STATE OF NEW MEXICO
ENERGY, MINERAL AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

ORIGINAL

APPLICATION OF THE NEW MEXICO OIL AND GAS ASSOCIATION FOR AMENDMENT OF CERTAIN PROVISIONS OF TITLE 19, CHAPTER 15 OF THE NEW MEXICO ADMINISTRATIVE CODE CONCERNING PITS, CLOSED-LOOP SYSTEMS, BELOW GRADE TANKS AND SUMPS AND OTHER ALTERNATIVE METHODS RELATED TO THE FORE GOING MATTERS, STATE-WIDE.

CASE NO. 14784 AND 14785

VOLUME 23

January 17, 2013
9:00 a.m.
1220 South St. Francis Drive
Porter Hall, Room 102
Santa Fe, New Mexico

THE COMMISSION:

JAMI BAILEY, Chairperson

GREG BLOOM, Commissioner

DR. ROBERT BALCH, Commissioner

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(Note: In session at 9:00.)

CHAIRPERSON BAILEY: Good morning. It's Thursday, January 17th, 2013 and this is a meeting of the Oil Conservation Commission in Porter Hall in Santa Fe, New Mexico. Commissioner Greg Bloom, who is designee of the Commissioner of Public Lands is present, as is Dr. Robert Balch who is designee of the Secretary of Energy, Minerals and Natural Resources Department, and I am Jami Bailey, Director of the Oil Conservation Division. We are here to deliberate on Consolidated Cases 14784 and 14785 concerning Applications of the New Mexico Oil and Gas Association and the Independent Petroleum Association of New Mexico for Amendment of Certain Provisions of Title 19, Chapter 15 of the New Mexico Administrative Code Concerning Pits, Closed-loop Systems, Below-grade Tanks, Sumps and Other Alternative Methods Related to the Foregoing and Amending Other Rules. But we are not amending other rules because those were severed from these deliberations so we are focused only on Title 19 Chapter 15 of the Administrative Code concerning pits, et cetera.

Commissioners, we have decisions to make today that will be reflected throughout the rule.

In particular, there are deliberations needed concerning the definition of low chloride fluids and the Tables 1 and 2 of the application concerning the of constituents for closure criteria. I would suggest that we first deal with the definition of low chloride fluids since that definition is rippled throughout as far as closure, reclamation, citing, etc. Do either of you have an opinion on whether or not we should begin with low chloride fluids?

DR. BALCH: I think that's fine.

COMMISSIONER BLOOM: Fine.

DR. BALCH: Also I think we need a definition of on-site.

CHAIRPERSON BAILEY: That's true. The application, as listed in Exhibit 20 of NMOGA and also in the IPANM exhibit, lists low chloride fluids as being fluids that contain less than 15,000 milligrams per liter of chloride determined by analysis or process knowledge.

DR. BALCH: Do you want me to start?

CHAIRPERSON BAILEY: Go ahead and start.

DR. BALCH: Let's go back and review testimony and there were also deliberations on low chloride fluids. In testimony, I did look under, first of all, to determine the purpose. They start

out pretty early with that in the direct testimony, Mr. Gantner, Page 55, Line 6 through 20 of -- I think it's Volume 1 of the transcript. Basically low chloride fluids are distinguishing between brine-type muds and water-based muds. The distinction was made at 15K for a couple reasons. One was operational because 15K accommodates typical mud waste in the San Juan Basin when you're drilling through shale layers. A KCL fluid at 2 percent, I think the testimony was given at about 12 or 13,000 milligrams per liter of chlorides.

I think it's a little bit important to note that when they are talking about chloride in these low chloride drilling fluids you are not normally talking about salt, you are talking about salts, calcium carbonate and potassium chloride in particular.

Mr. Gantner also testified on Page 56 that in Texas you can land spread at 3000 and there's no limit for burial. In Colorado if you have less than 15,000 milligrams per kilogram of chloride you didn't need a permit for your pit. Only if you were above that. So there's some precedent in other places for distinguishing between low and high chloride. The reason why they use KCL or slick

water is for well control, the same reason you use any mud.

I did go back and review also my knowledge of the way the muds work, what you are using them for, so that I could determine if the chloride level in such a fluid, once you had placed it in a pit, would be likely to significantly change. Could you go from 15 to 200,000 and suddenly you're not in operational or measurable frames with that 15,000.

Mr. Arthur testified about low risks with the low chloride fluids in regards to setbacks. That's why there is a separate set of setbacks for low chloride fluids. He also mentioned the 15K limit within the context of other states' regulations and his experience at EPA as being kind of a typical cutoff. He particularly said it was protective of wetlands at 100 feet, and Dr. Buchanan under cross-examination also thought that those limits were protective.

I think it becomes a little bit important when we are talking about chlorides to go back to some of the modeling, and I did review Mr. Mullins' models because they have values in them that may or may not be related to numbers in the tables that we will talk about later on. But he did have a

discussion that starts around Page 1403 in Volume 6 about the low chloride fluids and how they relate to the models and that might be helpful if we can trace that down again.

Just some general notes that I made on drilling fluids. KCL or calcium carbonate is an additive. Thick water. You put material in it. And a normal -- some drilling muds you will add a bentonite clay or other clays. And in other ones you will use hydrocarbons or other chemicals.

In what the proponents are calling low chloride fluids, typically talking about calcium chlorinate or potassium chloride, basically what you are trying to do with the drilling fluid is you're trying to increase the density of the material while still keeping it able to flow. The weight of the fluid basically in the wellbore, in the open wellbore you pump fluid into it under pressure and you push some of the fluid from the wellbore out into the formation. Then a layer called the skin is formed, and that layer protects fluids from the wellbore from going into the formation, but more importantly, fluids from the formation from coming into the wellbore as long as you maintain the pressure control. That helps protect the wellbore

CHAIRPERSON BAILEY: I was trying to ensure that didn't contain biocides or something that would have been used to treat the freshwater as a frac fluid or a bioside incorporated in it so it remains fresh. But that's an interesting point about municipal water.

COMMISSIONER BLOOM: I think it would be considered treated.

DR. BALCH: I also wonder if a farmer has a cow pond, if they ever do anything to the water in it. I just have no idea.

CHAIRPERSON BAILEY: I can only say from my experience with ranchers that no, they don't treat them.

DR. BALCH: I think the intent, and I certainly agree with the intent, is to make sure that basically you don't want anything that holds water out there to suddenly become a temporary pit.

CHAIRPERSON BAILEY: Right.

COMMISSIONER BLOOM: I agree, I think it makes sense to put in something like untreated, but I think we can further refine that so it's only treatment for oil field purposes.

CHAIRPERSON BAILEY: Using that phrase, "That holds only freshwater not treated for oil

field purposes"?

DR. BALCH: That would work.

COMMISSIONER BLOOM: Yeah, I think that's it.

CHAIRPERSON BAILEY: Not treated for oil field purposes.

DR. BALCH: There are certainly rules that apply to all those other types of impoundments.

CHAIRPERSON BAILEY: Right. So the language should be both in L and in R.

MR. SMITH: You might want to put "that has" before the word "not."

CHAIRPERSON BAILEY: That has not been?

MR. SMITH: Yes.

CHAIRPERSON BAILEY: Wait. That has not been treated.

COMMISSIONER BLOOM: That works.

DR. BALCH: I think that's very clear.

COMMISSIONER BLOOM: Delete "untreated" and copy after "water."

CHAIRPERSON BAILEY: Now we are to the definition for on-site. Are we ready for that?

DR. BALCH: I would like to start the discussion with the R 360 suggestion. I thought that was a good definition.

MR. SMITH: So for clarification, your definition on low chloride fluids, has that been accepted?

DR. BALCH: We will probably vote on that.

COMMISSIONER BLOOM: We will vote on that later. We might come back to that number, right?

CHAIRPERSON BAILEY: Right.

COMMISSIONER BLOOM: Page 7 of R 360, and I will just give this to Theresa to type in. But it says, "Within the boundaries of the lease and/or development plan where in exploration and production waste continues to be under the control and management of the operator/producer."

CHAIRPERSON BAILEY: I can support that definition. That does not necessarily mean within a well pad location.

COMMISSIONER BLOOM: That would work for burial trenches also.

DR. BALCH: Yes. There's two places where it comes up. The only questions I have had to do with what happens 50 years from now when the site is completely closed.

COMMISSIONER BLOOM: If it's on private land, the changes would be recorded at the County and there's still going to be a physical marker

outside as well, because it's County or State so you have that.

DR. BALCH: I'm wondering if the word "continues" would force them to forever maintain control of the lease.

COMMISSIONER BLOOM: Maybe "is under the control"?

DR. BALCH: That would probably make it a little better. Then whatever transfer protocol would take care of future control.

CHAIRPERSON BAILEY: Chain of custody?

DR. BALCH: Chain of custody, yeah. I think we want to change "continues to be" to "is."

COMMISSIONER BLOOM: Perhaps say "is under the control and management of the operator/producer at the time of waste burial."

DR. BALCH: Yeah, maybe.

CHAIRPERSON BAILEY: Which means that some of the larger exploratory units may fall under this definition. Is that --

COMMISSIONER BLOOM: That could be substantial.

CHAIRPERSON BAILEY: Could be.

COMMISSIONER BLOOM: Very substantial.

CHAIRPERSON BAILEY: Could be. Because it

says development plan, and that is an exploratory unit.

COMMISSIONER BLOOM: We could remove exploration and it would just be production waste.

CHAIRPERSON BAILEY: No, because drilling fluid is an exploration waste. Drilling mud comes from exploration, not from production.

DR. BALCH: What is the distinction between a lease and a development plan? Development plan is a conglomeration of leases.

CHAIRPERSON BAILEY: It can be an exploratory unit which can cover thousands of acres.

DR. BALCH: I think the intent in my mind is we want to allow best practices to dominate the burial of waste. We want it to be done at the best place they can find. If they have three or four wells on the same lease, it would be nice if they could put it in one place. You have less waste sites to worry about in the future or for potential leaking.

If you get to the point of exploration, which might be half a county, and you could essentially allow a large waste disposal facility to develop, that would take everything from the entire area. In operation it probably wouldn't occur

because one of the reasons the operators want to be able to bury on-site is they don't have to truck the waste around.

CHAIRPERSON BAILEY: Or they don't want to go through the permitting process for a surface waste management facility under our current OCD rule, which has very stringent permitting requirements for a surface waste management.

DR. BALCH: If you limit it to a lease, that might be a little more controlled.

CHAIRPERSON BAILEY: But a exploratory unit changes requirements of a lease.

COMMISSIONER BLOOM: Changes to exploratory unit?

CHAIRPERSON BAILEY: An exploratory unit changes the requirements of the oil and gas leases that are part of that unit. But if it's the boundaries of the lease, that may limit it and not fall into that category of changes to the lease that we're talking about. So if we delete the words "and/or development plan" that certainly confines it to a smaller area that would go through the change of operator requirements or subsequent lessee assignments.

COMMISSIONER BLOOM: Makes sense. If you

have -- a lot of the releases don't go beyond 640 acres so you might have --

DR. BALCH: Three or four or eight or something but it wouldn't be 93 wells.

COMMISSIONER BLOOM: I imagine if there was on one edge of it a wetland or something like that, this would allow the producer to go to the other side of the 640 and bury there.

One thing I'm trying to get my head around is does the current rule and the proposed rule have any limit on how many pits can be disposed of in a burial trench?

CHAIRPERSON BAILEY: I know we discussed a limit of two, but I don't know that it's made it into any of the language.

DR. BALCH: I think the practical -- there were practical limits as to how many wells you can run from one pit. We had that discussion for sure. I don't know if there was ever any discussion about --

CHAIRPERSON BAILEY: A limitation?

DR. BALCH: -- a limitation. I know in our deliberations both last week and also previously I, at least, thought it was a good idea to let them consolidate waste to a limit. Maybe operational

limits would control that the best.

CHAIRPERSON BAILEY: When we get to closure, I think we would have an opportunity to limit the number of pit wastes that would be moved into a consolidated into burial.

DR. BALCH: Single trench burial. I think take out the "and/or development plan."

COMMISSIONER BLOOM: We agree on that.

DR. BALCH: Essentially would that be wherein or as where, wherein as in one word? Or where?

CHAIRPERSON BAILEY: I don't know your grammatical correctness of where versus wherein.

DR. BALCH: I think you could take it out and be fine.

MR. SMITH: I think that's right.

DR. BALCH: Delete the I-N.

MR. SMITH: Unless it was supposed to modify exploration and it should be hyphenated. But I haven't seen that used before.

CHAIRPERSON BAILEY: Something happened with the last change there. On-site means --

COMMISSIONER BLOOM: I think you can take out the "in" on wherein.

CHAIRPERSON BAILEY: Let's put apostrophe

marks around "on-site" and take it down to lower case. Okay. That same language is also reflected on Page 23.

MR. SMITH: Could you wait just a minute? Your intent here -- is your intent here to tie the lease to, let's say, a well on that lease that is producing waste? If you had two leases that had a common boundary --

DR. BALCH: I don't think this would allow commingling the waste, which is probably all right. There has to be some kind of limit.

MR. SMITH: Why wouldn't it allow it?

CHAIRPERSON BAILEY: Because it's not the boundaries of the lease.

DR. BALCH: You could end up with a sequence or a string of leases that are connected and have one central waste facility where you had 29 pits close into that one facility. That's not the intent. The intent is to allow operational or best practices control of more or less localized waste and we are using the lease to be that limit.

MR. SMITH: That's what I thought. I don't see you doing that. Not if you have leases with common boundaries. I mean, if you want to rely on the word "the" to accomplish that, I'm not sure

that article would carry that kind of weight.

CHAIRPERSON BAILEY: If we had boundary as a singular term?

MR. SMITH: No. I mean, wait a minute. Let me make sure that I think I'm right about this, but it seems to me that if you had two leases with a common boundary and you have a well on Lease A and the operator wants to move waste from Lease A to Lease B, you would have the waste under the control and management of the operator/producer at the time of burial, and it doesn't really distinguish between Lease A and Lease B.

DR. BALCH: I don't know -- to me this reads pretty clearly. If you had a Lease A you could not close that waste on Lease B, and I think that's what we want.

COMMISSIONER BLOOM: It said leases.

MR. SMITH: I don't see that.

COMMISSIONER BLOOM: If it said leases I would be worried that you could go from Lease A to Lease B if it's under the control of the same operator/producer, but because lease here is singular, I don't think it allows you to get to another lease.

CHAIRPERSON BAILEY: I don't either.

MR. SMITH: Why don't you put "where exploration and production waste is" -- I don't know. You will need a better word than this -- "is created and is under the control."

DR. BALCH: Could you say "from that lease"?

CHAIRPERSON BAILEY: Maybe "generated" is a better word?

MR. SMITH: "Generated" is a better word.

COMMISSIONER BLOOM: What happens if we just define this as "on-site means within the boundaries of the lease"?

CHAIRPERSON BAILEY: Within the boundaries of a single lease. We can always put it that way. "On-site means within the boundaries of a single lease where exploration/production waste --"

COMMISSIONER BLOOM: We could leave off "under the control and the management"?

DR. BALCH: It would be inherently under the control and management. I think that part is left over from when you had development plans included. Delete everything after "generated." Is that clear enough?

MR. SMITH: I think that gets you where you want to be.

DR. BALCH: I think in the case of an A versus B, maybe under closure there could be a place where a variance might be requested for something like that if you had adjacent leases.

CHAIRPERSON BAILEY: Are we happy with this?

COMMISSIONER BLOOM: Works for me.

CHAIRPERSON BAILEY: Works for me. Then let's copy that definition, because we also use that same language on Page 23, which we still --

COMMISSIONER BLOOM: Theresa, put it in red maybe.

CHAIRPERSON BAILEY: Is that Page 23 at the top? Okay. Well, that's not the way mine is printed out.

COMMISSIONER BLOOM: Mine either.

CHAIRPERSON BAILEY: This is a very large area of yellow. Okay. We are into the yellow. The top -- right there. The last portion of the introductory paragraph, "A nearby temporary pit or burial trench that receives waste from another temporary pit," and this is the language common within the language crafted, "within the boundaries of the lease." So we need to have this same language reflected.

DR. BALCH: Actually, I think that skews the definition here. I would say must be on-site. Nearby temporary pit or burial trench that receives waste from another temporary pit must be on-site. Must be on-site.

CHAIRPERSON BAILEY: Yes. Then we have the definition for on-site.

MR. SMITH: On-site of which pit?

DR. BALCH: On-site -- just on-site, because on-site means within the boundaries of the lease where the waste is generated. Within the boundaries of that lease. That was our definition. Now we have a chance to use our definition.

MR. SMITH: What if you have a temporary pit on one lease and another temporary pit on another lease?

DR. BALCH: Well, we can address that in a moment, but I think using our definition is the appropriate thing to do here.

CHAIRPERSON BAILEY: And you don't transfer between leases, according to our definition.

DR. BALCH: Now, if you want to allow a variance for that you can have a sentence here at the end.

MR. SMITH: You're talking about two temporary pits, right?

CHAIRPERSON BAILEY: Yes.

MR. SMITH: Are both temporary pits supposed to be --

DR. BALCH: On the same lease. Oh, I see what you're saying.

MR. SMITH: That doesn't get you there.

DR. BALCH: Let us work through it. We will get there.

MR. SMITH: All right.

DR. BALCH: I still think we want to use the definition of on-site. Do we have a hyphen on that on-site?

CHAIRPERSON BAILEY: Yes, we do.

COMMISSIONER BLOOM: Hyphenate on-site, Theresa.

CHAIRPERSON BAILEY: Then delete the rest of that sentence.

DR. BALCH: You have the definition for reference. Okay. So Mr. Smith's concern was a nearby temporary pit could indeed be on a different lease so we want to make sure we're clear that all pits and burial trenches are on the same site.

CHAIRPERSON BAILEY: But by definition,

on-site means within a single lease.

COMMISSIONER BLOOM: Could you go up a little bit? Scroll up to the top of C. Perhaps you could clarify it. Earlier on you could say "closure where wastes are destined for burial in place or on-site burial"?

MR. SMITH: Theresa, you want to capitalize "on-site."

DR. BALCH: You can say "disposed of at an on-site temporary pit or burial trench."

MR. SMITH: I think you still have -- if you have two leases with common boundaries, you still have basically two on-sites. If you have one pit on one lease and one pit on another, it seems to me what you need to do is identify which on-site you're talking about for which pit. Are you all using the convention of capitalizing definitions as they are used throughout?

CHAIRPERSON BAILEY: No.

MR. SMITH: Okay. Take that back to lower case then.

CHAIRPERSON BAILEY: So you want to have "On-site means within the boundaries of a single lease where exploration and production waste is generated from that lease"?

DR. BALCH: I think our definition is okay.

CHAIRPERSON BAILEY: I do, too.

DR. BALCH: We have to clean it up to make sure it's clear.

MR. SMITH: What you could say is "must be on-site within the same lease."

DR. BALCH: "Must be on-site and within the same lease unless a variance is sought"? There are certainly cases where you have A and B that are right next to each other and you could reasonably transfer waste from B to A or A to B. I don't think we want to generally allow that because you open up the door to having perhaps more waste concentrated in one site than you would like. Do you think a variance is the appropriate way to deal with that kind of case?

COMMISSIONER BLOOM: I think so.

CHAIRPERSON BAILEY: I agree.

DR. BALCH: Okay. Generally speaking, the variance can be sought for anything which is not specifically stated to have an exception. So I don't know if you need the language here or not about having to seek a variance for -- well, I think you will probably have to put a specification here

at the end.

CHAIRPERSON BAILEY: We can come back to this because it's all in yellow. I was just trying to ensure that we carried through that same language and same concept from the definition into that, and we will come back to this.

COMMISSIONER BLOOM: We could clarify the other sentence at the end saying, "Waste from one site shall not be disposed of off a lease without a variance" or something like that.

DR. BALCH: You might be more specific and say, "Waste from adjacent leases may be disposed" --

CHAIRPERSON BAILEY: No, because some of the leases cover thousands of acres.

DR. BALCH: I was going to say with a variance.

CHAIRPERSON BAILEY: Oh, okay. I think a variance is appropriate.

DR. BALCH: That leaves it up to common sense. Common sense is anything but, right?

CHAIRPERSON BAILEY: Okay. Starting back at the beginning of the document, our next yellow area --

DR. BALCH: I want to make a note. Looks like we shifted a couple pages somewhere.

CHAIRPERSON BAILEY: Somehow, yes. I don't know how.

DR. BALCH: I have two versions. I have the January 10th adoption and that one seems to be -- I have January 10th and January 11th and both of them -- for example, if you go to Table 1 on Page 29 -- we lost Theresa. Seems like we lost a page or two somewhere.

CHAIRPERSON BAILEY: As in --

DR. BALCH: Between the screen and our hard copy.

MR. SMITH: Theresa says it has to do with the spacing on the hard copy. She just changed some of that so you didn't really lose the text.

DR. BALCH: I want to make sure we didn't really lose any text.

COMMISSIONER BLOOM: I did see that we lost some text on Page 10 here, the top of our Page 10. This will probably be -- go down to Section 11, Design and Construction Specifications. It's just up from that a bit. Do up to No. 9. There we go. It says, "Within an unstable, unless the operator demonstrates." I think we lost some language there. It goes all the way back to NMOGA's Attachment A. I think it's just within an unstable area. Is there

anything else missing?

CHAIRPERSON BAILEY: You already had the word "unstable."

COMMISSIONER BLOOM: Just type in "area."

CHAIRPERSON BAILEY: Page 7 has, under siting requirements, has a yellow area where we were still discussing the setback for a temporary pit that is not low chloride fluid. The current rule has 500 feet of a wetland. The proposed language is 300 feet of a wetland.

DR. BALCH: I think the argument that was made is that this is now consistent with the 300 foot offset to continuously flowing watercourses, et cetera.

CHAIRPERSON BAILEY: A permanent pit or multi-well fluid management pit has a 500 foot setback from a wetland. The below-grade tank has a 100 foot setback. This may be one of those split votes.

COMMISSIONER BLOOM: I think so. I would tend to leave that where it is, and if we are going to have temporary pits that are out in the field a little bit longer they could be receiving waste from more than one well now. We have seen some changes there. Some sensitivities with wetlands in that

water doesn't course through them quite like it does a river. I think the directional drilling people could be back an extra couple hundred feet and still get where they needed to go.

DR. BALCH: This deals with siting of the pit, not burial of the pit. That might be a more appropriate place to look at setbacks. The risk for siting to the pit is all in the operational phase. When there's fluid in the pit. So it would be just one pit, one well. Well, I suppose you could have two wells meaning from one pit, but this is not the place where you can address the waste. This is a separate section.

From the concept of the operational phase there was a lot of testimony where people said 300 feet was protective. Basically the risk was low and you can, within the limits of the existing Spill Rule you could get over land flow of 300 feet.

CHAIRPERSON BAILEY: So all those in favor of having 19.15.17.10A3F show that there should be a setback for temporary pits containing fluids that are not low chloride fluids shall not be located within 300 feet of a wetland, signify by Aye.

DR. BALCH: Aye.

CHAIRPERSON BAILEY: Aye. Commissioners

opposed to having 300 foot as a setback signify by saying nay.

COMMISSIONER BLOOM: Nay.

CHAIRPERSON BAILEY: So we can remove the yellow from that place. The next area of yellow has to do with on-site closure, but I think we need to deal with the question of the tables before we talk about closure.

COMMISSIONER BLOOM: Makes sense.

DR. BALCH: I have some prefacing remarks again, if you don't mind.

CHAIRPERSON BAILEY: Go ahead.

DR. BALCH: You may as well. You can go first if you like.

COMMISSIONER BLOOM: Perhaps after a short break?

CHAIRPERSON BAILEY: Let's take ten.

(Note: The hearing stood in recess at 10:08 to 10:20.)

CHAIRPERSON BAILEY: Earlier in our deliberations we had talked about consolidating the tables into one table rather than having two tables. With the reopening of the hearing last week and with the findings and conclusions that were submitted, I thought we might look at that decision again to see

and also the mud has other uses, of course, in terms of carrying cuttings to the surface and lubricating your drill bit.

So essentially you using the weight of the fluid to minimize infiltration of water and you are trying to do that on purpose. So by design you are not going to be having a lot of fluids coming in from the formation until it's severely overpressured and might blow out or some other situation that you wouldn't want to have.

Calcium carbonate in particular films a very thin -- they call it a filter cake, the skin, and it's very efficient at controlling water in the wellbore. That about sums up my review of the subject.

CHAIRPERSON BAILEY: So do you support 15,000 milligrams per liter as part of the definition for low chloride?

DR. BALCH: I think it's as good a distinction as any, particularly since Mr. Arthur testified that that was consistent with other state regulations and EPA. And then in Colorado, as was mentioned by Mr. Gantner, below 15,000 you don't even have to have a permit for the pit. So I think that there's some precedent if you want to use

precedent for using 15,000 milligram distinction.

Now, one thing Dr. Neeper pointed out was at 15,000 by the time you go through all the -- drain it, mix all your stuff, you end up with about 5,000 milligrams per kilogram of chloride, which is exactly equal to what the proponents limit it to in one of the values in Table 1.

I think he was pointing out that was operationally inconvenient. I think it's up to us to determine if the level is protective and in that case operationally inconvenient is fine with me.

I think in general I support the idea of a distinction between low chloride and non-low chloride fluids. The amount of chlorides in the pit are going to be lower using the KCL or calcium carbonate-based drilling muds than bentonite clay in the southeast where you're using heavier brines.

CHAIRPERSON BAILEY: Commissioner Bloom, do you have thoughts on the definition?

COMMISSIONER BLOOM: Yes. I had some issues with the proposed creation of low chloride fluids to the degree given the testimony we heard and some of the cross-examination, I feel that level was set primarily to accommodate the level of chlorides we would see in drilling mud typically in

the northwest. So it might not have been set for environmental protection, I think first and foremost.

Changes in setbacks related to where low chloride fluids could be used are quite drastic. We see a cut from depth to groundwater currently at 50 feet, the limit at which someone has to use a closed-loop system. That was traditionally 50 percent to 25 feet so that was concerning to me.

And then currently the closed-loop system needs to be used when distance to surface water, watercourse is 300 feet, and that would be reduced by two-thirds to 100 feet. The same for wetlands as well, and we see an essential change or request for change of the setbacks from wells also.

DR. BALCH: When we talk about setbacks we had quite a discussion about what was protective and what was available to us in testimony as giving us any confidence about that level of protection. At that time I felt that those levels were protective and I think I remember we did a line item vote down the list and the majority of the Commission agreed, although there were certainly cases where there were exceptions to that. I don't know if it's really worth chasing down through that again.

CHAIRPERSON BAILEY: It is, because I also have some observations, and Mr. Mullins modeling was based on 1,000 milligrams per liter to show an essentially negligible impact on groundwater at 25 feet.

DR. BALCH: Right.

CHAIRPERSON BAILEY: But I did not see a comparison with 15,000 milligrams per liter.

DR. BALCH: Well, this is where there's a -- this is where we get back to the problem we ran into when we asked for new testimony. Because there's a difference between milligrams per liter and milligrams per kilogram.

CHAIRPERSON BAILEY: Uh-huh.

DR. BALCH: Milligrams per liter of fluid is in the pit during the operational phase and then it's drained out and your risk to groundwater or surface water is really during the operational phase, not during closure, because you've taken that liquid off and then dried what was left in there and mixed the three to one. That's where you then measure to see if you get some concentration going out the bottom of that.

So it's an operational number, not a long-term risk, and I think that's why we had the

distinction between Table 1 and Table 2.

CHAIRPERSON BAILEY: Yes. But for Table 2 purposes a 1,000 milligrams per liter leachate could be equivalent to roughly 20,000 milligrams per kilogram within the drilling mud that has been stabilized with all the fluids removed and then stabilized.

DR. BALCH: Right.

CHAIRPERSON BAILEY: So with the 20,000 milligrams per kilogram that may be present that results in that 1,000 milligrams per kilogram -- per liter -- I see that the definition of low chloride drilling fluids for 15,000 milligrams per liter is safely covered in that milligrams per kilogram conversion of the drilling mud.

DR. BALCH: We are mixing roughly 80 to one. We can't be exact but --

CHAIRPERSON BAILEY: It's just rule of thumb that we're using.

DR. BALCH: Right. it's a large difference.

CHAIRPERSON BAILEY: So in my personal deliberations I have been trying to ensure that the modeling that Mr. Mullins did and that convinced me that the burial of drilling mud that would then

result in 1,000 milligrams per liter of leachate worked out into this definition of the low chloride fluids so we don't have to be that concerned about the siting requirements. I want to be sure that the siting requirements mirror that negligible impact that was demonstrated in the 25 feet to groundwater by Mr. Mullins.

DR. BALCH: I definitely think it's worth reviewing the limits in the table as they relate to the testimony and the modeling that was done.

CHAIRPERSON BAILEY: Yes. Good. At this point I can see that the definition for low chloride fluids is safely within that limitation for milligrams per liter or milligrams per kilogram that will be reflected in that modeling that was presented to us.

DR. BALCH: For any sort of closure, be it a Table 1 and Table 2 type of closure.

CHAIRPERSON BAILEY: Right.

DR. BALCH: Where you have the material dried and it's not operational anymore.

CHAIRPERSON BAILEY: Right. So given that train of thought, I'm seeing that the definition with the 15,000 milligrams per liter is a safe number compared to the modeling that Mr. Mullins

did, and it does reflect the range of the three pits that were sampled by industry and presented in Dr. Neeper's Exhibit 5 Page 9 that showed the chloride range in the Northwest was 280 to 15,000.

So in that case, I can accept the 15,000 milligrams per liter as part of the definition, but I do have questions about the last part of that definition, which says that the determination of chlorides would be by analysis or process knowledge.

Mr. Gantner on Page 146 agreed that a field test for chlorides is the very simple easy test. Those are Lines -- my question began on Line 18 and his response was on 20 that yes, the test for chlorides in the field is a very simple, easy test.

DR. BALCH: So you prefer to have the hard measurement than the process knowledge?

CHAIRPERSON BAILEY: Yes, I do. I would like to see the process knowledge portion stricken from this definition.

DR. BALCH: I would be comfortable with that.

COMMISSIONER BLOOM: I would be comfortable with that. Would it make sense to clarify this and say chlorides determined by field test or testing? Or --

CHAIRPERSON BAILEY: Field test or laboratory analysis, but a field test is an analysis.

COMMISSIONER BLOOM: Sure.

CHAIRPERSON BAILEY: And we would be willing to accept a field analysis in lieu of a laboratory analysis.

COMMISSIONER BLOOM: It could be by field or laboratory analysis for clarity?

DR. BALCH: That would be good.

CHAIRPERSON BAILEY: Sure. Commissioner Bloom, do you accept that definition?

COMMISSIONER BLOOM: I still disagree with creating this category at 15,000 milligrams per liter, but some other reasons being we heard testimony that some of the threats to the environment come from water moving across the surface, particularly during this phase. And low chloride fluids being at 15,000 milligrams per liter, I think we heard testimony that seawater was about 19,000. I think we are in the territory where surface flow could be harmful to plants and the environment, so I still have that issue.

And generally we are creating this to create lesser setbacks, so I disagree with the

creation of this category but I would agree that if we have it, it makes sense to determine those levels by field or lab analysis.

DR. BALCH: I think that in the context of Table 1 and 2, to me in my mind it's important to remember that this is post operational limits. Obviously, the limitation of 15,000 is for operations, so that's a short window of risk and that's primarily dealt with by the Spill Rule so there would be mediation if someone had a leak or spill that occurred during operation, regardless of whether it's 15,000 or 200,000 milligrams per liter of chlorides.

So as long as good practices are used, I think I'm fine with the lower setback for a lower chloride fluid because there's inherently less risk than if you have higher concentrations.

CHAIRPERSON BAILEY: When we get to the table for remediation or analysis of soils we will have more comments concerning that, I'm sure.

DR. BALCH: Right.

CHAIRPERSON BAILEY: And then I was looking -- I believe it's Mr. Arthur that talked about the level for seawater, and it seemed to me it was closer to 200,000.

DR. BALCH: I remember 19,000. That's consistent with my understanding of the level.

COMMISSIONER BLOOM: That was Dr. Neeper who gave testimony on that.

CHAIRPERSON BAILEY: While we're on this page of the document, if we go to Definition L for multi-well fluid management pit, in testimony by Mr. Gantner on Page 144, he agreed that we could insert the word "untreated" before freshwater in that last sentence. And in response to my question of, "So would you object to the insertion of the words 'untreated freshwater containment system,'" and Mr. Gantner responded on Page 144, "No, I don't see a problem."

DR. BALCH: Seems like we need to make sure that the definition is very clear that this is non-production related water.

CHAIRPERSON BAILEY: Yes. So if we could insert the word "untreated" before "freshwater" both in L and R where we have the last sentence of the paragraph indicating that the containment structure holds only untreated freshwater.

COMMISSIONER BLOOM: One question or concern with that. Would that then preclude using municipal water that was in a pond?

CHAIRPERSON BAILEY: I was trying to ensure that didn't contain biocides or something that would have been used to treat the freshwater as a frac fluid or a bioside incorporated in it so it remains fresh. But that's an interesting point about municipal water.

COMMISSIONER BLOOM: I think it would be considered treated.

DR. BALCH: I also wonder if a farmer has a cow pond, if they ever do anything to the water in it. I just have no idea.

CHAIRPERSON BAILEY: I can only say from my experience with ranchers that no, they don't treat them.

DR. BALCH: I think the intent, and I certainly agree with the intent, is to make sure that basically you don't want anything that holds water out there to suddenly become a temporary pit.

CHAIRPERSON BAILEY: Right.

COMMISSIONER BLOOM: I agree, I think it makes sense to put in something like untreated, but I think we can further refine that so it's only treatment for oil field purposes.

CHAIRPERSON BAILEY: Using that phrase, "That holds only freshwater not treated for oil

field purposes"?

DR. BALCH: That would work.

COMMISSIONER BLOOM: Yeah, I think that's it.

CHAIRPERSON BAILEY: Not treated for oil field purposes.

DR. BALCH: There are certainly rules that apply to all those other types of impoundments.

CHAIRPERSON BAILEY: Right. So the language should be both in L and in R.

MR. SMITH: You might want to put "that has" before the word "not."

CHAIRPERSON BAILEY: That has not been?

MR. SMITH: Yes.

CHAIRPERSON BAILEY: Wait. That has not been treated.

COMMISSIONER BLOOM: That works.

DR. BALCH: I think that's very clear.

COMMISSIONER BLOOM: Delete "untreated" and copy after "water."

CHAIRPERSON BAILEY: Now we are to the definition for on-site. Are we ready for that?

DR. BALCH: I would like to start the discussion with the R 360 suggestion. I thought that was a good definition.

MR. SMITH: So for clarification, your definition on low chloride fluids, has that been accepted?

DR. BALCH: We will probably vote on that.

COMMISSIONER BLOOM: We will vote on that later. We might come back to that number, right?

CHAIRPERSON BAILEY: Right.

COMMISSIONER BLOOM: Page 7 of R 360, and I will just give this to Theresa to type in. But it says, "Within the boundaries of the lease and/or development plan where in exploration and production waste continues to be under the control and management of the operator/producer."

CHAIRPERSON BAILEY: I can support that definition. That does not necessarily mean within a well pad location.

COMMISSIONER BLOOM: That would work for burial trenches also.

DR. BALCH: Yes. There's two places where it comes up. The only questions I have had to do with what happens 50 years from now when the site is completely closed.

COMMISSIONER BLOOM: If it's on private land, the changes would be recorded at the County and there's still going to be a physical marker

outside as well, because it's County or State so you have that.

DR. BALCH: I'm wondering if the word "continues" would force them to forever maintain control of the lease.

COMMISSIONER BLOOM: Maybe "is under the control"?

DR. BALCH: That would probably make it a little better. Then whatever transfer protocol would take care of future control.

CHAIRPERSON BAILEY: Chain of custody?

DR. BALCH: Chain of custody, yeah. I think we want to change "continues to be" to "is."

COMMISSIONER BLOOM: Perhaps say "is under the control and management of the operator/producer at the time of waste burial."

DR. BALCH: Yeah, maybe.

CHAIRPERSON BAILEY: Which means that some of the larger exploratory units may fall under this definition. Is that --

COMMISSIONER BLOOM: That could be substantial.

CHAIRPERSON BAILEY: Could be.

COMMISSIONER BLOOM: Very substantial.

CHAIRPERSON BAILEY: Could be. Because it

says development plan, and that is an exploratory unit.

COMMISSIONER BLOOM: We could remove exploration and it would just be production waste.

CHAIRPERSON BAILEY: No, because drilling fluid is an exploration waste. Drilling mud comes from exploration, not from production.

DR. BALCH: What is the distinction between a lease and a development plan? Development plan is a conglomeration of leases.

CHAIRPERSON BAILEY: It can be an exploratory unit which can cover thousands of acres.

DR. BALCH: I think the intent in my mind is we want to allow best practices to dominate the burial of waste. We want it to be done at the best place they can find. If they have three or four wells on the same lease, it would be nice if they could put it in one place. You have less waste sites to worry about in the future or for potential leaking.

If you get to the point of exploration, which might be half a county, and you could essentially allow a large waste disposal facility to develop, that would take everything from the entire area. In operation it probably wouldn't occur

because one of the reasons the operators want to be able to bury on-site is they don't have to truck the waste around.

CHAIRPERSON BAILEY: Or they don't want to go through the permitting process for a surface waste management facility under our current OCD rule, which has very stringent permitting requirements for a surface waste management.

DR. BALCH: If you limit it to a lease, that might be a little more controlled.

CHAIRPERSON BAILEY: But a exploratory unit changes requirements of a lease.

COMMISSIONER BLOOM: Changes to exploratory unit?

CHAIRPERSON BAILEY: An exploratory unit changes the requirements of the oil and gas leases that are part of that unit. But if it's the boundaries of the lease, that may limit it and not fall into that category of changes to the lease that we're talking about. So if we delete the words "and/or development plan" that certainly confines it to a smaller area that would go through the change of operator requirements or subsequent lessee assignments.

COMMISSIONER BLOOM: Makes sense. If you

have -- a lot of the releases don't go beyond 640 acres so you might have --

DR. BALCH: Three or four or eight or something but it wouldn't be 93 wells.

COMMISSIONER BLOOM: I imagine if there was on one edge of it a wetland or something like that, this would allow the producer to go to the other side of the 640 and bury there.

One thing I'm trying to get my head around is does the current rule and the proposed rule have any limit on how many pits can be disposed of in a burial trench?

CHAIRPERSON BAILEY: I know we discussed a limit of two, but I don't know that it's made it into any of the language.

DR. BALCH: I think the practical -- there were practical limits as to how many wells you can run from one pit. We had that discussion for sure. I don't know if there was ever any discussion about --

CHAIRPERSON BAILEY: A limitation?

DR. BALCH: -- a limitation. I know in our deliberations both last week and also previously I, at least, thought it was a good idea to let them consolidate waste to a limit. Maybe operational

limits would control that the best.

CHAIRPERSON BAILEY: When we get to closure, I think we would have an opportunity to limit the number of pit wastes that would be moved into a consolidated into burial.

DR. BALCH: Single trench burial. I think take out the "and/or development plan."

COMMISSIONER BLOOM: We agree on that.

DR. BALCH: Essentially would that be wherein or as where, wherein as in one word? Or where?

CHAIRPERSON BAILEY: I don't know your grammatical correctness of where versus wherein.

DR. BALCH: I think you could take it out and be fine.

MR. SMITH: I think that's right.

DR. BALCH: Delete the I-N.

MR. SMITH: Unless it was supposed to modify exploration and it should be hyphenated. But I haven't seen that used before.

CHAIRPERSON BAILEY: Something happened with the last change there. On-site means --

COMMISSIONER BLOOM: I think you can take out the "in" on wherein.

CHAIRPERSON BAILEY: Let's put apostrophe

marks around "on-site" and take it down to lower case. Okay. That same language is also reflected on Page 23.

MR. SMITH: Could you wait just a minute? Your intent here -- is your intent here to tie the lease to, let's say, a well on that lease that is producing waste? If you had two leases that had a common boundary --

DR. BALCH: I don't think this would allow commingling the waste, which is probably all right. There has to be some kind of limit.

MR. SMITH: Why wouldn't it allow it?

CHAIRPERSON BAILEY: Because it's not the boundaries of the lease.

DR. BALCH: You could end up with a sequence or a string of leases that are connected and have one central waste facility where you had 29 pits close into that one facility. That's not the intent. The intent is to allow operational or best practices control of more or less localized waste and we are using the lease to be that limit.

MR. SMITH: That's what I thought. I don't see you doing that. Not if you have leases with common boundaries. I mean, if you want to rely on the word "the" to accomplish that, I'm not sure

that article would carry that kind of weight.

CHAIRPERSON BAILEY: If we had boundary as a singular term?

MR. SMITH: No. I mean, wait a minute. Let me make sure that I think I'm right about this, but it seems to me that if you had two leases with a common boundary and you have a well on Lease A and the operator wants to move waste from Lease A to Lease B, you would have the waste under the control and management of the operator/producer at the time of burial, and it doesn't really distinguish between Lease A and Lease B.

DR. BALCH: I don't know -- to me this reads pretty clearly. If you had a Lease A you could not close that waste on Lease B, and I think that's what we want.

COMMISSIONER BLOOM: It said leases.

MR. SMITH: I don't see that.

COMMISSIONER BLOOM: If it said leases I would be worried that you could go from Lease A to Lease B if it's under the control of the same operator/producer, but because lease here is singular, I don't think it allows you to get to another lease.

CHAIRPERSON BAILEY: I don't either.

MR. SMITH: Why don't you put "where exploration and production waste is" -- I don't know. You will need a better word than this -- "is created and is under the control."

DR. BALCH: Could you say "from that lease"?

CHAIRPERSON BAILEY: Maybe "generated" is a better word?

MR. SMITH: "Generated" is a better word.

COMMISSIONER BLOOM: What happens if we just define this as "on-site means within the boundaries of the lease"?

CHAIRPERSON BAILEY: Within the boundaries of a single lease. We can always put it that way. "On-site means within the boundaries of a single lease where exploration/production waste --"

COMMISSIONER BLOOM: We could leave off "under the control and the management"?

DR. BALCH: It would be inherently under the control and management. I think that part is left over from when you had development plans included. Delete everything after "generated." Is that clear enough?

MR. SMITH: I think that gets you where you want to be.

DR. BALCH: I think in the case of an A versus B, maybe under closure there could be a place where a variance might be requested for something like that if you had adjacent leases.

CHAIRPERSON BAILEY: Are we happy with this?

COMMISSIONER BLOOM: Works for me.

CHAIRPERSON BAILEY: Works for me. Then let's copy that definition, because we also use that same language on Page 23, which we still --

COMMISSIONER BLOOM: Theresa, put it in red maybe.

CHAIRPERSON BAILEY: Is that Page 23 at the top? Okay. Well, that's not the way mine is printed out.

COMMISSIONER BLOOM: Mine either.

CHAIRPERSON BAILEY: This is a very large area of yellow. Okay. We are into the yellow. The top -- right there. The last portion of the introductory paragraph, "A nearby temporary pit or burial trench that receives waste from another temporary pit," and this is the language common within the language crafted, "within the boundaries of the lease." So we need to have this same language reflected.

DR. BALCH: Actually, I think that skews the definition here. I would say must be on-site. Nearby temporary pit or burial trench that receives waste from another temporary pit must be on-site. Must be on-site.

CHAIRPERSON BAILEY: Yes. Then we have the definition for on-site.

MR. SMITH: On-site of which pit?

DR. BALCH: On-site -- just on-site, because on-site means within the boundaries of the lease where the waste is generated. Within the boundaries of that lease. That was our definition. Now we have a chance to use our definition.

MR. SMITH: What if you have a temporary pit on one lease and another temporary pit on another lease?

DR. BALCH: Well, we can address that in a moment, but I think using our definition is the appropriate thing to do here.

CHAIRPERSON BAILEY: And you don't transfer between leases, according to our definition.

DR. BALCH: Now, if you want to allow a variance for that you can have a sentence here at the end.

MR. SMITH: You're talking about two temporary pits, right?

CHAIRPERSON BAILEY: Yes.

MR. SMITH: Are both temporary pits supposed to be --

DR. BALCH: On the same lease. Oh, I see what you're saying.

MR. SMITH: That doesn't get you there.

DR. BALCH: Let us work through it. We will get there.

MR. SMITH: All right.

DR. BALCH: I still think we want to use the definition of on-site. Do we have a hyphen on that on-site?

CHAIRPERSON BAILEY: Yes, we do.

COMMISSIONER BLOOM: Hyphenate on-site, Theresa.

CHAIRPERSON BAILEY: Then delete the rest of that sentence.

DR. BALCH: You have the definition for reference. Okay. So Mr. Smith's concern was a nearby temporary pit could indeed be on a different lease so we want to make sure we're clear that all pits and burial trenches are on the same site.

CHAIRPERSON BAILEY: But by definition,

on-site means within a single lease.

COMMISSIONER BLOOM: Could you go up a little bit? Scroll up to the top of C. Perhaps you could clarify it. Earlier on you could say "closure where wastes are destined for burial in place or on-site burial"?

MR. SMITH: Theresa, you want to capitalize "on-site."

DR. BALCH: You can say "disposed of at an on-site temporary pit or burial trench."

MR. SMITH: I think you still have -- if you have two leases with common boundaries, you still have basically two on-sites. If you have one pit on one lease and one pit on another, it seems to me what you need to do is identify which on-site you're talking about for which pit. Are you all using the convention of capitalizing definitions as they are used throughout?

CHAIRPERSON BAILEY: No.

MR. SMITH: Okay. Take that back to lower case then.

CHAIRPERSON BAILEY: So you want to have "On-site means within the boundaries of a single lease where exploration and production waste is generated from that lease"?

DR. BALCH: I think our definition is okay.

CHAIRPERSON BAILEY: I do, too.

DR. BALCH: We have to clean it up to make sure it's clear.

MR. SMITH: What you could say is "must be on-site within the same lease."

DR. BALCH: "Must be on-site and within the same lease unless a variance is sought"? There are certainly cases where you have A and B that are right next to each other and you could reasonably transfer waste from B to A or A to B. I don't think we want to generally allow that because you open up the door to having perhaps more waste concentrated in one site than you would like. Do you think a variance is the appropriate way to deal with that kind of case?

COMMISSIONER BLOOM: I think so.

CHAIRPERSON BAILEY: I agree.

DR. BALCH: Okay. Generally speaking, the variance can be sought for anything which is not specifically stated to have an exception. So I don't know if you need the language here or not about having to seek a variance for -- well, I think you will probably have to put a specification here

at the end.

CHAIRPERSON BAILEY: We can come back to this because it's all in yellow. I was just trying to ensure that we carried through that same language and same concept from the definition into that, and we will come back to this.

COMMISSIONER BLOOM: We could clarify the other sentence at the end saying, "Waste from one site shall not be disposed of off a lease without a variance" or something like that.

DR. BALCH: You might be more specific and say, "Waste from adjacent leases may be disposed" --

CHAIRPERSON BAILEY: No, because some of the leases cover thousands of acres.

DR. BALCH: I was going to say with a variance.

CHAIRPERSON BAILEY: Oh, okay. I think a variance is appropriate.

DR. BALCH: That leaves it up to common sense. Common sense is anything but, right?

CHAIRPERSON BAILEY: Okay. Starting back at the beginning of the document, our next yellow area --

DR. BALCH: I want to make a note. Looks like we shifted a couple pages somewhere.

CHAIRPERSON BAILEY: Somehow, yes. I don't know how.

DR. BALCH: I have two versions. I have the January 10th adoption and that one seems to be -- I have January 10th and January 11th and both of them -- for example, if you go to Table 1 on Page 29 -- we lost Theresa. Seems like we lost a page or two somewhere.

CHAIRPERSON BAILEY: As in --

DR. BALCH: Between the screen and our hard copy.

MR. SMITH: Theresa says it has to do with the spacing on the hard copy. She just changed some of that so you didn't really lose the text.

DR. BALCH: I want to make sure we didn't really lose any text.

COMMISSIONER BLOOM: I did see that we lost some text on Page 10 here, the top of our Page 10. This will probably be -- go down to Section 11, Design and Construction Specifications. It's just up from that a bit. Do up to No. 9. There we go. It says, "Within an unstable, unless the operator demonstrates." I think we lost some language there. It goes all the way back to NMOGA's Attachment A. I think it's just within an unstable area. Is there

anything else missing?

CHAIRPERSON BAILEY: You already had the word "unstable."

COMMISSIONER BLOOM: Just type in "area."

CHAIRPERSON BAILEY: Page 7 has, under siting requirements, has a yellow area where we were still discussing the setback for a temporary pit that is not low chloride fluid. The current rule has 500 feet of a wetland. The proposed language is 300 feet of a wetland.

DR. BALCH: I think the argument that was made is that this is now consistent with the 300 foot offset to continuously flowing watercourses, et cetera.

CHAIRPERSON BAILEY: A permanent pit or multi-well fluid management pit has a 500 foot setback from a wetland. The below-grade tank has a 100 foot setback. This may be one of those split votes.

COMMISSIONER BLOOM: I think so. I would tend to leave that where it is, and if we are going to have temporary pits that are out in the field a little bit longer they could be receiving waste from more than one well now. We have seen some changes there. Some sensitivities with wetlands in that

water doesn't course through them quite like it does a river. I think the directional drilling people could be back an extra couple hundred feet and still get where they needed to go.

DR. BALCH: This deals with siting of the pit, not burial of the pit. That might be a more appropriate place to look at setbacks. The risk for siting to the pit is all in the operational phase. When there's fluid in the pit. So it would be just one pit, one well. Well, I suppose you could have two wells meaning from one pit, but this is not the place where you can address the waste. This is a separate section.

From the concept of the operational phase there was a lot of testimony where people said 300 feet was protective. Basically the risk was low and you can, within the limits of the existing Spill Rule you could get over land flow of 300 feet.

CHAIRPERSON BAILEY: So all those in favor of having 19.15.17.10A3F show that there should be a setback for temporary pits containing fluids that are not low chloride fluids shall not be located within 300 feet of a wetland, signify by Aye.

DR. BALCH: Aye.

CHAIRPERSON BAILEY: Aye. Commissioners

opposed to having 300 foot as a setback signify by saying nay.

COMMISSIONER BLOOM: Nay.

CHAIRPERSON BAILEY: So we can remove the yellow from that place. The next area of yellow has to do with on-site closure, but I think we need to deal with the question of the tables before we talk about closure.

COMMISSIONER BLOOM: Makes sense.

DR. BALCH: I have some prefacing remarks again, if you don't mind.

CHAIRPERSON BAILEY: Go ahead.

DR. BALCH: You may as well. You can go first if you like.

COMMISSIONER BLOOM: Perhaps after a short break?

CHAIRPERSON BAILEY: Let's take ten.

(Note: The hearing stood in recess at 10:08 to 10:20.)

CHAIRPERSON BAILEY: Earlier in our deliberations we had talked about consolidating the tables into one table rather than having two tables. With the reopening of the hearing last week and with the findings and conclusions that were submitted, I thought we might look at that decision again to see

if we wanted to stay with one table or two separate tables, one for closure for soils beneath pits and below-grade tanks and the other one for closure criteria for waste left in place in temporary pits and burial trenches.

Commissioners, do you agree we should go back to two tables as was submitted as part of the application and part of the Exhibit 20 or do you still feel strongly that we should have one consolidated table?

DR. BALCH: I believe I recommended the one consolidated table because a lot of the data was repeated in the two tables. We felt, I think, at the time and in deliberations that they ought to be pretty fairly similar. I think an argument was made that you're really talking about two different things and one is more leak or spill related and the other is burial of material.

The only way you can go to one table, if we decide that's still appropriate, is to go to a single unit definition for chlorides, milligrams per liter and milligrams per kilogram.

CHAIRPERSON BAILEY: I personally would prefer to see two tables but do have one single unit of measurement of milligrams per kilogram reflected

in both tables.

DR. BALCH: I favor that as well. If we can get to that point I think that would be very appropriate.

CHAIRPERSON BAILEY: Commissioner Bloom, do you have an opinion?

COMMISSIONER BLOOM: Yes, I agree that the two tables -- that's where we want to go and I have an idea how we can get to a single unit of measurement.

CHAIRPERSON BAILEY: Then Theresa, would you insert the two tables as reflected in NMOGA's Exhibit 20, as modified by the testimony that they presented at the reopened hearing last week.

COMMISSIONER BLOOM: We can maybe leave the old table there for now so we can compare and contrast.

DR. BALCH: One immediate change is that we remove the definition of confined and unconfined groundwater.

CHAIRPERSON BAILEY: Yes, we did.

DR. BALCH: So in our previous modifications we have taken out "unconfined" from both tables.

COMMISSIONER BLOOM: The 1 is supposed to

be an L for liters, TDS. There we go. Now if you go down, I think there's the same thing.

DR. BALCH: We already had quite extensive discussion of TPH, BTEX and Benzene for all these tables. Since we are limiting our discussion to chlorides, I don't think we have to go through the discussion again. I think the result of that was up and down votes where those values were accepted.

CHAIRPERSON BAILEY: No, the values have not been accepted. We have not discussed the concentration limits.

DR. BALCH: For the TPH, BTEX and Benzene?

CHAIRPERSON BAILEY: Yes, for those. Not chlorides.

DR. BALCH: We discussed those for hours. In Volume 16, which is on October 1st, we spent -- looks like a couple hours talking about those three.

CHAIRPERSON BAILEY: No, I made the mistake. I'm looking at chlorides myself.

MR. SMITH: And it resulted in the vote?

DR. BALCH: Yes. So I think we are looking at chloride concentration, and that's what was testified to in the supplemental hearing.

CHAIRPERSON BAILEY: Plants are not going to grow at 5,000 milligrams per kilogram.

Below-grade tanks are not necessarily buried four feet below the surface.

DR. BALCH: I think it's a one-foot cover or something like that.

CHAIRPERSON BAILEY: That's right. My opinion is that that concentration for chlorides on the surface is 600 milligrams per kilogram, which would allow vegetation to grow.

DR. BALCH: Okay. And now for this -- this is pits and below-grade tanks. If we do your five-spot test, you measure 650, that triggers the remediation response where you go in and you dig out. You may never actually get below 650 or 600. There could be some background level of salts in the soil, chlorides, but that would basically go into remediation where you dig it down to four feet and then you do a normal remediation response from there.

CHAIRPERSON BAILEY: That's the way I anticipate it.

MR. SMITH: And your 600 is based on Dr. Neeper's testimony?

CHAIRPERSON BAILEY: Dr. Neeper's testimony for revegetation.

DR. BALCH: Okay. So here is the

difference, though. This is including both pits and below-grade tanks. A below-grade tank is something where you could conceivably have a much shallower layer of dirt put on top of it, but a pit is going to have several layers of fill, several feet of fill by necessity. It wouldn't be a pit if it didn't have some depth to it.

Is it your intent to look at below-grade tanks separately from pits whether they are closed on or off-site? A below-grade tank will never be closed on-site. There won't be anything buried there unless they remove the tank, do a measurement and the chlorides are within the limit, backfill with one foot and they're good to go.

CHAIRPERSON BAILEY: Right.

DR. BALCH: If you have a pit at the same location, even though you are not disposing on-site, you are going to be significantly deeper. You're not going to have one foot of backfill.

CHAIRPERSON BAILEY: But it's going to indicate that there was a leak of some kind in the liner, which should be investigated. Because we cannot tell from a wet spot on the ground how deep that leak may have penetrated below the surface of the temporary pit.

DR. BALCH: What was in the previous version of the rule, do you remember?

CHAIRPERSON BAILEY: The previous version of the rule has for in-place burial and trench burial -- oh, okay. The previous rule has 500 milligrams per kilogram for locations between 50 and 100 feet depth to water. Greater than 100 depth to water chlorides were 1,000 milligrams per kilogram.

COMMISSIONER BLOOM: So this limit here indicates when further testing would take place or --

DR. BALCH: No, this would trigger some removal and recovery.

COMMISSIONER BLOOM: What does the ground have to be restored to?

CHAIRPERSON BAILEY: If this triggers an investigation to determine how deep that leak went to ensure that it does not negatively impact groundwater, then that 600 level at less than 50 feet.

DR. BALCH: You say for the one foot cover?

CHAIRPERSON BAILEY: Right.

DR. BALCH: Not being a soil scientist, are there situations where you could have a

background level that's higher than 600?

CHAIRPERSON BAILEY: We can always say "or background, whichever is higher."

DR. BALCH: Right. Because I'm thinking if you scrape off a foot of topsoil you may end up in a caliche.

CHAIRPERSON BAILEY: Which is not going to have chlorides.

DR. BALCH: That may trap or concentrate chlorides that have previously infiltrated.

CHAIRPERSON BAILEY: Determining background would be outside of the pit location.

DR. BALCH: Right. Regardless, even if there was a background of higher, you would trigger the remediation response, which is to put four feet of cover.

CHAIRPERSON BAILEY: But to investigate how deep that leak went.

DR. BALCH: Right. So if you dig down two more feet, and it's 650, and you keep digging and it's still 650 and it's background, that has to be established.

CHAIRPERSON BAILEY: Background is determined outside of the pit. It's not within the pit.

DR. BALCH: So previously -- I'm wondering if we ought to have three tables instead: A table for below-grade tanks, a table for pits where burial is not going to be on-site and a table where burial is on-site.

CHAIRPERSON BAILEY: Currently for in-place burial of a temporary pit or a drying pad we have 500 milligrams per kilogram for depths between 50 and 100 feet. No burial of waste was allowed above 50 feet.

DR. BALCH: Right.

CHAIRPERSON BAILEY: But I think that would be unnecessarily complicating it to have three separate tables.

DR. BALCH: I was just throwing it out because I think there's a difference in the amount that would be required in the case of closing a pit with removal versus removing a below-grade tank. Now, a below-grade tank could be significantly below grade. It could be more than a foot. But the rule specifically says a minimum of one foot of cover. Perhaps that's a place to -- maybe that's a place to address in the text rather than the table.

CHAIRPERSON BAILEY: So require digging out to four feet for a below-grade tank?

DR. BALCH: No, to differentiate between the remediation response for pits and tanks.

CHAIRPERSON BAILEY: But 600 milligrams per kilogram is going to indicate that there was a leak beneath the pit that should be investigated. Not knowing the depth of that leak that could impact water less than 25 feet or less than 50 feet.

DR. BALCH: I see what you're saying. We have testimony for 600.

CHAIRPERSON BAILEY: Yes, we do. Dr. Neeper.

DR. BALCH: I would be comfortable with that level.

MR. SMITH: I have a question on the background. Is there anyplace in the pit rule at this point that provides for sampling, analysis like that, in order to determine background? Or is that something you're going to have to build?

DR. BALCH: Well, a place to do it might be to have 600 milligrams per kilogram in Line 1 there with an asterisk or double asterisk.

CHAIRPERSON BAILEY: There's already -- if you look at the footnote under the table --

DR. BALCH: There you go. You could add the double asterisk to that value.

CHAIRPERSON BAILEY: It's already up there.

DR. BALCH: I see.

CHAIRPERSON BAILEY: It applies to all those limits.

DR. BALCH: That removes my concern.

MR. SMITH: I still have the same question though. That is, is there any place in the rule that discusses sampling protocols, anything like that?

DR. BALCH: We require five-spot.

COMMISSIONER BLOOM: Five-point sample and grabbing from any area that looks to be --

DR. BALCH: Right, we have that covered.

CHAIRPERSON BAILEY: So do we all agree changing the 5,000 milligrams per kilogram to 600 for chlorides at less than 50 feet?

DR. BALCH: In Table 1, yes.

COMMISSIONER BLOOM: Could we put that in and deal with that after lunch?

CHAIRPERSON BAILEY: Yes.

DR. BALCH: When you close a pit, regardless of whether you're going to close on-site or haul it all away, you still look at Table 1 for material beneath the pit.

CHAIRPERSON BAILEY: Yes.

DR. BALCH: I guess the next step is --

CHAIRPERSON BAILEY: I think Commissioner Bloom is still looking at that.

COMMISSIONER BLOOM: I was just asking that I might have time over lunch to review some of the chloride levels before we vote on it. I was just working my way down.

CHAIRPERSON BAILEY: We also need to -- on the chloride line discuss changing that method from 300.1 to 300.0, and I think we received sufficient testimony to indicate that that has been appropriate analysis, 300.0.

COMMISSIONER BLOOM: I agree with that.

DR. BALCH: Yes.

CHAIRPERSON BAILEY: Then between 50 and 100 feet, I looked to see the philosophy on how they reached the chloride levels, and Mr. Arthur was the one on Page 591, 592 of the transcript that indicated how they had arrived at their chloride levels in Table 1. For the section, "If less than 50 feet," we have set a limit of 5,000 milligrams per kilogram, according to Mr. Arthur, and then at 50 to 100 feet, so we are further away from the aquifer, we doubled that limit and doubled it again

if we are more than 100 feet.

Now, our purpose is not to go around doubling numbers. Our purpose is to indicate whether or not the concentrations that we adopt are protective of freshwater, public health and the environment. I don't see that doubling numbers necessarily reaches that level of responsibility.

DR. BALCH: I think there's some rationale for doubling numbers when you are doubling depth because you have the same amount of chlorides regardless of the case but they are going to be impacting something that's at the bottom of twice the volume of soil.

CHAIRPERSON BAILEY: But we had significant discussion on the bulge, the chloride bulge.

DR. BALCH: Which I think really for me, at least, anything that's fairly deep, say below 50 feet is going to enter the salt bulge and that's going to be it unless you have extreme infiltration of that and even an extreme infiltration of that would just push the bulge down.

CHAIRPERSON BAILEY: Which means we may not be clear of the chlorides.

DR. BALCH: All the bulges we saw were in

the range between 25 feet --

CHAIRPERSON BAILEY: Between 25 and 30 feet.

DR. BALCH: Yeah. So in my mind below 50 feet I was not really that concerned with chlorides. And in fact, in the Table 1 that we were working on, below 100 feet they are not applicable for chloride concentration.

MR. SMITH: May I ask something here? And I apologize if this is an exhibition of ignorance. But the variable that you have in this chart is depth to groundwater. Your rationale for changing it to 600 milligrams per kilogram was because it would not support vegetation. That's going to be the same regardless of depth to groundwater, because the soil that you're testing is beneath the pit or below the below-grade tanks. So if you are protecting for vegetation as opposed to groundwater, the groundwater variable doesn't make any difference.

DR. BALCH: Perhaps 600 milligrams in the revegetation standard.

MR. SMITH: But that's going to conflict with your Table 1.

CHAIRPERSON BAILEY: Right. Mr. Smith

makes an excellent point, that in Table 1 we're concerned about biologic impact, not groundwater impact.

DR. BALCH: I don't think that's the way it was proposed. I think it was proposed to be protective of groundwater, and that's where the models were. There was certainly testimony about plants. I'm not going to quote Dr. Buchanan but to paraphrase him, he thought anything with four feet of cover would be very protective, no matter what the concentration was. So the standard for protecting soil, I think, does belong in the remediation area of the document, rather than perhaps in this table.

Because if you want to apply the 600 milligram limit for depths of less than 50 feet, you, by necessity, have to apply that same 600 milligrams to every other depth. It's irrelevant what the depth is because you are looking up instead of down.

CHAIRPERSON BAILEY: That's right.

DR. BALCH: But this table applies to looking down at groundwater, not surface vegetation.

COMMISSIONER BLOOM: I think with the Benzene we're worried about it going down, so

perhaps that figure would be the same. But we have seen some instances that Dr. Neeper showed where there was upward migration of chlorides.

CHAIRPERSON BAILEY: Which is why he suggested we have a closure over any kind of burial.

COMMISSIONER BLOOM: Yes.

CHAIRPERSON BAILEY: As well as someone else, Dr. Thomas also recommended a closure on top of any kind of burial. But this table deals with the soils that trigger revegetation at the surface.

COMMISSIONER BLOOM: This is telling us when the companies go in, dig down deeper and find the plume.

DR. BALCH: I really think Table 1 is dealing with limits at which you feel safe that the infiltration of water will push chlorides down towards the aquifer. The soil limit, I really think, falls in the revegetation standard. That number 600 may be better reflected in that location. I mean, it's a little bit tangled up but this table clearly has to do with groundwater protection.

MR. SMITH: How do you not have a conflict there?

DR. BALCH: We have to resolve the conflict, but I'm not sure if putting 600 for

chlorides in this table fixes the conflict. Actually, all it does is create another conflict because every other proposed value that we changed for chlorides is now going to become 600 no matter what the depth of burial. When we discussed this table before and all the other constituents on the table, we were talking about the models and then these tables were built in reference to Mr. Mullins' models and that all had to do with downward movement.

I think the protection of plants at the surface is not really addressed by either of these tables. It has to be addressed somewhere else. We can fix that perhaps by saying in the revegetation standard if you do a five-point sample and you see the 600 then you have a full remediation with four feet of cover and all that, which we do have testimony saying the protection of surface plants from Dr. Buchanan.

I think if you want to change that value to 600, the argument you made, Commissioner Bailey, that we have to change it in all other circumstances for chlorides and I and I think we have to go back and address all the other constituents and perhaps change this to just a one-line table where it's any

case.

MR. SMITH: Sounds like what you have here are two areas you wish to protect, one with respect to vegetation, the other with respect to groundwater. This table addresses only one.

DR. BALCH: The revegetation standard elsewhere in the document may have to be changed to address upward migration of chlorides. We do have a solution to that, and that's Dr. Buchanan's four feet of cover.

CHAIRPERSON BAILEY: Or if we look at Table 2 for closure criteria for waste left in place for temporary pits and burial trenches, if we also consider that between 50 and 100 feet chloride at whatever level above background is considered a waste, not knowing the depth of that waste, we may have to have similar levels between Tables 1 and 2 for depth greater than 50 feet.

DR. BALCH: Which is why I argued for making one table in the first place. Well, one of the reasons why. But I do think, at the risk of repeating myself again, this is for groundwater protection. We have to deal with surface plant protection elsewhere, and if there's conflicts then we can resolve them at that point. I think the

ultimate conflict solution is if you are greater than 600 when you go to close for surface revegetation, you can no longer do the one foot of cover. You have to excavate it to four feet so you can do the full revegetation as was outlined in the document.

CHAIRPERSON BAILEY: So are you in favor of 5,000 milligrams per kilogram?

DR. BALCH: If it has four feet of cover? Sure.

CHAIRPERSON BAILEY: If it is a spill below the pit?

DR. BALCH: If it's a spill you have to investigate the depth of that spill. But regardless of what the depth is and how far you excavate, you're still going to end up with a closure. They'll have four feet. That will protect the plants at the surface.

CHAIRPERSON BAILEY: But you're saying 5,000 milligrams per kilogram at four feet within 50 feet of groundwater?

DR. BALCH: This is without a pit liner or anything, so it is a different case.

CHAIRPERSON BAILEY: Right. Yes.

DR. BALCH: I guess I'm not sure. I would

have to think about that a little bit. 5,000 would seem to be at the limit, but I think if you apply 600 all the way through on the basis of protecting the surface vegetation then it defeats the purpose of the table, which is to protect groundwater. I mean, 600 with a water table at 100 feet, 600 milligrams is certainly protective.

CHAIRPERSON BAILEY: These are triggers for further investigation to find whether or not there's a threat to the groundwater.

DR. BALCH: Okay.

CHAIRPERSON BAILEY: Because we don't know the depth to groundwater behind a leak or under a leak.

DR. BALCH: Let me rephrase this a little differently. I want to go back to Mr. Mullins' models which were for 1,000 milligrams per liter out of a pit. So it's not exactly the same thing, but if you have a situation where you can get 1,000 milligrams per liter of leachate from under the plume or whatever occurred, spill, you could kind of work backwards to some number that's much higher leak of 5,000 milligrams per kilogram.

CHAIRPERSON BAILEY: But Mr. Mullins' modeling was a system that included four feet of

soil, etc. I mean, there were many components that had to be met in order to have that effect on the groundwater.

DR. BALCH: You are saying if we put 600 for chlorides in Table 1 we don't necessarily have to put 600 for chlorides in Table 2? As long as there's a guaranteed four feet of cover?

CHAIRPERSON BAILEY: That's what I'm saying. We can view Table 2 separately from the revegetation requirements.

DR. BALCH: Just Table 1. So maybe my discomfort really is that there's a difference between the likelihood -- the cover that would go over a temporary pit and a burial and -- can you scroll back up to Table 1? The difference of cover that would occur for a pit and a below-grade tank.

I think that your argument is very sound for the case of below-grade tanks and perhaps a pit should have the same reclamation standard regardless of whether there's on-site burial or not for four feet of cover. It's likely to be able to be simply achieved anyway since your pit is going to be several feet deep. Is that something that could be addressed by removing pits in the header for Table 1 and modifying the text that refers to the tables

such that any pit would have the full reclamation?

CHAIRPERSON BAILEY: The problem with finding evidence of a spill beneath the pit is that you don't know how far that spill has penetrated. You don't know if --

DR. BALCH: So you still want a trigger for investigation.

CHAIRPERSON BAILEY: Yes.

DR. BALCH: Which is why I'm saying one for tanks, one for tanks and one for pit closure.

COMMISSIONER BLOOM: Suppose the level was depth to groundwater less than 50 feet and you had 4,999 milligrams per kilogram of chlorides. There's not going to be -- that's just going to be filled in with minimum four feet of top cover, right?

DR. BALCH: Well, you might want to, for a pit or for any closure, I suppose you could put a top liner. Doesn't matter if there's a pit content below it.

CHAIRPERSON BAILEY: Which was recommended by both Dr. Thomas and Dr. Neeper.

DR. BALCH: Right. So I guess I'm still saying I think that these tables are generally okay, but we maybe have to go back and look at the reclamation standard and what points to these tables

a little more closely or maybe have three tables. I mean, if you have a pit and you're going to close it, you pull out all the fluids, let it dry, you pull out the solids, roll out the liner, et cetera, go out and do your five-spot test. If you are over some limit you would have to do a remediation.

CHAIRPERSON BAILEY: And investigation.

DR. BALCH: And investigation, and then a remediation. If you are below some limit you would not necessarily have to do an investigation but you would still have to do the remediation.

CHAIRPERSON BAILEY: Right.

DR. BALCH: I think that's okay if we can get it phrased that way.

COMMISSIONER BLOOM: Would you put what, stockpile back in?

DR. BALCH: You push all the dirt somewhere anyway, but the remediation for a pit -- I think we already agreed you can leave a top liner for pits, right? So maybe there's some range -- I'm not going to give you a number exactly, but the numbers that were proposed for less than 50 feet was 5,000 milligrams per kilogram below a pit. I still think tanks and pits probably ought to be treated differently because they are different depths. If

you put a top liner, perhaps you could be between 600 and 5,000. Maybe the 5,000 isn't the number that will come to you but above that number you would trigger the full investigation and find out exactly what happened.

CHAIRPERSON BAILEY: So as I understand your suggestion just now was to -- if we had a pit, everything was removed, we find evidence of a spill or a leak from that pit.

DR. BALCH: If it's below a certain level you top-cover, backfill four feet to a regular remediation. If it's above -- okay, if it's between the -- I think I said it more clearly before. Essentially Dr. Buchanan said if we are talking about -- there's two cases, as Mr. Smith noted that had we are trying to protect. Surface vegetation and upper migration of salts and we're trying to protect groundwater. We are looking in these tables to establish triggers for when you do some other action.

In any case, for a pit with closure you're going to have mediation effort, four feet of cover -- a liner, four feet of cover, surface to approximate the original or whatever. So I think that these tables are designed really for

groundwater, and if you want to make sure that we are protecting the surface and you are concerned about having only one foot of cover and no liner above 600 milligrams per kilogram, you would probably have to address that in another way.

One way is to have a range of values at which the triggered response would be a liner and full remediation of the surface. Above that lower limit, you would then do an investigation. And below that, you could use backdrop.

COMMISSIONER BLOOM: Let me throw something else out there. So thinking about Table 2 and closure for leaving waste in place or burying that waste elsewhere, you could have -- this is a case of burial in place and the limit was at 5,000 -- I guess you could say 5,000. Say it was 4,999 milligrams per kilogram. That wouldn't trigger any search for a plume, and then the operator could dump the pit contents in there, cover it and give it four feet of topsoil. That would still have a high level of chlorides at, say, like 26 feet to groundwater.

DR. BALCH: Which is what we have models data that demonstrated that would not be a threat to groundwater.

COMMISSIONER BLOOM: Mr. Mullins -- what was his?

DR. BALCH: 1,000 milligrams per liter for the 25 foot case, which roughly goes up to --

COMMISSIONER BLOOM: Translates to 20,000.

DR. BALCH: About 20,000 in the mixed waste and about 80,000 in the concentrated waste.

CHAIRPERSON BAILEY: Why don't we change the title of Table 1. Because your idea of addressing the issue of below-grade tanks within the text for closure of below-grade tanks may be a better way to handle that situation, and if we change the title of Table 1 to say Closure Criteria For Soils Exhibiting Potential Contamination, then it would apply to below-grade tanks or pits or spills or pipeline spills or anything else.

DR. BALCH: And just say Closure Criteria for Soils?

CHAIRPERSON BAILEY: That could be. And just change that title and then deal with below-grade tanks under Closure Requirements.

DR. BALCH: We could say Closure Criteria for Soils Where Waste is Removed, or I think just for soils works.

CHAIRPERSON BAILEY: Just for soils.

COMMISSIONER BLOOM: Any time there's a pit they are going to pull up the liner and check under there.

CHAIRPERSON BAILEY: Uh-huh.

COMMISSIONER BLOOM: Closure Criteria For Soils.

CHAIRPERSON BAILEY: So are we closing the soils? That doesn't make sense.

COMMISSIONER BLOOM: No.

DR. BALCH: Closure Criteria for Sites with Waste Removal? I'm thinking you are differentiating between Table 2, which is Closure Criteria for Waste Left in Place.

CHAIRPERSON BAILEY: Table 1 applies to not necessarily waste in place.

DR. BALCH: Well, I think it applies to waste not in place.

CHAIRPERSON BAILEY: But it's soils that have been potentially contaminated.

COMMISSIONER BLOOM: Really what the table is is contamination limits for soils.

DR. BALCH: But you have to remember, it's within the context of protecting groundwater. I think we have to deal with protecting surface plants elsewhere.

CHAIRPERSON BAILEY: Our charge is to protect freshwater, public health and the environment. Plants are part of the environment.

DR. BALCH: Right. I'm not saying we're not going to deal with it. I'm saying I think we need to deal with it elsewhere by making sure that the remediation is strong enough in the case where you get above 600 milligrams per kilogram that you have what has been testified as protective -- liner, four feet of material, et cetera.

CHAIRPERSON BAILEY: But we're looking at this very narrowly, thinking that there is always going to be that four feet of cover. There is not.

DR. BALCH: You have to make sure that there is in a case where there would be greater than 600 milligrams per kilogram.

CHAIRPERSON BAILEY: Which may not necessarily happen.

DR. BALCH: I think that there's --

CHAIRPERSON BAILEY: If there is a spill from a facility or a tank battery or a pipeline or anything along those lines. I don't think we can only deal with that in the section concerning below-grade tanks.

DR. BALCH: Okay. Well, then I think can

we say Closure Criteria For Soils Where Waste is Not Left in Place? And then you have two categories.

COMMISSIONER BLOOM: No, because you still need to -- if you leave waste there, you still have to --

DR. BALCH: No. If you are going to close on-site, the way this works is you are not necessarily --

COMMISSIONER BLOOM: You don't necessarily have the liner.

DR. BALCH: You're not going to remove the contents, measure it and put it all back. It's really two different cases. The assumption is that the liner system, the way we specified it in the rule, is going to have been protective enough. If there was a spill it would have been noted and dealt with by the Spill Rule, which would potentially trigger digging the whole thing up and looking for the plume dimensions, et cetera.

CHAIRPERSON BAILEY: When they dug it up they found a level in the soil high enough to trigger that activity.

DR. BALCH: Right. But if you are burying in place you are not necessarily going to know what's underneath the liner.

CHAIRPERSON BAILEY: Right.

DR. BALCH: You will know what's in it, and the assumption is that the liner did its job. Now, if you are monitoring your temporary pit the way we have specified in the rule, you will notice a spill and the Spill Rule would have been triggered and cause the response. Other than that, if the pit operated normally and you were just going to close it, you would drain the liquids, let the material dry, mix it up with three to one and then you would do a paint filter test on that material.

CHAIRPERSON BAILEY: But you can't always know when your liner has leaked, particularly if there's a tear below the surface level that you can't see or a hole in the bottom of the pit.

DR. BALCH: But that would preclude ever closing on-site unless you always did a trench burial, moved it away from its existing pit.

CHAIRPERSON BAILEY: Unless you have reasonable standards for closure in place.

DR. BALCH: That's what I'm arguing, that the pit and the operation of the pit in the operational phase is where you have the risk of chlorides getting in the soil beneath the pit liner and there's already mechanisms that would trigger a

response that would give you some confidence that you don't have a plume beneath the temporary pit.

CHAIRPERSON BAILEY: If we had adequate testimony in the record to indicate it would be still protective of freshwater. But if we don't have testimony that indicates that a change from the current standards is adequate to protect freshwater, public health and the environment, then we can't change those standards.

DR. BALCH: I'm not sure which standards you are talking about now.

CHAIRPERSON BAILEY: We're talking about standards that may be applying in Table 2 particularly, and Table 1 potentially.

DR. BALCH: Well, I mean, the testimony -- there was a lot of people saying these are protective, these are protective. Mr. Mullins' model said these were protective.

CHAIRPERSON BAILEY: For 1,000 milligrams per liter but I didn't see technical, scientific testimony other than just opinions based on experience.

DR. BALCH: And that has the weight that you will give it.

CHAIRPERSON BAILEY: Exactly. And a lot

of that was conflicting.

DR. BALCH: There was conflicting testimony. To me, I gave the most weight to -- the modeling information, I wouldn't be comfortable using greater than whatever the equivalent of 1,000 milligrams per liter is.

CHAIRPERSON BAILEY: I agree with you there.

DR. BALCH: But I guess one thing we really have to decide is are our standards for operational phase going to allow you to not have to dig the whole thing up and test? I think that they are strong enough and that there's other mechanisms in place to trigger the appropriate response in those situations where you would have a potential leak.

CHAIRPERSON BAILEY: And I agree with you. In Table 2 we can discuss what those standards are for burial in place.

DR. BALCH: So the other thing, if we can agree or come to an understanding that Table 2 is always going to have a liner, four feet of material and recontouring, et cetera, and that would be protective of the soil, then we would be able to resolve Table 2 as being targeted at groundwater but

also protective of the environment.

CHAIRPERSON BAILEY: If we can reach agreement on those levels, yes.

COMMISSIONER BLOOM: Table 2, I don't know how the liner is going to survive sort of the mixing of the dirt.

DR. BALCH: At that point you are already talking about a dry material, and I think realistically if you have a liner there it's not going to be there forever. It will degrade over time, regardless of whatever state it is at the end. You are talking about a dry material and we have modeling with regard to what happens to infiltrated water on top of that.

COMMISSIONER BLOOM: You are probably right. I think we heard Mr. Mullins who said putting a liner doesn't make a huge difference to the modeling, and Dr. Neeper said he didn't take that into account.

DR. BALCH: I think Dr. Neeper was more concerned with the top liner to prevent upper migration of salts. So I think we had a couple of days of testimony from Dr. Buchanan on the subject of remediation and how you could do that in a manner that would be protective of surface plants, which I

think we are interpreting as being the environment in our list of responsibilities that we have to protect.

CHAIRPERSON BAILEY: So with that in mind shall we look at Table 2 since we haven't really resolved Table 1? And we obviously need to think about that a little while longer.

COMMISSIONER BLOOM: Maybe we could discuss the testimony?

CHAIRPERSON BAILEY: Yes.

DR. BALCH: We need to go back and look at the closure requirements.

CHAIRPERSON BAILEY: I agree with you there.

DR. BALCH: Because you are absolutely right. The one foot of dirt on top of anything greater than 600 milligrams is going to be a hazard to plants. So I don't think the flaw is in the tables. I think it's in the closure requirements.

CHAIRPERSON BAILEY: Or the title.

DR. BALCH: Or the title.

CHAIRPERSON BAILEY: So if we look at Table 2 and let's talk about the method. We had quite a bit of testimony on the SPLP analysis and EPA Method 300.0. I think we have agreed that we

need to have these limits expressed in milligrams per kilogram which would remove the EPA SW-846 Method 1312 from the Method column and only allow the EPA Method 300.0. Is that correct?

DR. BALCH: I think so. For the 25 foot case we have a model limit from Mr. Mullins of 1,000 milligrams per liter, which would translate into --

CHAIRPERSON BAILEY: 20,000 milligrams per kilogram.

DR. BALCH: 20,000 milligrams per kilogram in the pure pit waste.

COMMISSIONER BLOOM: 80,000?

DR. BALCH: In the mixed waste it would be 20,000. And that would be the number you would want to be the limit --

CHAIRPERSON BAILEY: But it doesn't require the mixing.

DR. BALCH: No, but if they don't mix it they are less likely to be in compliance for on-site closure, so that's their choice.

CHAIRPERSON BAILEY: To make it very clear we can have 20,000 as the limit. Then if they have a concentrated --

DR. BALCH: If it's higher they can mix.

CHAIRPERSON BAILEY: They mix. If it's

20,000 they are not required to mix, as long as they meet the 20,000 milligrams per kilogram, so that's where the limit should be, not on what the original concentration is.

DR. BALCH: Right. I would be comfortable with EPA 300.0 and the 20,000 milligrams per kilogram limit.

CHAIRPERSON BAILEY: So Theresa, would you delete EPA instead of 846 Method 1312 SPLP.

MR. SMITH: And you do have testimony that you can use this table using EPA 300.0?

DR. BALCH: There was no limitation. Dr. Smith testified that the mixed material would normally fall in the other test, but under cross-examination and also in my examination of Dr. Neeper the result was if you had a mixed material and it was dry and you sent it to the lab you could tell them to use 300.0 and they would. The trade-off there is if you do the leach test with 1312 which has the acid leaching, you actually probably severely underestimate or overestimate the available chlorides because a lot of the chlorides that you will get from 300.0, you are not going to be measuring stuff that's bound in clay liners or otherwise chemically reacted with native soils and

things like that.

MR. SMITH: You would just have the free chlorides?

DR. BALCH: We are talking about free chlorides and that's really where the risk is and I think everybody agreed that free chlorides is really what we are concerned about and 300.0 would measure the free chlorides.

MR. SMITH: Okay.

CHAIRPERSON BAILEY: Okay. I would like to stress that this 20,000 milligrams per kilogram is based on the system that Mr. Mullins indicated would be protective of freshwater at 25 feet.

DR. BALCH: Right.

CHAIRPERSON BAILEY: And that system includes the four feet of soil, topsoil and other requirements that are dealt with.

DR. BALCH: I think we deal with that in the closure section or the remediation section. You're not going to have a temporary pit or burial trench that won't have that system in place. We need to make sure of that when we go back and look at it. I think the 2500 is for 20,000 milligrams per kilogram.

CHAIRPERSON BAILEY: Commissioner Bloom,

do you have an opinion on this?

COMMISSIONER BLOOM: I would agree that the method would be EPA 300.0. I can't see going that high on the limits. I'll take a little bit of time over lunch and flip through my notes on that.

CHAIRPERSON BAILEY: Theresa, that needs to say under the Method column EPA Method. Thank you.

DR. BALCH: And 20,000 milligrams per kilogram. Would you refresh my memory? Were all of Mr. Mullins' models done at 1,000?

CHAIRPERSON BAILEY: He only did the 25-foot case and 1,000.

DR. BALCH: I don't think we have anything to go on for increasing that limit at greater than 50 feet except salt bulge, and originally when we looked at this criteria for greater than 50 feet we put in -- or greater than 100 feet we put in not applicable for chlorides because the salt bulge would fix it.

CHAIRPERSON BAILEY: Dr. Neeper's salt bulge models, graphs, showed that it tapered back to the natural state for chloride concentrations below 50 to 100 feet.

DR. BALCH: Every piece of data from both

sides showed the salt bulge and never down to 50 feet.

CHAIRPERSON BAILEY: So shall we use -- are you in favor of using Mr. Arthur's technique as simply doubling the limits and doubling it again? Which is what he said was the basis for their arrival at their criteria?

DR. BALCH: You are applying the waste at twice the volume of material.

CHAIRPERSON BAILEY: Uh-huh. So if we look at that section greater than 50 feet, I think we are missing the word "50 feet" in that first column.

MR. SMITH: Let me remind you that you already have a base, which is whatever is in the current rule.

CHAIRPERSON BAILEY: Yes.

MR. SMITH: And you need to be satisfied with whatever reasoning there was in establishing these limits before you change them.

DR. BALCH: Well, I think we can go back to our deliberations from October 1st that I argued for chloride limits not being applicable below a certain depth because of the salt bulge and there was a lot of testimony, and as we already mentioned

all of the raw data showed a salt bulge.

MR. SMITH: Does that support doubling or does that support --

DR. BALCH: I think it supports unlimited, I think. I know I asked Dr. Buchanan that question directly. He said the effect of greater concentrations of chlorides on the salt bulge would not be to significantly extend it downwards, it would be to make the concentration in that bulge higher irregardless of concentration of material that was feeding it.

COMMISSIONER BLOOM: Say it one more time.

DR. BALCH: If you have 50,000 milligrams of chloride and you infiltrate water and it goes down, it's going to hit that salt bulge. The effect on the salt bulge will be to increase the concentration within the salt bulge, not to increase the vertical extent of the salt bulge. If you have 100,000 or 200,000 milligrams per kilogram in the extreme case, you are still going to have the same situation. It's not going to change the vertical dimensions of the salt bulge. It's going to increase the concentration. With that, you are preventing essentially the chlorides from migrating to the groundwater.

MR. SMITH: So you have evidence -- is this correct? You have evidence that supports unlimited below 50 feet.

DR. BALCH: We have evidence that supports 20,000 for 25 feet.

MR. SMITH: Right.

DR. BALCH: And then all of the physical data that we have shows the salt bulge, which is in the range of 12 to 30 or so feet, and that's where the salt is going to stop, given the natural infiltration.

MR. SMITH: Right. So below 50 feet your evidence supports unlimited chloride?

DR. BALCH: I think it does. The chloride concentration doesn't impact the depth of the salt bulge.

MR. SMITH: So you have evidence that supports unlimited chloride and then you have whatever the current rule is for whatever reason it was.

DR. BALCH: Right.

MR. SMITH: And if you are going to pick something in the middle, you need to articulate on the record why you're doing that.

DR. BALCH: I guess I would say just

doubling because of volume might be a justification. Certainly that was what was presented by Mr. Gantner. In my mind, I'm not sure if you are splitting hairs if you are trying to just double. There is testimony of people saying those levels are protective using that model.

COMMISSIONER BLOOM: I just have a concern that came to me. We are now using the EPA Method 300. I'm just trying to remember. Does that have the -- would we no longer be using the 20 to one dilution?

DR. BALCH: That's what we did with the multiplier. We're not deleting it. Basically the leach test of 1312, you want to have enough liquid in there so you are completely saturated. That's why they have the standard 20 to one. Then essentially with a weak acid you are leaching every bit of the material that can possibly be gotten out of it under any mechanism, and then you are measuring it. That gives you your milligrams per liter in 1312.

The Method 300 applied to the same material is only going to give you a measure of free chlorides. Those are the chlorides that can move under pressure of water. Keep in mind with 300 they

are also applying some pressure, so they are doing some unnatural things to it which may also tend to make that somewhat conservative, but your real concern is the free chlorides. And even Dr. Neeper agreed with that, albeit reluctantly. Free chlorides were the concern. With that, I agree. We had testimony from Dr. Clay Smith.

COMMISSIONER BLOOM: Robinson.

DR. BALCH: Sorry, we had a Clay Smith who was a geologist at New Mexico Tech. He testified that clays that are in these fluids, your natural soils that you are mixing into the waste are all going to bind up some of the chloride and make the 300 test show you less chloride than is potentially available, but it does show you what's available under -- it does show you free chloride. The other chloride is less of a concern. It stays there.

Dr. Neeper agreed with that, and that is completely in line with the testimony of Dr. Buchanan where he testified that the clays were really a great protection within the waste material. You have clays in your drilling mud and they inherently cause a rate of protection up and down.

CHAIRPERSON BAILEY: Dr. Neeper's Exhibit 5 that was submitted January 23rd of 2012, on Page

39 he shows graphs of the moisture potential and soil chloride versus depth, and in each one of his graphs for dry soil chloride it shows that the salt bulge seemed to go to normal to background at 30 to 35 feet in-depth from the surface.

DR. BALCH: Already back into the background at 30 do 35 feet?

CHAIRPERSON BAILEY: Yes.

DR. BALCH: That's consistent with Dr. Buchanan's observations from looking at the pits and soils in New Mexico and his actual physical data as well from the test sites that he presented. So I think the two easy things to do are to keep the original one. Then if we didn't think there was enough evidence, change it to not necessarily being important at all or try to figure out a way we could justify a number in between the two.

CHAIRPERSON BAILEY: The application in Exhibit 20 Table 2 for depths greater than 50 feet below the bottom of the pit suggests 5,000 milligrams per liter, which would translate to 100,000 milligrams per kilogram. No, more than that. Sorry. Multiplying the 5,000 times 20 gives us 100,000.

COMMISSIONER BLOOM: Times --

CHAIRPERSON BAILEY: So the initial concentration could be as much as 400,000, which is the top of the range for pits that were sampled in the Southeast by the Industry as indicated in Dr. Neeper's Exhibit 5 Page 9 that was submitted on January 23rd, 2012.

DR. BALCH: Well, the range is good and it may be important to note that the 5,000 milligrams per liter is simply the doubling of their 2500 milligrams per liter limit from 25 to 50 foot case. So it would have to be dependent upon whether you believe it's justifiable to just double. Now, we've already said that number of 25 to 50 feet should be based on the modeling work that was done by Mr. Mullins which had the number of 1,000. This is not to say that Mr. Mullins couldn't go in there with a 2500 milligrams per liter number and still demonstrate that it would be protective even of the models but he didn't.

CHAIRPERSON BAILEY: He didn't give that to us.

DR. BALCH: Right. So at around 25 feet we are looking at a model safety factor at 1,000.

CHAIRPERSON BAILEY: Milligrams per liter.

DR. BALCH: Milligrams per liter.

CHAIRPERSON BAILEY: Which may translate to 20,000 milligrams per kilogram.

DR. BALCH: I think the only numbers we can justify are the original limit, 40,000 or not applicable.

MR. SMITH: When you say the original limit, just for the record, you mean the current limit in the rule?

DR. BALCH: The current limit. I think keeping the current limit would probably be inconsistent with what we have already done for the case of 25 to 50 feet. Do you know what the current limit is?

CHAIRPERSON BAILEY: The current limit for in-place burial at 50 to 100 feet is 500 milligrams per kilogram.

DR. BALCH: Half of what we already accepted for that shallower case. So I think staying with that number would not be appropriate.

CHAIRPERSON BAILEY: No, 500 milligrams per kilograms, not milligrams per liter.

DR. BALCH: Right. Either case I don't think it would be appropriate. We have modeling data that says at 25 feet we have 1,000 milligrams per liter, approximately 20,000 milligrams per

kilogram is protective. So that leaves a simple doubling of the number or saying that the salt bulge is going to take care of it and it doesn't matter what the concentration is.

CHAIRPERSON BAILEY: There was a lot of testimony from Dr. Neeper concerning salt bulge. His graphs indicate return to background level by 30 to 35 feet.

DR. BALCH: Dr. Buchanan said basically the same thing.

CHAIRPERSON BAILEY: Yes, but I can't reference Dr. Buchanan's charts. I have Dr. Neeper's charts right here. If we doubled the 1,000 milligrams per liter for depths greater than 50 feet below the trench, that gives us 2,000 milligrams per liter which translates to --

DR. BALCH: Approximately 40,000.

CHAIRPERSON BAILEY: -- approximately 40,000 milligrams per kilogram.

MR. SMITH: Who was it that testified to the doubling of that figure?

CHAIRPERSON BAILEY: Mr. Arthur.

MR. SMITH: Perhaps if you review his testimony around there he would have given you some reason for having doubled it.

CHAIRPERSON BAILEY: Mr. Arthur on Page 591 leading into 592, and I'll quote you that paragraph. "If we focus on the other two, chloride and TPH, what we have really done is looking at chloride being something that is really kind of our identifier, it can be mobile. What we have said is under -- if less than 50 feet we've set a limit of 5,000 milligrams per kilogram. And then at 50 to 100 feet, so we are further away from the aquifer, we doubled that limit and then doubled it again if we are more than 100 feet. So we are recognizing on really an environmental risk basis what those can be." That was his reasoning behind doubling.

DR. BALCH: This is the bus five blocks away and you step out in front of it?

CHAIRPERSON BAILEY: No, that was Dr. Thomas that talked about risk.

DR. BALCH: Oh, Dr. Thomas. I think there's less justification for somewhat arbitrarily doubling the number than there is for just saying it doesn't matter. I can make a strong argument for it doesn't matter. I'm not sure if I can make a strong argument for simply doubling it, besides the fact that we had expert testimony saying the results were protective.

CHAIRPERSON BAILEY: I'm not willing to say unlimited at 50 feet. I do not accept that.

DR. BALCH: When we changed Table 1 before we did unlimited at 100 feet and we had, I think, doubling it 51 to 100 feet. We had a third case in what would be Table 2. Fifty to 100 and greater than 100. But I'm not sure if that will work because we were dealing with people at cross-purposes.

CHAIRPERSON BAILEY: Right.

MR. SMITH: Chairperson Bailey, is your discomfort with saying it doesn't matter at 50 feet your desire to exercise an abundance of caution given the risks, the consequences of chlorides reaching the groundwater?

CHAIRPERSON BAILEY: I think that you have summarized my concerns.

MR. SMITH: There was testimony on risk, wasn't there, that when you're going to take into account risk you not only have to take into account the likelihood of something happening but the severity of consequences of that happening? So something may not be particularly likely, but if the consequences are particularly severe you may analyze that differently? If that's the case, that may be

your justification for your discomfort at saying unlimited at 50. If you posit that and then say, "Well, we have evidence saying that unlimited is all right," but because of the severity of the consequences you are not comfortable with saying unlimited. And so in an abundance of caution you want to do something else. And then you have your bus argument from Dr. Thomas and you may say,"Well, certainly doubling reduces the risk or the consequences of the risk." And in an abundance of caution you may be able to justify your doubling in that way.

DR. BALCH: There may be another way to justify doubling as well. A typical engineering safety factor is 200 percent.

CHAIRPERSON BAILEY: But I would like to thank Mr. Smith for articulating what I was feeling and what I was unable to put in words myself. Yes, I agree fully with everything you just said concerning my reluctance to accept unlimited numbers.

DR. BALCH: At 50 feet or ever?

CHAIRPERSON BAILEY: At 50 feet.

DR. BALCH: What about 100 feet? We could add another row -- we have a 50 to 100 feet case and

then a greater than 100 feet case and keep every number the same except the chloride.

CHAIRPERSON BAILEY: IPANM's table does have a section for no restriction at greater than 100 feet.

DR. BALCH: I don't think that's a good idea for the TPH and Benzene. I think with chlorides there's ample justification.

CHAIRPERSON BAILEY: I can accept the doubling as an acceptable method but not unlimited.

DR. BALCH: So you would go 20, 40, 80?

CHAIRPERSON BAILEY: Yes.

DR. BALCH: I think that will probably be a good compromise. I think it's unlikely you would run into a case where you had 80,000 anyway.

CHAIRPERSON BAILEY: So are you suggesting changing this table for between 50 and 100 and then greater than 100?

DR. BALCH: And for all other values, BTEX and Benzene keep the same limits and for chloride have 80 for greater than 100 and 40 for 50 to 100.

CHAIRPERSON BAILEY: So 25 to 50 feet below trench pit and the second section would be greater than 50 feet or 51 to 100 feet?

DR. BALCH: Right.

CHAIRPERSON BAILEY: Then the third section would be greater than 100 feet but maintaining TPH --

DR. BALCH: The only value that changed, TPH changed between 25 and 50 and greater than 50, but I think that it's okay to leave that value.

CHAIRPERSON BAILEY: Of 1,000.

DR. BALCH: I would just really worry about the chlorides. I think that's the biggest concern.

COMMISSIONER BLOOM: At the end of the day you still end up with earth that is 20,000 milligrams per kilogram or even 80,000 milligrams per kilogram four feet under the surface and under a liner.

DR. BALCH: With a liner with four feet of top cover and the revegetation, which would not take if chlorides are making it through.

CHAIRPERSON BAILEY: And that's based on Mr. Mullins' modeling indicating the 20,000 milligrams per kilogram had essentially negligible impact.

DR. BALCH: At 25.

CHAIRPERSON BAILEY: At 25 feet. That's my reasoning and my acceptance of Mr. Mullins'

modeling.

COMMISSIONER BLOOM: You're talking about moving down towards groundwater.

CHAIRPERSON BAILEY: Yes. But it's the entire system that was part of his modeling, not just that --

COMMISSIONER BLOOM: I was talking about having these concentrations within four feet of the soil.

DR. BALCH: I think it doesn't really matter if it's 20,000 or 80,000. The plants are going to die anyway. If there was exposure. You would minimize the risk of that exposure by appropriately remediating the site, according to the specifications by Dr. Buchanan.

CHAIRPERSON BAILEY: Which table are we on?

DR. BALCH: We are still on Table 2. So I think, Theresa, this would be EPA Method 300.0 and 5,000 milligrams per liter would become 40,000 milligrams per kilogram, and I think Commissioner Bailey and I were in agreement of creating a third category and copying the greater than 50 feet part of the tables.

CHAIRPERSON BAILEY: If you go down to the

bottom cell and hit "enter" there -- that's not good enough.

DR. BALCH: You want to enter -- I think you can copy that whole block and insert it below.

CHAIRPERSON BAILEY: Let's take a lunch break.

MR. SMITH: Before you break for lunch, you may, Theresa, want to make the changes that were made in that second tier there in red. And I think given what you all are contemplating doing, you want to change the left-most portion of the second tier to 51 to 100 feet; is that correct?

DR. BALCH: Right.

COMMISSIONER BLOOM: I think almost all of this will be in there for the values.

MR. SMITH: I think you probably want to match the 51-100 the way it is in the above. There you go.

COMMISSIONER BLOOM: What we have above is greater than 50 feet.

DR. BALCH: We can make those consistent with the results in Table 1.

COMMISSIONER BLOOM: Yeah.

DR. BALCH: This seems like a good place to stop for now.

CHAIRPERSON BAILEY: Let's take a break for lunch and come back by ten after 1:00.

(Note: The hearing stood in recess at 11:48 to 1:10)

CHAIRPERSON BAILEY: Before we broke for lunch there were some questions concerning the concentrations of chlorides and their impact on the depth or the size of the salt bulge. So I went back into the transcript and found where Dr. Neeper responded to questions concerning the concentration of chlorides being so much higher in the pits. The bulges still seem to be focusing on the 10 to 20 foot depths on his exhibits, and his responses would be, "It wouldn't be for the contents of the pit."

The question is on Page 1298 of the transcript, "But I'm looking for the story on the concentration of chlorides. It doesn't seem to be much of a factor in the depth of the bulge."

And Dr. Neeper responded, "It wouldn't be for the contents of the pit because that's going to depend on what was in the pit and how much got moved off. The bottom of the leading edge is going to depend more on the transport process than the concentration. It will build up higher behind it, but it doesn't go faster in the diffusion front just

because you have a higher concentration. The speed of progress isn't faster. The flux is proportional to the gradient of the concentration."

I skipped a few sentences along the way there, but it showed the concentration was not as large of a factor.

DR. BALCH: The same as Dr. Buchanan's testimony.

COMMISSIONER BLOOM: The larger concentration doesn't move faster.

DR. BALCH: Doesn't move faster?

COMMISSIONER BLOOM: Commissioner, I was looking over some things at lunch and found a rather large difference between the '07 and the '09 versions. If we look at NMOGA's Exhibit 20, Page 34.

CHAIRPERSON BAILEY: Okay.

COMMISSIONER BLOOM: At C, it uses in the context of on-site trench burial, the sampling the contents, it looks like the limit there was changed to 3,000 milligrams per liter.

CHAIRPERSON BAILEY: Right, for the trench burial.

COMMISSIONER BLOOM: For trench burial.

CHAIRPERSON BAILEY: And that was at a

depth of --

COMMISSIONER BLOOM: 25 to --

CHAIRPERSON BAILEY: Greater than 50 feet?

COMMISSIONER BLOOM: Greater than 50 feet. That would be in the site. It's not in this section but probably in the siting, related to siting of burial trenches.

CHAIRPERSON BAILEY: And that was milligrams per liter, which would translate -- multiply that by 20 and you get 60,000.

DR. BALCH: At 50 feet.

COMMISSIONER BLOOM: At 50 feet.

CHAIRPERSON BAILEY: So our table at 40,000 is even more stringent than what the current allowance is.

DR. BALCH: Well, I think that the difference may be the method.

CHAIRPERSON BAILEY: And the fact that it's a trench burial as opposed to an in-place burial.

DR. BALCH: Yeah. They are talking about the Method 300.1. They are using 1312, which I think has been established as giving you a very high concentration of chlorides.

CHAIRPERSON BAILEY: The in-place burial

of waste from a temporary pit or a drying pad between 50 and 100 feet was 500 milligrams per kilogram so the trench burial allowed for much higher concentrations of chlorides. The current rule, what we are working on doesn't make a distinction between in-place burial and trench burial, and what would be the incentive for anyone to use the trench burial, which would be more protective with its liners than the in-place burial where the liners may get chewed up in the mixing process. So we don't have any incentive built into this rule as we're deliberating.

DR. BALCH: Well, I think trench burial would be more based upon where you would want to locate the waste on-site. You might elect to move the pit contents or commingle two pit contents into one trench. Your incentive is going to be operational. It's going to be best practice. It's not -- I guess I have a hard time differentiating between a trench burial and a burial in place. Yes, with a burial in place you may do some damage to the bottom liner of the pit, but in the long-term, the protection is not provided by the bottom liner anyway, it's provided by the salt bulge and the slow infiltration rates.

CHAIRPERSON BAILEY: With the top liner of four feet of the soil and the vegetation.

DR. BALCH: The top liner protects the surface, yes, but the top liner, the four feet of cover and then the vegetation is also part of that provision.

CHAIRPERSON BAILEY: Right.

DR. BALCH: I guess I don't think it's important to differentiate the temporary pit and the trenches. What's required is the bulge in my mind.

COMMISSIONER BLOOM: The other thing I saw there was the reference to concentrations of inorganic water contaminants specified in Subsection A of 20.6.2.3103 NMAC and the same for organic water contents there. We talked a little bit about this, and I was concerned originally that that hadn't been noticed but it actually was noticed and --

DR. BALCH: This particular section wasn't omitted.

COMMISSIONER BLOOM: But as I looked at it more I got worried about -- I don't feel I heard evidence to remove all those.

DR. BALCH: There's 5,000 some potential components you could look for. I think there was testimony, in particular Dr. Thomas. It really goes

back to the vector argument. If you are going to have a risk you can use a few things that will tell you that a dangerous occurrence has happened, and in that case it's not necessary to test for every one of those 5,000 components. You can just test for the ones that tell you it's likely you'll have the other components there.

I think there's an argument for going from 5,000 odd components on that list to four on the table. These are the representative elements. They are also fairly easy to test for, whereas some of the others may not be. Certainly if you're testing for 5,000 components, that's quite expensive.

CHAIRPERSON BAILEY: The SPLP would be necessary for analysis of many of those constituents of the 3103 regulation. And since we have agreed not to use the SPLP analysis, then we wouldn't even be able to require the analysis for all of the components in Sections A and B of 3103.

DR. BALCH: I think we had essentially the same discussion when we talked about this before.

CHAIRPERSON BAILEY: I think it was Dr. Thomas who said that many of those constituents aren't even found in the oil field waste. So we had reached the point in Table 2 where we were

discussing below 100 feet.

DR. BALCH: The previous rule said at 50 feet you can have essentially 60,000.

CHAIRPERSON BAILEY: Yes.

DR. BALCH: So I think doubling that 100 feet to 80,000 would provide the reasonable protections that Mr. Smith had gathered from your discussion of the risk versus the potential hazard.

CHAIRPERSON BAILEY: So you are suggesting that we keep that at 60,000 milligrams per kilogram?

DR. BALCH: I said 80.

CHAIRPERSON BAILEY: Well,no, if we go to three --

DR. BALCH: Well, 3,000 milligrams per liter in the existing rule would apply to 50 feet.

CHAIRPERSON BAILEY: Okay.

DR. BALCH: That would roughly translate to 60,000 under the existing rule.

CHAIRPERSON BAILEY: So you are suggesting that we have 80,000 milligrams per kilogram?

DR. BALCH: Yes.

CHAIRPERSON BAILEY: And that's based on Mr. Arthur's doubling and doubling?

DR. BALCH: Right. These ranges, while I think that they do provide some added security, the

one thing you do have to be a little bit concerned about, and I'm sure we are going to talk about this in-depth this afternoon, is what could go up. So if you have at least some limit on what could go down that gives you the starting point for that discussion. I think you are probably correct in saying you don't want to have an unlimited amount for four feet of surface.

CHAIRPERSON BAILEY: Do we need further discussion on Table 2?

DR. BALCH: I'm okay with it excepting the asterisk and EPA Method 300.0 in 25 to 50 feet.

CHAIRPERSON BAILEY: Well, the asterisk means "or other test methods approved by the Division."

DR. BALCH: Right. That wasn't there and it wasn't in the other section.

CHAIRPERSON BAILEY: Mr. Bloom, do you want to discuss this one?

COMMISSIONER BLOOM: No, I don't have any more discussion.

DR. BALCH: If I could suggest, I think that Table 2 now gives us a little bit of guidance for Table 1. But while Table 2 is fresh in our minds it may not be a bad idea to look at closure

and reclamation to make sure that we switch our thought process or make sure our thought process includes protection of plants at surface.

CHAIRPERSON BAILEY: Why don't we go back to closure requirements so we can --

MR. SMITH: Before you do that, may I point something out?

CHAIRPERSON BAILEY: Yes.

MR. SMITH: Theresa just pointed out to me in the TPH section of this table on below 100, you have 1,000 milligrams per kilogram and you had changed that to 2500 milligrams per kilogram on your prior -- when you just had one table.

DR. BALCH: That was the recommendation of -- the proponents were recommending that change for -- well, I think we are going back to where we had merged those tables.

MR. SMITH: Right.

DR. BALCH: We did that exercise and we realized there was confusion between milligrams per liter and milligrams per kilogram so we can certainly discuss changing that limit for TPH again, but I don't know -- I can't remember if we ended changing that to 2500.

MR. SMITH: And 25 to 50 you had changed

TPH to, it looks like, 100 milligrams per kilogram. Oh, you have got that. 50 and 10. Okay. I guess the only difference is in the over 100 feet you had 2500 milligrams per kilogram on the TPH.

DR. BALCH: Right. The proponents -- that's because we tried to merge two tables.

MR. SMITH: Right.

DR. BALCH: I think whatever discussion we had that came up with that number may not be relevant given our better understanding of the values that are in the tables.

MR. SMITH: Okay.

DR. BALCH: Is that something that you want to share with me? We had originally changed -- when we added the greater than 100 category we allowed the TPH of 2500. That's in our Table 1.

CHAIRPERSON BAILEY: Right. I think we should stay with 1,000.

DR. BALCH: Certainly what the proponents were asking for was greater than 50 on 1,000. So if we want to change the figure I think we have to find something in the record that justifies the change. So I would leave it the same in both of the two lower cases.

CHAIRPERSON BAILEY: The current rule for

on-site closure in-place burial for groundwater between 50 and 100 feet for TPH is 2500 milligrams per kilogram. For groundwater more than 100 feet TPH as determined by EPA Method 418.1. Now, there's a difference there in methods, which may have an impact on what that standard is.

DR. BALCH: I don't know if we had testimony -- well, we didn't have testimony about TPH.

CHAIRPERSON BAILEY: Because the application in this EPA Method 8015M and the current rule, the EPA Method 418.1, I don't think we can be changing anything without knowing the difference in the analysis.

DR. BALCH: There's two paths to take. I think you can take 8015M at 1000 that the proponents are asking for in this application or you revert back to the original rule, which had 2500 milligrams with a different standard.

CHAIRPERSON BAILEY: With A different analysis.

DR. BALCH: Right.

MR. SMITH: Did you have testimony on the change of the method for TPH, changing it to 8015M?

CHAIRPERSON BAILEY: Not that I recall.

COMMISSIONER BLOOM: I don't recall.

DR. BALCH: Not direct. I mean, I think it was -- I don't think they specifically stated why the method changed. What method do you have in the existing rule?

CHAIRPERSON BAILEY: In the existing rule we had TPH as determined by EPA SW-846 Method 418.1 or other EPA method approved by the Division that the Division approved, does not exceed 2500 milligrams per kilogram. So it's EPA SW-846 Method 418.1.

DR. BALCH: I have no idea what that test is.

MR. SMITH: Well, what about the rest of the methods up here? Are they different?

CHAIRPERSON BAILEY: I will read to you what the current rule is for groundwater greater than 100 feet. Benzene as determined by EPA SW-846 Method 8021B or 8260B does not exceed 0.2 milligrams per kilogram.

DR. BALCH: So we had the 1B.

CHAIRPERSON BAILEY: Is that up there for Benzene?

MR. SMITH: Look at --

CHAIRPERSON BAILEY: Total BTEX, one of

our constituents, as determined by EPA SW-846 Method 8021B or 8260B does not exceed 50 milligrams per kilogram. So do we have for BTEX SW-846 method 8021B?

DR. BALCH: Yes.

CHAIRPERSON BAILEY: Should we include that whole string of analysis of description in EPA SW-846 Method 8021B or 817860?

DR. BALCH: One way might be to add that, the 8021 and apply the asterisk, and that would allow whatever the Division determines to be the best practice to be allowable.

CHAIRPERSON BAILEY: But rather than just have 8021B we can say EPA SW-864 Method -- dash 846 Method 8021B.

DR. BALCH: Then I would just put an asterisk and erase the rest of the line. If 8015M is appropriate, I guess the Division would allow it.

CHAIRPERSON BAILEY: Well, they do allow it for GRO and DRO combined fraction. There's a discrepancy there because in the table we are looking at it has TPH and in parenthesis GRO plus DRO. But in the current rule they make a distinction for standards for TPH and then GRO and DRO combined.

DR. BALCH: The proponents were arguing that TPH --

CHAIRPERSON BAILEY: I have copies of the current rule if the commissioners would like to have their own to look at.

DR. BALCH: Gas range organics and diesel range organics. Yeah, he did not characterize those as hazardous materials.

CHAIRPERSON BAILEY: BTEX, we talked about BTEX already.

DR. BALCH: Yes.

CHAIRPERSON BAILEY: And then we have --

DR. BALCH: BTEX and Benzene would have the same EPA method.

CHAIRPERSON BAILEY: That's right.

DR. BALCH: Now for TPH.

CHAIRPERSON BAILEY: TPH and GRO plus DRO do not have the same.

DR. BALCH: So what you could do -- I don't think there was testimony about the method. You could put in the existing method, the existing limit and then have the asterisk.

CHAIRPERSON BAILEY: What's referenced up there is 8015 and that standard is 500 milligrams per kilogram.

DR. BALCH: I thought you said it was 3,000 or is that per liter?

CHAIRPERSON BAILEY: I'm talking about GRO plus DRO and TPH is 2500 milligrams per kilogram. This is in-place. This is not trench. Trench has milligrams per liter. How complicated could it possibly have gotten?

DR. BALCH: Well, okay. So we can try and go back to previous testimony which really did not distinguish TPH in a different way, so I don't know if the limits would really be applicable if you're looking at just GRO plus DRO.

CHAIRPERSON BAILEY: But if we are looking at TPH we need EPA Method 418 or other, because that method is listed for GRO and DRO in the current rule.

DR. BALCH: I would go with the proposed limits put in the old method language with an asterisk.

CHAIRPERSON BAILEY: So TPH as determined by EPA Method 418.1 or other EPA method does not exceed 2500 milligrams per kilogram is what the current rule says.

DR. BALCH: I would probably go with that. And then with the asterisk because the OCD

determines another method would be appropriate. This would be the kind of thing the operator could ask for a variance on for a different method.

CHAIRPERSON BAILEY: Okay. So for TPH it would be 418.1 and not 8015M because 8015M applies to GRO plus DRO. There's inherent confusion just in the table that was part of the application.

DR. BALCH: You have 2500 milligrams per kilogram?

CHAIRPERSON BAILEY: Yes.

DR. BALCH: That would carry through to 50 to 100 feet.

CHAIRPERSON BAILEY: That was more than 100 feet. At 50 to 100 feet current rule has TPH determined by EPA SW-846 Method 418 or otherwise, does not exceed 2500 milligrams per kilogram.

DR. BALCH: So the same limit.

CHAIRPERSON BAILEY: Yes.

DR. BALCH: I guess that same test would apply. You said EPA Method what?

CHAIRPERSON BAILEY: SW-846 Method 418.1 for TPH. SW-846 Method 418.1.

DR. BALCH: If we are going to have an asterisk on every single thing in the column we should just put it up at the top. I think that

would allow best practices and good administration of the rule by the OCD.

CHAIRPERSON BAILEY: Wait a minute. I think what I have just given you was for in-place burial. Yes.

DR. BALCH: That would be 2500 milligrams per kilogram.

MR. SMITH: So it's clear on the record, tell me if this is correct. You have discovered that there have been in this proposal changes to the methods that are used to test for these constituents and but for chlorides there was no testimony about these changes in methods and so you are changing the table back to reflect the methods that were in the original rule because of an absence in the record of testimony on the change, correct?

CHAIRPERSON BAILEY: In the original rule there are different methods and different standards for TPH and for GRO plus DRO. In the tables as part of the application those constituents are combined into one line.

MR. SMITH: Did you not have testimony as to that combination?

DR. BALCH: To the extent that GRO and DRO were considered to be not particularly hazardous and

at these limits more safe. Nobody said which method to use to get at it.

MR. SMITH: Okay. So you are in the Method column in the table changing the proposals -- what was proposed back to the methods that are described in the current rule, correct?

DR. BALCH: With an asterisk saying if another method is approved by the Division, that's fine. And that may end up by default being what the OCD requires for the operators is the new method, but they will have a chance to research that and make sure it measured the correct thing.

MR. SMITH: Okay. So that explains the changes that you are making in the Method column. Now, you have also made changes in the chloride limits, and we understand why it is you have done that, I believe. But you have also made a change in TPH for 51 to 100 and for greater than 100 you have changed that from 1,000 milligrams per kilogram, which was proposed, to the 25 which was in the original rule?

DR. BALCH: Yes.

MR. SMITH: Okay. Is that because there was no testimony regarding that?

DR. BALCH: It's because we don't know

what differences might occur between the previously used method and the new method. I think it's better if we can stick to that value.

MR. SMITH: So because you are retaining the original method in this table you feel compelled to retain the original limit and not lower it as was requested, correct?

DR. BALCH: Now, we could lower it in the abundance of caution to the value recommended by the proponents. I don't think anybody would argue against that, except maybe the proponents.

MR. SMITH: You could to that. But as I appreciate where you are headed right now, because you have retained the old method on THP --

CHAIRPERSON BAILEY: TPH.

MR. SMITH: TPH, you are also going to or are thinking about right now retaining the old limit because you're not sure what difference the change in testing method makes, right?

DR. BALCH: Right. This doesn't apply to BTEX and Benzene because one of the listed methods is also in the previously listed methods. So we are able to make changes based upon the testimony.

MR. SMITH: But on TPH, the changes -- well, the retention of the old limits ultimately is

because of a lack of evidence in the record about the changed method; is that correct?

DR. BALCH: That's right.

MR. SMITH: Okay. I just want to make it clear on the record that that's what you're doing and why.

DR. BALCH: At least that's my understanding of how we got there.

CHAIRPERSON BAILEY: Because we don't know what this method does. It could be similar to the difference of the SPLP and the 300.0.

DR. BALCH: Or 300 and 300.1. We had testimony for that but we didn't have the testimony for the SW-846 versus --

MR. SMITH: I understand.

DR. BALCH: So with BTEX and Benzene at 51 to 100, you want to change that to be the same as in one greater than 100 in the Methods column. So it would be --

CHAIRPERSON BAILEY: That would say EPA SW-846, Method 8021B or --

DR. BALCH: We can only say 8021B. That was from the previous rule. And then the asterisk.

CHAIRPERSON BAILEY: Or 8260B is in the previous rule.

DR. BALCH: That as well.

CHAIRPERSON BAILEY: But then with the asterisk that covers whatever method.

DR. BALCH: If some other method is better, that could be argued to the Division.

CHAIRPERSON BAILEY: And for BTEX between 50 and 100 feet was 50 milligrams per kilogram.

DR. BALCH: That's unchanged.

CHAIRPERSON BAILEY: Right. And at more than 100 feet BTEX determined by EPA SW-846 Method 8021B or 8260B does not exceed 50, so we also have 50 at greater than 100 feet. So essentially the BTEX standard has not been changed from the previous rule and neither has the TPH standard from the previous rule.

COMMISSIONER BLOOM: But the GRO and DRO has increased.

DR. BALCH: No, the 2500 milligrams per kilogram is in the existing rule. The proponents asked for 1,000.

COMMISSIONER BLOOM: If you look at it, it says TPH is determined by EPA SW-846, does not exceed 2500 milligrams per kilogram. The GRO and DRO combined fraction determined by EPA SW-846 does not exceed are 500 milligrams per kilogram.

DR. BALCH: So they are talking about the GRO and DRO component of this, not the total.

COMMISSIONER BLOOM: They had both. They broke out GRO and DRO separately and had TPH separately as well, TPH at 2500 and GRO and DRO at 500.

CHAIRPERSON BAILEY: And in their application they combined those, which creates confusion as to what that standard and methodology should be.

DR. BALCH: I think we are left with the original values.

CHAIRPERSON BAILEY: Let me remind you, if as an alternative to being left with the original values, if you think there's something here that you want to know -- and I don't want anybody throwing stones at me -- but you can reopen the hearing and ask for more evidence on that.

DR. BALCH: I don't think it's significant because really they were asking for a lower limit for TPH as a whole and where they are changing the definition of a low grade -- it doesn't change anywhere. We have testimony on Benzene.

MR. SMITH: So you think the TPH -- all I want to make clear is you don't think because the

TPH you need to take other evidence, you would rather default to --

CHAIRPERSON BAILEY: I think we should default, but I think another approach is to eliminate from the line GRO plus DRO, because we are creating confusion over which standard is being tested, which constituent is being tested when we have them as separate line items in the current rule. So we can eliminate GRO and DRO or create a separate line for GRO and DRO.

DR. BALCH: We can go back and look at the record but it may have been asking the proponents were asking for TPH to mean DRO plus GRO.

CHAIRPERSON BAILEY: That's what they were asking for, but we have two different standards, two different methods, two tests that are created in our current rule. We are creating confusion by combining them and using just one of the standards from the current rule.

MR. SMITH: Do you recall any testimony on the combination?

CHAIRPERSON BAILEY: Dr. Thomas?

DR. BALCH: Yes, Dr. Thomas.

MR. SMITH: I mean on why they were combined?

DR. BALCH: Well, I would have to go back and look at the exhibits, but he had an exhibit where there was a paper that talked about the TPH, and in those exhibits there were some tables that had a variety of components in the TPH, most of which were pretty volatile if you get above gasoline-range organics. They would not be a hazard in the mind of Dr. Thomas in his testimony.

So he was really more worried about GRO and DRO and even then he said mainly it would be an impact on the taste of the water rather than the usability of the water. I'm dredging my memory back several months at that point.

MR. SMITH: It would seem to me that you have a couple options. Three maybe. If you have evidence on the wisdom of eliminating GRO and DRO you could do that. If you have evidence on combining them as appears here, you could do that. If you have evidence of neither of those, then it would seem to me that you would have to retain GRO and DRO and put them in a separate category and retain whatever limits are in the old rule. Are there other options that you can think of?

DR. BALCH: The testimony was given that TPH is defined as GRO plus DRO, was safe at 1,000

milligrams. The only difference would be in the testing method that's applied.

COMMISSIONER BLOOM: The GRO and DRO used to be done with a different test and now -- different from the TPH and now that's sort of conflating things, making TPH equal to GRO plus DRO, leaving the test the same as the test for TPH which was the 408.1 and DRO and GRO is to be tested with 8015M.

DR. BALCH: There may not be much of a conflict really because the TPH test will give you the DRO and GRO, I think, as part of what it lists.

CHAIRPERSON BAILEY: But there's inherent enforcement confusion if the company comes in and wants to use the GRO and DRO analysis. They don't have a limit that is listed here.

DR. BALCH: It would seem to me the safest thing to do is to keep the original language.

CHAIRPERSON BAILEY: Because of the confusion that has been presented, we should default back to the original rule.

COMMISSIONER BLOOM: I agree with that.

MR. SMITH: Did you have testimony that the 1,000 milligrams per kilogram would be safe specifically determined by the methods that were

proposed? Or were methods not discussed at all?

DR. BALCH: They just said refer to the table and that's where it was listed.

MR. SMITH: But there was no testimony with respect to that change in method at all?

DR. BALCH: I don't recall.

CHAIRPERSON BAILEY: Not that I recall.

MR. SMITH: Or to attaching the changed method to the 1,000 milligrams per kilogram.

CHAIRPERSON BAILEY: Not that I recall.

MR. SMITH: I mean, because if you had testimony of 1,000 whatever it was, milligrams per kilogram, as determined by whatever their proposed method was, you would have evidence, maybe not specifically directed to that proposed method but I think that that would support your change in the method. But if the method was not tied to the 1,000 milligrams per kilogram, then I'm not sure that you can go that route.

CHAIRPERSON BAILEY: I don't think we can. I think we have to default.

MR. SMITH: Okay.

DR. BALCH: I was going to see if I had any references in the record to see what was talked about.

CHAIRPERSON BAILEY: Do you want to take ten for that?

DR. BALCH: I think I can do it while we are pursuing other things.

CHAIRPERSON BAILEY: While we are looking at that, the suggestion was made that we go back to the closure requirements while this is fresh in our minds.

DR. BALCH: Right away I see Dr. Thomas. It might be related to that.

CHAIRPERSON BAILEY: He doesn't list an analysis?

DR. BALCH: I would have to go look at that reference. I'm looking at my notes on my citations. Now, this is interesting. The question was posed to Dr. Thomas, "Are the information gathered in the studies in the industry sampling program and what's done in the OCD the type of information that would commonly be relied upon by an expert in the area of waste assessment or toxicology or risk assessment as you are looking at what should be done?" And the answer is yes.

I think that's a broad statement saying the test methods proposed are okay. This is totally out of context though. This is where we're talking

about sampling. This is where he is talking about Table 1. Talking about TPH and GRO plus GRO. Starts on Page 591, Line 10 to Line 3. Doesn't look in this case we had a specific discussion of testing methods.

CHAIRPERSON BAILEY: So in the absence of a discussion on the difference in testing methods as presented in the application --

DR. BALCH: Wait a second. Okay. "The big change you are going to see are differences that we are now using a different method by which to assess chloride." Oh, it's chloride. Nevermind. I thought he was talking about Benzene and BTEX. I don't see anything.

CHAIRPERSON BAILEY: So the commissioners need to either, one, remove GRO plus DRO from the TPH line because that's creating confusion over which method is being used for which constituent and what standard is being applied, and create two separate lines and then revert back to the current rule for both the methods and the standard limits.

MR. SMITH: You're talking now about TPH and GRO and DRO. Your statement now, obviously, does not refer to chlorides and it doesn't refer to BTEX or Benzene either, correct?

CHAIRPERSON BAILEY: Only chlorides and GRO and DRO.

COMMISSIONER BLOOM: Does that make sense to split them apart and have the limits where they were before and the same testing methods?

DR. BALCH: There was testimony about GRO plus DRO being 1000 milligrams per kilogram. I don't know what the original one was.

CHAIRPERSON BAILEY: For DRO and GRO?

DR. BALCH: Yes.

CHAIRPERSON BAILEY: At 50 to 100 feet DRO and GRO combined fractions as determined by EPA SW-846 Method 8015 does not exceed 500 milligrams per kilogram.

DR. BALCH: So the testimony given by proponents was the GRO plus DRO was safe at 1,000 and I don't believe they gave -- I think they define TPH as really just the DRO or GRO components. I think they have to measure. Am I incorrect in that?

CHAIRPERSON BAILEY: The current rule has TPH as a different constituent for measurement.

DR. BALCH: Right. Part of TPH is the GRO and DRO. That's a component of the total --

CHAIRPERSON BAILEY: Right.

DR. BALCH: I don't think we have anything

to change the overall TPH number from 2500, but there is testimony to change the GRO and DRO components of 1,000.

MR. SMITH: What about the testing method? Was the testing method the same?

CHAIRPERSON BAILEY: In the current rule GRO and DRO combined was tested, determined by EPA SW-846 Method 8015.

MR. SMITH: And what was the proposed method?

COMMISSIONER BLOOM: 8015.

MR. SMITH: So for DRO and GRO you do have the same testing method?

DR. BALCH: Yes.

MR. SMITH: Okay.

DR. BALCH: That one you could put the 1,000 based on the testimony but leaving the overall value of TPH at 2500 which was in the existing rule and not particularly addressed.

CHAIRPERSON BAILEY: Which supports the idea of breaking those out into two separate lines?

DR. BALCH: I think so. So erase that right there.

CHAIRPERSON BAILEY: TPH would be 846 Method 418.1. GRO plus DRO would be 846 Method

8015.

DR. BALCH: I would reiterate it might be worth just going up to the top of the table where the headers are and under Method put an asterisk, because I think we are going to end up with an asterisk on everything in those methods.

MR. SMITH: Theresa, if they do that, then you can remove all the single asterisks under the column of Method.

DR. BALCH: I would prefer to allow best practices both in industry and regulatory side, and I think that covers that possibility. Someone could come up with a better test or the EPA may change their methods.

CHAIRPERSON BAILEY: And greater than 100. Divide it up also into two separate things.

DR. BALCH: It would have the same value. It should be 8015M in the Method?

CHAIRPERSON BAILEY: Yes, it's 8015M.

DR. BALCH: Other than that, I think we can go back to closure.

MR. SMITH: What about the 50 to 100?

DR. BALCH: Those numbers didn't change.

MR. SMITH: The numbers didn't change but do you TPH and GRO and DRO combined up there?

CHAIRPERSON BAILEY: No, they are separate.

MR. SMITH: No, they are combined up there.

DR. BALCH: Oh, in the 25 to 50.

CHAIRPERSON BAILEY: In the current rule, there is no burial above 50 feet?

DR. BALCH: Our only guidance is the suggested values by proponents, so maybe at that level of 100 milligrams per kilogram all you have is TPH and you don't agreed DRO plus GRO.

MR. SMITH: Are they combined in the current rule, Commissioner Bailey?

CHAIRPERSON BAILEY: In the current rule there is no burial.

MR. SMITH: Oh, right. Okay.

DR. BALCH: I'm just wondering at the wisdom of fractionating something that's only going to add up to 100 milligrams per kilogram.

MR. SMITH: Well, you have no default on 25 to 50.

DR. BALCH: Right. All you can do is you can put GRO plus DRO at 100 if you wanted to have the table work. That's the only information we have. Actually, it was by default less than that

because TPH is also going to have other constituents perhaps. I was saying you could leave it at just TPH for the 25 to 50 foot case.

CHAIRPERSON BAILEY: And not even require analysis of GRO plus DRO? Is that what you're saying?

DR. BALCH: By default it cannot go over 100 milligrams per kilogram and we don't have any guidance on what the fractionated number would be. I mean, realistically what the proponents are asking for here is the GRO plus DRO is 100 milligrams per kilogram with no limit on TPH. So I think in the interest of -- being a little bit cautious you go with the limits that they testify to even though it could end up less than they were requesting for GRO and DRO.

We don't know what TPH would be. Does that make sense? Basically they said GRO and DRO at 100 milligrams is fine. We didn't say anything about TPH. If you put GRO plus DRO at 100 only and TPH could be anything --

CHAIRPERSON BAILEY: Or if we put TPH at 100.

DR. BALCH: Then GRO and DRO would be up to 100 depending on what the other constituents are.

So I think that's the safest way to do it.

CHAIRPERSON BAILEY: That works. And the TPH testing method is SW-846, Method 418.1 and yes, delete that. But there's a hyphen between SW-846 all the way down. You missed one up above. Okay.

MR. SMITH: The SW-846 is described differently at different spots in your table. At some spots you precede it with EPA and at other points you don't. The same is true with 8021B. You preceded it in one spot with EPA Method and for Benzene, for instance, you don't repeat that. I don't know if you feel like you only need to say it once --

CHAIRPERSON BAILEY: No, I think we need to say it every time.

DR. BALCH: The table is replacing a lot of text where it doesn't specifically state it.

CHAIRPERSON BAILEY: We should always say EPA SW-846 Method.

DR. BALCH: I think you can already leave out the word "method" everywhere in the description if we're worried about the table being longer than a page.

CHAIRPERSON BAILEY: It doesn't take up that much room. Not for chloride. The next line

down.

COMMISSIONER BLOOM: Just delete where it repeats SW-846. Delete that.

CHAIRPERSON BAILEY: Under TPH it should not say EPA Method SW-846. It's EPA SW-846.

COMMISSIONER BLOOM: Delete the first occurrence of method.

CHAIRPERSON BAILEY: Yes. Are we satisfied? Maybe not with the constituent levels but the format of the table?

COMMISSIONER BLOOM: Yes, we're getting there.

DR. BALCH: I think so. I'm sure we will look at it again and find something else to fix.

CHAIRPERSON BAILEY: If we go back with all of the table discussion in our minds to Page 9, we had some yellow print for on-site closure methods.

DR. BALCH: It might be actually bottom of Page 8 on yours, Theresa.

CHAIRPERSON BAILEY: It's under Siting Requirements.

DR. BALCH: Under C.

CHAIRPERSON BAILEY: Continue going up. There. Yes, that's it. So we need to look at

Section C to see if we need any changes at that point because that was an area in yellow. C-1, where groundwater is less than 25 feet below the bottom of buried waste, we note that in Table 2 it allows that. For waste that exceeds the concentration limits, no, that's a true statement.

DR. BALCH: Essentially, 2, 3 and 4 were replaced.

CHAIRPERSON BAILEY: So are we in favor of deleting those grayed-out areas from the previous rule that are shown up there as Paragraphs 2, 3 and 4.

COMMISSIONER BLOOM: I can support the change to 25 feet, but if we are going to make that change it needs to be uniform.

DR. BALCH: Where do we point to Table 2?

CHAIRPERSON BAILEY: Right there in the new paragraph 2 under C.

DR. BALCH: Okay. So yes, 2, 3 and 4.

COMMISSIONER BLOOM: In 2, should that point to Table 2?

CHAIRPERSON BAILEY: We could always say "set forth in Table 2 of 19.15."

DR. BALCH: One thing that you do see is the mixing ratio. Do we have that limitation

somewhere else? I think we might want to say something for wastes. I'm concerned we don't have the clear limits on the ratio somewhere.

CHAIRPERSON BAILEY: We do have that discussion in the yellowed-out areas of the reclamation requirements, so we will address that under that section.

DR. BALCH: That's fine. You can delete the three paragraphs then.

CHAIRPERSON BAILEY: Yes, we reference it in another section so let's delete 2, 3 and 4.

DR. BALCH: We have gone through most of the limits.

CHAIRPERSON BAILEY: These siting limitations are reflected --

DR. BALCH: This is where we can find closure allowed. We have already been through that number.

CHAIRPERSON BAILEY: Then the next yellowed area is in --

COMMISSIONER BLOOM: I'm wondering if we should include 2 there. It might cause some confusion. In one area we would be saying waste can't exceed the concentration set forth in Table 2 and later on we come back to that but it's

referenced with respect to that, but also adding in can't be mixed at a ratio --

DR. BALCH: That Paragraph 2 should be addressed in actual closure, not in the places where closure can be occurring or can occur. Unless you want to move the 1.

CHAIRPERSON BAILEY: I don't understand.

DR. BALCH: Seems like C is telling you where you can have on-site closure. Whether or not you actually proceed with an on-site closure also depends on Table 2, but that's expressed in on-site closure. So you have to look for Table 2 here. Earlier we were talking about siting requirements.

COMMISSIONER BLOOM: And if we go up, the other sorts of pits, we have the temporary pits or low chloride fluids, we don't specify the contaminant levels there.

CHAIRPERSON BAILEY: This is only a siting section so you're saying that we could delete Paragraph 2 right there and ensure that it's clear in the closure requirements?

COMMISSIONER BLOOM: Yes.

MR. SMITH: Have you accepted the 25 under number one?

DR. BALCH: Yes, that is in Table 2.

Previously there was not that category.

MR. SMITH: Okay.

CHAIRPERSON BAILEY: So we can take the yellow off?

DR. BALCH: I think so.

CHAIRPERSON BAILEY: The next yellow area is on Page 17 where it discusses burial trenches for closure. Did I skip one? We are on different page numbers so I think we need to go up.

DR. BALCH: We had discussion earlier about the difference between on-site closure of the pit and the burial trench. We want to be careful about the language there. One does not necessarily exclude the other unless it's supposed to.

CHAIRPERSON BAILEY: But there's no requirement in this rule for a trench.

DR. BALCH: No.

CHAIRPERSON BAILEY: But if a waste exceeds the limits -- well, no, because it's greater than 100 feet. So there's no requirement.

COMMISSIONER BLOOM: We are in design and construction specifications right now.

DR. BALCH: Which is what now?

COMMISSIONER BLOOM: This is design and construction specifications for the trenches.

DR. BALCH: So this is if they are building a trench.

CHAIRPERSON BAILEY: So if an operator chooses to build a trench.

DR. BALCH: Then these would apply. Okay.

COMMISSIONER BLOOM: I want to repeat that. Maybe some of the language in Section 13 should come forward where they actually talk about how to design and construct a burial trench.

DR. BALCH: Well, it's essentially the same design components. You just refer to that section for trench construction. I mean, essentially they are making a new pit so I don't know if you really need to have a distinction between the two. They don't have different design specifications. Where do we define the temporary pit instruction?

CHAIRPERSON BAILEY: Page 11.

DR. BALCH: F-1 through -- could you just -- I know this might be a little too easy but if you just eliminate K and instead use the temporary pits and burial trenches.

CHAIRPERSON BAILEY: Let's see if there are major changes.

DR. BALCH: Temporary pit is really

designed for liquids and the burial trench is designed for solids, so I think there's a difference.

CHAIRPERSON BAILEY: And the siting requirements are different.

DR. BALCH: I think the siting requirements are probably going to be the same. If you keep all of K, it more or less mirrors the description on 11F.

CHAIRPERSON BAILEY: Temporary pit has a volume limitation of ten acre feet.

DR. BALCH: One is for liquids and one is for solids, so I think we have to probably keep it a separate section. But there's a lot of language in F that should be movable to K. Maybe we did that already.

COMMISSIONER BLOOM: So, for example, where we have permanent pits or temporary pits, we don't start out by saying that they shall be sited as per the siting. That's under siting.

DR. BALCH: We largely did not address the construction requirements. Nobody asked for a change in that. I think the only thing we changed was you can anchor to bedrock as an alternative. But I'm not sure if -- without putting them side by

side, K and F appear to be very similar. We might be able to go through, leave K but edit it to make sure it's dealing with solids and not liquids.

CHAIRPERSON BAILEY: Well, the first paragraph under K references a lot of numbers of sections that aren't referenced when we're talking about design requirements for temporary pits or permanent pits.

DR. BALCH: Right.

CHAIRPERSON BAILEY: So why do we need to have them here?

COMMISSIONER BLOOM: I agree. I don't think you do.

DR. BALCH: You can say something like burial trenches for closure, the operational design and construct burial trench for closure in accordance with the following requirements.

CHAIRPERSON BAILEY: The same as we began in Section F for temporary pits.

DR. BALCH: That's what I just read.

CHAIRPERSON BAILEY: Why don't we delete everything in yellow and substitute --

COMMISSIONER BLOOM: You can leave K.

CHAIRPERSON BAILEY: Leave K, burial trenches for closure, but delete everything after

that, after burial trenches for closure.

DR. BALCH: Might be easier just to reread it back in. It's F. You might take one below as well. So instead of temporary pit it should read burial trench, I guess.

COMMISSIONER BLOOM: Does 1 make sense there?

DR. BALCH: I don't know. You will change it to reflect solids instead of liquids. So in K where it says, "The operator shall design and construct a temporary pit," that should read, "The operator shall design and construct a burial trench."

CHAIRPERSON BAILEY: It's just repeating the same language as the sentence you just fixed except for the solids.

DR. BALCH: I don't know if it's necessary or not. It's in existing language for temporary pits.

COMMISSIONER BLOOM: I think that's just because it's there over the lifetime holding these liquids.

DR. BALCH: That's fine. I think it's all right the way it is.

CHAIRPERSON BAILEY: K1, at least should

have temporary pits and replace with burial trench.

COMMISSIONER BLOOM: To ensure the confinement of --

DR. BALCH: Solids.

CHAIRPERSON BAILEY: Liquids, too, because if we're talking about that uppermost layer of geomembrane and you have infiltration below the --

DR. BALCH: Right, the design.

CHAIRPERSON BAILEY: We do need to keep the liquids.

DR. BALCH: If you want the design to be similar to the design of the temporary pit I think you read it that way.

CHAIRPERSON BAILEY: Uh-huh. Because we don't want if it's leaking out of the --

COMMISSIONER BLOOM: What if it read, "The operator shall design and construct a burial trench to prevent releases." I don't know if you can have an authorized release.

DR. BALCH: To prevent releases? Would you ever authorize someone to release liquids from a burial trench?

CHAIRPERSON BAILEY: No.

DR. BALCH: Does that make a difference in the legal terms? If we change it here we probably

have to go back and change it there.

MR. SMITH: I think that's right.

DR. BALCH: We don't need the unauthorized releases, we can just put releases? There will never be an authorized release.

MR. SMITH: Then I think you should take it out, because the inference there is there might be an authorized release.

CHAIRPERSON BAILEY: So remove the word "unauthorized."

DR. BALCH: You have to go back to F1 and take it out there as well for consistency.

COMMISSIONER BLOOM: Go up to J1 and delete the word "unauthorized."

DR. BALCH: That may be something we want to search the whole document for at some point. So the place where the trench deviates from the pit is the slope of two to one on the sides and things like that, that are really not relevant. They construct it, fill it and close it. It would be for a short period of time.

CHAIRPERSON BAILEY: We need to add the statement concerning the cover.

DR. BALCH: Which is -- it would have to be from reclamation? Or is that covered in

reclamation?

CHAIRPERSON BAILEY: No, it needs to be for this design operation.

COMMISSIONER BLOOM: If you go down, there's the word "burial" that we agreed to already, so it does -- scroll down a little bit further to 10. I think there's something we want to come back to later.

CHAIRPERSON BAILEY: Here it is. We are discussing the cover for the trench. Then we go to K. Then the statement needs to be, "The operator shall install a geomembrane cover over the excavated material of the lined trench."

DR. BALCH: That would be a new K?

CHAIRPERSON BAILEY: Yes. Here you go, the geomembrane cover shall exist of -- there you go.

COMMISSIONER BLOOM: I'm wondering why that last line is in there.

DR. BALCH: Does that appear anywhere else?

COMMISSIONER BLOOM: I think it might have been in by mistake.

MR. SMITH: Are you looking at the citation at the bottom? Is that what you mean?

COMMISSIONER BLOOM: Yes, with the dates. What would those be?

CHAIRPERSON BAILEY: I don't find them in the current rule.

DR. BALCH: Might have been just a glitch?

MR. SMITH: Well, that's in the current version.

COMMISSIONER BLOOM: Yes.

DR. BALCH: For trench covers, but we're kind of discussing trenches in the same vein as temporary pits that are closed on-site. We would like to have those sections be as consistent as possible. But I'm not sure where that is.

MR. SMITH: That appears to be a citation for -- would that be original passage in the first -- how many times has this been amended, twice or once? Just once?

COMMISSIONER BLOOM: Once after the original.

MR. SMITH: Why don't you let me look into the citation?

COMMISSIONER BLOOM: Highlight that in yellow so we can come back to it.

DR. BALCH: Well, I think if you go back to F you don't have anything for Paragraph 9 and 10

there. I think instead we have the liner as part of the reclamation standard.

COMMISSIONER BLOOM: 19.15.2.50? Is that rule-making?

CHAIRPERSON BAILEY: That was the old Rule 50 that was in effect before the pit rule.

MR. SMITH: That appears to be a history, but why it's in that spot I don't know. I'll find out. Maybe you can just take it out.

DR. BALCH: Well, we don't have, like I said, anything like 9 or 10 under temporary pits. Temporary pits can be closed on the site. But I'm pretty sure in the reclamation area of the document we do address the top cover when we're talking about what happens when you close the pit. But I don't know if we actually need 9 or 10 here or not.

CHAIRPERSON BAILEY: You're saying it could go you said 13, under Closure and Site Reclamation Requirements where we deal with closure for multi-well fluid management pits, temporary pits.

DR. BALCH: We would have to add burial trenches. But I think that's probably a better way to do it, a more concise way. We don't --

CHAIRPERSON BAILEY: Rather than listing

it?

DR. BALCH: Yes. Other than that, I think everything we should probably go through quickly. It looks all right.

CHAIRPERSON BAILEY: So it would be a matter of cutting 9 and 10 and pasting them.

DR. BALCH: We don't have anything there now?

CHAIRPERSON BAILEY: I'm not finding it.

DR. BALCH: So I would yellow that, highlight it and move the whole block to --

CHAIRPERSON BAILEY: To the end of 13C.

THERESA: Cut or copied?

CHAIRPERSON BAILEY: Cut and paste. It's a great big block of yellow so at the end of the great big block of yellow. We can work with it when we get to that point. Shall we take a ten-minute break?

(Note: The hearing stood in recess at 2:45 to 3:00.)

CHAIRPERSON BAILEY: Are we happy now with Section K of Section 11 concerning --

DR. BALCH: The only thing I noticed was in Paragraph 5. We had changed language like in other sections. It's already fixed in this version.

CHAIRPERSON BAILEY: Up and down, not across slope?

DR. BALCH: Yeah. I must be looking at an older version. So I think we already fixed the other. Now, Paragraph 8 --

CHAIRPERSON BAILEY: Before you go to 8 in 7 we had burial highlighted in red. Does that make sense to us?

DR. BALCH: No. What you are doing, at this point you prepared the trench and now you are burying.

CHAIRPERSON BAILEY: In anticipation of burial of the excavated waste material?

DR. BALCH: Secured for the deposition of the excavated materials.

COMMISSIONER BLOOM: Are secured in anticipation.

DR. BALCH: Yeah, you don't want the edge of the liner to fall in.

CHAIRPERSON BAILEY: So it's in anticipation of disposing of excavated waste material.

DR. BALCH: I think if you say "secured for the deposit of" instead of "burial of," you will be okay.

COMMISSIONER BLOOM: Yeah, that will work.

CHAIRPERSON BAILEY: Okay.

DR. BALCH: Now we go down to 9.

CHAIRPERSON BAILEY: As part of the closure plan, not as part of the --

COMMISSIONER BLOOM: I see that as different. I see that as saying -- I think we want to leave "deposit" in red. Now, 8 is for -- so if you dump everything in, I think they say fold the sides over and later -- the sides aren't going to entirely cover the top so later they come back with that material and cover the top. So I think 8 is probably fine.

CHAIRPERSON BAILEY: But that belongs in the closure plan rather than in the design and construction specs. Because that's part of the operations for how you close it up.

DR. BALCH: I see Section K as how you construct and operate it. Not operate it, just construct it. So 8 here is really on closure. Probably goes before 9 and 10.

COMMISSIONER BLOOM: That will probably be good to take down below to closure because it could apply to temporary pits, too.

DR. BALCH: Right. Either case would be

the same situation.

CHAIRPERSON BAILEY: So that would be cut it here and paste it.

COMMISSIONER BLOOM: Section 13.

CHAIRPERSON BAILEY: Section 13, our Page 24.

DR. BALCH: Pagination went out the window.

CHAIRPERSON BAILEY: Go to the end of all the yellow part. Before No. 9 there. Put it in yellow. And for the record, changes like you are making now, moving things around, and for that matter as you have done all the way through the deliberations, many of these changes and moves are being made, are they not, because of testimony that the current rule was confusing and difficult to work with?

CHAIRPERSON BAILEY: Yes. So we are trying to make it a more concise, efficient way of describing what's required.

MR. SMITH: Okay, good.

DR. BALCH: Removing redundancy, taking the same language out of four sections and putting it into one.

MR. SMITH: Good. Okay.

COMMISSIONER BLOOM: Are we going to Section 13 now?

CHAIRPERSON BAILEY: Well, just before 13 there's a yellow area that deals with operator of below-grade tanks, equip or retrofit below-grade tanks. There it is. That would be in Section 12.

DR. BALCH: This comes back to Table 1.

CHAIRPERSON BAILEY: Yes. So even though we don't have standards yet for Table 1. So does that mean that we can accept the language in this paragraph based on the fact that we will eventually deal with Table 1 and with what the standards are?

DR. BALCH: I think it might be better to leave this section highlighted for now. There may be an area between the burial standard and the minimum standard for plant safety at 600 that might be addressed in text and this could be the place.

CHAIRPERSON BAILEY: We can always come back.

DR. BALCH: I think I'm okay with the language the way it is now but I'm not quite sure yet how that's going to play out on protecting the environment versus protecting the water, how we are going to address that in the regulation and make sure both are adequately protected.

CHAIRPERSON BAILEY: Well, Commissioner Bloom, do you agree that we can go forward into Section 13, Closure and Site Reclamation Requirements?

COMMISSIONER BLOOM: Yes, I agree.

CHAIRPERSON BAILEY: I think we already accepted a lot of this language. We're down to No. 3 in yellow, which deals with testing soils beneath the pit and how that should be done, what the protocol is for sampling. I found an issue with 3C compared with Page 26, the title for Section F. If you will look on your pages, 3C we say that below-grade tanks are included in Table 1, and in the title for F on Page 26 we don't use the below-grade tanks term, although we do down below in F1A. So my question is, since we have below-grade tanks in 3C, shouldn't we have below-grade tanks listed under F1, under F in the title?

DR. BALCH: This may come down to a little bit more discussion about Table 1.

CHAIRPERSON BAILEY: Table 1.

DR. BALCH: And that concern that was voiced earlier, I think appropriately, was if you are just going to backfill you need to have adequately protection from chlorides. The only way

to do it with just backfill is to have a low level.

COMMISSIONER BLOOM: A what?

DR. BALCH: A low level of chlorides. If you are just going to cover it with dirt it has to be a low level of chlorides for it to be protective. If you apply other reclamation standards, then you can have a higher level of chlorides at the same location, but you need to have a top liner or a liner, four feet of soil and then reclamation of the surface.

CHAIRPERSON BAILEY: Recontouring and revegetation. The revegetation is a vital part.

DR. BALCH: Which is a little bit costly, I presume. But to be protective there's got to be some trigger, I think, for -- I think there has to be a trigger for when you go to a full -- three things can happen. You remove a tank. There's discoloration and you take a sample. You can be below 600, in which case I think it's appropriate to backfill with one foot, it's all right, and then whatever else you have to do at that point. I presume seed or something.

CHAIRPERSON BAILEY: It's revegetation. It's part of the system.

DR. BALCH: If you are above 600 but

below -- this is where I don't know. But below some other level where you are concerned about a plume at 25 feet or less, right?

CHAIRPERSON BAILEY: Uh-huh.

DR. BALCH: In that range you could reasonably excavate to the point where you could put a liner, four feet of cover and then reclamation. If you exceed the limit for burial in Table 2, I think at that point you are going to be digging for a while until you delineate the plume.

CHAIRPERSON BAILEY: The current practice is to excavate until you reach a certain level, a certain concentration, to ensure that there's no further migration or that that release has not reached groundwater.

DR. BALCH: And I think that's appropriate for a very high concentration in your five-spot sample test. But for something that doesn't meet the level of Table 2 you ought to be able to just excavate down to the point where you can proceed with a Table 2 type closure, liner, four feet of cover and revegetation.

The reason I'm concerned with just digging is what happens if you get down to 15 feet and you find the salt bulge? You just excavated natural

protection.

CHAIRPERSON BAILEY: Unless you refill it and recover up to grade.

DR. BALCH: Then you might be having people excavate 30, 40 feet and they may have already -- once they hit the top of the bulge where the concentration increases they may already be past where their impact was and dealing with the natural occurrence of salt in the soil that's related to the salt bulge. That's why I kind of differentiate between -- that's why I sort of have three levels that I want to look at: Stuff that you can just backfill, stuff you have to reclaim and stuff you have to investigate completely. Because if you investigate, I think -- I don't know. The implication is I think you start digging you're going to find the salt bulge at some point. Below that it should go back down.

CHAIRPERSON BAILEY: And according to Dr. Neeper's graphs, that bulge appears to go back to background between 30 and 35 feet.

DR. BALCH: Now, the difference here is we are talking about a liquid release.

CHAIRPERSON BAILEY: Yes.

DR. BALCH: Where you could have had some

unknown amount of chlorides leaking for a long period of time. But we went in the rule and made sure things had to be inspected regularly for integrity, that there is ample monitoring of pits to make sure that they are not leaking, at least to a reasonable degree during their operational phase. I'm wondering if you would have a large enough release to overcome the salt bulge.

CHAIRPERSON BAILEY: Otherwise we wouldn't have chloride contamination, and we have many cases of chloride contamination, not from temporary pits but from other --

DR. BALCH: Well, basically, if you have an unnatural pulse of fluid, a much greater amount than you could predict from natural events, that's when you would push the chlorides through that salt bulge, I think.

CHAIRPERSON BAILEY: And we have pipeline ruptures, we have many sources for releases of chlorides.

DR. BALCH: Okay. So let me state this one other way. I'm just trying to get this straight in my head.

CHAIRPERSON BAILEY: Well, we need to work this through.

DR. BALCH: If you have greater than 600 milligrams per kilogram of chlorides, one foot from the surface, Dr. Neeper testified that that would be hazardous to the plants on the surface.

CHAIRPERSON BAILEY: Right.

DR. BALCH: However, if we have Table 1, which needs to be delineated completely, which is addressing the concern of groundwater, de facto if you are not doing a full remediation you are in a situation where those upper limits have to be 600 everywhere for any depth of groundwater. So you could either have every site that has contamination above 600 completely remediated -- I think you almost have to do that. You have to investigate or remediate anything above 600. Then you get down to the level where you -- I don't know.

CHAIRPERSON BAILEY: Because with the release you are not going to know how far.

DR. BALCH: Or how much.

CHAIRPERSON BAILEY: Or how deep it went. How close is it to the groundwater? You're not going to know that until you excavate to find out.

DR. BALCH: When you go to excavate, is this covered by the Spill Rule?

CHAIRPERSON BAILEY: No, the Spill Rule

deals with volumes of releases, but you can't look at discolored dirt and know what the volume was.

DR. BALCH: You have to --

CHAIRPERSON BAILEY: Until you reach some sort of level to tell you that there's no longer the potential for groundwater contamination.

DR. BALCH: The proponents were asking in Table 1 for that value to be 5,000 milligrams per kilogram from the five-spot sample from underneath the tank.

CHAIRPERSON BAILEY: Right.

DR. BALCH: But the problem with any limit there is you don't know the extent of the liquid that was released.

CHAIRPERSON BAILEY: You could best go by a value that you feel at that depth would not contribute to contamination of freshwater at whatever level it is.

DR. BALCH: Which I think in Table 2, when you're dealing with a plume from a release, presumably when you discover it in this case it would be after the fact. It's already stabilized to some degree within the soil. If you --

CHAIRPERSON BAILEY: Unless there's ongoing pressure for that plume to advance.

DR. BALCH: Well, that would be a continuous influx of water or fluid.

CHAIRPERSON BAILEY: Or precipitation of some sort or whatever.

DR. BALCH: Right.

CHAIRPERSON BAILEY: Or just groundwater movement.

DR. BALCH: Or just groundwater movement. I'm just trying to think of what the impact is if you run into some degree of chlorides that are greater than 600 or background, whichever is greater. You go okay, I need to dig and then retest, so you dig down a couple feet and it's still the same. You dig down a couple more feet and it's still the same. At that point you have four feet. You could put a liner, four feet of cover and you would then be controlling the infiltration. You would be stopping the spread of the plume.

CHAIRPERSON BAILEY: From that one vertical silo, but you also have --

DR. BALCH: You don't know where it went horizontally.

CHAIRPERSON BAILEY: Right. Those distances can't be measured at that point. Do you have any insights here?

COMMISSIONER BLOOM: We go back to how do we deal with the case of the below-grade tank that only has -- only been dug in, say, a foot or a couple feet in the ground. Perhaps the way to deal with it as Mr. Balch which suggested is look at a third table of some sort or have a closure section for below-grade tanks which says a lower standard, and just take below-grade tanks off of some of these, and then find the way to deal with it.

DR. BALCH: The thing is, if you have a temporary tank with ten acre feet, you can certainly predict the maximum size of the plume would be the time that it was there, how much fluid was in it. I think if you were constantly replenishing fluid in your pit besides what you would be expecting you might know there was a leak.

CHAIRPERSON BAILEY: But we also have multi-well fluid management pits. We also have permanent pits. We are not just talking about temporary pits.

DR. BALCH: Maybe we are looking at two categories of things. One is a category as in Table 2 where you're burying wastes at a location with some protection. I'm going to put this out here and I think I mentioned it this morning. If you had a

leaky pit at that point, you wouldn't know. You would just be protecting the ground from anything further.

CHAIRPERSON BAILEY: If you have excavated all material.

DR. BALCH: No, I'm talking about if you had a temporary pit, you are going to close it in place. You'll make a burrito or a taco or whatever it is. Then you put the liner over it. You are never going to test underneath the bottom liner unless you dig a trench and remove it all.

CHAIRPERSON BAILEY: That's the way the scenario is set up. And you would have the burrito with the four feet cover and the revegetation.

DR. BALCH: Right. So in that case you are dealing with, at the very least, you are setting up the situation where you are stopping further infiltration from that location.

CHAIRPERSON BAILEY: For a temporary pit.

DR. BALCH: For a temporary pit. The other case -- I think there's a couple other cases. The second one is you do a permanent/multi-well pit and treat them the same in almost every way. I think we ought to treat them the same with regard to this. In that case it's full removal. You're

taking out the liner, doing tests here and there, you're excavating where appropriate and so on. I think that's already in place.

CHAIRPERSON BAILEY: And if discolored soil is discovered beneath that, it would require excavation to some point where analysis shows we are no longer worried about chlorides in the vadose zone contaminating groundwater.

DR. BALCH: Okay.

CHAIRPERSON BAILEY: But reaching that -- what is that some point?

DR. BALCH: You already can't have one of these multi-well permanent pits with the groundwater shallower than 50 feet, I think, so you are looking at potentially having to excavate below the salt bulge to see if chlorides are below that. You could be digging a pretty big hole.

CHAIRPERSON BAILEY: Thirty feet.

DR. BALCH: All the way down to the water table.

CHAIRPERSON BAILEY: In theory. But in practice, I don't believe we go more than 30 feet simply because the backhoes have issues going past 30 feet.

DR. BALCH: I know of a pipeline release

that has cost upward of $450,000 to do all that digging.

CHAIRPERSON BAILEY: That's a conservative number.

DR. BALCH: If it's a big spill, you are hauling and removing a lot of material.

CHAIRPERSON BAILEY: Yes, you are.

DR. BALCH: I think if you want to be protective of plants at the surface and the environment, then you have to, at a minimum, if you have greater than 600 milligrams per kilogram of chloride you have to at a minimum excavate the four feet for full reclamation.

CHAIRPERSON BAILEY: So you are saying for closure of a below-grade tank, which may or may not be below-grade by four feet, that we should require excavation of a minimum of four feet?

DR. BALCH: If --

CHAIRPERSON BAILEY: If there is discovered --

DR. BALCH: Chlorides above 600 milligrams per kilogram.

CHAIRPERSON BAILEY: And then at four feet is there a magic number in your mind for not having to excavate any farther?

DR. BALCH: To me the magic number would be the number that we set for on-site burial.

CHAIRPERSON BAILEY: And that's 20,000 milligrams per kilogram.

DR. BALCH: I'm not sure it makes sense. I'm just saying that would be -- you would bury pit waste with that concentration is what I'm saying at that depth with that kind of cover.

CHAIRPERSON BAILEY: With the bottom liner at least partially retarding the infiltration below the pit. But there is no bottom liner in this excavation of four feet below the below-grade tank?

DR. BALCH: Right. To get that 20,000 number we used Mr. Mullins' models of the 1,000 milligrams per liter infiltration and he did notice that the existence of the bottom liner didn't have a significant impact on the simulation. That was not sensitive variable. So I'm proposing that we might want to consider an intermediate step. I'm not saying that we necessarily have to do it. The only other step, as you said, is completely excavate below the level and proceed with the reclamation.

CHAIRPERSON BAILEY: Determination of the severity of the leak from the below-grade tank can be determined by excavation to some magic level of

chlorides.

DR. BALCH: What about -- I mean, excavation is expensive. What about coring?

COMMISSIONER BLOOM: What about what?

DR. BALCH: Coring. You go out with a rotary drill. I don't know what you call it.

CHAIRPERSON BAILEY: It's not going to ever go directly vertical. It's going to finger out.

DR. BALCH: You wouldn't do it in one spot. You would do it -- the vertical extent of the plume -- I'm just trying to make this complicated.

COMMISSIONER BLOOM: What if we had something along the lines of can we pull below-grade tanks out of common closure requirements for pits and have something along the lines of if the below-grade tank is set at a depth of four feet or less below grade, chlorides shall not exceed X amount?

CHAIRPERSON BAILEY: Six hundred.

DR. BALCH: Well, if it's less than that you can backfill. Other than that you have to reclaim --

CHAIRPERSON BAILEY: Investigate and remediate if necessary.

DR. BALCH: Then Table 1 would only apply to below multi-well, permanent and temporary pits that are being removed, although I'm not sure there's really a distinction.

CHAIRPERSON BAILEY: If we had a leaking temporary pit where they have excavated the material and the liner, they discovered the stained soil, they have done their five-point analysis, we keep just coming to this --

DR. BALCH: That's going to already necessarily be closed with the four feet of cover and all of that. So I think the differentiation that Mr. Bloom is making was that the tanks are the things that will be shallow. On the other hand, and I'm going to muddy the water even more, I would be more concerned about a leaky tank providing sustained influx of salt water to the soil than I would be a temporary pit for sure, because a temporary pit has a short existence. There's a finite amount of liquid that could be leaked for that before it's noticed.

CHAIRPERSON BAILEY: In one year maximum, where a below-grade tank could be there --

DR. BALCH: Well, six months maximum, because we drain it for a month or so, whereas the

tank could be there for 20 years slowly leaking, and that's where you really don't know what's going on.

COMMISSIONER BLOOM: Perhaps it wouldn't be that. If the sides -- the bottoms aren't open for visible inspection then it has to be removed from the surface at some point, what, in 2013?

CHAIRPERSON BAILEY: You are required to show integrity.

DR. BALCH: Right. But if there are -- that's true. I guess the way they do it is excavate and test. Scrape off and test, scrape off and test again. If somebody were to hire me to go out and the linear plume I would use bore holes.

CHAIRPERSON BAILEY: They have monitor wells for abatement plans. There are monitor wells.

DR. BALCH: This is like if you're going to go out for minerals or something, gravel bed. You drill it, pull it up and sample the material from that depth and see what the chlorides are. You do that in a grid, then you know where your plume is horizontally, and then vertically if you take the samples at different intervals.

CHAIRPERSON BAILEY: It may be more economic to simply dig out --

DR. BALCH: I don't know. $400,000 is a

lot of money.

CHAIRPERSON BAILEY: Well, because of the size of the plume.

DR. BALCH: In that case they would end up excavating anyway. So you might be right. It may be easier to excavate. Maybe it comes down to if you have greater than 600, you have to investigate or excavate until you are less than that before you can backfill.

CHAIRPERSON BAILEY: I think we have talked it around to the point where 600 is something that I can live with.

DR. BALCH: The only thing that bothers me a little bit about it is if you do the full remediation you have protected it from, we think, up to 80,000 in surface soil, from up to 80,000 with Table 2 for deep groundwater by applying the soil cover and the top liner, revegetation, etc. And Dr. Buchanan testified to that extent. He said given four feet he could reclaim anything.

CHAIRPERSON BAILEY: But we don't know where to put that liner.

DR. BALCH: At least four feet. I just don't know if there's a gray area in the middle where you are less concerned with the 600 for

groundwater. The problem is we just don't know. With the case in Table 2 where you're burying on-site, you know that temporary pit has been there with liquid for a relatively short period of time. I think you can have a little more confidence in just covering it without testing below the pit. But for the other cases, I think you have to be a little more concerned.

CHAIRPERSON BAILEY: Yes, I agree with that. Because you simply don't know how long and what volume and the size of the plume or anything else because it's an uncontrolled release that we have no dimensions until it's excavated.

DR. BALCH: Moral of the story is don't let your tanks leak.

CHAIRPERSON BAILEY: All right. Would you read your comments again about below-grade tanks?

COMMISSIONER BLOOM: I thought we have a section that specifically deals with closure of below-grade tanks and we could do something along the lines of "A below-grade tank is set at a depth of four feet or less. Chlorides shall not exceed blank milligrams per kilogram."

CHAIRPERSON BAILEY: Which is our 600 standard for revegetation?

COMMISSIONER BLOOM: I might argue that 600 would be a little high, excluding something we might want to see grow there, but that's a separate step.

DR. BALCH: We had testimony from Dr. Neeper that 600 was safe for a wide variety of plants. There was testimony by Dr. Buchanan that that might actually be a little low for desert climate plants. We could probably go higher. But most of Dr. Buchanan's testimony was in the reference frame of having your four feet of cover. So Table 1 would be the trigger for investigation?

CHAIRPERSON BAILEY: If we look at the current rule -- we have been wrangling around what kind of number. If we look at the current rule for 50 to 100 feet, the limit on chlorides was 500 milligrams per kilogram. At 100 feet the chloride limit was 1,000 milligrams per kilogram.

DR. BALCH: That's dealing with groundwater protection, not surface protection.

CHAIRPERSON BAILEY: But those could also be used as triggers for investigation.

COMMISSIONER BLOOM: That's when you have to begin investigating.

DR. BALCH: We had that testimony that the

other levels that were proposed were considered safe. I think that the variable that's left out there is what's the plume size and duration.

CHAIRPERSON BAILEY: So instead --

DR. BALCH: If you read B, you may have noticed I don't like it if we are simply black and white. I like to have the ability to use best practices both on the administrative side and also on the operator side. B might really cover that concern. Basically what happens is you go out and do the test and then you go and consult with the Division.

CHAIRPERSON BAILEY: That's what we're doing is trying to set the parameters of Table 1.

DR. BALCH: Right. But even if they exceed -- maybe they have 800 milligrams per kilogram of chloride. They would take that result and go to the Division. The Division might then require additional delineation, which I guess would be excavation.

CHAIRPERSON BAILEY: Until it reaches that 600 figure again.

DR. BALCH: Well, they may be able to justify some other limit, either through background or hey, I think we are getting into the salt bulge

or something like that. Just some flexibility.

CHAIRPERSON BAILEY: Flexibility which can allow for interpretation in one district to be different from the interpretation in another district. There's no consistency of requirement, which is sometimes a problem for an operator.

DR. BALCH: I think that can be a problem. It would be more of a problem, say, between Hobbs and Roswell than from Roswell to San Juan because there you may really have different circumstances and may look at an issue differently.

CHAIRPERSON BAILEY: Clearly there are differences between the northwest and the southeast.

DR. BALCH: Right.

CHAIRPERSON BAILEY: But we have two districts in the southeast, and I would like to see consistent application of requirements for operators in the southeast.

DR. BALCH: So you don't like the paragraph the way it reads?

CHAIRPERSON BAILEY: No, I think that's fine. We're just trying to wrangle what the parameters are in Table 1.

DR. BALCH: That's fine. I think B provides an outlet for circumstances that are not

envisioned by Table 1 exactly. Or we can go and say, "This tank has been out for three months and I only had water in it for two months. I don't think the leak could have been that big." We can just excavate, line and backfill and recontour and all that.

CHAIRPERSON BAILEY: Can we agree on 3A, B and C as they are written and remove the yellow highlight for those paragraphs that are on the screen?

DR. BALCH: I think so.

CHAIRPERSON BAILEY: We agree on the paragraphs that we see on the screen, 3A, B and C?

DR. BALCH: Regardless of the contents of Table 1.

CHAIRPERSON BAILEY: Right. It includes below-grade tanks, drying pads, closed pits, any kind of pit.

COMMISSIONER BLOOM: I think that works, because if it was beyond 600 milligrams per kilogram it would go to the Division to review.

DR. BALCH: Right. They will take the results to the Division and make a decision on how to proceed for closure.

CHAIRPERSON BAILEY: So we can agree on 3,

A, B and C. If you would like to remove the yellow highlight.

DR. BALCH: I think she has been removing the underlines also and making it red text. There might be changes but it looks like we can move this.

MR. SMITH: And I think this language is mirrored under B9.

CHAIRPERSON BAILEY: That we moved over there?

MR. SMITH: I think so. This is A3, right?

CHAIRPERSON BAILEY: No, this is B3.

MR. SMITH: Oh, this is B3. I'm sorry.

DR. BALCH: I think we can plow through this and see how it turns out.

CHAIRPERSON BAILEY: Let's look at the following paragraphs.

DR. BALCH: I think we looked at this earlier today. I think I like this except for I would add one sentence which probably would say, "Disposal of waste from a pit on an adjacent lease would require."

CHAIRPERSON BAILEY: So put that before the sentence on-site, which would be deleted anyway since that's the definition.

DR. BALCH: Right. I would just have it at the end. That would still leave the door open for adjacent leases operated by some company.

CHAIRPERSON BAILEY: So if you would repeat that for Theresa so she can --

DR. BALCH: Oh, Theresa is back. I would say, "Disposal of waste from an adjacent lease under the control of the same operator would require a variance." At least that leaves the door open for it. Now, I don't know if we really actually have to say this because the way we defined variance is anything that's not an exception and having the variance applied for.

CHAIRPERSON BAILEY: Up above we say it's limited to a single lease. So that really does create confusion and doubt. Why not just say variances may be granted -- or a variance may be granted? We've already said variances may be granted everywhere.

DR. BALCH: Could you take the laboratory analysis sentence before that and say, "A nearby temporary pit or burial trench that receives waste from another temporary pit must be on-site if they are within the same lease"? I think if you stop there that's all right.

CHAIRPERSON BAILEY: So delete everything after that? That paragraph -- that sentence that you just read and the next one?

DR. BALCH: Basically, I'm thinking of a special case which they could already apply for a variance. Everything that's not yellow at the end of C. This might pose an issue. Surface owners and things like that. Probably not a place we want to go.

CHAIRPERSON BAILEY: So can we accept the language in the opening paragraph or just C?

DR. BALCH: Could you undo that definition? I think we can just stop at on-site, because the definition of on-site only includes a single lease. You don't have to have it within the same lease.

MR. SMITH: Except that you have two pits so you don't know which on-site you're talking about.

DR. BALCH: Okay. I see. Okay.

COMMISSIONER BLOOM: That's right.

CHAIRPERSON BAILEY: Commissioner Bloom?

COMMISSIONER BLOOM: I think that will work.

CHAIRPERSON BAILEY: Then let's accept C.

COMMISSIONER BLOOM: What happens with permanent pits in closure?

DR. BALCH: They are not closed on-site. Everything is taken away.

COMMISSIONER BLOOM: Where is that language now?

DR. BALCH: I think it would be under A.

COMMISSIONER BLOOM: If you go up to A, we just have multi-well fluid management pits but nothing said about --

DR. BALCH: It might be in the definition.

CHAIRPERSON BAILEY: I'm looking under Design, and it doesn't discuss closure.

COMMISSIONER BLOOM: Maybe Page 4.

DR. BALCH: Table 2 doesn't have multi-well fluid management pits if that helps.

COMMISSIONER BLOOM: Look under Section 9, Permit Application and Registration. B1, looking on Page 4 of the January 11th adoption. Permanent pits is B1, and C is closure plan. So multi-well fluid management pits has been following permanent pits to a large degree. We worked through this. I'm not sure we require filing after closure plan. We do. That's in there. Okay. Under 4. B4.

CHAIRPERSON BAILEY: The opening paragraph

on Page 22 does mention permanent pits.

DR. BALCH: It's in B on Page 22 of the January 11th.

CHAIRPERSON BAILEY: In the opening paragraph?

DR. BALCH: Closure for waste destined for disposal of Division-approved -- that's off-site. This applies to permanent pits, temporary pits, multi-well fluid management pits, et cetera. So you're right, we have that one case but --

COMMISSIONER BLOOM: I think maybe A1 is unnecessary.

CHAIRPERSON BAILEY: A1 says that everything has to be cleared out and that it can't be left on-site.

DR. BALCH: It's right there in the top of C. "Closure where wastes are destined for burial in place or into nearby division-approved pits or trenches. This section applies to waste from temporary pits and closed-loop systems, when such waste may be disposed of in place in the existing temporary pit or disposed of at a nearby temporary pit." This covers -- this does not include multi-well or permanent. So everything in C doesn't apply there. So 1 is fine. Is that the right

siting criteria?

CHAIRPERSON BAILEY: Section 10 C deals with operator shall not implement an on-site closure method.

DR. BALCH: Siting requirements, that's right. Okay. I think 3 is fine.

CHAIRPERSON BAILEY: Earlier there was the question about the three to one mixing, and it's here in Paragraph 4.

DR. BALCH: Is that the right --

CHAIRPERSON BAILEY: I would have to find it in the current rule in order to comment whether or not that is accurate or not because I don't recall testimony on that.

DR. BALCH: Do we want to change the last part of the sentence to "or division-approved method"?

CHAIRPERSON BAILEY: I think that would be consistent and it also allows for any updates or better methods analyses that may be in the future.

DR. BALCH: I think the exact word is "or other test methods approved by the Division."

CHAIRPERSON BAILEY: Yes. So let's change "or subsequent relevant publication" to "or other test methods approved by the Division."

COMMISSIONER BLOOM: My only concern, we are adding in a lot of these and it depends who is at the Division.

DR. BALCH: This is they can use the paint filter test or something else. Not that they can replace the paint filter test necessarily. I think there's some protection there.

COMMISSIONER BLOOM: But just as a matter of general rule-making, how much do we want to allow to go to the Division?

CHAIRPERSON BAILEY: I think you have to look to the future and say EPA updates, new analyses are created to allow that option so that we don't have to come back to rule-making if a test method is changed. I don't think that's changing the substance of the message here.

DR. BALCH: Somewhere there's a form, a C 144 or something like that, and it will tell you what to do. If the Division changes it, they would just change it on the form. They don't have to change the whole rule. That's what we're saying.

CHAIRPERSON BAILEY: If we specify a method here and give no option for other methods as the Division approves, then the rule change has to occur before we allow any other analyses to be used.

That's why it allows for future improvements or different analyses that may arise in the future.

DR. BALCH: There's already language there, but it specifically said "other EPA changes." So I think that might be a little too narrow. If you were concerned about taking it away from the EPA testing method, I believe in most regulatory situations the most strict requirements is what is used, be it state or federal. I'm okay with that.

COMMISSIONER BLOOM: Okay. We can move on.

CHAIRPERSON BAILEY: Well, we can go ahead and accept 1 through 4 then and look at 5, 6 and 7.

DR. BALCH: I think that's all right.

CHAIRPERSON BAILEY: And 7 does describe the soil cover but it doesn't describe the geomembrane cover that we brought in at a later paragraph. So I can accept --

DR. BALCH: So 6 refers to Table 2, I believe.

CHAIRPERSON BAILEY: That's right, because we're talking burial here.

DR. BALCH: I think we were just there. That would be for temporary pits and trenches.

CHAIRPERSON BAILEY: So we can accept

Paragraph 6?

DR. BALCH: I think so.

COMMISSIONER BLOOM: I'm sorry, what's that?

DR. BALCH: 5.2 also?

CHAIRPERSON BAILEY: No, 5.2 --

DR. BALCH: This is stabilized waste. This is going to be buried.

CHAIRPERSON BAILEY: Okay.

DR. BALCH: Now in 7 there's a potential problem for clarification. Okay. Yeah, it's in 7. The first sentence reads, "Upon achieving all applicable waste stabilization and transfer of the waste into a temporary pit or burial trench." We are not going to transferring anything into the temporary pit. Well, I guess you could be from the adjacent pit. Okay.

CHAIRPERSON BAILEY: But before we put on the soil cover we need to have the geomembrane cover that's referenced in -- that we added to this section earlier today. I think if you scroll down you will find it. There. It's in 8, 9 and 10, the geomembrane cover.

DR. BALCH: You might want to move 7 above. Go back up. You might want to put 8 above

7. Eight is the fact where you don't pass the test and you have to haul away. Seven would be the case where you can bury on-site, and that would lead naturally to then you do this, put the cover, then you put the soil and the revegetation effort.

CHAIRPERSON BAILEY: Can you scroll down a bit? Okay. I agree with you that we need to reverse those paragraphs.

DR. BALCH: That's Table 2. That deals with removal and disposal of waste.

COMMISSIONER BLOOM: No, actually that's the closure plan. I think it's Subsection D with the off-site facility.

CHAIRPERSON BAILEY: So Paragraph 7, the last line, it should be Subsection B.

DR. BALCH: I think 7 is all right.

COMMISSIONER BLOOM: Yes.

DR. BALCH: So 8 is where it does pass the -- okay, so before 8 is where you want to put in the cover or just include it?

CHAIRPERSON BAILEY: Let's put it before 8.

DR. BALCH: Insert it right after the second line. The geomembrane liner.

CHAIRPERSON BAILEY: Down below. There.

DR. BALCH: We also have the trench.

CHAIRPERSON BAILEY: So copy 8, 9 and 10 and just move them up above.

COMMISSIONER BLOOM: That should go under --

DR. BALCH: Go up a little bit maybe.

COMMISSIONER BLOOM: Go under the 8 in red.

CHAIRPERSON BAILEY: The previous paragraph?

DR. BALCH: We may have to truncate the existing 8 and that would be all right. It still needs to go above, 8, 9 and 10.

CHAIRPERSON BAILEY: Scroll up to the previous paragraph. Yes, that red-lined 8. I think we are still trying to work out what we want to do.

DR. BALCH: I think all the language is here. It's just mixed up.

COMMISSIONER BLOOM: Actually what you would do is you would pull it over first and then bring in the mix and cover it.

DR. BALCH: I think you want to take the --

CHAIRPERSON BAILEY: The opening phrase of the red-lined 8 needs to go before the language of

the black-lined 8, that waste stabilization.

DR. BALCH: Right there where she has it highlighted, "The operator shall," colon or semicolon and then have everything else be A, B and C.

CHAIRPERSON BAILEY: Including that language before that.

DR. BALCH: Including that language, yeah.

COMMISSIONER BLOOM: So maybe after "The operator shall" we will put a colon?

DR. BALCH: I think so. Take the rest of the sentence down to the reference and put that below 10.

CHAIRPERSON BAILEY: Eight?

DR. BALCH: Because you wanted to do the membrane and then you cover it with waste. Move that below 10, and the word we want to make 8, 9 and 10 what would be 11, make it A, B, C and D instead. Now we're talking about the specific process of closing the pit.

CHAIRPERSON BAILEY: So black 8 becomes A. Black 9 becomes B, and 10 becomes --

DR. BALCH: C if we need it. Then the partial sentence below C would become D. I don't know if that's it or not. 8, 9 and 10.

COMMISSIONER BLOOM: Go up to A and B and take out "The operator shall." Maybe C becomes part of D.

CHAIRPERSON BAILEY: Yes, because it's not part of "The operator shall" list.

COMMISSIONER BLOOM: D becomes C.

DR. BALCH: You said we could get rid of the long chain of references at the bottom?

MR. SMITH: Yeah. Then it will be replaced by another long chain of references but staff will take care of that.

DR. BALCH: Paragraph 2, is that our reclamation? Subsection F. Reclamation of pit location of on-site burial so that would be the right reference.

CHAIRPERSON BAILEY: So can we accept 8 as it's written?

DR. BALCH: I think so.

COMMISSIONER BLOOM: Yes.

CHAIRPERSON BAILEY: And scroll down to the next section.

DR. BALCH: This will become -- this will probably have to be renumbered.

CHAIRPERSON BAILEY: No, it remains.

DR. BALCH: Maybe t is should fall under 7

in the A, B, C. This is the case where we are hauling away, I think.

MR. SMITH: This is the language that is similar to B 3, right?

COMMISSIONER BLOOM: Yes.

DR. BALCH: Right. But we are doing this pursuant to this subsection, and I think it's referring to 7.

COMMISSIONER BLOOM: This is for trench burial instead of using the pit again.

DR. BALCH: Oh, I see.

COMMISSIONER BLOOM: If on-site trench burial is taking place then you would do this. If you are burying it in the existing pit obviously you are not going to remove the waste and the liner. We could maybe be explicit with that. We could say 9, if the operator removes the waste.

DR. BALCH: To a burial trench.

COMMISSIONER BLOOM: And the liner to dispose of it in a burial trench.

DR. BALCH: I think you need to have "and the liner" before that to the burial trench.

CHAIRPERSON BAILEY: You put that in the wrong place. It needs to go after the liner.

DR. BALCH: Now, this is the same language

as B3, you said?

MR. SMITH: Yeah, I think so. I'm assuming you want it to be the same. You want to check. You may have made some changes in one of these and not the other.

DR. BALCH: The red letter versus the highlighted version.

COMMISSIONER BLOOM: Could we go up to 3 above? Keep going up. Keep going. Right there.

DR. BALCH: If you take the language from A, B and C, this would be consistent. This might replace my A, B and C.

MR. SMITH: Do you want to paste that in underneath and compare the two to make sure that you have the one you prefer?

DR. BALCH: Yeah.

COMMISSIONER BLOOM: One of the differences, the current 9A has in compliance with Subsection C, "The operator will provide notice prior to sampling."

DR. BALCH: Oh, I see that. But if Subsection C already has that requirement, I don't know that we have to state it there or not. That would be part of the procedure.

MR. SMITH: This is one of those

situations, Theresa, where we have come across a cross-reference and you need to bracket it and bold-face it so we can go back and check. We need to go that on all cross-reference sections.

DR. BALCH: We didn't use that language in the A that we approved in Section B 3, did we?

CHAIRPERSON BAILEY: It doesn't discuss notice in that paragraph, does it?

DR. BALCH: Is notice something that is needed? Presumably this is so someone can go out and witness it if they wanted to.

CHAIRPERSON BAILEY: Yes, because the district was going to witness it.

DR. BALCH: Let me see what C is. There's nothing in -- there's nothing about notice in that section. It's silent. Oh, I think it's below. C, closure notice is below all of this paragraph. So there's already notification built into the rule. I don't know that we need to explicitly state it here. This is notice to surface owner, division district office or Santa Fe office. Surface owner for sure and then those two.

CHAIRPERSON BAILEY: So we don't need to reference it here.

DR. BALCH: That may make that language

the same as A.

COMMISSIONER BLOOM: Yes.

CHAIRPERSON BAILEY: So we can delete the yellow A.

DR. BALCH: We are going to copy that A up instead, in case there's a comma or something different.

CHAIRPERSON BAILEY: Let's compare Paragraphs B.

DR. BALCH: We can go with a new B as well.

CHAIRPERSON BAILEY: The bottom B.

DR. BALCH: There's a couple words different. Before proceeding with closure and before proceeding with complete closure. I'm not sure. What does complete closure mean?

CHAIRPERSON BAILEY: We have interim reclamation and final reclamation.

DR. BALCH: I would probably go with the unhighlighted B. We had that language previously.

MR. SMITH: I think you are correct. However, the word complete doesn't add anything there.

CHAIRPERSON BAILEY: Well, if you are thinking about interim reclamation as a closure for

a portion of the well site --

DR. BALCH: You might be able to close other parts of it.

CHAIRPERSON BAILEY: You can reclaim parts of a well site other than the entire well site.

MR. SMITH: Okay.

DR. BALCH: I still think that "before proceeding with closure" would still cover that. Or that delineation might be to close this part and not the other.

CHAIRPERSON BAILEY: Okay. We can delete completely.

DR. BALCH: Which means we have to delete it up in B as well.

MR. SMITH: Complete closure has to be a subset of closure so you haven't lost anything. If anything, you have added non-complete closure.

CHAIRPERSON BAILEY: Interim closure.

DR. BALCH: So you want to take it out or leave it in?

MR. SMITH: Well, given the debate you have had as to what it means I think you should take it out because it seems to cause confusion.

DR. BALCH: So we have to change that in B 3 as well.

MR. SMITH: Unless that's going to place upon the operator an obligation that you don't wish the operator to have in interim closure.

CHAIRPERSON BAILEY: We don't want to have interim reclamation.

MR. SMITH: No, I understand. But I'm talking about the obligation to get division approval. Isn't that what it says? Before he moves forward with -- there it is. "May require additional delineation, and the operator must receive approval before proceeding with closure." Now you are including interim closure there as well. Is that what you want to do?

DR. BALCH: I think if there's a problem with the site we want to have a consult with the division and delineate what you have to do.

MR. SMITH: As long as that's what you want it's okay with me.

CHAIRPERSON BAILEY: So now we look at C.

DR. BALCH: I think we have C below there that's a little more complete.

CHAIRPERSON BAILEY: Do we need to have the last sentence to point people to where recontouring and revegetation is addressed? Seems like it's unnecessary.

COMMISSIONER BLOOM: I agree with that.

CHAIRPERSON BAILEY: So the yellow highlighted C paragraph is the one that would be used and we can delete the red unhighlighted paragraph. Yes. And accept this C.

COMMISSIONER BLOOM: Excavation associated with the below-grade tank? Is that helpful?

CHAIRPERSON BAILEY: Would this apply to --

DR. BALCH: Well, you could have, I suppose --

COMMISSIONER BLOOM: The section applies to more than below-grade tanks.

DR. BALCH: You have to go up to B3C and change that as well.

CHAIRPERSON BAILEY: We are including below-grade tanks.

COMMISSIONER BLOOM: You might want to scroll up to B3 again.

DR. BALCH: Delete the last sentence.

COMMISSIONER BLOOM: You want that with the below-grade tank and "associated with."

CHAIRPERSON BAILEY: This appears to be a good stopping point as far as yellow highlighted areas are concerned.

DR. BALCH: And 9 should have been accepted.

CHAIRPERSON BAILEY: Yes. Mr. Bloom, you are not available you mean 12:00 o'clock tomorrow?

COMMISSIONER BLOOM: Let me doublecheck my calendar. I have a meeting from 9:00 to 11:00 that I can't get out of. I can wolf down lunch on the way over and start at noon.

DR. BALCH: What do we have left? I think all we have left is Table 1 of any substance. You can trust me when I say that I would love to get off right now. I don't want to end up in a situation where we are here at 5:30 tomorrow doing the last thing.

COMMISSIONER BLOOM: You are asking what do we have left to look at?

DR. BALCH: I know Mr. Smith is dying to get his hands on this.

MR. SMITH: You have no idea.

CHAIRPERSON BAILEY: I think it's just a matter of cleanup and Table 1 tomorrow.

DR. BALCH: We should be able to do that between 12:00 and 5:00.

CHAIRPERSON BAILEY: I would assume so.

COMMISSIONER BLOOM: Table 1, we need to

address the situations talking about below-grade tanks.

CHAIRPERSON BAILEY: That standard where do we apply it, how do we apply it?

MR. SMITH: Once you have done that, and tomorrow you believe that you are substantively finished, assuming that happens tomorrow, do you want to convene another time as deliberators and look at -- I would suggest both a black line against the current rule and a clean copy so you can all approve that before we formally move forward to --

DR. BALCH: I would think that will be appropriate. It would require a compilation of that.

MR. SMITH: Yeah, it would require that, but I think staff can do that.

DR. BALCH: You're going to want some time before that meeting to go through -- you may have questions for us about testimony that we cited and various things as well.

CHAIRPERSON BAILEY: And references.

MR. SMITH: If you do that, no, I would suggest that you do that even before I start to pick it apart and draft an order. If I have questions that arise then, let me think about how to deal with

that. But I think even before anything happens further you all ought to get together and look at that time and say yes, this is where we think we want to go unless I run into trouble while I'm drafting it.

CHAIRPERSON BAILEY: So we can schedule another meeting after tomorrow.

DR. BALCH: It might be in March.

MR. SMITH: I would suggest doing that. And all you need -- you can continue -- you don't have to do a notice again. You can continue your deliberations to whatever date certain you select and what you need to do is just have enough time in there that Theresa has time to do compare write and also give you a clean copy.

CHAIRPERSON BAILEY: Let's bring our calendars tomorrow for future dates.

DR. BALCH: February is really bad for me right now, but I think I can do something in the last week of January.

CHAIRPERSON BAILEY: That's not going to give --

DR. BALCH: That will give two weeks from now.

CHAIRPERSON BAILEY: Let's debate that

tomorrow with our calendars. For tonight would you be able to print off the results of today so we can review them tonight and tomorrow morning before we reconvene at 12:00 o'clock? Thank you.

COMMISSIONER BLOOM: Hang out now and take a clean copy home with us?

CHAIRPERSON BAILEY: Yes. We will have the room open by 11:00. So we will continue our deliberations until tomorrow at 12:00 o'clock and we can go off the record now.

(Note: The hearing stood in recess for the day at 4:30).

REPORTER'S CERTIFICATE

I, JAN GIBSON, Certified Court Reporter for the State of New Mexico, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings and was reduced to printed form under my direct supervision.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

Jan Gibson

JAN GIBSON, CCR-RPR-CRR
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