting firm and try to present something, but
16 beyond that, at this point, I don't know.

17 MS. BEDESSEM: Okay. Thank you.

18 MR. JENNINGS: Any additional questions
19 on that one?

20 MS. BEDESSEM: Shall we go through all
21 the partial reimbursements and then the whole?

22 CHAIRMAN WELLES: Yeah, I think so. Then
23 we can do it as a whole.

24 MR. JENNINGS: Okay. Fine. Next one,
25 Town of LaGrange, again, this was for work plan

1 preparation. Does anybody have any questions on
2 that one?

3 CHAIRMAN WELLES: No questions. Go
4 ahead.

5 MR. JENNINGS: Okay. Mr. Chairman, the
6 next one is Town of Kaycee. This was a combination
7 of Step 1, work plan preparation, and Step 2, field
8 work. Did anybody have any questions on that one?

9 CHAIRMAN WELLES: No questions. Okay.

10 MR. JENNINGS: Okay. Next one, Town of
11 Baggs again, this was for Step 2, field work.
12 Anybody have any questions on that one?

13 MS. CAHN: I'm finding it.

14 MR. APPLEGATE: I didn't find that one in
15 my package, either.

16 CHAIRMAN WELLES: You didn't have that?

17 MS. CAHN: No.

18 MS. BEDESSEM: It was the first one.

19 CHAIRMAN WELLES: It came in the first
20 packet.

21 MS. CAHN: It came in the first packet?

22 CHAIRMAN WELLES: Yes, this one.

23 MR. APPLEGATE: Oh, okay. This is the
24 cover sheet for Step 1 and Step 2.

25 MS. CAHN: Where is the first Baggs?

1 Isn't that the --

2 MR. APPELEGATE: So both steps on Baggs
3 were the same.

4 MS. CAHN: Okay. There's the full and
5 the partial.

6 MR. APPELEGATE: They're in the same
7 package, basically.

8 MR. JENNINGS: At the top of your
9 packets, basically, I put a little circle with a
10 number in it. If it's got a one and a two, that's
11 both steps in that.

12 CHAIRMAN WELLES: Any questions, then, on
13 the Baggs? Are you still looking?

14 MS. CAHN: I'm still looking.

15 MR. APPELEGATE: I have none.

16 CHAIRMAN WELLES: Marge has to abstain on
17 that one, also.

18 MR. JENNINGS: Okay. Next one under
19 partial reimbursement is Town of Burns. Anybody
20 have any questions on that one?

21 MS. CAHN: I just had that one. Where
22 did it go? I had it here. Where did I put it? I
23 put it in the wrong pile.

24 CHAIRMAN WELLES: Got it?

25 MR. JENNINGS: Did you find it?

1 MS. CAHN: Yep.

2 CHAIRMAN WELLES: Okay. No further
3 questions.

4 MS. BEDESSEM: I was glad that that work
5 was being done.

6 MR. JENNINGS: And the final one is Town
7 of LaGrange. This was the one that you folks
8 should have received this week. Again, this was
9 for Step 2, field work. And again, I apologize for
10 the lateness. If you have any specific questions
11 on this one because of the short time to review it,
12 please ask.

13 MR. APPELATE: So what was the nature of
14 these deductions?

15 MR. JENNINGS: For LaGrange, there
16 were -- Mr. Chairman, there were ineligible Step 3
17 activities. LaGrange is not eligible for sampling
18 analysis, and there were some of the activities in
19 the invoicing that were attributed directly to
20 Step 3, sampling analysis, so those were removed
21 from the reimbursement requests. There were some
22 ineligible time and material charges.

23 And if you'll refer to your comment
24 sheet, that kind of deals with the specificity on
25 them, and there were a number of them. There was

1 an invoicing error. There were some labor that was
2 charged out at a specific amount of hours, but the
3 backup information was basically minus one of those
4 hours, and the backup information is typically what
5 these firms will use to generate their invoicing.
6 That's been my experience. So that was removed.
7 You'll notice there was again some sampling
8 analysis activities that were removed from that.

9 What are the different ones we've got
10 here? Oh, there was a legal notice, and in our
11 criteria, we typically don't reimburse for legal
12 notices, and that was removed.

13 The drilling stuff specifically was very
14 complicated, and one of the things that was missing
15 from the invoicing were charges for well
16 construction materials. In the backup information
17 that was provided, they had the -- or the drilling
18 firm had indicated remove on that. After having
19 reviewed all the steps, it's like, "Well you had to
20 build the wells with something." I had a
21 discussion with the accountant at that -- for that
22 firm, and we determined that we were going to put
23 that back in. However, there were a lot of extra
24 materials in that particular line item that based
25 on the actual construction materials that should

1 have gone into the wells, I basically removed those
2 to basically meet what should have actually gone
3 into the wells. It was very complicated. We did
4 the best we could with it. In fact, those are kind
5 of spelled out. If you'll look under invoice
6 numbers, IME number 1 and 2 basically goes through
7 the details as far as what was removed from that.
8 I apologize for the complexity, but it was what it
9 was.

10 MR. APPLEGATE: I have no questions, just
11 that, Mr. Jennings, I appreciate your diligence in
12 reviewing these invoices so closely.

13 MR. JENNINGS: Thank you. I appreciate
14 that.

15 CHAIRMAN WELLES: Any questions?

16 MR. APPLEGATE: We do need to approve the
17 Baggs separately; is that correct?

18 CHAIRMAN WELLES: Yes. We'll -- for
19 approval, we'll do Hanna, LaGrange, one and two,
20 and Kaycee and Burns.

21 MR. APPLEGATE: I make a motion that we
22 approve all of those as submitted.

23 MS. CAHN: I second.

24 MS. BEDESSEM: Second.

25 CHAIRMAN WELLES: We have a duplicate

1 second. All those in favor?

2 MS. CAHN: Aye.

3 MR. APPLEGATE: Aye.

4 CHAIRMAN WELLES: Opposed? Hearing none,
5 pass.

6 Okay. Now we need a separate motion for
7 the Town of Baggs because Marge has to abstain.

8 MS. CAHN: I move that we recommend
9 partial reimbursement as recommended -- or that we
10 approve partial -- I can't even do this. It's too
11 early in the morning.

12 MR. APPLEGATE: I second it, though.

13 CHAIRMAN WELLES: All those in favor?

14 MR. APPLEGATE: Aye.

15 MS. CAHN: Aye.

16 CHAIRMAN WELLES: Opposed? Hearing none,
17 the Town of Baggs is also approved. So that
18 concludes all of the recommended --

19 MR. JENNINGS: Mr. Chairman, if I may,
20 I'd just like to give you a quick and dirty program
21 update.

22 CHAIRMAN WELLES: Please.

23 MR. JENNINGS: This was dated -- this
24 comes off of our database. It was September 4th.
25 And as far as total funds disbursed to that point

1 in time, a little over a hundred thousand for work
2 plan grants.

3 And just to let you know, and that's why
4 on one of these -- I believe it was the Baggs
5 one -- even though it came in one application, I
6 tried to split them out simply to try to keep track
7 of how much are work plans costing versus field
8 work just to have that information. So if it's at
9 all possible to tease that out of the applications,
10 I will try to separate them out. Some of the firms
11 are very good about having their invoices
12 specifically indicating what step they belong to,
13 which really helps. So some of them actually are
14 able to do it. But just to let you know, some of
15 the monies under work plan grants are probably
16 actually rolled into field investigation grants,
17 which is Step 2, because there's no way to actually
18 tease the stuff out. So the numbers, well, they
19 are what they are.

20 Field investigation grants, about
21 1.25 million dollars as of the 4th, and then
22 sampling analysis, a little over \$55,000, and total
23 funds disbursed as of the 4th was \$1.4 million, and
24 we've got a little over six and a half million left
25 over.

1 As far as the work that's being
2 conducted, again, out of 115 eligible landfills, we
3 requested work plans from 105 of the 115, which is
4 91.3 percent of the landfill world as we know it.
5 Of those, that 105, we received work plans from 97,
6 which is 92.4 percent. We've approved 94 of those
7 plans, 89.5 percent.

8 Drilling reports for the actual field
9 work that's been going on, we've received 71 out of
10 the 105, and actually that would be more
11 appropriately 71 out of the 97 that we've actually
12 had go out and put some work plans together, 67.6
13 percent. And finally, drilling reports that have
14 been approved, 54 of the 71, so we're just a
15 clip -- a little over 50 percent of the landfills
16 out there.

17 I've got lots and lots of reimbursement
18 applications sitting on my desk. They've been
19 coming in at an increasing pace of late, but we're
20 also -- as I think I mentioned in our last meeting,
21 I'm starting to try to gear up and get some things
22 fleshed out for the report generation, and we've
23 got some of the database gurus from Cheyenne that
24 are going to meet with me next week. We're going
25 to try to tie everything into the databases and

1 whatnot, and so hopefully you'll get a pretty good
2 report coming out. But that's where I'm at with
3 stuff. Anybody have any questions?

4 CHAIRMAN WELLES: I have a question on
5 the remaining grant funds. Do you have any kind of
6 a feel for the adequacy of that, or where are you
7 at?

8 (Mr. Steve Jones entered the room.)

9 MR. JENNINGS: Well, Mr. Chairman, right
10 now, if I had to bet, I'd say we're probably going
11 to have enough money to cover it. There is some
12 interim work going on at a number of facilities
13 where we've have to go back in and request
14 additional wells because the initial information
15 showed that we simply weren't getting the wells
16 lined up with the flow directions as we understood
17 them at the time. And so there is some of that
18 going on, but right now I'm cautiously optimistic
19 that we'll have enough funds to cover the work, but
20 I'm going to hedge my bets until I absolutely know
21 for sure.

22 CHAIRMAN WELLES: Well, just in general,
23 I was just curious.

24 Any other questions?

25 MR. JENNINGS: Okay. Well, Mr. Chairman,

1 if you would, given the opportunity, if you could
2 sign on the cost spreadsheets, and I'll clear my
3 stuff out of the way, and I guess we can get ready
4 for Step 2.

5 CHAIRMAN WELLES: Yeah, let me -- I don't
6 know how to state it. But we'll have a momentary
7 adjournment of the meeting so we can do the
8 paperwork, and then we'll start again.

9 (Recess from 9:12 to 9:20.)

10 (Mr. Jennings left the room.)

11 CHAIRMAN WELLES: The second part of our
12 Water and Waste Advisory Board is a presentation by
13 the Water Quality Division, Kevin Frederick, and
14 I'll turn it over to you, Kevin.

15 MR. WAGNER: Mr. Chairman, before we
16 start, I'm John Wagner, administrator. I'd like to
17 introduce a couple of our staff members.

18 CHAIRMAN WELLES: Okay.

19 MR. WAGNER: Mark Thiesse, the gentleman
20 in the green jacket, is head of our groundwater
21 section here in Lander. Kevin is head of the
22 groundwater section as a whole, but we have field
23 offices. Mark runs our program here in Lander.

24 MS. CAHN: I didn't catch, Mark, your
25 last name.

1 MR. THIESSE: Thiesse.

2 MR. WAGNER: Mark's been doing a lot of
3 the work at Pavillion, groundwater issues that are
4 going on in Pavillion.

5 And Jim O'Connor works for Mark, and he's
6 a geologist, previously with Fremont County before
7 he came to us. And unfortunately, Mark's going to
8 be leaving us pretty soon to go over to the
9 underground tank program, first of October.

10 CHAIRMAN WELLES: Also, Marge -- or I
11 mean Lorie reminded me that we didn't introduce
12 ourselves. I'm Bill Welles, chairman from Buffalo,
13 representing agriculture.

14 MS. BEDESSEM: Marge Bedessem from
15 Laramie representing the general public.

16 MS. CAHN: Lorie Cahn from Jackson, the
17 public at large.

18 MR. APPLGATE: Dave Applegate from
19 Casper, representing industry.

20 (Ms. Edie Hardy entered the room.)

21 CHAIRMAN WELLES: All right. Kevin,
22 you've got the floor.

23 MR. FREDERICK: Mr. Chairman, good
24 morning. Our purpose here today is to review the
25 revisions, suggested revisions to the proposed

1 carbon sequestration regulation that was initially
2 before you in March of this year for the first
3 time. And I thought what I would like to do would
4 be to first brief you a little bit on some of the
5 things that have transpired since our meeting in
6 March and then discuss with you the suggested
7 revisions that we've incorporated into our revised
8 rule and certainly take any comments and
9 suggestions that you may have at that time.

10 You should have a copy of the document
11 that I provided to you at the start of the public
12 comment period. That includes a copy of the
13 revised draft with red line strikeout, a copy of
14 the revised draft in an annotated version that
15 indicates the source of the language in the draft
16 regulation. Also included in that document is a
17 copy of the statement of principal reasons that we
18 provided at our first meeting in March discussing
19 the reasoning for development of this regulation,
20 and finally, a copy of our Analysis of Comments
21 that identifies the comments that were provided
22 prior to and shortly after the first meeting in
23 March and the response that we've developed with
24 respect to those comments and what changes, if any,
25 those comments led to in our proposed regulation

1 that were identified in red line and strike out.

2 So since our first meeting in March, we
3 completed our Comment Review and Analysis. That's
4 included in the document. We incorporated some
5 suggested revisions to the draft regulation, and
6 also there were additional meetings of the
7 director's Carbon Sequestration Working Group with
8 the state geologist, the commissioner of the Oil
9 and Gas Conservation Commission and other members
10 of that working group, myself included. That group
11 completed its work and delivered its report,
12 including suggested recommendations, to the
13 Legislative Minerals Business and Economic
14 Development Committee earlier this month, I believe
15 September 15th, in Jackson.

16 The report, by the way, will be available
17 on line on our Web page on the carbon sequestration
18 home page of DEQ by the end of today, is my
19 understanding.

20 Among other things, that report
21 recommends to the legislature that the current
22 carbon sequestration statute at 35-11-313 be
23 amended, and a copy of the proposed amendments is
24 included in the draft report -- or excuse me, in
25 the final report to the Joint Minerals Committee.

1 But among other things, it recommends
2 further rule development by DEQ with respect to
3 financial assurance requirements and with respect
4 to site closure criteria, specifically establishing
5 criteria that determine when a carbon dioxide plume
6 has achieved stability or that it is stabilized
7 such that the operator or injector may be released
8 from future liability. The mechanism for doing
9 that would be a special revenue account recommended
10 to the legislature in this proposed amendment to
11 the statute, a special revenue account to set up
12 funding to provide for continuing monitoring,
13 measurement and verification of the CO2 plume after
14 a period of at least ten years following the cease
15 of any injection of carbon dioxide. In other
16 words, upon ceasing injection of CO2, the operator
17 would continue to monitor the plume and the related
18 facility site for a period of at least ten years.

19 And the report also suggests that the
20 legislature look at creating a special trust fund
21 that following that period when the department
22 agreed that the plume had been stabilized, again,
23 after at least ten years of monitoring, that a
24 trust fund would be available to provide for any
25 future provisions that would be needed for

1 continued monitoring or in the event that there was
2 an unexpected threat to human health, safety or the
3 environment associated with the carbon dioxide
4 plume.

5 It's my understanding that that proposed
6 amendment is being taken under consideration by
7 some within the legislature, and it will be
8 interesting to see how that moves ahead, if at all,
9 when the session meets again next year.

10 Nonetheless, it potentially may have some effects
11 on what we would suggest moving ahead in the draft
12 we'll be talking about today and the regulation
13 we'll be talking about today.

14 In addition to that, EPA's proposed
15 regulation that they published in the Federal
16 Register in July of last year for public comment is
17 continuing to move ahead. The public comment
18 period for the EPA proposed regulation closed in
19 December of last year, and certainly they have
20 received many, many comments on that that they've
21 taken under consideration and approximately three
22 weeks ago issued what's called a Notice of Data
23 Availability or a NODA, which is another formal
24 step in the federal rule development process at the
25 Environmental Protection Agency. And it

1 essentially is an acknowledgment that based upon
2 their review of comments, there has been additional
3 information submitted that may be of interest to
4 people in considering the further development of
5 the regulation, and they presented especially for
6 consideration a topical issue associated with
7 presenting or allowing state programs to
8 essentially waive aquifers from consideration as
9 underground sources of drinking water.

10 And that's important to Wyoming because
11 the original rule required that CO2 injection only
12 be allowed beneath the deepest underground source
13 of drinking water as defined in the Federal
14 regulations, and in Wyoming, we have very deep
15 formations that would meet that criteria. And
16 unfortunately, in many of those same locations
17 where those USDWs exist at great depths, there are
18 very limited opportunities for us with the
19 permeability development beneath them sufficient
20 enough to actually serve as carbon sequestration
21 sites, so it becomes problematic.

22 And I believe that not only Wyoming, but
23 other states also expressed their concern that that
24 particular requirement within the EPA-proposed
25 regulation was problematic and would be essentially

1 significantly limiting the opportunities for carbon
2 sequestration in states other than Wyoming,
3 including Wyoming. I think EPA recognized that and
4 understands that there's a need and certainly an
5 interest for further discourse and public comment
6 under this Notice of Data Availability on this
7 notion of waivers for underground sources of
8 drinking water, and we certainly intend to provide
9 comment on that motion. The comment period, by the
10 way, is scheduled to end October 15th, so we'll be
11 working on our comments in the meantime.

12 Another important aspect of the Notice of
13 Data Availability suggests that as part of this
14 waiver opportunity that could be made available to
15 states, the permitting agency for carbon
16 sequestration, be it a state DEQ or a state Oil and
17 Gas Conservation Commission, generally, typically
18 speaking, would also be required to coordinate the
19 review and approval of application for carbon
20 sequestration with the State program director for
21 the Public Drinking Water Supply Program. And
22 that's interesting in that Wyoming is the only
23 state that doesn't administer or have primacy for
24 the Public Water Supply Supervision or PWSS
25 program. And in our case, it's questionable how

1 that coordination would work.

2 We suspect that the end result would be
3 that were that requirement for concurrence with
4 Public Water Supply Supervision program director
5 actually incorporated it into the final rule, we
6 would essentially be compelled to coordinate with
7 the EPA regional office, Region 8 in Denver, who
8 administered Public Water Supply Supervision
9 Program for the State of Wyoming, and it certainly
10 presents interesting issues with respect to
11 jurisdiction, some concerns with dual permitting
12 requirements that arguably may conflict with each
13 other.

14 So that is another issue that's of
15 concern to us, and I know that it's also a concern
16 to others that are looking at the Notice of Data
17 Availability and are also intending to provide
18 comment on that, including the Groundwater
19 Protection Council, of which I'm a member of the
20 board of directors and also participate on their
21 Carbon Sequestration Review Committee. I also know
22 that that organization, as well as others, have or
23 will soon be requesting an extension of their
24 public comment for an additional 45 days because
25 this is a pretty important issue with respect to

1 how state programs may be required to coordinate
2 and whether or not that coordination should be
3 required in a Federal rule or simply left to states
4 to decide how the coordination takes place.

5 So our regulation, draft regulation,
6 continues to move ahead in light of these things
7 that are going on, and I think we need to be
8 sensitive to the -- certainly the recommendations
9 that were developed as a part of the director's
10 Carbon Sequestration Working Group and how that may
11 affect what we're trying to do in our existing
12 regulation as well as continuing to keep an eye on
13 EPA's progress in developing their final rule.

14 And by the way, they still -- EPA still
15 continues to suggest that their final rule will be
16 in place either late 2010, next year, or early
17 2011, so their plans as far as scheduling and
18 getting the rule promulgated really haven't changed
19 much from where they started out from.

20 With that, Mr. Chairman, I'll entertain
21 any questions on that particular aspect of what's
22 transpired since we last met, or I can move ahead
23 with discussion on the proposed revisions to the
24 draft.

25 CHAIRMAN WELLES: Any questions from the

1 Board at this point?

2 MR. APPLEGATE: I have one question.

3 Where are we in the process? I mean today we're
4 seeing the draft. How do you anticipate this rule
5 to progress in terms of rule making?

6 MR. FREDERICK: I'll talk a little bit to
7 that, Mr. Chairman, as we go through some of the
8 other suggested revisions in the rule. I'll
9 certainly be glad to cover that. It may be more
10 appropriate to entertain that particular question a
11 little later on because I think it is something
12 that we want to certainly discuss in some detail.

13 MS. BEDESSEM: I have one more question.
14 Are there permit applications under this rule
15 waiting in the wings, that you know of?

16 MR. FREDERICK: Not in Wyoming yet. I
17 suspect there are in other states. I suspect that
18 we will see one shortly, perhaps before this rule
19 is finally promulgated, that we will handle either
20 under a Class 5 experimental technology permit, as
21 suggested by EPA, or the alternative, permitting it
22 as a Class I non-hazardous waste disposal well or
23 injection well would also be an alternative that
24 other states have used as well.

25 MS. CAHN: Given that answer, I guess I'm

1 kind of curious about what the rush is -- not
2 really the rush, but why now while EPA is still --
3 you know, their rules are still in flux. So I'm
4 just kind of curious what the rationale is.

5 MR. FREDERICK: I think essentially EPA
6 has communicated that they themselves aren't
7 comfortable with using either the Class V
8 experimental permit or a Class I permit as a
9 long-term solution for carbon sequestration
10 permitting; therefore, the development of a new
11 Class VI well, with the associated requirements for
12 well construction, siting requirements, monitoring
13 requirements that are much more specific in detail
14 than what we find in our Class I, existing Class I
15 permit requirements. So I think they recognize it
16 as a unique injection process, certainly given that
17 the area of influence in all likelihood, when one
18 looks at both the injection of the CO2 stream
19 itself, coupled with the hydraulic front or
20 pressure front, can be, you know, much greater in
21 size than a Class I disposal well we typically see.

22 So I think we recognize there are
23 alternative permitting processes, but I think we
24 still recommend that we continue to move this rule
25 ahead and get it in place because the legislature

1 has essentially instructed us to do so, and we feel
2 that it's more beneficial to be permitting under a
3 rule such as this rather than the alternatives that
4 we have available to us now.

5 So, Mr. Chairman, I can proceed in a
6 couple of different ways, depending upon your
7 pleasure. We can either go through the suggested
8 revisions line by line, or knowing that you all
9 have reviewed the suggested revisions, I can simply
10 entertain any questions that you may have with
11 respect to any particular suggested revision that
12 we're providing.

13 CHAIRMAN WELLES: What's the pleasure of
14 the Board?

15 MR. APPLEGATE: Well, I'm not sure I
16 would want a line by line. Perhaps you could
17 summarize high-level themes that you saw in the
18 comments and give us kind of your general
19 perspective on how you addressed those themes.

20 MR. FREDERICK: Sure, be glad to. First
21 let me refer you to the Analysis of Comments
22 section in the document that I've provided to you.
23 And on page 2 of that document, of the Analysis of
24 Comments section, a list of commentors, I'd like to
25 point out that we've received comment not only from

1 industry and organizations that represent industry,
2 but also -- and by industry, I mean those involved
3 in the oil and gas and power generation side of the
4 industry. We also received comment from
5 environmental interest groups present here in
6 Wyoming, also, namely the Powder River Basin
7 Resource Council, jointly with the Sierra Club and
8 the Wyoming Outdoor Council.

9 The general comments on the proposed rule
10 then begin on page 3 and run through page 8,
11 followed by specific comments.

12 CHAIRMAN WELLES: Kevin, I had one
13 question on the commentors. I can never figure out
14 who API is. What does that stand for?

15 MR. FREDERICK: API is historically known
16 as the American Petroleum Institute, and now I
17 believe they simply go by the acronym, if I'm not
18 mistaken. And they're an organization that is
19 heavily involved in developing and essentially
20 identifying I think best practices for petroleum
21 exploration, development and production, I believe,
22 for the most part.

23 MS. CAHN: And remind me, back in March,
24 had you gotten comments from EPA on the proposed
25 rules at that point? I'm trying to remember. I

1 think --

2 MR. FREDERICK: No, we haven't received
3 comments from EPA. It's my understanding that they
4 don't believe it would be appropriate for them to
5 comment on our regulation given that they're
6 involved in the process of developing their own.
7 That is still essentially a draft open for public
8 comment. So I don't think they're interested in
9 translating anything other than what they've
10 already suggested in their proposed regulation.

11 MS. CAHN: But any sense of whether these
12 proposed rules, if passed, that the State would --
13 they would approve -- continue with primacy for the
14 State? I mean was there anything of concern that
15 EPA has said that would affect primacy in the
16 proposed rules?

17 MR. FREDERICK: Not really, on the
18 contrary. They've expressed interest in
19 understanding where we recommend deviating from
20 their regulation, and in particular, the issue of
21 injection beneath the deepest USDW.

22 MS. BEDESSEM: Can you explain a little
23 bit more about your consideration with respect to
24 EPA considering a waiver for this particular issue?
25 Are they talking about for the rules for your

1 program or for a case-by-case basis for certain,
2 you know, USDW. I'm trying to figure out if
3 they're going to attend to your concerns more
4 globally or specifically.

5 MR. FREDERICK: Sure. It's my
6 understanding that the discretion is left to the
7 State on essentially a case-by-case basis as
8 opposed to the alternative, I think, which you
9 suggested, that being where a State would
10 essentially acknowledge that in all cases
11 everywhere, one particular formation would be
12 exempted or waived from the injection beneath the
13 deepest USDW requirement. I think their suggested
14 approach, open for -- or that they're seeking
15 comment on, is making those determinations or
16 states having the ability to make those
17 determinations on an application-by-application
18 basis.

19 MS. BEDESSEM: Okay. So it's under the
20 purview the DEQ director?

21 MR. FREDERICK: Yes.

22 Returning to Mr. Applegate's question,
23 Mr. Chairman, areas of significant comment I think
24 dealt with how we define a pressure front. That
25 was mentioned several times. Also, with respect to

1 the cementing requirements in particular for the
2 long-string casing. The majority of comments I
3 believe were more clarifying in nature for the most
4 part.

5 Another significant comment dealt with
6 regulating the injection well pressure, injection
7 pressure, and certainly questions with respect to
8 site closure requirements and liabilities, perhaps
9 more so from environmental groups as opposed to
10 industry groups.

11 Comments from DEQ's internal working
12 group that worked with us in reviewing this draft
13 regulation, representing individuals from the State
14 Engineer's Office, the State Geological Survey, the
15 Water Development Commission and the State Oil and
16 Gas Commission, focused more along the lines of
17 clarifying those formations that we should consider
18 for carbon sequestration and not limiting it to
19 simply saline formations, but also suggesting as
20 well that provisions be made for additional time
21 than what we'd originally proposed for public
22 review and comment on the draft permits. We're
23 recommending that period be extended, as well as
24 the time frame in which the administrator is
25 required to make a decision following a public

1 hearing. We're recommending that that be extended
2 as well.

3 So, Mr. Chairman, I think those generally
4 describe the observations on significance and so
5 forth of most of the comments. I certainly don't
6 intend to oversimplify it. And let me say that
7 generally we received approximately 150 individual
8 comments, not including those submitted by API,
9 which was really more a suggested revision in the
10 EPA regulations that they had developed that we
11 then were asked to consider for modifying in our
12 regulations. There were also several suggested
13 revisions that they developed for us as well.

14 But again, those comments and suggested
15 revisions that the Advisory Board provided to me at
16 our last meeting in March with respect to again
17 primarily clarifying language and some
18 word-smithing techniques were incorporated into
19 this draft as well, and then again, some -- a few
20 comments that came out of the DEQ internal
21 committee that assisted in developing this draft
22 regulation.

23 MS. BEDESSEM: I have a question, Kevin.
24 When I first read through this Response to
25 Comments, there were several items that out of

1 necessity you responded with what the
2 recommendations were in the Working Group Report,
3 and so when I first read this, it left me
4 wondering, okay, so those are the recommendations,
5 so what's going to happen with that. And you did a
6 good job of clarifying the status of that with sort
7 of the preamble here, describing that the report
8 would be on line and what the legislative committee
9 is doing based on that report. But one of the
10 things that you didn't mention was it seemed like
11 in this Response to Comments, one of the reasonings
12 that you were asked to lengthen the time periods
13 for review and decision making was not only because
14 of the complexity of the application, but also
15 because of lack of staffing and that there was -- I
16 don't recall which comment it was, but there was
17 some documentation with respect to the
18 recommendations of the Board saying they
19 recommended three additional people and so forth.
20 Now, is that something the legislative committee
21 will be considering, or are you assuming that
22 you're going to go forward with this with the staff
23 that you have?

24 MR. FREDERICK: Mr. Chairman, that's a
25 question I don't know that I can answer. I know

1 that the recommendation was passed along to the
2 legislative committee, and I would anticipate that
3 given the director's ability to essentially
4 allocate resources where they're needed, and
5 knowing that the director supports that
6 recommendation, I would expect that those FDEs
7 would eventually be provided. However, it may be
8 at the expense of other programs or divisions
9 within the agency as opposed to new FDEs or new
10 positions.

11 MS. BEDESSEM: Considering the budget
12 situation now, I can understand your description of
13 the allocation.

14 MR. APPLEGATE: Mr. Chairman, I have some
15 specific questions on the area of review. Is now
16 an appropriate time to ask those?

17 CHAIRMAN WELLES: I think so.

18 MS. BEDESSEM: Uh-huh.

19 MR. APPLEGATE: I'm trying to get a
20 better understanding myself of the area of review.
21 It seems to me that drives a lot of the effort or
22 actual field work that would be required in order
23 to implement one of these projects. Is that
24 correct?

25 MR. FREDERICK: I think so.

1 MR. APPLGATE: And so area of review, it
2 seems to me it's kind of throughout the document,
3 and there's connections back to it. So
4 specifically, I'm looking at pages 24-1, Section 2,
5 paragraph (b). The definition of area of review
6 means the subsurface -- I'm reading from the
7 rule -- means the subsurface three-dimensional
8 extent of the carbon dioxide plume, associated
9 pressure front, and displaced fluids.

10 So a simplistic question from me, which
11 would define the larger extent, pressure front or
12 the displaced fluids.

13 MR. FREDERICK: I believe the associated
14 pressure front.

15 MR. APPLGATE: Can you explain those two
16 concepts as you understand them just to allow me to
17 better understand.

18 MR. FREDERICK: Sure. I think we're
19 essentially looking at, for lack of a better word,
20 three zones within the area of review. The most
21 internal zone closest to the point of injection
22 would be the CO2 plume or -- how do we refer to
23 it? -- yeah, carbon dioxide plume itself. As CO2
24 is injected into the formation, it will begin to
25 displace formation fluids. That -- those displaced

1 fluids, external to the CO2 plume, would be what I
2 would consider the second zone. That zone then
3 would be included within the final zone three or
4 most external zone, which would be an area where
5 the hydraulic pressure within the formation fluids
6 has been elevated as the CO2 plume forces the
7 displacement of formation fluids, which are then
8 essentially compressed and result in additional
9 external hydraulic pressure outside of that area of
10 displaced fluids.

11 MR. APPLEGATE: The reason I ask that
12 comment, I think some commentators had wondered if
13 displaced fluids need to be part of the definition,
14 and I guess I'd ask you to explain the reasoning
15 why it needs to be included in this part if it's
16 contained within the pressure front delineation,
17 meaning are there examples where the displaced
18 fluids would not be within the pressure front
19 definition?

20 MR. FREDERICK: I think it may become a
21 little more complex when you have multiple points
22 of injection within the same area, and I think in
23 some situations, you will see overlapping CO2
24 plumes, areas of displaced formation fluids and
25 elevated pressures. Can you have displaced fluids

1 in the absence of elevated pressure? You know, I'm
2 having trouble visualizing that or conceptualizing
3 that, but again, given the complexity that we are
4 going to expect when we have multiple points of
5 injection, I think we're going to see some fairly
6 unique situations develop. I couldn't rule it out,
7 Mr. Chairman.

8 MR. APPLEGATE: I would like to --

9 MS. BEDESSEM: It's on the same point,
10 but I think we had previously discussed that you
11 wanted to save formation fluids instead of brine.

12 MR. FREDERICK: Exactly.

13 MR. APPLEGATE: Yes, and I'm really
14 asking clarification questions really. I don't
15 have an opinion on this section. I'm just trying
16 to better understand it. I agree with the change
17 from brine to fluids, by the way.

18 On page 24-4, there's a definition of
19 pressure front. That text says -- I'm reading it
20 from the rule as it's currently written. "Pressure
21 front means the zone of elevated pressure that is
22 created by the injection of the carbon dioxide
23 stream into the subsurface. The pressure front of
24 a carbon dioxide plume refers to a zone where there
25 is a pressure differential sufficient to cause

1 movement of injected fluids or formation fluids."

2 And here I'm wondering about that
3 definition of just movement. It seems that you
4 could have chosen other alternatives. For example,
5 you could have chosen a pressure front that had
6 adequate pressure to move the fluid, for example,
7 into a USDW, which is ultimately what we're trying
8 to protect here. So can you help me better
9 understand why you chose any sort of measured
10 pressure difference rather than some sort of
11 threshold, for example, that could have resulted
12 in, like I said, like again a pressure -- it would
13 be less of a pressure front if you had a smaller
14 circle. It would be a smaller area of review, I
15 think, if you chose something such as a pressure
16 front that would be capable of moving displaced
17 fluids into a USDW.

18 MR. FREDERICK: Yes. Mr. Chairman, I
19 completely understand Mr. Applegate's question and
20 would like to state that I would propose a
21 modification to reflect more accurately the
22 requirements for delineating the area of review,
23 including the pressure front as described on page
24 2423 -- excuse me, 24-23, lines 7 and 8 in
25 particular.

1 MS. CAHN: Where on 24-23? I'm lost.

2 MR. FREDERICK: Page 24-23. Either start
3 with line 1 that discusses requirements for
4 delineating the area of review, and continuing on
5 then on line 5, an action that the owner/operator
6 of a Class VI well must perform, he must predict,
7 using computational modeling, the projected lateral
8 and vertical migration of the carbon dioxide plume
9 and formation fluids in the subsurface from the
10 commencement of injection activities until the
11 plume movement ceases, pressure differentials
12 sufficient to cause the movement of injected fluids
13 or formation fluids into a USDW are no longer
14 present," et cetera.

15 And subsequent to making the revisions, I
16 noted that in establishing the area of review and
17 the requirement that it include the pressure front
18 in the analysis, here on page 24-23, we
19 specifically state that we're looking for pressure
20 differentials that move fluids into a USDW, not
21 simply move fluids.

22 Recognizing that and understanding that
23 we had somewhat of a conflict, then, with how we
24 were defining pressure front, I would suggest
25 making some modifications to our definition so that

1 it more closely conforms to the language we have on
2 page 24-23. My recommendation is to add the words
3 at the end of the definition of pressure front,
4 "Into a USDW or which otherwise threatens human
5 health, safety or the environment."

6 MS. CAHN: Say that again, "Into a USDW."

7 MR. FREDERICK: "Into a USDW or which
8 otherwise threatens human health, safety or the
9 environment."

10 So it essentially establishes the
11 objectives of looking at the pressure front, and
12 the objective is to look at the pressure front in
13 the context of how it has the ability to actually
14 plush fluids into a USDW, which essentially is the
15 requirement or the objective in the Federal
16 regulation, but recognizing that Wyoming statutory
17 requirements are a little bit broader in that the
18 expectation is not only to protect USDWs, but also
19 to protect human health, safety and the environment
20 as stated in the statute. We should also include
21 and recognize that aspect as an objective of
22 determining the pressure front as well.

23 MR. APPLEGATE: I have some additional
24 comments if the Board is okay regarding area of
25 review. I think that change that you've suggested

1 addresses the question that I had regarding that.

2 Thank you for that.

3 On page -- these next two questions also
4 relate somewhat to area of review. One is 24-16,
5 lines 24 and 25. It says, "A Class VI area of
6 review shall never be less than the area of
7 potentially affected groundwater." Could you help
8 me better understand? Is the department trying to
9 differentiate there between a USDW and potentially
10 affected groundwater?

11 CHAIRMAN WELLES: That's 24-16, right?

12 MR. APPLEGATE: Page 24-16, lines 24 and
13 25.

14 CHAIRMAN WELLES: Right.

15 MR. FREDERICK: Yes. Mr. Chairman, if I
16 may point out, if we look at the annotated version,
17 I note that the language Mr. Applegate refers to is
18 essentially the same language that we have in
19 existing UIC regulations. That's not to say that
20 it can't be changed, but that was the point that we
21 started from.

22 MR. APPLEGATE: Yeah, and that --

23 MR. FREDERICK: The consistency from one
24 UIC regulation to another, if you will.

25 MR. APPLEGATE: Okay. Given the

1 emphasis, that -- that makes complete sense. Given
2 the emphasis that these rules place, though, in the
3 concept of a USDW, in the department's mind, is
4 there a difference, or how does one address the
5 differences between a potentially affected
6 groundwater and the USDW?

7 MR. FREDERICK: Certainly, and I
8 understand the distinction that you're making. On
9 the one hand, we're defining an area of review as
10 something that includes something in addition to
11 what most people would consider affected
12 groundwater. It includes displaced fluids. It
13 includes a pressure front.

14 And so I understand the confusion that
15 some may have in this statement. My recommendation
16 would be to simply delete it altogether. I see no
17 need for it there. I think the regulation is clear
18 in what's required for finding the area of review,
19 and I don't know that that particular statement
20 adds any value to that interpretation.

21 MR. APPLEGATE: Okay. Thank you. I just
22 have a couple more. I don't want to dominate the
23 time here.

24 CHAIRMAN WELLES: Please continue.

25 MR. APPLEGATE: Page 24-17, so just the

1 next page over, paragraph -- or line --

2 MR. FREDERICK: Excuse me, Mr. Chairman.

3 What page?

4 MR. APPLEGATE: Page 24-17, line 19.

5 I'll again read the first sentence from the rule.

6 "A compilation of all wells and other drill holes

7 within and adjacent to the area of review." I

8 think it's talking about the collection of data.

9 Has the department given consideration to the word

10 "adjacent," and what does that entail in your mind

11 in terms of meeting this requirement?

12 MR. FREDERICK: Mr. Chairman, if I may

13 have a moment to review the statute.

14 Mr. Chairman, in response to

15 Mr. Applegate's question with respect to including

16 the word "adjacent" or what that means in

17 particular, I'd like to simply state that the

18 Statute 35-11-313, Section F, Subsection (i) --

19 excuse me, (ii), Subsection C, requires that permit

20 applications include the identification of all

21 other drill holes and operating wells that exist

22 within and adjacent to the proposed sequestration

23 site. And I understand the question is what do we

24 mean by adjacent, and I can appreciate that.

25 MR. APPLEGATE: Yeah.

1 MR. FREDERICK: And I'm certainly open to
2 any recommendations the Board may wish to provide.

3 MR. APPLGATE: Well, I think the idea of
4 adjacent, I'm certainly not questioning the concept
5 or the legislative insight into wanting to look at
6 adjacent locations, but I do think it's a degree of
7 ambiguity that could cause problems down the road,
8 that there should be some thought given to what we
9 mean by adjacent because adjacent can mean very
10 different things in terms of distance. It's a
11 subjective term. So you might want to give some
12 clarification to that statutory language, I guess,
13 to ease your own implementation of the rule and
14 what you require, clarity, I think, for those
15 industry folks that would be trying to permit a
16 project.

17 CHAIRMAN WELLES: If I might interject,
18 this was answered on page 18 of the Analysis of
19 Comments, the top of the page, paragraphs 69 and
20 70. And I guess my comment would be that, you
21 know, how do you go back -- it's a question really.
22 How do you go back and question the legislative
23 authority as to the definition of adjacent? I mean
24 it's a good question, and I don't disagree.

25 MS. CAHN: You can get clarity within the

1 regulation that follows what you think the intent
2 of the legislation is. So I mean it's not
3 inappropriate to have more clarity.

4 MR. APPELEGATE: And I agree. I agree
5 personally with the intent. My comment is not
6 going to the intent. It's trying to understand the
7 extent of that, I guess.

8 MS. CAHN: I don't know if potentially
9 affected -- I mean I don't know how you would give
10 more clarity on that, but something that's really I
11 think the intent is potentially affected areas
12 adjacent. I don't know if that would help. It's
13 not a whole lot more clear.

14 CHAIRMAN WELLES: And also on page 18,
15 both of those are strikeouts, and adjacent to.

16 MS. CAHN: No, no, that was the proposed
17 comment --

18 CHAIRMAN WELLES: Yeah, I know.

19 MS. CAHN: -- was to strike it, and it
20 said we're going to leave it in.

21 CHAIRMAN WELLES: Yeah, I know. I
22 understand that, but why was it proposed as a
23 strikeout to begin with?

24 MS. CAHN: From the comments.

25 CHAIRMAN WELLES: Oh, just from the

1 commentor.

2 MR. FREDERICK: Yeah, from the commentor,
3 yes, sir.

4 I would recommend that we take that into
5 consultation and look at the notion as presented by
6 Ms. Cahn, giving some thought to how to best
7 describe or establish some definition to the term
8 "adjacent" that makes some sense as it relates to
9 carbon sequestration.

10 MR. APPELEGATE: And I just have a couple
11 more comments. The next one is on -- these are no
12 longer area of review comments. They go through a
13 couple other issues. Page 24-22, line 7, area of
14 review I guess is mentioned in this sentence, but
15 my comment really goes to the idea -- I'm again
16 reading from the proposed rule, the latter part of
17 that, line 7, "No less frequently than every five
18 years for the life of the project." And my
19 question is: Does the department see the life of
20 the project -- is that different than post-closure
21 period? Is life of the project a defined term?
22 What do we mean by that terminology?

23 MS. BEDESSEM: On I think Comment 91, it
24 talks about the operational life of the facility,
25 so is that different than the operational life of

1 the project? It's almost like they're using the
2 two interchangeably.

3 MR. APPLGATE: Well, operational life of
4 the facility is perhaps used elsewhere, it sounds
5 like. Is that your --

6 MS. BEDESSEM: I think that may be the
7 case.

8 MR. FREDERICK: Mr. Chairman, my
9 interpretation in reviewing the language is that in
10 the context of the permit, the life of the project
11 essentially is that period of time in which the
12 permittee has responsibilities for completing
13 actions of some sort, this being one of those
14 actions. So I guess my interpretation is that the
15 life of the project as it relates to the permittee
16 is that period of time in which he's required to
17 perform some action. I think in the context of --

18 MS. CAHN: Post-closure --

19 MR. FREDERICK: -- the area of review and
20 the requirement that he reevaluate it, I think the
21 requirement is that it be reevaluated every two
22 years while the facility is operating -- and by
23 operating, I think we mean injecting CO2 -- and
24 post injection every five years until such time he
25 is essentially released from that site or the site

1 is closed.

2 MS. CAHN: So we could change the
3 language to be the owner/operator will reevaluate
4 the area of review every two years during the
5 injection phase and then no less frequently than
6 every five years post injection.

7 MR. FREDERICK: I think that's the
8 language --

9 MS. CAHN: But then at what point does
10 that five years stop? So it needs a little bit
11 more than just post injection. Until something,
12 until there's no longer any pressure differentials?
13 I mean I don't know what, then, signifies when that
14 five-year monitoring --

15 MR. FREDERICK: Sure.

16 MS. CAHN: -- or evaluation can end.

17 MR. FREDERICK: Sure.

18 MS. BEDESSEM: Or did you just need to
19 define what you mean by the life of the project
20 somewhere in the document? Because you say in
21 response to comments that you agree that that's the
22 definition, but I'm not sure the definition is in
23 the rule that anyone else would know without asking
24 you.

25 MS. CAHN: Yeah, to be clear, since

1 that's departmental language, you need to clarify
2 it.

3 MR. FREDERICK: In looking, Mr. Chairman,
4 at the definition of site closure on page 24-4,
5 perhaps we could insert the words --

6 MR. APPELATE: Site closure?

7 MS. CAHN: Until site closure, every five
8 years post injection until site closure.

9 MR. FREDERICK: Yes.

10 MS. BEDESSEM: That sounds better. You
11 might want to do a word search through the rule and
12 make sure that the projected life of the facility
13 doesn't pop up somewhere else, and if it does, to
14 make the appropriate --

15 MR. FREDERICK: Thank you.

16 MS. CAHN: Injection phase.

17 MR. APPELATE: I had no further
18 comments. Thank you.

19 MR. FREDERICK: Thank you.

20 CHAIRMAN WELLES: Any other comments?

21 MS. CAHN: I had a few -- just one,
22 actually, just on a response to comment, just on
23 page 23 of the Analysis of Comments. On specific
24 Comment Section 9, APCs Comment Number 99, I was
25 just curious what the response was. There was --

1 the comment is page 24-24, line 28, "All well
2 materials must be suitable for use, compatible
3 crossed out, with fluids with which the materials
4 may be expected to come into contact."

5 MR. FREDERICK: Thank you, Mr. Chairman.
6 I must have dozed off when I was writing that
7 response.

8 MS. CAHN: I'm not sure the entire
9 comment is actually intact.

10 MR. FREDERICK: And by the way, I did
11 note a few typos that I will intend to correct in
12 the Analysis of Comments as well. I can refer to
13 Anadarko's comment.

14 MS. CAHN: I suspect the comment comes on
15 the unannotated or the -- I don't know annotated,
16 but the revised draft. It's on page 24-25, Section
17 9(b)(v) is where the language occurs, and it looks
18 like it's EPA's language. And you propose to leave
19 the language in "as compatible" and not change it
20 to "suitable for use," so I think that's the
21 response probably.

22 By the way, thank you very much for this
23 color version. It's real helpful to know where the
24 language is coming from. It's great. I really
25 appreciate it.

1 CHAIRMAN WELLES: The intent was great,
2 but I'm colorblind.

3 MR. FREDERICK: I was afraid of that.

4 MS. CAHN: Is that right?

5 CHAIRMAN WELLES: Yeah, reds and greens,
6 but I can figure it out.

7 MS. CAHN: How about italics for you.

8 CHAIRMAN WELLES: No, I just have to pay
9 attention if I -- never mind. Strike that comment,
10 please.

11 MR. FREDERICK: I'll try to come up with
12 some other creative ways.

13 CHAIRMAN WELLES: I thought that was
14 going to get me out of the Army, but it didn't.

15 MS. CAHN: I think I've answered my own
16 question, so I'm all right.

17 MR. FREDERICK: Yes. Mr. Chairman, the
18 comment is essentially complete in the Analysis of
19 Comments. In other words, that was the language
20 that Anadarko provided in their comment, with the
21 recommendation again that the term "compatible" be
22 struck and replaced with the term "suitable for
23 use." There was no discussion provided with it
24 other than, I guess, the implication was that they
25 felt "suitable for use" would be a better term to

1 use than "compatible."

2 The language, again, Mr. Chairman, that
3 was being referred to is on page 24-25, line 2,
4 "All well materials must be compatible with
5 fluids," et cetera. And again, we aren't
6 suggesting any need to change the verbiage. It's
7 essentially verbatim from the EPA's proposed
8 regulations, so we'll leave it for that reason.

9 MS. CAHN: And no further questions.

10 MR. FREDERICK: Thank you.

11 MS. BEDESSEM: If you're going through
12 and correcting miscellaneous typos and things in
13 there, you might, in Comment Number 74 in your
14 response, state that the suggested revisions were
15 incorporated. In 74, you say you agree, but then
16 we don't know what you did. You actually did
17 incorporate that revision.

18 MR. FREDERICK: Thank you.

19 CHAIRMAN WELLES: I had one comment.
20 It's just a typo, page 31, Comment Section 19, down
21 in the response to extend the period that that.
22 Again, just probably a typo or sleepiness.

23 MR. FREDERICK: Thank you, sir.

24 CHAIRMAN WELLES: And I thought I had
25 another one, but I can't find it.

1 MR. FREDERICK: It's probably in the last
2 line of that comment. It should read, "Permit
3 application from 30 to 60 days."

4 MS. CAHN: Yeah, I caught that one, yeah.

5 CHAIRMAN WELLES: Well, if there are no
6 other comments from the Board, I would ask if there
7 are any public comments.

8 MR. APPLGATE: Actually, I had one
9 additional comment.

10 CHAIRMAN WELLES: Oh, sorry.

11 MR. APPLGATE: It's APCs Comment 72 on
12 page 18. The comment went to the characterization
13 of aquifers below the injection zone. Has the
14 department given consideration to the types of data
15 that they would use for characterizing those lower
16 zones in lieu of penetrations through the injection
17 zone down to those zones, meaning your response to
18 comment, you say the language does not require
19 penetration of the injection zone. So I'm
20 wondering what types of data you would see as
21 sufficient for characterization of those underlying
22 zones.

23 MR. FREDERICK: That's a good question,
24 and I think the expectation, and I believe the rule
25 speaks to it, is to utilize existing available

1 information as well as collecting data. And
2 certainly with respect to characterizing the lower
3 confining zone, I believe the expectation is to
4 really try and either use the existing data that's
5 available from perhaps off site/offset wells that
6 have penetrated the formation --

7 MR. APPELEGATE: We'll call them adjacent.

8 MR. FREDERICK: Adjacent, thank you.

9 MS. CAHN: Hopefully not adjacent if
10 we've defined adjacent as "potentially affected."

11 MR. FREDERICK: That's true.

12 MS. CAHN: Then it would be of concern.

13 MR. FREDERICK: That's true.

14 MR. APPELEGATE: It would be too far away
15 to --

16 MS. CAHN: Yeah. I mean that's quite a
17 dilemma.

18 MR. APPELEGATE: I don't know if it
19 necessarily would be, but you could get into those
20 sort of circular arguments.

21 Maybe I'll just ask the question a little
22 bit -- or a follow-up question. The department
23 doesn't necessarily expect penetrations through the
24 confining zone to characterize lower aquifers?
25 That wouldn't be the position of the department,

1 would it?

2 MR. FREDERICK: I think it depends. For
3 instance, looking at Anadarko's Salt Creek Field,
4 which is an enhanced oil recovery operation but
5 uses carbon dioxide as the recovery agent, in that
6 case, there were literally thousands of wells that
7 likely penetrated the upper confining zone into the
8 injection zone, and in that case, Anadarko has done
9 a remarkable job in safely identifying those wells
10 and performing corrective action on those wells to
11 ensure that the pathway from the injection zone
12 through the confining layer to the surface was
13 eliminated.

14 And so I think it's the department's
15 position that in many cases, it's probable that
16 penetrating the confining layer, the confining
17 zone, may be needed in order to characterize it,
18 and perhaps even the underlying confining zone.
19 And in those situations, we will certainly evaluate
20 the capability to adequately plug back those wells
21 such that they don't pose a threat.

22 MR. APPLGATE: Okay. I appreciate the
23 clarification.

24 MR. FREDERICK: Sure.

25 MR. APPLGATE: No further questions.

1 Thank you, Mr. Chairman.

2 CHAIRMAN WELLES: Any other questions?

3 MR. FREDERICK: Mr. Chairman, I would
4 like to take a few minutes and ask for your
5 consideration in considering some additional
6 proposed clarifying language that we would
7 suggest --

8 CHAIRMAN WELLES: Okay.

9 MR. FREDERICK: -- including in this
10 revision. And again, the intent is to either
11 clarify or to bring consistency to where the same
12 issue was addressed in multiple places within the
13 regulation. And I'll try and do this as quickly as
14 possible.

15 Going back to our earlier discussion on
16 the definition of a pressure front, I suggested
17 some language be added to that definition so that
18 it would add the words, "Into a USDW or which
19 otherwise threatens human health, safety or the
20 environment."

21 CHAIRMAN WELLES: Could you tell us what
22 page you're on.

23 MR. FREDERICK: 24-4 beginning on line
24 11. And we would recommend, beginning with the
25 sentence that starts on line 12, adding language to

1 that sentence. And let me just read it as I would
2 suggest it be revised. "The pressure front of a
3 carbon dioxide plume refers to a zone where there
4 is a pressure differential sufficient to cause
5 movement of injected fluids or formation fluids
6 into a USDW or which otherwise threatens human
7 health, safety or the environment."

8 MS. CAHN: I think "that" is the correct
9 usage rather than "which" there. I'm not sure, but
10 I think -- because it's defining rather than -- so
11 I think "that" would be appropriate.

12 MR. FREDERICK: Yes, thank you. I would
13 change "which" to "that."

14 MS. CAHN: No, I'm not sure. Ask a tech
15 editor. I'm not sure when I reread it because it's
16 an either/or. I'll leave it up to your tech editor
17 which is the appropriate use, which or that.

18 MR. FREDERICK: Okay. Mr. Chairman, I
19 have some similar places within the draft
20 regulation where I believe it would be appropriate
21 to insert that language as well. For instance, on
22 page 24-2, line 28, the definition of endangerment,
23 I would recommend adding the words "Or otherwise
24 threaten human health, safety or the environment"
25 to the end of that sentence.

1 I have a similar change to propose on
2 page 24-23, line 8, after the term USDW, add the
3 words "Or otherwise threatens human health, safety
4 or the environment," again to bring consistency to
5 our definition of pressure front.

6 A similar change, Mr. Chairman, on page
7 24-25, line 43, after the term USDWs, I would
8 recommend adding the language, "Comma human health,
9 comma, safety, comma, and the environment," line
10 43.

11 MS. CAHN: It's page 24-25?

12 MR. FREDERICK: I'm sorry, yes, page
13 24-25, line 43.

14 And on page 24-26, on line 13, after the
15 term "USDWs," add the language "Comma, human
16 health, comma, safety, comma, and the environment."

17 And finally, on page 24-29, line 2, after
18 the term "formation fluids," insert the words "In a
19 manner," and after USDW, insert the words "Or
20 otherwise threatens human health, safety or the
21 environment."

22 MS. CAHN: Well, actually, if you have
23 the word "endanger," you probably don't need
24 "threaten," so it could just read, "In a manner
25 that endangers the USDW, human health, safety or

1 the environment."

2 MR. APPLEGATE: So one question I have is
3 by adding the word "the environment," USDW was very
4 specific to a USDW, and now you've added "the
5 environment," so that raises a question: Are we
6 now back to groundwater that's not a USDW? I think
7 that actually potentially raises a conflicting
8 concept because when I look at 24-26 -- this is one
9 of the changes you've just made. It just happened
10 to be the one that made me think about this --
11 "Identifying the location of channels to ensure
12 that USDWs are not endangered," well, I
13 understand -- I'm not disagreeing with the concept
14 of adding human health or safety, but when you go
15 from a USDW, protecting it, to now saying you're
16 protecting the environment, you leave open the --
17 that's again a very broad term, which I think is
18 not necessarily defined. I understand the intent,
19 but I'm just saying that couldn't someone say,
20 "Well, you're not only protecting USDWs, you're now
21 protecting these impacts from getting anywhere."
22 Again, it goes to the pressure front and what
23 movement to that pressure front is acceptable.

24 MR. FREDERICK: Mr. Chairman, again, the
25 terminology "human health, safety and the

1 environment" is consistent with the statute. In
2 particular, and recognizing Mr. Applegate's issue,
3 I don't believe that the intent is to simply
4 protect groundwater. I think groundwater is one
5 part of the environment that is specifically
6 identified for protection, but I believe there are
7 potential situations in which carbon dioxide
8 potentially could migrate through these voids and
9 so forth in the annular space up to or near the
10 surface, in which case, carbon dioxide buildup, for
11 instance, may damage or threaten crops, for
12 instance, or wildlife, for instance, not to mention
13 humans in the area.

14 MR. APPLGATE: Yeah, and I'm not
15 disagreeing with that interpretation or raising a
16 question relating to those two items you just
17 mentioned. I'm coming back to the idea that we
18 understand or confine the concept on groundwater
19 because as I understand it, we're trying to prevent
20 impacts to drinking water supplies, and I'm
21 concerned that we're going to allow the language to
22 suggest that there's maybe a conflict in the
23 regulation in that it can be more than a USDW
24 because when you use the concept -- when you use
25 the words "endangerment" and "environment" in the

1 same terms, back in the definitions, you have
2 endangerment means exposure -- maybe this goes back
3 to the definition of endangerment. It means
4 exposure to actions or activities which could
5 pollute groundwaters of the state. I'm just trying
6 to understand. You seem to have language that
7 allows us to go back and forth. Are we protecting
8 USDWs, which is consistent with the EPA
9 regulations, or are we extending that to non USDWs?

10 MR. FREDERICK: Sure, I understand the
11 question, Mr. Chairman, and it's a good one. And
12 it's challenging to explain, I guess, what we mean
13 by a USDW in groundwaters of the state. The
14 groundwaters of the state that are protected are
15 Class I, Class II, Class III, Class VI and Special
16 A. Class V groundwater doesn't have the typical
17 groundwater protection standards or a Class VI
18 groundwater doesn't have the typical groundwater
19 protection standards that the other four do. The
20 other four classes, Class I, II, III and IV-A, are
21 all groundwaters that are defined as containing
22 less than 10,000 milligrams per liter total
23 dissolved solids, which is essentially equivalent
24 then to a USDW. That is the definition -- that is
25 one of the criteria for defining a USDW. The other

1 is that it also is capable of providing of
2 sufficient supply to support a drinking water
3 source.

4 And perhaps Mr. Applegate's point could
5 be addressed by clarifying what we mean by
6 endangerment in the definition. Would it be more
7 appropriate, recognizing that the equivalency
8 between our class of groundwaters that would be for
9 a protection two and USDWs to essentially -- rather
10 than say in the definition, "Which could pollute
11 groundwaters of the state," saying instead, "Which
12 could pollute a USDW or otherwise threaten human
13 health, safety and the environment"? Would that
14 address your concern?

15 MR. APPLEGATE: Yeah, I think so. You've
16 articulated it better than I can, but there are
17 certain groundwaters that are not USDWs and --

18 MS. CAHN: And not potentially, either.

19 MR. FREDERICK: Right.

20 MR. APPLEGATE: And I don't want to
21 somehow have someone come to the conclusion that
22 migration into those -- because, in fact, those
23 waters can be part of where you're injecting.
24 They're consistent with the saline aquifer that
25 we're injecting into. The saline aquifer itself

1 has groundwater. So I think we need clarity that
2 that's groundwater which is not a USDW and it's a
3 groundwater which is not being endangered by the
4 injection. I suppose maybe it's not as confusing
5 to others as it potentially is to me, but. . .

6 MR. FREDERICK: If it helps, on page
7 24-5, line 1, we include a definition for USDW
8 that --

9 MS. CAHN: We haven't included a
10 definition of environment, so that's. . .

11 MR. APPLEGATE: I appreciate the
12 definition of USDW as you've included, and I think
13 your suggestion to use some of that language in
14 clarifying the concept of endangerment on 24-2 will
15 tie those two together.

16 MR. FREDERICK: Yes. I will strike
17 "groundwaters of the state" in the definition of
18 endangerment and insert the term "USDW."

19 MS. CAHN: Yeah, that would be good.

20 CHAIRMAN WELLES: I would like to commend
21 both of you because we didn't even have to have a
22 lawyer do that. No offense.

23 MR. FREDERICK: Mr. Chairman, if I may
24 continue with a few other additional suggested
25 revisions. On page 24-3, line 1, the first word is

1 a typo. It should read "displaced." I need to add
2 a D.

3 Page 24-5, line 5, in the definition of
4 U.S. EPA administrator, our working -- excuse me,
5 our internal rule development group suggested
6 spelling out Colorado after Denver rather than
7 using the abbreviation CO.

8 On page 24-21, line 33 --

9 MS. CAHN: Excuse me, which page?

10 MR. FREDERICK: 24-21, line 33 contains a
11 criteria or describes a criteria that must be
12 defined and included within the geologic system as
13 part of a citing criteria for a Class VI well, and
14 I'll read it. It says, "A confining zone(s) that
15 is free of transmissive faults or fractures and of
16 sufficient areal extent and integrity to contain
17 the injected carbon dioxide stream and displaced
18 formation fluids and allow injection at proposed
19 maximum pressures and volumes without initiating or
20 propagating fractures in the confining zones." I
21 would suggest adding these words after that: "Or
22 cause otherwise non-transmissive faults to become
23 transmissive."

24 MS. CAHN: How about get rid of the word
25 "otherwise," "Or cause non-transmissive faults to

1 become transmissive.

2 MR. FREDERICK: I agree. I would delete
3 the word "otherwise."

4 CHAIRMAN WELLES: So read that again
5 then, please.

6 MR. FREDERICK: "A confining zone(s) that
7 is free of transmissive faults or fractures and of
8 sufficient areal extent and integrity to contain
9 the injected carbon dioxide stream and displaced
10 formation fluids and allow injection at proposed
11 maximum pressures and volumes without initiating or
12 propagating fractures in the confining zones or
13 cause non-transmissive faults to become
14 transmissive."

15 Essentially, it is intended to recognize
16 that there may be non-transmissive faults present.
17 So the notion isn't to necessarily speak to only
18 causing new faults or fractures, but to also avoid
19 reactivating existing faults or fractures and,
20 therefore, the need to add that clarifying
21 language.

22 MS. CAHN: I think the word "cause" would
23 need to be "causing" because we have "initiating or
24 propagating," and it would be "or causing."

25 MR. FREDERICK: I agree.

1 Mr. Chairman, on the page 24-25, line --
2 beginning on line 20, relating to the
3 administrator's ability to determine and specify
4 casing and cementing requirements and requiring the
5 owner or operator to provide information with
6 respect to casing and cementing requirements, in
7 particular, on line 20 we speak to, and I'll read:
8 "Size and grade of all casing strings, (wall
9 thickness, external diameter, nominal weight,
10 length, joint specification and construction
11 material)" I would recommend adding the words, "And
12 whether the casing strings are new or used."

13 And the reason for that is that certainly
14 casing strings have an expected longevity, and the
15 longevity, obviously, is a factor of whether
16 they've been used before or whether they're in new
17 condition, and I think it would be important for us
18 to be able to have that information in evaluating
19 the adequacy of the casing string.

20 Mr. Chairman, on page 24-26, beginning on
21 line 11, relating to the requirement to establish
22 and verify the seal of the annulus space between
23 casing and the well bore, as it reads now,
24 beginning on line 11, "The integrity and location
25 of the cement shall be verified using technology

1 capable of evaluating cement quality radially and
2 identifying the location of channels to ensure that
3 USDWs are not endangered," and as you recall, I
4 proposed to modify that language somewhat by adding
5 some terminology. I would propose some further
6 modification. On line 12, after the term
7 "radially," I would suggest adding the words "with
8 sufficient resolution to," t-o. I would scratch
9 the following "and." I would change "identifying"
10 to "identify," and after the word "channels," I
11 would recommend adding a comma and then the words
12 "voids or other areas of missing cement," and then
13 I'd be happy to read that back to you.

14 Mr. Chairman, first let me point out, on
15 the following page, 24-27, line 23, the language
16 that I suggested revising on the previous page
17 would now more closely mirror the language we have
18 at 24-27, line 23, the difference being on line 25
19 after the word "quality," I would recommend
20 inserting the term "radially." Those two sections
21 would then be consistent and equivalent.

22 Mr. Chairman, on the bottom of page
23 24-27, on line 42, we're talking about specifically
24 mechanical integrity testing of injection wells,
25 and at our last meeting, there was a request from

1 Ms. Cahn to provide some information on
2 oxygen-activation logging. And I would like to
3 report back to her that I have found some
4 information on activation logging, and its intent
5 is to essentially identify areas behind the casing
6 where there is an indication that water is flowing
7 through channels or voids or areas devoid of
8 casing. And rather than getting into the
9 technological description, which I'm not really
10 that familiar, I'll just simply pass out these
11 handouts that may describe activation logging in a
12 little more detail for your reading enjoyment.

13 I'm getting close to the end,
14 Mr. Chairman. I have a few more.

15 On page 24-28, I have some typos and some
16 clarifications to add in that last section that
17 begins on line 32. In particular, on line 37, the
18 word "test" should be "tests." Continuing on that
19 line, the capital G in Geomechanical should be
20 lower case G. On line 38, there should be a period
21 after the word "failure." On line 41, there should
22 be a period after the word "transmissive." And the
23 following language can be struck because it's
24 essentially redundant, as the language -- or to the
25 language beginning on page 24-29.

1 MS. BEDESSEM: So you're saying the last
2 line of 41 and 42?

3 MR. FREDERICK: Yes.

4 MS. BEDESSEM: And that paragraph, in one
5 place is "director," and the other is
6 "administrator." Is that kind of a mixed duty
7 here? You have maximum injection pressure to be
8 approved by the director, and then the next two
9 approvals are administrative.

10 MS. CAHN: I thought we had talked last
11 meeting about defining those so that we -- I mean
12 who's who. Did I --

13 MR. APPLEGATE: We did.

14 MS. CAHN: Am I dreaming things?

15 MR. APPLEGATE: It's the difference
16 between the EPA and DEQ.

17 MR. FREDERICK: Yes. You requested we
18 include the definition of the U.S. EPA
19 administrator, which we did. And with respect
20 to --

21 MS. CAHN: But I don't see administrator
22 in the definitions.

23 MR. FREDERICK: I'm sorry.
24 Administrator, I -- administrator in the context of
25 this regulation means the administrator of the

1 Water Quality Division, except if it's specifically
2 identified as the administrator of the U.S. EPA, it
3 will state so.

4 MS. CAHN: But I thought you were going
5 to have a definition that states that --

6 MR. WAGNER: Page 24-5 --

7 MS. CAHN: But we would have what
8 administrator means, DEQ's.

9 MR. FREDERICK: Oh, I'm sorry.

10 MS. CAHN: That's what I thought.

11 MR. FREDERICK: I misunderstood.

12 MS. CAHN: And then I thought we were
13 going to have a definition of the director.

14 MR. FREDERICK: Yes, Mr. Chairman. Give
15 me a minute, please.

16 Mr. Chairman, I could call your attention
17 to page 24-1, line 16. Line 16 reads, "The
18 following definitions supplement those definitions
19 contained in 35-11-103 of the Wyoming Environmental
20 Quality Act." 35-11-103 is the definitions part of
21 the Environmental Quality Act. It does contain a
22 definition for director. Director means the
23 director of the Department of Environmental
24 Quality. Administrator means the administrator of
25 each division of the department. We can certainly

1 include those in here if you would prefer.

2 However, they are referenced.

3 MS. CAHN: I would prefer them because I
4 think it's very confusing when you have
5 administrator of EPA, you have administrator and
6 director of DEQ, so I think it would be helpful. I
7 don't think it hurts to put it in there.

8 MR. APPLEGATE: I agree with that
9 condition.

10 MR. FREDERICK: Thank you.

11 MS. BEDESSEM: This is just another
12 grammatical thing here. Is administrator always
13 capitalized? Because in a lot of the blue
14 sections, it's lower case, and in other place, it's
15 capitalized.

16 MR. FREDERICK: I thought I'd fixed
17 those. I'll check those again.

18 MS. CAHN: On page 24-28, while we're on
19 that, on line 40, I don't believe you need the word
20 "otherwise" because you're talking about specific
21 faults that are transecting the confining zone as
22 opposed to fractures that are in the confining
23 zone.

24 MR. FREDERICK: Which page?

25 MS. CAHN: Page 24-28, line 40, third --

1 fourth word, "otherwise."

2 MR. FREDERICK: Yes.

3 MS. CAHN: If you can strike that.

4 MR. FREDERICK: Thank you.

5 With respect to Ms. Bedessem's question
6 regarding the distinction between the director
7 approving injection pressure limits on line 35 and
8 the administrator approving limits on line 38, I
9 think we can reconcile that discrepancy by striking
10 or replacing the word administrator on line 38 with
11 the director even though they both will sign the
12 permit.

13 MS. BEDESSEM: So just on 38, but not on
14 36?

15 MR. FREDERICK: And 36.

16 I'm nearly finished, Mr. Chairman. On
17 page 24-34, I have some formatting issues with the
18 proposed inserted language beginning on line 26
19 that I need to correct. On line 27, (ii) should be
20 lower case (b). Line 31, (iii) should be (c). 34
21 should be (d), line 38 should be (e), and line 41
22 finally should be (f).

23 On page 24-37, line 14, this essentially
24 begins to describe the requirements for site
25 closure, and this is very germane to the issues

1 that were discussed within the director's Carbon
2 Sequestration Working Group. And among other
3 things, that working group recommended that DEQ
4 develop rules to implement -- excuse me, that DEQ
5 develop rules to develop standards to define what
6 is meant by plume stabilization. And their
7 recommendation also to the legislature was that
8 there be a post-closure or post-injection care
9 period for a minimum of ten years, but that it
10 could be terminated when three consecutive years of
11 monitoring data demonstrate that the carbon dioxide
12 plume is stable.

13 So the issue of plume stability in the
14 context of acknowledging or agreeing to site
15 closure is an important one, and in our initial
16 draft regulation, we had laid out criteria,
17 proposed criteria, beginning on line 22 that
18 essentially identify the requirements that must be
19 met in order for DEQ to accept site closure.

20 I think it's important to point out that
21 the working group's recommendation deals very
22 clearly with establishing standards for what do we
23 mean by stability in the context of releasing the
24 permittee from any future liability, and that
25 wasn't necessarily the thought at the time when

1 this proposed language was developed, and this
2 essentially mirrors the EPA's proposed regulatory
3 language.

4 And so what I'm recommending or
5 suggesting to you is that we not confuse what we
6 mean about site closure in this regulation, but
7 rather, give the legislative process an opportunity
8 to accept the recommendation of the carbon dioxide
9 work group that essentially instructs the
10 department to develop rules on what they mean by
11 plume stabilization and what is meant by site
12 closure and the associated monitoring requirements
13 for a ten-year period or requiring that three
14 additional -- or three concurrent monitoring
15 periods demonstrate plume stability as defined by
16 regulation. I think it's our recommendation that
17 rather than carrying these criteria for site
18 closure forward, understanding that there's a high
19 degree of probability that some direction is going
20 to be provided to the department in the context of
21 how we define stability, and so it's our suggestion
22 that we do some modifications to this section, and
23 what I would recommend is on line 15, after the
24 word "director," adding the words "that site
25 closure requirements and standards have been met."

1 MR. JONES: What page are you on?

2 MR. FREDERICK: Excuse me. Page 24-37.
3 I would then delete the remainder of that section,
4 Roman Numerette (iii).

5 CHAIRMAN WELLES: So the rest of line 15,
6 16, 17, 18, 19 and 20 all be deleted?

7 MR. FREDERICK: Yes, as well as 21
8 through 39.

9 MR. APPLEGATE: In the discussions of
10 that work group, has there been a difference -- I
11 guess I'll back up. When I read this language, the
12 concept of endangerment and stability to me are
13 pretty much intertwined. I think of natural
14 attenuation of the groundwater, and in cases, you
15 can make an argument that it's stable or
16 attenuating, and you've kind of made the same
17 argument that it doesn't pose future risk.

18 MR. FREDERICK: Sure.

19 MR. APPLEGATE: So when I read your
20 language, I don't necessarily think that they'll
21 come to a much different place in terms of
22 language, so I guess I'm asking the question: Do
23 you think based on the discussions you've had that
24 there is a different angle on that?

25 MR. FREDERICK: I do, Mr. Chairman, and

1 let me turn to my copy of the report. And in the
2 recommendation -- excuse me, the conclusion section
3 starting on page 85 of the Carbon Sequestration
4 Working Group report to the Minerals Committee,
5 reading from the second paragraph on page 87, I
6 quote, "The group concluded that the post-closure
7 period should be no less than ten years and shall
8 require favorable reporting of plume stabilization
9 metrics to be outlined in DEQ rules and regulations
10 and achieved over a period of not less than three
11 consecutive years. DEQ (or appropriate agency)
12 must certify the site and sign release document to
13 end the period of post-closure monitoring and site
14 care."

15 Furthermore, in its discussion of minimum
16 duration of the post-closure care period on page
17 81, beginning on page 81, specifically on page 82,
18 the second bullet, "DEQ will develop rules and
19 regulations defining plume stabilization. At a
20 minimum, monitoring during the post-closure period
21 shall consist of, but will not be limited to,
22 periodic reservoir pressure monitoring from sensors
23 in monitoring wells, periodic water chemistry from
24 reservoir zone in each monitoring well, periodic
25 water chemistry for useable aquifer zones in

1 monitoring wells, periodic surface subsidence
2 measurements, extent of migration of the plume
3 through seismic or other acceptable means, and
4 measurement of ambient CO2 at the surface at each
5 abandoned well and other sites determined during
6 the initial determining period."

7 And so in response to Mr. Applegate's
8 question, Mr. Chairman, I would note that some of
9 the specific monitoring requirements contemplated
10 by the working group with respect to establishing
11 plume stabilization don't necessarily fit neatly
12 into the context of the existing language we have
13 here now, and I suspect that these were some clear
14 directions that the working group suggested that
15 the department consider when it begins to define
16 what is meant by plume stabilization. But I think,
17 given the -- the importance of drafting that
18 definition in the regulations is going to be much
19 more complex than what we've suggested defining
20 plume stabilization for site closure purposes in
21 the existing regulation. Therefore, I suggest we
22 delete that discussion in the existing regulation
23 and wait for further instruction with respect to
24 how we should proceed.

25 MR. APPLEGATE: The working group, then,

1 is looking at kind of a release of liability
2 similar to the voluntary mediation program? Is it
3 similar to that in that if you certify certain
4 things, then. . .

5 MR. FREDERICK: Yes. The working group
6 again is suggesting that the legislature -- I don't
7 know if I should say suggesting that they look at
8 it, but provided information in the final report
9 for their consideration of establishing a trust
10 fund that would essentially provide for liability
11 coverage at the point of closure when essentially
12 the operator is released from liability. And
13 whether or not that comes to fruition, we're not
14 certain. There's discussion of such a trust fund
15 at both the Federal level as well as the State
16 level, so the outcome is really kind of unknown at
17 this time.

18 MR. APPLEGATE: Thank you for those
19 clarifications.

20 MR. FREDERICK: Mr. Chairman, my last
21 suggested revision thankfully is on page 24-40,
22 line 15. I would suggest striking the word
23 "administrator" and replacing it with the word
24 "director." This essentially relates to
25 establishing financial assurance requirements as

1 discussed in this section that begins on line 11
2 for various aspects of carbon sequestration and
3 again deferring to the recommendation from the
4 Carbon Sequestration Working Group that regulations
5 be developed by the department that define what
6 those financial assurance requirements should be.
7 I think it would be more appropriate that we
8 acknowledge that the director will prescribe those
9 requirements, i.e. via rule making, anticipated
10 rule making, as opposed to the administrator. It
11 would be more appropriate to reflect the director
12 has that ability.

13 Those are the final -- that's the final
14 recommendation I have, Mr. Chairman.

15 CHAIRMAN WELLES: Thank you.

16 MR. FREDERICK: Thank you.

17 CHAIRMAN WELLES: Any further questions
18 from the Board?

19 And before we open this to the public,
20 I'd suggest that we take a ten-minute break.

21 (Whereupon, a recess was taken at 11:26
22 and subsequently reconvened at 11:38.)

23 CHAIRMAN WELLES: We were asked by one of
24 the members of the school to just announce that
25 there are smoking permitted areas and no smoking

1 areas designated outside, so we were supposed to
2 pass that along. I'm not sure I understand why,
3 but. . .

4 MS. BEDESSEM: It's where the air vents
5 are.

6 CHAIRMAN WELLES: Yeah, something to do
7 with air vents.

8 Okay. Kevin, if you're finished with
9 your testimony, which I think you are --

10 MR. FREDERICK: Yes, sir.

11 MR. WAGNER: -- we'd like to ask the
12 public if there are any questions. And I during
13 the break asked Steve Jones if he did have
14 comments, and he does, and he's made a handout to
15 us here at the Board. So, Steve, if you'd like to
16 go ahead with your comments, and please either move
17 up or speak up so the court reporter can hear you,
18 whatever is easier for you, and introduce yourself.

19 MR. JONES: All right. Mr. Chairman, I
20 guess I'll remain seated here unless there appears
21 there is a need for me to move up, if that's all
22 right. Can you all hear me fine?

23 CHAIRMAN WELLES: Uh-huh.

24 MR. JONES: Thank you very much for this
25 opportunity to talk about this issue again. I've

1 learned a little bit since we -- you last met in
2 March, but I'm still learning about this subject.
3 It's kind of a rather large one and hard to get a
4 grasp on.

5 As you I think all know, Wyoming Outdoor
6 Council made comments April 13th, and then I have
7 attached those to our September 25th comments and
8 submitted those to you today. Also, Powder River
9 Basin Resource Council had comments that they
10 submitted yesterday, and you should find those,
11 also. And Shannon Anderson wanted to come, but due
12 to some travel restrictions, she asked me to sort
13 of talk for both organizations, and I said I'd be
14 happy to do that.

15 So I've given you Powder River's comments
16 and Wyoming Outdoor Council's comments, and then
17 also there's a newspaper article that appeared
18 after the Minerals Committee meeting in Jackson,
19 the Joint Minerals Committee meeting, where John
20 Corra presented -- I guess sort of summarized the
21 task force on carbon sequestration. He made a
22 presentation to the Minerals Committee. And Ron
23 Surdam also had a presentation to the Minerals
24 Committee. And I was there and heard those
25 presentations, and I wanted to give you what

1 information I had about that, which was basically
2 this newspaper article. But I did also take some
3 notes, and I wanted to talk to you a little bit
4 about what was said there, particularly by
5 Dr. Surdam, the Wyoming state geologist.

6 I was talking with Kevin Frederick, and I
7 guess he does have some sort of a presentation
8 that's on line. Is it just on line today, Kevin,
9 or has it been on line for a while?

10 MR. FREDERICK: Mr. Surdam's
11 presentation, I believe, that he gave to the Carbon
12 Sequestration Working Group earlier this year I
13 believe has been on line for some time, as have all
14 presentations that were given to that group.

15 MR. JONES: Okay. I have to confess I
16 didn't know about that, and so I don't know whether
17 that presentation is the same as the one I heard
18 last week or not.

19 But I thought it was pretty interesting
20 what he had to say, and he apparently had access to
21 a computer program at the Los Alamos Lab in New
22 Mexico and plugged in a lot of information about
23 Wyoming geology and carbon sequestration and did
24 some carbon sequestration modeling. And apparently
25 he feels that the two best formations in Wyoming

1 are in southwest Wyoming, the Moxa Arch, and the
2 Rock Springs uplift. It turns out the Moxa Arch
3 is, in terms of location, far underground, farther
4 than the Rock Springs uplift, and he seemed to
5 think the Rock Springs uplift had a lot of good
6 potential for carbon sequestration. And what he
7 said I thought was very interesting and I think has
8 some implications for how we regulate carbon
9 sequestration in Wyoming.

10 He took a look at the carbon that's
11 emitted from the Jim Bridger Power Plant and
12 figured that you could sequester all of that carbon
13 over a period of 50 years in about -- in an area
14 that's about ten miles by ten miles, so a hundred
15 square mile area within the Rock Springs uplift,
16 and that could go on for 50 years. And I think it
17 was at a rate of 15 million tons per year, so the
18 total was 750 million tons of carbon dioxide could
19 be sequestered over a 50-year period. And that's
20 the good news. He said it can be done.

21 And if you look at that newspaper
22 article, it says, "So the end of 50 years, we have
23 put 750 million tons in the formation. In fact,
24 that CO2 would be confined. It can be done." But
25 then he goes on to say, but in order to avoid --

1 this is, I guess, paraphrasing. But in order to
2 avoid pressurizing the formation and fracturing the
3 cap rock, briny water would have to be pumped out
4 of the formation at a one-to-one ratio. And what
5 he said was that the brine water or other fluids
6 would be pushed out to a distance of 30 miles
7 beyond this 10 X 10 area where the carbon dioxide
8 would be sequestered.

9 So I got my pencil out and figured, okay,
10 that would be a square that's 70 miles by 70 miles
11 in size, so 4,900 square miles. So we're going
12 from -- so, in other words, 30 miles on either side
13 of this 10-mile square, so you add that up, 30 and
14 10 and 30, 70. So you're going from an area that's
15 100 square miles to 4,900 square miles.

16 And so what Dr. Surdam concludes is that
17 what needs to be done as part of any carbon
18 sequestration is that you need to withdraw, pump
19 out that fluid. And he went on to say that over a
20 75-year period, it would require, I guess, one
21 cubic kilometer of fluid to the surface, pumping
22 out one cubic kilometer of fluid to the surface,
23 about the volume of Boysen Reservoir.

24 And another thing that he mentioned in
25 this regard, why that had to be done, why that

1 fluid would have to be pumped out is because if
2 it's not, then you run the risk of destroying that
3 formation, in other words, causing enough fractures
4 that the formation would no longer be useful as a
5 sequestering formation. So according to him at
6 least, it pretty much has to be done. And the
7 other problem he mentioned is that if you let that
8 fluid expand out to that great a distance, you're
9 probably going to impact some other mineral
10 development somewhere else that's not part of the
11 area of review.

12 So to me this is a really serious concern
13 in terms of whether or not these regulations are
14 taking into account that kind of an impact that can
15 occur in terms of displacement of fluids. And the
16 question would be, then, what's going to be done
17 with, you know, the fluids that are withdrawn.
18 Now, what Dr. Surdam had suggested at the hearing
19 is that it be treated, the water be treated, but
20 we're talking seawater quality here. He said
21 30,000 to 60,000 parts per million TDS, and he
22 said, yes, it would be expensive. So that was his
23 recommendation.

24 And what I worry about is I'm not seeing
25 that kind of approach contemplated in these

1 regulations, but yet that's what he's saying is
2 going to have to occur. So I wonder if we ought to
3 be looking at revising these regulations to take
4 his recommendations into account. So that's -- I
5 guess that's one of my big concerns and one of the
6 things that I advocate as part of my comments, is
7 that we leave the comment period open for another
8 60 days and this group obtain a -- try to talk to
9 Dr. Surdam and see what he thinks about how these
10 regulations ought to be modified to take into
11 account what he's telling us.

12 Now, I'll admit that he only was going
13 through a computer model for one particular area,
14 and he was talking about a rather large
15 sequestration over a period of 50 years, but it was
16 for only for the one power plant. So the question,
17 of course, is if you've got a much smaller project,
18 would you have similar problems or not. And I
19 don't know the answer to that, but I think it would
20 be worth talking to the state geologist before we
21 go forward with these regulations to figure that
22 out. And it also seems that given the sort of new
23 information that we just heard from -- at least I
24 just heard from Dr. Surdam last week, maybe we
25 should leave the comment period open for a period

1 of 60 days for the public to add its comments as
2 well.

3 The other major problem that I'm seeing
4 with these regulations is, to us, there's a
5 significant conflict between mineral development
6 and carbon sequestration, and Dr. Surdam seemed to
7 apply that, too, from his talk, was that you don't
8 want your sequestration area to be mixing with your
9 mineral development area.

10 And, you know, what the department seems
11 to be talking about is you get to a point you
12 inject, you get -- at some point, you cease
13 injection, and then you go through a post-closure
14 phase, and then at some point, you can sort of walk
15 away from the whole matter. Monitoring stops.
16 Everything comes to a close. And I think what
17 Mr. Frederick was talking about was stability, not
18 necessarily a return to normal. But this area,
19 even though it might be still pressurized, if it
20 remains stable for three years, some given period
21 of time, that's good enough to stop any further
22 monitoring and to, in essence, allow the permittee
23 to walk away from the facility and turn
24 responsibility over, I guess, to a trust fund.

25 But what do you do if you've got a stable

1 area that nevertheless is under pressure? Do you
2 allow mineral development to occur after you've
3 said, "Okay. It's stabilized"? Because if you're
4 punching new holes, new drills holes into this
5 area, what's going to happen? How do you assure
6 that there isn't going to be then a transmission
7 leak through creating another fault or just carbon
8 dioxide coming up an annulus or drill holes or so
9 forth? And I don't get the sense from these
10 regulations, and we made comments on this, that
11 there's a determination to keep those two areas
12 separate, sequestration versus the mineral
13 development.

14 Now, the department did say in response
15 to our comments back in April that, well, they
16 didn't feel like they had the authority to require
17 that, but that was based on simply the legislature
18 indicating that the pour space -- or the mineral
19 state was dominant over the pour space, but that
20 doesn't really tell you necessarily about where is
21 a -- where a good site is or what should be the
22 requirements for a good site for sequestration.
23 And what we contend is it really isn't a good site
24 if you're going to have mineral development going
25 on in the same area.

1 So for us, it's real important to keep
2 those two things separate. If you're going to have
3 enhanced oil recovery where you inject carbon
4 dioxide for enhanced oil recovery, that's fine, but
5 that isn't sequestering carbon dioxide. So if you
6 want to do both, I think what you need to do is get
7 the Oil and Gas Conservation Commission together
8 with the DEQ to figure out how it's going to be
9 done and how it can be done and still sequester the
10 carbon. It seems to me it will be fairly difficult
11 given the fact that you're going to have a lot of
12 drill holes in this area that could potentially,
13 you know, leak carbon dioxide. And again, like I
14 said, I had the impression that that was an
15 important factor to Dr. Surdam, too, when I
16 listened to his presentation because he was saying,
17 you know, you don't want to have your carbon
18 dioxide leaking into these other mineral
19 development areas.

20 I think that's about all I wanted to
21 emphasize, but I did sort of have a comment or two
22 based on what I've heard here this morning. A
23 USDW, underground source of drinking water, as I
24 understand it in Wyoming, as Mr. Frederick
25 indicated, we've got these different classes of

1 groundwater, but one of the problems is that
2 ordinarily groundwater is not classified as
3 anything because unless a need arises, these waters
4 are not classified. So you might go into an
5 aquifer -- you might punch into an aquifer, but is
6 that aquifer Class I, Class II, Class III, Class
7 IV? It's really unknown ordinarily because the
8 water hasn't been classified. So one of the
9 things -- in other words, there could be a lot of
10 drinkable water out there that is not a USDW
11 because that particular aquifer hasn't been
12 classified one way or the other as a USDW or as
13 anything else. So I worry a little bit about when
14 there's discussion about, well, you know, do we
15 want to protect all groundwater, would environment
16 include protecting all groundwater. Well, there's
17 going to be a lot of groundwater out there that is
18 drinkable but hasn't been classified as a USDW or
19 anything else. Now, if the department will
20 undertake to classify all the groundwater in the
21 vicinity of the area of review and beyond, some
22 sort of perimeter, then I think that problem could
23 be taken care of. But I do think that's important
24 to keep in mind, that a lot of times we don't know
25 whether groundwater is a USDW or not. We may know

1 the quality. It just hasn't been classified one
2 way or the other. At least that's my understanding
3 of the way it works.

4 I guess that's all the comments I would
5 have, and I would be happy to entertain any
6 questions.

7 CHAIRMAN WELLES: Does the Board have any
8 questions of Mr. Jones, or does DEQ have any
9 questions?

10 MR. WAGNER: Mr. Chairman, I'd like to
11 make a comment. One thing Steve talks about is the
12 fact that you have a brine in these underground
13 aquifers that's going to have to be removed before
14 you can put carbon dioxide back into the pour
15 space. The fact the matter is that the passage of
16 the carbon sequestration rule would not have
17 anything to do with giving authorization to dump
18 that brine like into the Green River or whatever.
19 The discharge of the brine water would be regulated
20 under the discharge permitting program. In other
21 words, they'd have to get a discharge permit, prove
22 that they could meet the numbers coming out the end
23 of the pipe.

24 And so I'm having a little trouble
25 finding what the problem with passing the carbon

1 sequestration rule has to do with the fact that you
2 might have to pump out a bunch of brine and treat
3 it and get a discharge permit to do that. They're
4 two separate regulatory processes, and so I don't
5 think that there's any logic behind delaying carbon
6 sequestration rules just because you might have
7 another problem to deal with through another
8 regulatory process.

9 MR. FREDERICK: I would like to add to
10 that, Mr. Chairman, that the Carbon Sequestration
11 Working Group recognized the potential for brine
12 removal as part of the sequestration process and
13 spoke to the need to make sure that there were
14 financial assurance mechanisms in place by the
15 permittee in the event that brine removal
16 operations were part of the permit requirements,
17 and in the event that the operator defaulted, there
18 would be financial assurance in place essentially
19 to provide for continued operations for brine
20 removal if needed. And so I think the working
21 group acknowledged that brine removal may be
22 necessary under certain circumstances and provided
23 a mechanism to deal with it or recommended a
24 mechanism to deal with it.

25 CHAIRMAN WELLES: Any further comment or

1 additional questions?

2 MS. BEDESSEM: I have one question for
3 the agency here that I think Dave asked earlier and
4 you said you were going to get to at some point.
5 Maybe that's after public comment. What are you
6 looking at for time frame with respect to how this
7 rule moves on, the proposed rule moves on? Are you
8 going to speak about that later, or do you want --

9 MR. FREDERICK: No, now is a fair time.
10 It would be our hope that we would be able to move
11 to the Environmental Quality Council with the
12 proposed regulation. It's our understanding that
13 we may be able to have a public hearing before the
14 council sometime early next year. It would
15 probably be simultaneous to, I believe, the
16 legislative session or within that time frame. And
17 I guess that's about as far as we've anticipated
18 trying to move the rule ahead, but that would
19 certainly be what we would recommend.

20 MR. APPLGATE: So would the rule -- are
21 you asking the Board to take action on the rule
22 today or to do that at a meeting before early next
23 year? I'm new to the board, so I don't exactly
24 understand the process.

25 MR. WAGNER: Well, our preface would be

1 to -- there were lots of edits to the document that
2 we discussed today, and I wasn't here all the time,
3 but I think most -- for the most part, everybody
4 kind of agreed, okay, well, this doesn't make sense
5 and this doesn't make sense. Our preference would
6 be for the Advisory Board today to take action on
7 the rule, accept the rule as drafted, with the
8 edits that were talked about today and were agreed
9 upon. That would be our preference.

10 Now, if you're uncomfortable with doing
11 that, I certainly don't want to put undue pressure
12 on you to pass something that you're not entirely
13 comfortable with, but if you do decide that you
14 want to delay and maybe take action on it in the
15 fourth quarter, I would strongly urge that we do it
16 in such a way so that the time frame for comments
17 is cut off sometime in the, you know, next 30 or 45
18 days or so so that there's time to get all the
19 comments in place, make our Analysis of Comments so
20 that you have a clean record ready for action, and
21 you're not hearing additional comments at the last
22 minute, which tends to muddle the waters when that
23 happens.

24 So our preference would be for you to
25 take action today, if you would have sufficient

1 comfort in your own minds, that you could pass what
2 is here before you today with the edits. If you're
3 not comfortable, then let's look at the fourth
4 quarter, but let's make sure it's a decision-making
5 session rather than another public hearing.

6 CHAIRMAN WELLES: Yeah, and I would leave
7 that up to the Board. My own opinion, I would
8 agree with John, that we need to see the final
9 document and have that actually advertised as a
10 decision-making meeting in the fourth quarter.

11 MR. APPELEGATE: I would prefer that
12 option as well.

13 MS. CAHN: And I think that would allow
14 WOC or anybody else who requested an extension of
15 the public comment period, if we could grant a
16 30-day extension as part of that.

17 CHAIRMAN WELLES: Uh-huh.

18 MR. APPELEGATE: Were the comments due --
19 it's possible you could have gotten in written
20 comments today, correct?

21 MS. CAHN: Yeah, they did.

22 MR. APPELEGATE: No, I mean from folks
23 that weren't -- could you have gotten some in the
24 mail? I believe Anadarko was going to be
25 submitting comments to you, too.

1 CHAIRMAN WELLES: Yeah, I just don't feel
2 we're in a decision-making -- I personally don't
3 like that responsibility of making a decision
4 today. I think there's still too much that needs
5 to -- to have a final document, so I think the
6 comment period basically should be left open. But
7 as John suggested, at our next meeting in the
8 fourth quarter, it could be totally understood that
9 that will be a decision-making meeting and not open
10 to more comment.

11 MS. CAHN: So if we give a 30-day
12 extension, does that give you enough time to
13 address the public comments and be ready for a
14 fourth-quarter meeting and be ready for EQC next
15 year?

16 MR. WAGNER: It puts our ability to be
17 before the EQC in January into some question
18 because obviously we can't go to the EQC unless we
19 have a final document that's approved by
20 yourselves. So, you know, it does -- you know, it
21 puts that in jeopardy, but the bottom line is we do
22 not want to put any pressure on you to pass a
23 document that you're not comfortable with, and so
24 that's -- so be it. If it means we're going to be
25 in March, April, May before the council instead of

1 January, February --

2 MR. APPLEGATE: Well, couldn't we
3 schedule a fourth-quarter meeting -- I don't know
4 if it's been scheduled already, but couldn't we
5 have it scheduled in early November? I mean if we
6 extend it 30 days --

7 MR. FREDERICK: That doesn't give me
8 nearly enough time. If we leave the comment period
9 open until October 25th, I then have to take those
10 comments and modify the draft. That's going to
11 take probably a couple of weeks. I then have to
12 develop that draft as a public review and comment
13 document for another 30 days, and we're already
14 then into December.

15 MR. APPLEGATE: No, I understand. That's
16 why I asked the process at the very beginning. So
17 what if we didn't extend the comment period but
18 simply said we're going to have -- I mean the
19 comment period has been advertised, but I know that
20 there's comments that could have been coming to you
21 today electronically that you have not yet --

22 MS. CAHN: That you still need to address
23 anyway. So we're really not ready for rule making
24 because of that, because the public comment period
25 is still open at least through today, so --

1 MR. WAGNER: If you close the comment
2 period today, that would give -- so Kevin could
3 start working on the comments that have come in
4 today and later today, and we could give the public
5 notice and give the 30-day public notice, and we
6 could probably have your decision-making session
7 sometime maybe even before Thanksgiving.

8 MR. FREDERICK: Well --

9 MR. APPLGATE: But I guess what we're
10 saying is that option is really unavoidable given
11 the fact that you could be receiving public
12 comments through today anyway.

13 MR. WAGNER: Sure, good point.

14 MS. CAHN: So I guess -- and I get back
15 to sort of one of the original questions that I had
16 was -- and I think Marge got at this as well. If
17 there's no projects or not very many waiting in the
18 wings for Wyoming to get going on this, I don't --
19 I'm not sure I understand the hurry and why we
20 can't -- why we need to be before EQC in January.
21 And again, I'm a little bit curious as to where EPA
22 is going to go with this as well since they haven't
23 finalized their rule and they're not planning on
24 doing that until 2010. I guess I'm not
25 understanding the pressure for pushing this

1 through.

2 MR. FREDERICK: Sure. And, Mr. Chairman,
3 arguably, EPA is I suspect very interested to see
4 what Wyoming's final rule looks like, and I would
5 submit to you --

6 MS. CAHN: The tail wagging the dog or --

7 MR. FREDERICK: Exactly, exactly. And
8 with all due respect, we certainly don't mean to
9 push you. We simply want to make sure that we're
10 moving the process along as efficiently as we can.

11 MR. WAGNER: Kevin, maybe I can ask you.
12 As far as upcoming projects, I think the one that's
13 most likely to pop first is that University of
14 Wyoming one at Bridger; is that correct?

15 MR. FREDERICK: That's correct.

16 MR. WAGNER: Maybe you can explain that.

17 MR. FREDERICK: Yeah. The university
18 received a pretty significant grant from the
19 Department of Energy to do a test pilot carbon
20 sequestration project, and it's not determined, as
21 far as I know, yet whether the idea is to
22 essentially do a test or do -- complete a test with
23 the idea that you could then upon completion
24 essentially ramp up to full-scale sequestration
25 rather than finish the project and go home. I

1 would suspect it's probably a situation where you
2 want to run the test. If your test is successful,
3 you want to continue the sequestration. That would
4 be the idea. And I think the project planning
5 meeting is scheduled for some time next month, and
6 I'm not exactly sure what the time frame is for
7 actually sequestering CO2, but there will be a
8 project before us before long.

9 CHAIRMAN WELLES: Well, I think as a
10 board, and I'll say this without asking, but I
11 think we've got the flexibility, you know, to deal
12 with this based upon, you know, what your
13 recommendation is and what the needs are of the
14 whole process going forward, you know, considering
15 the legislature, considering the test project, et
16 cetera, et cetera. I mean these things we don't
17 have control over, but if push comes to shove, we
18 still have to follow the regulation of public
19 comments, et cetera, but we have the flexibility of
20 when we can meet.

21 MR. WAGNER: Right. Well, Mr. Chairman,
22 I'll just kind of lay out what the scenario would
23 be. If we close comments at the end of this day,
24 Kevin could possibly get done with review of those
25 comments by the 15th of October, and that means we

1 could probably get in the public notice sometime
2 around the 20th of October, which means you could
3 have your action meeting somewhere around the 20th
4 of November. Now, that's right around
5 Thanksgiving, so shoving everything to between
6 Thanksgiving and Christmas might be a more logical
7 way to go. You could maybe make your -- you could
8 perhaps make your decision-making meeting sometime
9 in that time frame, between Thanksgiving and
10 Christmas, which means assuming you pass it, that
11 we could go to the council and say, "Okay. We're
12 ready." They would probably be able to get to it,
13 you know, March time frame. That's -- I think
14 that's okay.

15 So the big question I think you have to
16 ask -- you've got before you -- I think the Wyoming
17 Outdoor Council has asked for an additional 60
18 days. That's probably your next decision point, is
19 do you close it and say, "Sorry, no more 60 days"?
20 Do you say, "Well, we're going to give you another
21 30"?

22 MS. CAHN: Or we can give 15. I mean
23 there's no -- is there any requirement that it has
24 to be --

25 MR. WAGNER: That's entirely up to you.

1 MS. BEDESSEM: Do we need to hear other
2 public comment before we make the decision in that
3 regard?

4 CHAIRMAN WELLES: From those present, or
5 does it have to be advertised?

6 MS. BEDESSEM: No, I just meant from
7 those present.

8 CHAIRMAN WELLES: Well, are there other
9 comments, public comments?

10 MR. JONES: I'd just like to respond to
11 what Mr. Wagner and Mr. Frederick have been saying,
12 if that's all right. I'd just like to point out
13 that at least in terms of our notice on this, we
14 got our notice in the mail that this Board meeting
15 was occurring on September 4th. Maybe it was on
16 line longer than that, but that's only 21 days ago.
17 And, you know, you are talking about some
18 substantial, at least to me substantial, changes
19 like on page 24-37, where you're going to wipe out
20 about half the page, and that's discussion about
21 site closure. So there's some pretty important
22 discussion there that Mr. Frederick has said,
23 "Well, let's just eliminate that, and we'll wait
24 for what the legislature tells us to do and so
25 forth." I'm not saying right now whether that's

1 good or bad, but that's a substantial change.

2 So it seems to me that what ought to
3 happen is we ought to get -- the department ought
4 to publish this rule again with all its
5 recommendations that we've heard here today, and
6 then there ought to be at least a 30-day comment
7 period once those regulations are published, and
8 then the department ought to respond to those final
9 regulations because right now there's nobody that
10 knows that the department is planning -- except
11 those in this room, the department is planning to
12 eliminate half of page 24-37 dealing with site
13 closure. So it seems to me that ought to be the
14 proper process to give the public a full chance to
15 comment on the final proposed regulations with all
16 the changes that have been proposed here today.
17 That's what we'd like to see happen in terms of
18 giving the public a complete chance to comment on
19 these final regulations before going forward.

20 CHAIRMAN WELLES: Do you have a response?

21 MS. HARDY: I have a question.

22 CHAIRMAN WELLES: Yes.

23 MS. HARDY: Is there additional public
24 comment time on the revisions of this document once
25 all revisions are taken into account?

1 CHAIRMAN WELLES: Well, you always have
2 the process continuing at the EQC level.

3 MS. HARDY: But not in front of your
4 board; is that true?

5 CHAIRMAN WELLES: But what?

6 MS. HARDY: Not in front of this board?

7 CHAIRMAN WELLES: Well, that hasn't been
8 decided yet. I mean that's basically what we're
9 discussing, and I do think it's an important
10 discussion.

11 So what would be your referral -- or your
12 answer back to Steve's suggestion? I mean I
13 realize you've got in your mind and on your notes,
14 you've got a time frame, but I think it's a
15 legitimate question.

16 MR. WAGNER: And I agree it's a
17 legitimate question. I guess I'd like to get
18 Kevin's opinion as well. Regarding the piece that
19 we're taking out of the rule, that whole issue of
20 financial assurance is going to be taken up at a
21 later date once the legislature takes action on the
22 financial assurance part of -- on their statute,
23 their financial assurance statute. So it's not
24 like --

25 MS. CAHN: It's not like it's going away.

1 MR. WAGNER: -- they're being left out
2 and we're going to run something by. We're taking
3 something out that's going to be considered later,
4 so I guess I don't see that that's a particularly
5 big problem. That's my opinion.

6 MR. FREDERICK: Uh-huh. No, I agree with
7 that. I think our preference is -- recognizing
8 there are going to be opportunities for additional
9 public hearing and revisions to the proposed
10 regulation I think argues for keeping the -- for
11 closing this comment period sooner rather than
12 later. This is the second time before the Advisory
13 Board. Although Steve may not have received his
14 notice 30 days before the meeting, it nonetheless
15 was published in the Casper Star Tribune for public
16 notice of this meeting. We did meet our 30-day
17 minimum requirement there. So I guess I think
18 if -- I don't believe there's harm in keeping this
19 comment period relatively limited and closing it
20 sooner rather than later. If that be a week, so be
21 it. I would think that would be reasonable. I
22 would prefer that to an additional 30, let alone 60
23 days.

24 I think most of the comments that
25 Mr. Jones has raised in his requesting additional

1 time to consider and assess have already been
2 discussed to some degree before us already.

3 Mr. Surdam's observations -- Mr. Surdam was a joint
4 co-chair on the committee that developed the Carbon
5 Sequestration Working Group recommendations, and he
6 points out some very important considerations, but
7 nonetheless, I think his acknowledgment of brine
8 removal is an important one, but it isn't flagged
9 as some insurmountable concern that's going to
10 prevent an obstacle -- pose an obstacle for carbon
11 sequestration because it suggests huge unwarranted
12 risks in accomplishing carbon sequestration. And I
13 certainly understand you're not privy to the
14 report, I don't believe, and would want some time
15 to consider that analysis, but I don't think it's
16 fair to construe Mr. Surdam's observations as
17 alarming as perhaps Mr. Jones suggests they may be.
18 And therefore, if that's the basis for his request
19 to extend the comment period an additional 60 days,
20 I would just suggest that the issue's been
21 considered, it's been addressed, and if there were
22 some significant concerns associated with it, I
23 would be bringing those to you today, but I can't.

24 MR. APPLEGATE: Would you entertain a
25 motion, or do you want further discussion?

1 CHAIRMAN WELLES: I was going to say: Is
2 there any further discussion at this point? I
3 think we've had a fair --

4 MS. CAHN: Let me just ask Kevin. Once
5 the public comment period closes, based on --
6 whether it's today or whether it's sometime in the
7 future, how much time, based on the types of
8 comments you've received so far and in anticipation
9 of whether you think -- I mean I know you can't
10 guess, but crystal ball whether you think you'll
11 see new issues coming up with the comments either
12 that you will receive today or that if we extend
13 it, how much time do you anticipate it will take
14 you to -- is it a month you think roughly to go
15 through those and respond to comments and rewrite
16 the rule? Are we talking two months? Give us some
17 kind of time frame on --

18 MR. FREDERICK: Sure.

19 MS. CAHN: And I know you can't -- just
20 based upon what you expect you might receive in
21 terms of comments.

22 MR. FREDERICK: Right. Well, I'd like to
23 point out that in my quick read of the Powder Basin
24 Resource Council comments, I only find essentially
25 one issue that they suggest we add some

1 clarification to. The remainder are, for the most
2 part, if not in total, agreement with the revisions
3 that we've suggested. So there's not much to deal
4 with in their comments.

5 My quick reading on the Wyoming Outdoor
6 Council comments, as Steve mentioned, he's attached
7 the comments from the first draft. I believe we've
8 adequately responded to those. And some others on
9 here again deal with the issue with brine removal
10 as part of sequestration. I don't think it's going
11 to be that difficult to address most of the Outdoor
12 Council's comments. I don't know who else we may
13 have received comments from.

14 MS. CAHN: Anadarko.

15 MR. FREDERICK: Anadarko. I suspect it
16 will be relatively easy or quick to revise the
17 regulation in accordance --

18 MS. CAHN: Give us some guesstimate as to
19 how much time you think you might need.

20 MR. FREDERICK: Couple weeks.

21 MS. CAHN: Couple weeks?

22 MR. FREDERICK: Yeah. That should be
23 more than sufficient.

24 MS. BEDESSEM: Excuse me. The point that
25 the rule gets forwarded to the EQC, how long is the

1 comment period when the rule goes before the EQC?

2 MR. WAGNER: Well, I -- are you asking --
3 okay. The first -- part of the process is you take
4 action, we send it to the council and we say, "The
5 Advisory Board has approved these. We're ready to
6 go." And then they look at their schedule and they
7 say, "Okay. We can have a hearing on such and such
8 a date." They then make their own determination as
9 to what they do. Normally I think they give 45
10 days notice, and so they're accepting comment
11 during that 45 days. It's real typical for them,
12 though, to have a subsequent hearing where they
13 again accept additional comments. So I'm not
14 answering your question because it kind of varies
15 with how they're feeling that day.

16 MS. BEDESSEM: But it would be safe to
17 say a minimum of 45 days?

18 MR. WAGNER: Oh, absolutely, yeah, yeah.

19 MR. APPLEGATE: Would you entertain a
20 motion?

21 CHAIRMAN WELLES: Yes.

22 MR. APPLEGATE: I am using the schedule
23 that you built out. I think I would certainly be
24 available for a meeting between Thanksgiving and
25 Christmas, so I would make a motion that we extend

1 the comment period for a week, and at that time,
2 close the comment period with the hope that we
3 could have the decision-making meeting between
4 Thanksgiving and Christmas.

5 MS. CAHN: Well, I guess the question in
6 my mind is if we close it within a week and then it
7 takes Kevin a couple weeks -- I mean I'm just
8 looking at a calendar. So if we close it, let's
9 say, the end of this month or something -- around
10 October 2nd is a week from today. And let's say it
11 takes you a couple weeks to get ready for -- so
12 you'd be done, let's say, the 16th, mid October.
13 Then would you publicly notice those changes and
14 accept comments? Would you have another comment
15 period on that, or would you -- I mean can you --
16 do you have to -- and you have to do a 30-day
17 notice for the meetings? Do you have to do a
18 30-day public comment period, or would you do a 15
19 or -- I don't know how that --

20 MR. WAGNER: I believe we could restrict
21 the comment period to like 15 days, and that would
22 give us 15 days to put together another -- that
23 would give us 15, quote, unquote, free days to be
24 ready to present to you. And so I think that would
25 work. I think that would work, if I understood

1 you, Lorie. The -- we would close comment period
2 approximately the 1st of October. Kevin could
3 probably get done, say, by the 21st of October.
4 That gives him three weeks. We get out the public
5 notice by the first of November, close the comments
6 that would come in by, say, the 15th of November,
7 hold our action meeting somewhere around the first
8 of December. I think that would work.

9 MS. BEDESSEM: I second the motion.

10 CHAIRMAN WELLES: Okay. We have a
11 motion, and we have a second. Is there any further
12 discussion amongst the Board?

13 I'll call for the question. All those in
14 favor?

15 MS. CAHN: Aye.

16 CHAIRMAN WELLES: Aye.

17 Opposed? None opposed, so that motion
18 carries.

19 CHAIRMAN WELLES: And I might add just,
20 you know, going back to, you know, the statement
21 for this meeting, there was absolutely no
22 discussion about making a decision today on this,
23 so. . .

24 MR. WAGNER: Fair enough, yeah. Yeah, we
25 were hoping that it would be a slam dunk, but

1 that's okay.

2 CHAIRMAN WELLES: Give us a little --

3 MS. CAHN: You know us better than that.

4 CHAIRMAN WELLES: Give us a little
5 preparation.

6 MR. WAGNER: Yeah, that's fair.

7 MS. BEDESSEM: I'd like to read the
8 recommendation report.

9 MR. FREDERICK: Sure.

10 CHAIRMAN WELLES: So is there anything
11 further at this point before the Board today?

12 MS. CAHN: John's going to talk --

13 CHAIRMAN WELLES: Well, yeah. John is
14 going to talk to us about the water rules, CBM
15 water rules, but that's not going to be part of the
16 formal meeting, so we won't have to take --

17 MR. WAGNER: It will be part of the
18 hearing.

19 CHAIRMAN WELLES: Sure.

20 MR. WAGNER: So the court reporter can
21 close down at the end of the carbon sequestration
22 hearing.

23 MS. CAHN: And anybody is welcome to stay
24 to listen.

25 MR. JONES: Mr. Chairman.

1 CHAIRMAN WELLES: Yes.

2 MR. JONES: I think I said this in my
3 comments. I have contacted the Wyoming State
4 Geologist's Office and asked to get a copy of
5 Dr. Surdam's presentation that he made to the
6 Minerals Committee, and if I get that in time, I
7 guess, in the next week, I'll submit that to the
8 Waste -- Water and Waste Advisory Board.

9 CHAIRMAN WELLES: Okay.

10 MR. JONES: Thank you.

11 CHAIRMAN WELLES: Okay. Hearing nothing
12 else, we will close this session of the Water and
13 Waste Advisory Board, to be reconvened --

14 MR. WAGNER: Sometime in the fourth
15 quarter.

16 CHAIRMAN WELLES: -- sometime in the
17 fourth quarter. Okay.

18 (Whereupon, the proceedings were
19 concluded at 12:27 p.m.)

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C E R T I F I C A T E

STATE OF WYOMING)
) SS.
COUNTY OF FREMONT)

I, Joan F. Marshall, a Notary Public in
and for the State of Wyoming, residing at Lander,
County of Fremont, State of Wyoming, and a Court
Reporter, do hereby certify:

That the foregoing proceedings were taken
by me in stenograph and thereafter reduced to
typewriting by me, or under my supervision, and the
foregoing 113 pages contain a full, true and
correct record of the proceedings had, to the best
of my ability;

That I am not a relative or employee or
attorney or counsel of any of the parties, nor am I
a relative or employee of such attorney or counsel,
nor am I financially interested in the action, nor
am I a relative of any person interested in said
action.

IN WITNESS WHEREOF, I have hereunto set
my hand and seal this 12th day of October 2009.

JOAN F. MARSHALL
Notary Public
786 South Third Street
Lander, Wyoming 82520

My Commission expires August 24, 2011.