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BEFORE THE WATER POLLUTION CONTROL
ADVISORY COUNCIL (WPCAC)

TRANSCRIPT OF PROCEEDINGS

Heard at Room 111, Metcalf Building
1520 East Sixth Avenue
Helena, Montana
April 19, 2013
10:00 a.m.

CHAIRMAN EARL SALLEY; MEMBERS
KEITH SMITH, MICHAEL WENDLAND;
KAREN BUCKLIN-SANCHEZ, STEVIE NEUMAN,
MITCHELL LEU, and TAMMY CRONE (by telephone)

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1 WHEREUPON, the following proceedings were
2 had and testimony taken, to-wit:

3 (Ms. Neuman not present)

4 * * * * *

5 CHAIRMAN SALLEY: Call the meeting to
6 order. We can do an approval of the agenda. Do I
7 have a motion to approve the agenda?

8 MR. SMITH: So moved.

9 MR. WENDLAND: Second.

10 CHAIRMAN SALLEY: All those in favor.

11 (Response)

12 CHAIRMAN SALLEY: Any opposed?

13 (No response)

14 CHAIRMAN SALLEY: The agenda is
15 approved. Approval of the minutes. I don't know
16 if you've had time to view the minutes. I looked
17 at them, and I didn't see anything I would object
18 to, so I'll entertain a motion to approve the
19 minutes.

20 MR. WENDLAND: So moved.

21 MR. SMITH: I'll second that.

22 CHAIRMAN SALLEY: All those in favor.

23 (Response)

24 CHAIRMAN SALLEY: Opposed.

25 (No response)

1 CHAIRMAN SALLEY: Minutes approved.³ The
2 first item is briefing items, a legislative
3 briefing by John North.

4 MS. STEINMETZ: I will go see if he's
5 ready. He was expecting to have some time. Does
6 anybody on the council have a problem with
7 switching Steve and Tom on the agenda?

8 CHAIRMAN SALLEY: No, I don't.

9 MS. STEINMETZ: That would keep the two
10 Power Points close together. Tom, would you like
11 to go before Steve instead of after?

12 MR. REID: Doesn't matter to me.

13 MS. STEINMETZ: We were just thinking it
14 would keep the Power Points together.

15 MR. REID: That's fine.

16 MR. NORTH: Members of the Council --

17 OPERATOR: Now joining Stevie Neuman.

18 (Ms. Neuman present)

19 CHAIRMAN SALLEY: We just started,
20 Stevie. John North is just about to start his
21 presentation on legislative briefing, so you're
22 just in time.

23 MS. NEUMAN: Great.

24 MR. NORTH: Thank you, Mr. Chairman.

25 John North, Chief Legal Counsel with the

1 Department. This is a pretty darn quiet session
2 for water quality matters actually. I only have
3 two bills to report on.

4 The first one is Senate Bill 76, and it
5 was actually a bill that was proposed by the
6 Department, and it has passed, and has been signed
7 by the Governor, and it basically amends the
8 standards section of the Water Quality Act
9 pertaining to, not water quality standards, but
10 instead effluent standards, those kinds of things.
11 And it provides specific authority and actually
12 direction to adopt rules for cooling water intake
13 structures.

14 Under the Federal Clean Water Act, I
15 think it is Section 316 of the Federal Clean Water
16 Act, power plants that employ cooling water
17 systems that discharge also have standards that
18 are applicable to them for the intake structure as
19 well, with the idea of minimizing those impacts;
20 and for example, minimizing the entrainment of
21 fish, and that sort of thing.

22 And the bill as written by the
23 Department and introduced has none of the language
24 that's currently in the bill. It simply provided
25 authority for the Board to adopt standards for

5
1 cooling water intake structures, and that was
2 stricken in the Senate, and they said, "Okay. You
3 can adopt those rules that are necessary for
4 primacy," and that's why you see the language as
5 it is now. So essentially we have authority to
6 adopt, or the Board has authority to adopt rules,
7 but they pretty much have to be substantively
8 identical to the federal rules.

9 And the status of the rulemaking at the
10 EPA level is that there have been rules in effect
11 for a number of years for new facilities, and
12 they're in the New Source Performance Standards
13 Rules, and the Board actually did adopt those a
14 few years ago.

15 But with regard to existing structures,
16 they have a Phase 2 and a Phase 3, and I can't
17 remember which is which for the rulemaking; but
18 one phase is for small facilities, and one is for
19 large ones. And EPA attempted to adopt those in
20 the mid-2000's, and there were several lawsuits,
21 the rules were struck down down; and EPA, as I
22 understand it, very soon will be coming out with
23 the new Phase 2 and 3 rules, and then will be
24 proposing to adopt those.

25 I talked with the Bureau Chief about

6
1 this as to whether or not we would simply propose
2 to adopt those by reference, or whether we would
3 propose language, and it is his preference we
4 actually propose language that mirrors the federal
5 language. So you should be seeing that sometime
6 probably -- it is hard for me to say -- but
7 probably this fall, assuming that EPA remains on
8 schedule and adopts within the next month or so.

9 So that's Senate Bill 76. Does anyone
10 have any questions about that?

11 (No response)

12 MR. NORTH: That's probably good,
13 because I think I've told you everything I know
14 about it anyway.

15 So the second bill, Senate Bill 347, I
16 didn't copy the whole bill. It is actually a
17 lengthy bill. But the substantive things that the
18 bill does are all on Page 2 of the bill, so I've
19 just handed out Page 2 of the bill.

20 And this bill, by the way, is still in
21 the hopper. It was introduced very late before
22 transmittal by Senator Vincent, and basically it
23 passed the Senate with -- he got it through the
24 Senate by promising to work with the environmental
25 groups, the industry, and the Department when it

1 went over to the House to work on amendments; and
2 so the Senate passed the bill with the
3 understanding that he would work on it and get it
4 amended in the House, and he did do that.

5 And then it came back from the House
6 with the amendments, and now of course the Senate
7 has to approve or disapprove the amendments, and
8 he had it held so that he could have a work
9 session with the Senate Natural Resource
10 Committee, which he chairs, which gave him a pass
11 to allow the bill to be transmitted to the House.

12 So he had that work session actually
13 Wednesday afternoon, and this bill passed on
14 second reading yesterday, and I think it is up for
15 third reading today. It passed the House -- or
16 the Senate something like 38 to 12, or something
17 like that. So it will probably get to the
18 Governor's desk, and I don't know quite frankly
19 what the Governor's Office will do with it. But
20 that's sort of the procedural history of the bill.

21 It amends the definition of degradation
22 in the Water Quality Act. When the new
23 degradation/nondegradation law passed back in
24 1993, it directed the Board then to adopt rules
25 for what constitutes significant degradation. And

1 of course, under the Water Quality Act, if you⁸
2 have significant degradation, then in order to be
3 allowed to degrade the water significantly, you
4 have to get an authorization to degrade, and there
5 has only been one or two of those issued ever.

6 And when the Board of Health and
7 Environmental Sciences in 1994 adopted those
8 criteria for what constitutes significant
9 degradation, they included a criteria for flow,
10 and basically indicated that if you increase or
11 decrease flow by I think it is 15 percent of the
12 mean monthly flow or 10 percent of the 7Q10, then
13 that constitutes significant degradation.

14 So Senator Vincent had a couple of mines
15 in his district, or I should say proposed mines --
16 the Rock Creek mine and the Montanore Mine -- and
17 his concern was that these mines are under a
18 wilderness area, and an authorization to degrade
19 cannot be granted in a wilderness area. So his
20 concern was that even though it appears that the
21 actual environmental impact of the flow decreases
22 might be -- the environmental impact might not be
23 significant, they still might decrease flow in
24 certain stretches of the streams by more than the
25 percentages.

1 And what we're talking about here is
2 mine dewatering, and the 15 percent/10 percent are
3 pretty easy to apply when you're discharging
4 because you know where you measure it; but in
5 terms of dewatering in some small streams, head
6 waters, that sort of thing, it is a more difficult
7 standard to meet or even to apply.

8 And so the Department is in the process
9 of doing an EIS. It has used a model to try and
10 model what the flow decreases would be, but it is
11 far from an exact science.

12 So he had introduced this bill, and
13 basically what it originally said when it was
14 introduced was that flow is not a parameter at all
15 for nondegradation purposes. There is no standard
16 for it now, but it is probably the only thing that
17 we don't have a standard for, but have a
18 nondegradation criterion for. So he just said
19 flow is not a criterion, period, and that's
20 permissible under the Federal Clean Water Act
21 because flow isn't a parameter under the Federal
22 Clean Water Act.

23 There was a serious amount of opposition
24 to his bill as a result, and so the bill got
25 amended, and the first amendment was that

1 increases in flow are no longer affected by the
2 bill, so the existing law would remain in effect
3 when it comes to increases in flow, which again is
4 at the point of discharge. If you increase flow
5 by the 10 percent or the 15 percent, that
6 constitutes significant degradation.

7 So the bill now only applies to
8 decreases, and basically it provides that a
9 decrease in flow is not degradation if either it
10 is for beneficial use, i.e., somebody is
11 withdrawing the water because they have a water
12 right; or two, if the decrease in flow would not,
13 in the Department's determination, have a
14 reasonable possibility to cause a significant
15 adverse impact to a fish population.

16 So the criterion then goes from one of
17 just being a percentage to an environmental impact
18 based criterion. And the thinking is that in most
19 of these situations, there'll be an Environmental
20 Impact Statement, and that's one of the things
21 that would be analyzed in the Environmental Impact
22 Statement; and the conclusions of the
23 Environmental Impact Statement would then be used
24 to determine whether or not this criterion is met.

25 Again, that's I think on third reading

1 today, and then it will go to the Governor. And
2 that's it for water quality in this legislative
3 session.

4 MR. WENDLAND: So kind of what you're
5 saying is after the whole bill, it didn't really
6 do anything much.

7 MR. NORTH: Well, you know, the 15
8 percent and the 10 percent -- Tom Reid is here,
9 and so is Paul, and probably better people to talk
10 to about that.

11 But I think the idea is that under the
12 existing criterion, you could have significant
13 degradation if you're just using the percentage,
14 and still not have any real serious environmental
15 effect.

16 MR. WENDLAND: Took all of the good
17 wording out of it, it seems to me like.

18 MR. NORTH: Okay. I don't know.

19 CHAIRMAN SALLEY: Do you know if the
20 Governor has weighed in, whether he's going to
21 sign --

22 MR. NORTH: He has not weighed in at
23 this point, and both the Department of
24 Environmental Quality and the Department of
25 Natural Resources appeared for informational

1 purposes, and got a lot of questions, but we were
2 neutral on the bill.

3 CHAIRMAN SALLEY: Any other questions?

4 MS. BUCKLIN-SANCHEZ: I'm just curious.
5 This is Karen. Were any of the questions directed
6 towards the idea of going from a numeric standard
7 to a narrative standard? Did anyone ask something
8 along those lines?

9 MR. NORTH: Yes. I'm trying to think.
10 Several of the environmental groups, especially
11 Environmental Information Center -- which very
12 vehemently opposed this bill -- indicated that one
13 reason not to adopt this bill is that it is so
14 vague, whereas the percentages provide a lot more
15 definite standard; and I think also maybe Trout
16 Unlimited indicated that as well.

17 MS. BUCKLIN-SANCHEZ: Thank you.

18 CHAIRMAN SALLEY: Any other questions
19 for John?

20 (No response)

21 CHAIRMAN SALLEY: All right. Thank you,
22 John.

23 We're going to change the order of
24 things here, and Tom Reid will be doing the
25 Montana Pollution Discharge Elimination System

1 rule update.

2 MR. REID: Good morning, members of the
3 Council. My name is Tom Reid, and I'm with the
4 Water Protection Bureau in the Permitting
5 Compliance Division. And I had a couple of
6 hand-outs, and these are the two topics we're
7 going to talk about today. And I think we sent
8 them out yesterday to the people on the phone, and
9 hopefully they got those. I'm not going to go
10 into any detail on those. They're just for your
11 information, and we'll get right into it.

12 The first topic would be the CAFO rule,
13 which is the hand-out that looks like a Board
14 adoption notice, because that's what it is, before
15 the Board of Environmental Review.

16 We came to WPCAC back in November of
17 last year, and proposed these CAFO rules,
18 basically an update to the federal CAFO rules, and
19 we were also proposing to adopt technical
20 standards for CAFOs.

21 And at that meeting in November, there
22 were quite a few questions about -- Would these be
23 controversial? What were the issues? -- and
24 really didn't have a good feel at that time for
25 what those issues were, since this CAFO rule -- I

1 think I described at the time. It's typical of
2 the federal rules John was just talking about on
3 316.

4 CAFO, once they're proposed, they
5 usually spend about a decade in Federal Court. So
6 these rules were proposed in 2001; adopted in
7 2003; litigated in 2005; remanded; EPA promulgated
8 new rules in 2006; and they were promulgated --
9 well, proposed rules in 2006; and adopted in 2008;
10 and then again spent three years in Federal Court.
11 So we usually wait some time, usually four or five
12 years, to let things go through the Courts before
13 we adopt rules.

14 So we went ahead, and the Board
15 initiated rulemaking on December 7th of last year.
16 We had a public hearing right here in this room,
17 or downstairs, on January 11th, and the Board
18 adopted these rules on March 22nd. So what I
19 would just propose to do is briefly go over the
20 five issues that came up during that public
21 comment period for your information and questions.

22 We had five different comments from
23 three different commenters. We had one person
24 show up at the public hearing. So it turned out
25 to be not exactly a very controversial set of

1 rules. Most of the comments were from NRCS and
2 the Montana State Extension Service, people that
3 work in the industry, and producers, and were
4 trying to clarify things.

5 So if you want to follow along, I'll
6 just go through these comments and this final
7 package that we adopted, and try to explain -- or
8 that the Board adopted -- and try to explain
9 briefly what the issues were.

10 The first one had to do with a field
11 specific assessment for how you determine which
12 nutrient will be problematic when you land apply,
13 and this all has to do with land application of
14 manure, litter, and processed wastewater, all of
15 the wastes that are generated at confined animal
16 feeding operations, AFOs/CAFOs.

17 And again, DEQ9 was the technical
18 standard that we had. These rules replaced DEQ9.
19 DEQ9 allowed two different methods for assessing
20 that, a simple soil test and then a more
21 complicated risk based assessment, where you look
22 at, I think it is 16 or 17 -- depending on what
23 version what you use -- different factors.

24 Now, we had eliminated the simple soil
25 test, because if you just take a soil test, and

1 you have a phosphorus level of 20, there is a big
2 difference if that's right next to a stream or
3 you're up slope a half mile away from a stream.

4 So the risk based assessment looks at a
5 number of factors, including the type of
6 vegetation, the slope of the field, the
7 erodability of the soil, and a number of different
8 factors, and it ties into what's called a
9 phosphorus risk assessment, and those are well
10 developed, most states use the --

11 OPERATOR: Now joining Stevie Neuman.

12 MR. REID: -- risk based assessment.

13 And the reason why we eliminated the simple
14 phosphorus soil test was that in Montana we have
15 listed over 200 and some water bodies as impaired
16 for phosphorus, and the same -- not all the same,
17 but another 200, so water bodies as impaired for
18 phosphorus and nitrogen.

19 So we believe that the risk based
20 assessment gave a better test to determine which
21 nutrient and the vulnerability of surface water to
22 runoff from those fields.

23 During the public comment period, one of
24 the consultants brought up the fact that that's
25 going to cause a lot more work, and it is true.

1 It is not a lot more work. All these things are
2 computerized. You can go to the NRCS website if
3 you're a grower or producer, and you can go to
4 what's call their FOTG, their Field Office
5 Technical Guidance, and you can click down the
6 county you're in and the location, and all this
7 stuff will be generated for you. So if you work
8 with NRCS, that's all available.

9 But what the final determination was --
10 and I think it worked out pretty good -- is when
11 you do your nutrient management plan, if you're in
12 a watershed that is not listed, you can go back to
13 the simple phosphorus test. If you're in a
14 watershed that is listed as impaired, then you
15 have to do the more complicated risk assessment,
16 and that is look at the slope, look at the
17 distance, precipitation, soil type, all those
18 factors are plugged into a model, and it gives you
19 a risk based assessment.

20 So that's the first one. That was 3(a),
21 which was on the first page, and it goes on to the
22 second page, and both of those generate an outcome
23 that will tell you whether you're a nitrogen based
24 or you're a phosphorus based risk assessment. And
25 that begins the whole nutrient management plan.

1 That's the first step, so everybody has to go
2 through that.

3 The second comment was just a
4 clarification that all nutrient management plans
5 must be updated once every five years. All of the
6 CAFOs in Montana are permitted under a general
7 permit. The general permit is renewed every five
8 years, and so you have to --

9 OPERATOR: Now joining Steve Neuman.

10 MR. REID: So every five years you have
11 to resubmit your nutrient management plan, and you
12 develop that nutrient management plan for the
13 upcoming five years. So that was the second
14 comment.

15 The third one was having to do with the
16 winter application of manure, litter, and
17 processed wastewater to frozen ground during the
18 winter. And I think we were all in agreement with
19 NRCS that it is not a good idea, but occasionally
20 it happens. It happens for unforeseen
21 circumstances. The alternative is usually to
22 discharge to surface water from the impoundment.

23 So we just didn't know how to -- so what
24 we proposed was that there shall be no land
25 application of manure, litter, or processed

1 wastewater on frozen soil or during a
2 precipitation event of greater than a quarter of
3 an inch.

4 NRCS proposed some language that we
5 thought allowed a reasonable exception, and that
6 was put in, and that's on Page 3 No. 7(c). As
7 proposed, it is still prohibited except for if you
8 meet these certain conditions, and you must
9 identify those fields in your nutrient management
10 plan that's submitted to the Department, and those
11 criteria are you must be at least 300 feet away
12 from streams, lakes, intermittent streams,
13 irrigation canals, ditches, open intake
14 structures, property lines, and road
15 right-of-ways. So that's at the bottom of Page 3
16 No. C. There must be some permanent vegetative
17 cover, and then there is criteria for land slope.

18 So all those things taken together, we
19 felt it was reasonable to allow some winter land
20 application. Again, if there is adequate storage,
21 on a normal year you would not need winter
22 application. But I think it was 2011 we had a
23 very wet year, and a lot of those impoundments
24 filled up, and then we had a wet spring, so it
25 caused a lot of folks to have to either discharge

1 or land apply.

2 The next issue again came up from NRCS.
3 It was nitrogen fixation rate. We had some very
4 detailed tables -- I'm sorry for skipping around.
5 That's back on Page 3 at the top there. We had
6 originally taken these tables from NRCS, and put
7 them in DEQ9; and then when we generated these
8 rules, we had proposed to use the same nitrogen
9 fixation rates. These are nitrogen fixation rates
10 for legumes.

11 NRCS has backed away these specific
12 levels, so they're no longer supporting these, and
13 we were using them, so they suggested some simpler
14 language, and that would just be for annual
15 legumes and perennial legumes, and it would be
16 just ten pounds for annual and up to 50 pounds for
17 perennial legumes, that you could use as a credit,
18 or that would be in the soil from those legumes.
19 And so we struck Schedule 1, and put in their
20 suggested language.

21 And finally -- again this was right out
22 of DEQ9 -- we've always used in the State of
23 Montana a document that is referred to as EB-161,
24 which is the MSU Extension Service Agricultural
25 Fertilizer Guidelines for Montana Crops, so it

1 covers 90 percent of the crops that are grown in
2 Montana, and what the application rates are for
3 nitrogen and phosphorus in terms of yield.

4 However, again, there was concern that
5 there may be some producers out there that want to
6 apply to fields that have crops that are not in
7 EB-161, or they're using a variety that may have a
8 higher nutrient demand than what is provided by
9 EB-161, and so we did allow other sources.

10 We still use EB-161 as a base reference,
11 but if you have a certified crop advisor, and
12 they're telling you that you can go to this for a
13 crop -- and I had a few examples, but I don't
14 right off the top of my head -- but most of the
15 people that work in this field could tell you that
16 there are always new crops that are being tested,
17 and generally they're not used for animal waste,
18 but they may be in the future.

19 And the Extension Bulletin has indicated
20 that they're going to update that in the future,
21 but right now they haven't done that.

22 So basically those are the changes that
23 we made in the final rule, and again, when we went
24 to the Board for final adoption, there was nobody
25 to speak to oppose those changes. As a matter of

1 fact, the feedback was positive.

2 So with that, I'd be happy to answer any
3 questions or comments on CAFOs.

4 Then I guess the other topic that we
5 were going to briefly talk about today is our
6 upcoming rules; and I hate to contradict John, but
7 I don't think we're going to have cooling water
8 rules this fall. Those rules have basically been
9 in litigation since 1977. EPA promulgated them;
10 they've been remanded; they failed to promulgate
11 them and they were sued; they promulgated. They
12 just go back and forth.

13 We do have, as John said, we have
14 adopted Rules in Subchapter 12 for new facilities,
15 and we also have rules for existing facilities,
16 but those will be influenced by the upcoming rules
17 that EPA is promulgating.

18 We do anticipate coming back to WPCAC in
19 the fall with these next several rules, and those
20 would be updates, basically updates for existing
21 rules, so they would be amendments. And these are
22 all in Title 17, Chapter 30, which is water
23 quality; and then Subchapter 13, which is the
24 MPDES program. And that's the second handout that
25 I passed around, and is available on the back

1 table.

2 1340 is basically new sources and new
3 dischargers, and most of the changes there would
4 just simply be clean-up. As we go through all
5 these rules, a lot of these MPDES rules have not
6 been updated since 1989, and some were 1991.
7 That's when we adopted the first MPDES rules, was
8 1989. So as we go through these, we have to clean
9 up the formatting because the Secretary of State
10 won't let us resubmit in the current format.

11 The other thing we have to do is we've
12 updated the definitions, so every time we
13 reference a definition, they're all out of kilter.
14 So we'll probably just refer to 1304, which is our
15 definition section, rather than specific
16 definitions.

17 And then also the references to federal
18 regulations, a lot of those have changed; and
19 probably more significantly, what we did as part
20 of this update for the MPDES rules is about two
21 years ago, we updated Subchapter 12, which is
22 Effluent Limitations and Standards, and that
23 brings down into State rule a lot of the federal
24 rules having to do with technology based effluent
25 limitations.

1 We were really behind on that, so now we
2 have a complete Subchapter 12, which we can now
3 refer to as opposed to referring to Section 307 of
4 the Federal Clean Water Act. I know that that has
5 to do with toxics, but I don't think anybody else
6 in this Department knows that, unless you're very
7 familiar with the Federal Clean Water Act, and
8 what is in Section 307 of the Federal Clean Water
9 Act. So now we have our own rules in Subchapter
10 12, so we'll be referring to Subchapter 12 when we
11 can. So that's it for that one.

12 The general permit rule is probably the
13 one that will be most significantly altered in the
14 future. We will keep the general permits. This
15 is in this handout on Page 2952, 1341, General
16 Permits. We have a list of general permits there
17 that we can offer that the Board has determined
18 that are categories. Some of those are not even
19 categories that we would issue permits for, so the
20 idea is to take that entire list out.

21 What the federal rule says is that it's
22 up to the permitting authority to determine
23 categories and sources that are eligible for
24 general permits, based on similar technology,
25 based on effluent limits, water quality based

1 limits, and sources, and those kind of things. So
2 we will be updating those rules in 1341 to more
3 align our permitting rules with the federal
4 permit, so we're consistent with the NPDES program
5 of EPA.

6 And again, these will all come before
7 you probably in the fall, so this is just
8 something that you can at your leisure look
9 through, and be prepared for.

10 Then finally, the last one is 1342,
11 which is conditions applicable to all permits, and
12 again, this will take minor amendments, but these
13 are standard conditions must be put into every
14 wastewater discharge permit. We call them
15 standard conditions. The title of the rule is
16 "Conditions Applicable to All Permits." So if you
17 don't have anything else in the permit, you have
18 to have standard conditions.

19 There are five components to an NPDES
20 permit. One is the cover page, which is the
21 authorization to discharge; effluent limits;
22 monitoring requirements; special conditions; and
23 standard conditions. All permits must have those
24 five things. And these are the standard
25 conditions.

1 Where we'll updating those is, again, to
2 maintain consistency with either the Federal Clean
3 Water Act or the State of Montana Water Quality
4 Act, which has been updated for the penalties.
5 For example, there on 1(b) it says, "Civil
6 penalties of \$10,000 per day." Well, it is now
7 \$25,000 per day, so we need to just update those.
8 We've already made those changes in our permits,
9 but we need to make those changes in our rule to
10 be consistent throughout. Criminal penalties went
11 from \$25,000 to \$50,000, so those kind of things
12 will be updated.

13 So that is it for the general update.
14 I'd be happy to answer any questions. We'll be
15 back in a couple months with that.

16 CHAIRMAN SALLEY: Any questions?

17 (No response)

18 CHAIRMAN SALLEY: I guess not. Thank
19 you very much.

20 MR. REID: Thank you.

21 CHAIRMAN SALLEY: Next we'll have Steve
22 Kilbreath do oil and gas legislative and impact
23 briefing.

24 MR. KILBREATH: Good morning. My name
25 is Steve Kilbreath, and I work with the Director's

1 Office, and I've been working on oil and gas
2 impacts in Eastern Montana for the last year, and
3 I was asked to come and speak about legislative
4 issues associated with oil and gas.

5 In this session, there was a plethora of
6 bills that came out that addressed oil and gas,
7 and all of them met a horrible death except for
8 one. There was two bills that were introduced to
9 address elimination of the tax holiday.

10 In the early 1990s, there was a holiday
11 placed on the first 18 months of production from
12 horizontal wells, and the first 12 months of
13 production from vertical wells, and that tax
14 holiday has remained in place since.

15 There were two bills that came out to
16 eliminate that tax holiday, and they died in
17 committee, quickly died in committee. There was a
18 multitude of bills that came out to address
19 impacts in Eastern Montana, and provide financial
20 assistance for those communities that are being
21 impacted.

22 And one bill still remains today, and
23 that is House Bill 218. It was introduced early
24 in the session by Duane Ankney from Colstrip, and
25 it came down, it made through the House, and made

1 it through the Senate; it got amended, amended,
2 amended along the way; and today it is out of the
3 Senate, third reading, heading for the Governor's
4 office. So it looks like it is going to make it
5 relatively unscathed.

6 And House Bill 218 will provide \$15
7 million next year, and then \$10 million a year
8 thereafter, to be implemented by the Department of
9 Commerce, and given to communities that can
10 demonstrate they have impacts related to oil and
11 gas development. The majority of it is directed
12 at water, wastewater, solid waste type of impacts,
13 with a smaller amount being directed at fire,
14 police, etc., other types of impacts. But the
15 bulk of it is an infrastructure impact bill.

16 And I don't know exactly what the start
17 up, what the process will be, because Commerce is
18 going to have to administer it. It will follow
19 some of their existing grant programs, and they've
20 got a lot of different grant programs, so it will
21 look something like their existing grant programs
22 and existing applications. It has the words in it
23 "matching." I'm not sure I know what that match
24 is yet, so there is a few things that will be
25 worked out on it.

1 But it has real potential to help those
2 communities out there. I think right now, we've
3 looked at and documented somewhere around \$30
4 million to \$40 million worth of funded projects
5 that are ready to go about now, that you could say
6 are directly related to or are related to oil and
7 gas impacts; and there is probably another \$30
8 million or \$40 million or \$50 million in projects
9 that haven't been documented yet that are ready.

10 So an undocumented project would be, for
11 instance, Sidney. We have received a preliminary
12 engineering report for Sidney that indicates a \$13
13 million fix on a lagoon, \$7 million or \$8 million
14 improvements to a collection system, and \$8
15 million to \$10 million worth of improvements to
16 water systems. So Sidney is the poster child for
17 needing improvements in Eastern Montana.

18 Fairview has indicated something on the
19 order of \$6 million to \$8 million worth of needed
20 improvements.

21 CHAIRMAN SALLEY: Steve, what did you
22 say the money was for this bill?

23 MR. KILBREATH: The money is going to be
24 General Fund money. It's going to be --

25 CHAIRMAN SALLEY: How much was it?

1 MR. KILBREATH: \$15 million the first
2 year, which starts July 1 of this year; and then
3 \$10 million a year thereafter; and it has a sunset
4 date of 2020. So it is about \$65 million total
5 spread over that time period.

6 CHAIRMAN SALLEY: It still sounds like
7 it's far short of what they really need in that
8 whole area.

9 MR. KILBREATH: Well, I think some of
10 the people out there are a little disappointed.
11 And right now, this year, this session, and what's
12 on the books to date, there is a lot of committed
13 funding out there. Culbertson got a six and a
14 half million dollar project; Plentywood has got a
15 two and a half million dollar project; Glendive,
16 West Glendive has \$12 million, \$14 million
17 projects that are committed funding right now.

18 MR. SMITH: Under the normal --

19 MR. KILBREATH: Under the normal T-sep
20 (phonetic), TDBG, rural development, SRF. SRF has
21 a huge quantity of loans out there. So any
22 funding out of this that could walk into people's
23 hands might help with SRF buy-down, which might
24 help with rate buy-down. So there is some good
25 things to be done out of this.

1 But the timing issues, and that's one of
2 the things we're going to talk about in this
3 presentation, is timing of issues. And so paying
4 for this stuff out there out of our oil and gas
5 fund is interesting, because the bulk of the
6 impacts are related to across the border. So this
7 is a good bill.

8 The other bills, there was another bill
9 that was real interesting that died a horrible
10 death. It was House Bill 452 put forth by Rob
11 Cook. And 452 was an impact fee that would have
12 allowed local governments to assess a fee per RV
13 spot, per bed in a work camp, per motel room, etc.

14 And you think, "That's not a gob of
15 money," but we just approved a 750 bed work camp
16 in Richland County, at \$5 a day would be -- I
17 don't do math very well -- \$3,500 a day times 365
18 days a year, that is million plus bucks a year off
19 of that one facility. Hey, that's a couple of
20 police cars and a couple of guys for the county.
21 That's a fire truck.

22 And that impact fee bill, which had
23 great logic, died horribly because it was a tax on
24 the users. It was a great idea because it would
25 really help with that day-to-day impacts.

1 So almost everything that came forward
2 didn't make it, except 218, and 218 looks like it
3 is going to be the final funding bill, and it is a
4 combination of Duane Ankney's thoughts and the
5 Governor's thoughts. Ankney's thought was
6 originally place it in the Board of Oil and Gas,
7 and the Governor's thoughts were place it in
8 Commerce, so took the two and mushed them together
9 into the one. So 218 looks like it will be a good
10 bill. It will help. It may not be big enough,
11 but it will help.

12 So what I want to talk about generally
13 is just what's happening out there. In our world,
14 oil and gas has been prevalent in Montana since
15 the early 1900s. There are only four counties in
16 Montana that do not have and oil and gas
17 exploration and production well. This is a test.
18 Please name them.

19 MR. SMITH: I know one is Ravalli.

20 MR. KILBREATH: Mineral, Missoula,
21 Ravalli, and Butte-Silver Bow. Everybody else has
22 got at least one exploration or production well.
23 This is a map that shows -- black is oil; red is
24 gas. It's a map that shows all of the wells in
25 Montana. What we're going to do is we're going to

1 shift gears, and we're going to talk about
2 horizontal wells because that's what's happening
3 today.

4 You can see that in the state of Montana
5 -- and then we'll close with a little short
6 discussion on injection wells, which is
7 interesting. We're starting to delve into that.

8 In Montana, the first wells were drilled
9 in the early 1900s, so there has been three cycles
10 of oil and gas drilling in Montana. The one we're
11 in today is not quite as big as the one we were in
12 in the late 1970s, early 1980s. So we've had
13 three boom/bust cycles -- well, two boom/bust
14 cycles, and we're in the boom cycle today. When
15 we're busting, we'll know. And the graphic on the
16 bottom right just shows the Class 2 injection
17 wells.

18 Horizontal well activity in Montana. We
19 have a GIS data base that we captured all the
20 information of the Board of Oil and Gas, all our
21 production records for oil, gas, and injection
22 wells, and we've got our own GIS data set now.

23 You can see that on this, there is a
24 major area up here of black. That's the Bakken
25 development. And there is an area of red in

1 Fallon, Wibaux, and Dawson County. That's the old
2 Cedar Creek anticline that has been around and in
3 production for years, and years, and years.

4 There is a smattering of wells on the
5 Rocky Mountain Front. There is a smattering of
6 wells in Central Montana in Petroleum,
7 Musselshell, and Fergus County. Every major
8 player that's been drilling on the Rocky Mountain
9 Front has pulled out and left. There is no Bakken
10 or Bakken age rocks that are producing any
11 significant quantity of oil on the front range at
12 all, period.

13 The bulk of the production is up higher
14 in the stratigraphy, and is in more of the
15 Cretaceous, some of the stuff that looks like what
16 is around Cut Bank more. The Rocky Mountain Front
17 appears to not have the higher carbon content, the
18 over-pressuring, and the thermal maturity, the
19 things it takes to make a shale play appears to
20 not be there right now. That doesn't mean
21 somebody won't find something new, but to date
22 there hasn't been a lot of happiness in those
23 wells.

24 Central Montana, there has been quite a
25 few horizontal wells drilled into the Heath

1 formation. The Heath is stratigraphy that sits
2 slightly above the Bakken. To date, there is only
3 three of those wells that have had any kind of
4 significant production, and they're difficult
5 production. They're a thicker, heavier oil,
6 they're hard to get out with the fracturing
7 techniques.

8 The Board of Oil and Gas has entered
9 into a research contract with the Bureau of Mines
10 and Geology. They're going to be looking at the
11 Heath to see if there's something that they can
12 work on with that; and the companies, the
13 technology that the companies are working on,
14 they'll be working on the Heath to see if there's
15 potential, but right now the Heath isn't
16 significant.

17 Right now the bulk of the oil production
18 in Montana is coming out of Richland, Roosevelt,
19 Fallon counties, and the Fallon County play is an
20 old play. It has been around for quite awhile.
21 And you can see on this graphic that there is
22 production -- the Board of Oil and Gas has digital
23 production back to the mid-1980s. Fallon County
24 has been steady and consistent.

25 Richland County was slowly declining.

1 With the discovery of Elm Coulee in 2000, Richland
2 County exploded. And we hit our peak production
3 in Montana in 2005/2006. The price of oil tanked
4 in 2006/2007, and the production dropped way off.
5 And we'll discuss this a little bit.

6 There is interesting production curves
7 out of the shale wells, out of Bakken wells. They
8 have real steep decline curves that have real high
9 initial production, and they drop way off, and
10 then they flatten out, so if you quit drilling,
11 your total production follows the same pattern;
12 where in a classic structural oil play, your
13 declining curve is very flat. So in the shale
14 resource, you quit drilling, and this happens.
15 And it should be noted that there was an increase
16 in production last year as our number of rigs
17 increased.

18 We'll talk about interesting differences
19 between North Dakota and Montana. I mentioned the
20 production curves. This is the average production
21 curves. The average well in Elm Coulee produces
22 178 barrels of oil a day for the first 12 months
23 of production; the average well in North Dakota
24 produces 467 barrels a day for the first 12 months
25 of production. The average well in North Dakota

1 produces about twice as much oil as the average
2 well in Elm Coulee does for the first ten years in
3 production. There is some real important
4 differences here.

5 This is a graphic representation of the
6 horizontal wells in the Bakken in North Dakota and
7 the Bakken in Montana. We are a quarter of the
8 space, a quarter of the wells. And this density
9 is real. This is the Brockton Froid fault along
10 the northwest side of Elm Coulee, and production
11 on this side of the Bakken Froid fault is minimal.

12 Elm Coulee thins out to the south, and
13 production south of Elm Coulee is minimal. And
14 there is a hot spot in the Bakken in the Bainville
15 area, and a hot spot in Elm Coulee, with lower
16 yield wells in between. So the west side is
17 thinning. It has got a hot spot or two in it, and
18 it is nowhere near what the Bakken is in the
19 Sanish and the Parshall fields in North Dakota.

20 The reason is stratigraphy and
21 thickness. We're drilling out of a little thin
22 embayment in the basin on our side; it thins and
23 starts to thicken as you trend back over towards
24 North Dakota. So we're drilling in Elm Coulee in
25 here, and we're drilling in Bainville in here.

1 By the time you get over to the core of
2 the Bakken in North Dakota, you have a productive
3 stratigraphy of almost 400 feet. We have a
4 productive stratigraphy of 30 right now. The
5 middle Bakken is 100, 130 feet thick in the heart
6 of the field, and they're producing out of
7 multiple layers in the Three Forks formation
8 beneath, in North Dakota.

9 North Dakota, they're drilling
10 horizontal laterals. Off of one pad, they'll
11 drill horizontal laterals in the Bakken, and then
12 they'll drop down 200 feet and drill to the first
13 bench of the Three Forks, and drop down 200 feet,
14 and drill to the second or third bench of the
15 Three Forks. One pad will have three laterals
16 going two miles this way in the Bakken, three
17 laterals going two miles this way in the Bakken,
18 three going this way in the Three Forks, and three
19 going this way in the Three Forks, three going
20 this way in the Three Forks, three going this way
21 in the Three Forks. You'll get 12 to 18 holes on
22 a pad in North Dakota. Phenomenal drilling stuff.
23 The technology is wild.

24 MR. WENDLAND: So then that goes back to
25 your production where you're saying a Montana well

1 is 168 barrels, and the North Dakota one. So are
2 you taking all of those legs on the one pad as a
3 well, or that's seven --

4 MR. KILBREATH: Each one is a well.
5 You're looking at all of those. So we're more
6 productive. We have less water on the North
7 Dakota side than we do on the Montana side in the
8 oil.

9 Curiously enough, the water-to-oil
10 ratios in Elm Coulee are about a half to
11 seven-tenths of a barrel of water per barrel of
12 oil; and you drop over to the core of the Bakken
13 over here, and they're about a tenth of a barrel
14 of water to a barrel of oil.

15 So more oil, more thickness, more
16 technology. The articulated drill technology, the
17 multi-pad drilling technology, multi-level pad
18 drilling technology in North Dakota is phenomenal.
19 They've developed rigs that they put in about a
20 five to seven acre pad, it has solid core in the
21 center, and they'll set the rig up for their
22 surface casing, and they'll drill in cement.

23 And the rig will actually walk. You
24 don't have break it down, it will actually walk,
25 and they'll drill in cement, drill in cement,

1 drill in cement, and they'll drill a tier of six
2 holes, then they'll walk back to the start, retool
3 the drill, the next casing size, and do that.

4 They're finishing these 10,000 vertical
5 and 10,000 horizontal leg holes, they're finishing
6 them in about 16 to 18 days in North Dakota, 16 to
7 18 days for a 20,000 foot drill. Did I mention
8 the technology is really wild? Then they're going
9 back in and fracking in stages, multiple stages.

10 And so that's part of the production
11 difference, too. The early Elm Coulee wells were
12 single stage fracks, and these wells are 40 to 60
13 stage fracks. We're now -- Our average frack
14 stage in Montana is probably 20 to 30 stages.
15 Over here it is probably 40 to 60. So those are
16 differences.

17 Montana oil production on the bottom,
18 North Dakota oil production on the top. Remember
19 that number. 2008 is when everything went through
20 the roof in North Dakota.

21 Rigs in production. In December, North
22 Dakota produced 23 and a half million barrels of
23 oil; Montana produced 2.3 million barrels of oil.
24 In December, North Dakota rig count was 176; in
25 Montana it was eleven. Today it is 178 and nine,

1 I think. And all of the Montana rigs except one
2 are drilling in that triangle in the Bakken, in
3 Froid down into Elm Coulee, that triangle, and all
4 those holes. There's nine rigs drilling there,
5 and maybe one on the Cedar Creek anticline.

6 So think about that 2008 date. This is
7 impacts to DEQ. This is landfill tonnage. Green
8 is Baker. In 2008, the Baker landfill tonnage
9 started going through the roof. Sidney started
10 increasing all along there, and in 2008 to 2010,
11 Sidney took a steep jump up. Plentywood and
12 Glendive, no real perceived impact from a timing
13 perspective.

14 Drop over to this graph. This is public
15 water submittals, and that can be public water
16 supply, public wastewater, water extensions, main
17 extensions, etc., and subdivision files. And in
18 about 2010, Richland County just started going
19 through the roof for numbers of submittals; and
20 the other counties are starting to maybe go a
21 little bit more positive. They had a lot of
22 chatter as you went along. But the overall trend
23 is 2010, we started seeing our workloads increase.

24 This graph is road trips. The top line
25 is the highway from Sidney to Fairview, and the

1 bottom line is the highway from Sidney to
2 Glendive. This is average daily traffic counts
3 from MDT. 2009/2010, it became a hazard to be on
4 those roads.

5 What's been happening in North Dakota
6 from 2008 on? They've just been going crazy, and
7 they're coming across the border. This is the
8 Montana peak boom in Elm Coulee that was
9 2006/2007. 2008 is here, and all of the people
10 impacts, the traffic, the trash, the water, the
11 wastewater, the subdivisions, all those lots, all
12 started hitting us in 2010 related to North Dakota
13 overflow.

14 So think back to House Bill 218 and
15 funding for eastern Montana infrastructure, and
16 we're attempting to pay for infrastructure impacts
17 in Montana due to growth in North Dakota with our
18 General Fund money. Interesting concept. Maybe
19 we need a bill that puts a toll booth up on the
20 highway.

21 MR. SMITH: So those people flowing
22 over, I assume it's just mostly people need places
23 to live.

24 MR. KILBREATH: People need a place to
25 live.

1 MR. SMITH: The oil production is still
2 in North Dakota, and the taxes for all that stay
3 in North Dakota.

4 MR. KILBREATH: Right.

5 MR. SMITH: What about the income taxes
6 for the people --

7 MR. KILBREATH: The permanent residents
8 would be here. We'd be gathering the income taxes
9 from the permanent residents. There is two types
10 of work force associated with this work, and
11 there's a temporary work force and a permanent.
12 When you drill and frack, you're dominantly
13 working with a temporary work force that goes from
14 site, to site, to site. You place that well into
15 production, each well you place into production
16 has one to two permanent jobs.

17 We're seeing on the school data, there
18 has been a steady decrease in permanent enrollment
19 in Richland and Roosevelt Counties. 2010, that
20 flattened, and it started to go upward. But the
21 thing that the schools are dealing with that you
22 don't even think about is they're dealing with a
23 transient enrollment.

24 In the Sidney public school system, they
25 had a 40 student net increase, but they had a 300

1 student transient increase. So they had this
2 block of kids come in and go out, but they had a
3 steady increase of this. And it is like how do
4 you as a teacher in a school deal with that?

5 MR. SMITH: I'm trying to figure out
6 what the tax revenue is, and it's negligible.

7 MR. KILBREATH: You might be right.

8 MR. SMITH: Even school taxes, unless
9 they give them money or something, if they're
10 transient, they don't pay taxes.

11 MR. KILBREATH: So it's a real
12 interesting thing. How do you pay for this stuff?
13 We're seeing all these impacts, so the
14 communities, like Sidney is now doing impact fees,
15 and sewer hook-up fees that are high, trying to
16 get some money back in for -- People are screaming
17 like scalded apes over the impact fees.

18 But you see the developers come in. A
19 developer will come into Sidney, and he'll build a
20 25 unit apartment building, and he charges \$2,000
21 for a one bedroom apartment and \$2,500 for a two
22 bedroom apartment a month. He's got his money
23 back in three years, and he doesn't care what
24 happened.

25 The investment, the capital investment

1 for growth projects is based around a three year
2 turn around. It is real -- not your normal as you
3 think of as you're building some project out here.
4 So they're quick return on investments, so high
5 cost for everything.

6 The new hotels, State rates at the new
7 hotels in Sidney are \$130 a night.

8 CHAIRMAN SALLEY: Does North Dakota have
9 a holiday tax?

10 MR. KILBREATH: No. They charge taxes
11 from day one.

12 MR. WENDLAND: They get taxes,
13 royalties.

14 MR. KILBREATH: Yes, they get royalties
15 from day one. And so that's a real interesting
16 question. What would it do in Montana? That was
17 the whole discussion around Senate Bill 295, is
18 what would happen in Montana if the tax holiday
19 went away.

20 And the discussion got to the point of,
21 you know, you wouldn't see any decrease in the
22 known areas, but you'd see everybody stop wildcat
23 drilling. That was the gist of it. You would
24 continue to drill in the Bainville/Elm Coulee
25 area, where you know the Bakken is good, and you

1 know -- you fill all that in, but you probably
2 wouldn't be stepping out looking, so you wouldn't
3 be finding additional sweet spots because nobody
4 would be looking.

5 One of these Bakken wells to drill and
6 frack is an \$8 million to \$10 million investment.
7 You need to know or have a fairly big certainty
8 that you've got something on the back end of that.

9 DEQ is in an interesting position, in
10 that we are dealing with only the impacts related
11 to this. Board of Oil and Gas, Conservation, a
12 branch of DNRC, permits all oil exploration,
13 drilling, production, and transportation.

14 We do none of that. We pick up -- The
15 closest permit DEQ has is our air quality, our air
16 registration permit. The production sites have
17 fugitive gases, and combustion, internal
18 combustion engines, and dust, and they emit a
19 certain amount of air quality, hazardous air
20 pollutants. 25 tons a year or greater must have a
21 permit.

22 We've got a registration process in
23 place that takes the place of the full blown
24 permitting, and we have about 1,100 oil and gas
25 production sites that are permitted under that

1 program right now.

2 Everything else are secondary impacts.
3 Gravel mining, we permit gravel mining. There is
4 about 100 permit applications a year in eastern
5 Montana. Gravel goes into the pads, gravel goes
6 into the roads, and gravel is used everywhere. So
7 we're dealing with the impacts from gravel.

8 Subdivision stuff, temporary work force,
9 permanent work force, we deal with the review and
10 approval of the subdivision. The water, the
11 wastewater, we deal with. The biggest issue in
12 eastern Montana is wastewater, the second biggest
13 issue in eastern Montana is wastewater, and the
14 third biggest issue in eastern Montana is
15 wastewater.

16 All of the temporary work force, all of
17 the RV parks, all of the work camps, they all
18 generate wastewater. A large block of those early
19 on were doing pump and haul. The City of Sidney
20 was taking 25,000 to 30,000 gallons a day of pump
21 and haul from RV parks, and had the gray water put
22 on a neighbor's field, and the black water went
23 into the lagoon.

24 The lagoon suffered a toxic overload.
25 It couldn't handle it. "Oh, my gosh. I've got

1 too much organic loading. I just can't deal with
2 it," and their lagoon died last spring. And it
3 has come back to life, but it died for a period of
4 time, and that's a big issue out there, is pump
5 and haul.

6 We regulate the pumpers. We've got two
7 land ap. sites in Richland County. The two land
8 ap. sites are -- one of them is for a big RV park,
9 and the other is a private pumper and hauler. You
10 may not put septage on a land ap. site in the
11 winter unless there is no place that will take it
12 within 25 miles. Then you can land apply in the
13 winter. It adds an entire new concept to spring
14 thaw, doesn't it?

15 We've got a ton of things we do, but
16 they're all impacts related to other things and
17 the impact related to the people. Our enforcement
18 group has been active out there. We've got about
19 70 enforcement cases we've been working on for
20 illegal RV parks. Nine of those have gone into
21 formal enforcement with administrative penalties,
22 some of those on the upwards of the \$20,000 side,
23 and two of those with evictions of RV parks, or
24 RV's in flood plains, etc.

25 So we've been relatively active out

1 there on that. We've been relatively active on
2 gravel pits. We're taking a high level look at
3 fracking. Fracking is regulated by the Board of
4 Oil and Gas. We have looked at the fracking
5 process a bit, and it seems quite simple on paper,
6 you know. You take some water, you take some gel,
7 you take some chemicals, and you take some sand,
8 and you mix it all together, and you stuff it into
9 the ground under great pressure. And in reality
10 it looks like this on the ground, so it is
11 anything but simple.

12 And kind of one of our takes on it is
13 that the Board of Oil and Gas has adopted rules
14 and regulations for fracking, and those rules and
15 regulations have well integrity and well integrity
16 testing involved with it. If you have well
17 integrity, our opinion is the fracking process
18 itself is a relatively safe process.

19 It is a closed system. You're doing
20 this 10,000 feet beneath the surface of the
21 ground, in a shale or shale unit that's completely
22 confined, that's separated from the fresh water by
23 9,000 feet in most cases out here, and multiple,
24 multiple layers of safety: Casing cement,
25 different telescoping casings through different

1 layers; everything cemented in; everything
2 checked. If you have casing integrity, the
3 fracking process is safe. If you do not have
4 casing integrity, this process may not be safe.

5 More important may be what happens on
6 the surface, where you've got gobs of trucks, and
7 gobs of things going on. More important may well
8 be spills. We've looked at all public water
9 supplies where we have data within a mile of the
10 producing oil and gas wells, and we found nothing
11 in our public water supply data.

12 And most of public water supplies
13 analyze for 105, 104 different things. We've got
14 a suite of volatile chemicals, a suite of
15 synthetic chemicals, and a suite of organic
16 chemicals that they look for. IOC's, VOC's, and
17 SOC's. Inorganic chemicals. So there's a whole
18 suite of things in the Safe Drinking Water Act
19 that we look for, and those are the wells that are
20 within a mile of current oil and gas facilities.

21 We found no issues. We looked at wells
22 within a mile of current underground injection
23 control wells. Underground injection control
24 wells are Class 2 wells regulated by EPA, and EPA
25 has delegated authority for the Class 2 UIC

1 Program to the Montana Board Oil and Gas. So the
2 Board of Oil and Gas regulates everything oil and
3 gas, and everything underground injection control.

4 We're looking at and kind of playing
5 with the UIC data today, and there's some
6 interesting things in it that we're working on to
7 try to understand. For instance, if you look at
8 Roosevelt County. Roosevelt County produces five
9 million barrels of water a year more than goes
10 into enhanced oil recovery or salt water disposal
11 wells.

12 What we are going to try to figure out
13 is: Is that a real number? And if it is, where
14 is it going? That might mean there's five million
15 barrels of water, 42 gallons per barrel, so that's
16 a boat load of water that's coming out of the
17 ground on this reporting data base, and not going
18 into the ground on this reporting data base; and
19 there is no viable beneficial use for this water
20 because it is so bad.

21 So we're looking at: Where does it go?
22 Is it dust suppression? Is it coulee watering?
23 What's happening with it? We don't know. It's
24 just one of glitches that we're looking at. So
25 we're looking at the Class 2, the UIC's, and we're

1 trying to get a -- grasping at an understanding of
2 them.

3 We've looked at all of our public water
4 supply wells for BTEX hits. BTEX is benzene,
5 toluene, ethylbenzene, and xylene. Those are some
6 of the reported things that we're supposed to see
7 and we see in our public water supply data base,
8 and 105 systems with BTEX hits. We looked at
9 those systems that are within a mile of oil and
10 gas or injection wells, and we have seven, six or
11 seven.

12 So it appears as if we're doing more to
13 harm our shallow groundwater by storing fuel
14 underground than we are by oil and gas drilling
15 right now. And all seven of these are within arms
16 length of a leaking underground tank. So right
17 now our assumption is that what's happening in the
18 oil and gas industry is being okay because it is
19 new, it is current, we have integrity, well
20 integrity.

21 The big concern is legacy, what happens
22 25, 30 years down the road. The Poplar, the
23 petroleum plume and salt water plume in Poplar is
24 a legacy. It's old brine pits. It is leaking
25 casing. It is old stuff. When you put this stuff

1 in the ground, if you don't properly abandon it,
2 you have issues.

3 This is just a summary of where do we
4 think it is going. Blue are Bakken wells; blue
5 and green are Bakken wells that are uneconomic;
6 reds and yellows are Bakken wells that are
7 economic. This just is another view. Here's
8 Bainville, here is Culbertson, here is Froid, here
9 is Sidney down here, and Fairview. So this is
10 another just view of -- This is our Bakken, and it
11 has got a hot spot in it here, and a hot spot in
12 it here, and maybe some intervening stuff.

13 So our take is the Bakken is pinched way
14 down, and we're not going to see all those rigs
15 march across the border. They're going to stay on
16 the other side of the border. We're going to see
17 continuing development, but I don't think -- If we
18 see 20 rigs again, that will be a big number. We
19 saw 20 towards the end of last year, and currently
20 there are nine or ten. We might see 20.

21 Any questions? This is kind of fun
22 stuff. This is interesting. It is a different
23 view into a different world.

24 CHAIRMAN SALLEY: So what are they doing
25 with the water now?

1 MR. KILBREATH: Right now the water is
2 going into enhanced oil recovery wells or salt
3 water disposal wells, and being injected into the
4 ground; and we're looking at the numbers. They've
5 got --

6 The Board of Oil and Gas has two data
7 bases. They've got a production data base, and on
8 that production data base it's oil, gas, water.
9 And they've got an injection data base, and it
10 says how much water is going into enhanced oil
11 recovery, and how much is going into salt water
12 disposal wells. Those two numbers don't match,
13 and we're trying to get a grasp on what that
14 means.

15 The other thing you see is if you look
16 at this map, you see that in here, water to oil
17 ratios are about .5 water to one barrel of oil; in
18 here, they're about two to four barrels of water
19 per barrel of oil; and up here there are about
20 nine or ten barrels of water per barrel of oil.
21 And so that changes the economics of this, because
22 it costs you \$2 to \$5 a barrel to get rid of
23 water, truck it to the site and dispose of it.

24 Probably the most interesting aspect of
25 the produced water in the Class 2 sites is the

1 solid waste issues associated with it, because you
2 take that water to the Class 2 site, and you
3 centrifuge it; the heavy junk goes into a settling
4 pond, and the light stuff goes into barrels, and
5 they sell it for oil; and the water goes through
6 filter socks, which are very -- mesh decreasing
7 sizes going into the suspended solids.

8 This stuff has got naturally occurring
9 radioactive material in the suspended solids, so
10 you're creating a solid waste that's radioactive,
11 and then you're enhancing it by running it through
12 the filter socks, and then you have to have a home
13 to take it to.

14 North Dakota won't allow anything, any
15 filter socks in their landfills. We will only
16 allow 15 picocuries per gram in our landfills
17 because they're not constructed properly. There
18 is a new landfill in Glendive that's going to go
19 into production in June of this year that will
20 take 30. We suspect there will be a line of
21 trucks at that place. So it is a real interesting
22 solid waste product.

23 MR. MULDER: What is the failure rate of
24 those casings that are coming to the surface?

25 MR. KILBREATH: I don't know the answer

1 to that, but you've got the high salt corrosive
2 water going through them, and they're steel. So
3 through time, casings fail. And then you've got
4 the grout around them; and through time that will
5 fail. So it is a legacy question. It's what's
6 this going to look like? It is not -- Is it safe
7 when you do it today? I think the question is:
8 What is it going to look like 20 years from now?

9 I think that's a more interesting
10 question from a water quality perspective. And
11 from a water quality perspective, DEQ has got a
12 \$160,000 grant this year that is going into our
13 TMDL program that they're going to do some
14 background water quality, groundwater quality
15 monitoring. DNRC has money to do background water
16 quality monitoring.

17 The big deal is you can't do a before
18 and after because it is all after now. We're all
19 looking at current water quality, instead of
20 pre-development water quality.

21 MR. SMITH: So I'm trying to understand.
22 When you inject stuff into the wells, get the oil
23 out, does that water come back out as well, or
24 does it --

25 MR. KILBREATH: If you do enhanced oil

1 recovery, you are injecting water in to get oil
2 out, and as you get oil out, you're going to get
3 water with it at some percentage. So yes, there
4 is dual measuring of water somewhere, and that is
5 part of what we're trying to understand.

6 MR. SMITH: Because you'll get some
7 water out, but most of it stays.

8 MR. KILBREATH: Yes. And some will come
9 out. Most will stay. Some will be recycled.

10 MR. SMITH: And that water that has got
11 the sand and the slurry stuff in it, is there any
12 concern that 10,000 feet -- and that's in Montana,
13 correct, where the fields are thin?

14 MR. KILBREATH: Yes.

15 MR. SMITH: North Dakota, you're
16 probably talking 50,000 to 100,000 feet, is what
17 you showed on your diagram --

18 MR. KILBREATH: It is about 10,000 feet
19 to the top in Montana, and 10,000 feet to the top
20 in North Dakota; and in North Dakota it is 350
21 feet thick where they're drilling and producing.

22 MR. SMITH: So that diagram showed where
23 it's real deep. They're not going all the way
24 down.

25 MR. KILBREATH: No, but that was about

1 400 feet of thickness that they're drilling in
2 there.

3 The other thing is the bulk of the
4 injected water is going halfway between the top of
5 the Bakken and the bottom of the fresh water into
6 a unit called the Dakota or Lakota sandstone, and
7 it's very porous sandstone, and it's going to be a
8 long term horror story, you know, that --

9 MR. SMITH: All that water replaces it.
10 It is not the same density as oil. Eventually
11 that water will either filter through cracks, or
12 you'll end up with voids; or if you've got cracks
13 to the surface --

14 MR. KILBREATH: If you've got cracks to
15 the surface --

16 MR. SMITH: -- it starts coming back up
17 because of the pressures at that level. Is that
18 going to be a problem in Montana? Do you see that
19 coming --

20 MR. KILBREATH: We don't see it yet, but
21 I don't know if we know the legacy, the long term
22 outlook on this.

23 MR. SMITH: Then the water that comes
24 out with the oil is what you were talking about
25 treating, and going through filters, and

1 everything.

2 MR. KILBREATH: Yes.

3 MR. SMITH: Where does that water go
4 after it is treated?

5 MR. KILBREATH: That's going back into
6 the Dakota sandstone dominantly. It is being
7 reinjected into that intermediate --

8 MR. SMITH: The water that comes up with
9 the oil after it is treated and whatever, that
10 lighter oils gets reinjected again.

11 MR. KILBREATH: The oil is pulled onto
12 that and sold, and the water that is associated
13 with the production is filtered through the socks
14 and reinjected.

15 MR. SMITH: So it doesn't go back into
16 like surface water and back into the ground --

17 MR. KILBREATH: No.

18 MR. SMITH: It's totally reused.

19 MR. KILBREATH: It goes back into a
20 confined stratigraphy.

21 MR. MULDER: I don't know if that's
22 true. All that water, it doesn't fall under the
23 Clean Water Act. They can do whatever they want
24 with it, including dumping on the ground.

25 MR. KILBREATH: If they stay on their

60
1 site, it is exempt from the Clean Water Act. It's
2 like I say. We're kind of looking at those
3 production numbers and those injection numbers,
4 and we're trying to figure out what this water
5 balance is about.

6 Because in some places it looks like it
7 doesn't make sense, because like if you go down
8 south in Fallon County, and go down into the Cedar
9 Creek anticline, they are injecting a million
10 barrels a month, and they're producing 50 million
11 barrels a month. So there is this other water
12 balance that is carried down there, in other words
13 a different direction.

14 So the associated water with this
15 business is real interesting. It has got a lot of
16 interesting -- probably more questions than
17 answers.

18 MR. SMITH: I think you'll end up a
19 couple years down the road with some big
20 surprises.

21 MR. KILBREATH: We may.

22 CHAIRMAN SALLEY: What are zombies?

23 MR. KILBREATH: Zombies are subdivisions
24 that were approved in the last oil boom that got
25 partially developed.

1 So a classic example is Rainbow
2 Subdivision in Sidney. It was -- or in Glendive
3 -- 140 lots. It got developed; they put in a
4 public water supply; ten lots were sold; the
5 developer went bankrupt; the bank took back the
6 facilities that they had financed; and they sold
7 the water supply and the wastewater supply to the
8 ten owners.

9 The County took 110 lots or 120 lots
10 back for taxes, and then a year ago the County
11 sold the lots for a tax sale on the Courthouse
12 steps and said, "Oh, by the way, you all can build
13 on these," and the ten people that owned the water
14 system are saying no.

15 So we have multiple of these situations
16 for things that were approved and partially built
17 in the late 1970s that died without being
18 completed, and now are attempting to be
19 resurrected. And there are all kinds of
20 nightmares. And the only happy people are the
21 attorneys.

22 MR. WENDLAND: So for instance in those
23 zombies, they gave the systems to the landowners,
24 the ten property owners. Are they servicing those
25 with an SID, or how are they --

1 MR. KILBREATH: They've just all kind of
2 got coffee pots and kitties that they service
3 those with. And then what happens is those guys
4 took ownership as the HOA, and they never went to
5 the County and changed the covenants, and they
6 never came to us and changed their subdivision
7 approval, and the covenants and the subdivision
8 approval says that water and wastewater will be
9 supplied by the Rainbow Estates Homeowners
10 Association, and the ten guys that are the Rainbow
11 Estates Homeowners Association are saying, "No,
12 not us."

13 So there is really interesting things
14 going on out there on all levels.

15 MR. WENDLAND: Mr. Chairman, one other
16 question for Steve here.

17 So you were doing a comparison of the
18 North Dakota/Montana things. What does the North
19 Dakota DEQ do in comparison to what we're doing
20 here? Are they facing the same challenges?

21 MR. KILBREATH: Except that they've got
22 more money because they've taxed this stuff from
23 day one, and they're putting a lot of money into
24 infrastructure funding. But they are just
25 overwhelmed, and they've got antiquated rules and

1 regulations, and they're just overwhelmed. But
2 they have more money. They have a lot more money.

3 MR. WENDLAND: Thanks.

4 CHAIRMAN SALLEY: Any other questions?

5 (No response)

6 CHAIRMAN SALLEY: Thanks, Steve. Very
7 enlightening. Why don't we take a five minute
8 break.

9 (Recess taken)

10 CHAIRMAN SALLEY: Back to order.

11 OPERATOR: Now joining Stevie.

12 CHAIRMAN SALLEY: We'll continue in that
13 vein with Rick Mulder, do urban storm water runoff
14 and sampling for pesticides.

15 MR. MULDER: Thanks. Hi. My name is
16 Rick Mulder. I work for the Montana Department of
17 Agriculture. I'm a hydrologist. And I somehow
18 got invited here to talk about a little project
19 we've got going on, talking about storm water
20 samples and testing them for pesticides.

21 Two things before we get started. One
22 is that this is an ongoing project, so I don't
23 have any sort of grand conclusions for you today
24 or anything. I'm just basically going to show you
25 what it is we're finding. And two, I just want to

1 give a little brief history, so you guys
2 understand why it is that the Department of
3 Agriculture is collecting and surveying storm
4 water runoff samples.

5 Our Department has been collecting water
6 samples throughout the state to test for
7 pesticides since 1989, I believe; and until very
8 recently, all that sampling was done in
9 agricultural areas. But a few years ago we
10 decided that we should probably start looking at
11 urban uses of pesticides.

12 These urban areas are -- they use
13 pesticides very heavily; almost all the
14 applicators are untrained, and really have no clue
15 what they're doing, so we decided to see what was
16 going on in these urban areas.

17 So our first project we did in Billings.
18 We collected ground water samples, surface water
19 samples, sediment samples within the Billings
20 urban area; and basically what we found is that
21 there was a lot more impact from these urban uses
22 than what you see out in agricultural areas. So
23 we've sort of been following up on this.

24 One of the things that I thought would
25 be cool would be to collect a couple storm water

1 runoff samples just to see what was in there; and
2 based on results from those couple samples, this
3 is sort of turning into a multi year project.

4 So let's just sort of jump into this.
5 We collected these urban storm water samples from
6 Helena and Billings. For Helena, we had four
7 sampling locations. There were nine sampling
8 events, for a total of 36 samples. That sampling
9 was done in 2011/2012. Samples from Helena were
10 collected from these ditches or discharge pipes.
11 This was actually raw storm water before it
12 entered any other sort of water body.

13 In Billings, we had three to four
14 sampling locations that were two rainfall events,
15 where we collected samples, for a total of seven
16 samples, and those samples were collected in 2011.
17 There was no sampling done in Billings in 2012.

18 Six of those samples we collected were
19 actually collected from receiving water, so when
20 you have a storm water event, that water is
21 collected in the city of Billings storm water
22 sewer, and it is discharged into a stream or a
23 drain. So those samples were actually collected
24 from those receiving waters. Then we had one
25 water sample in Billings that was collected

1 directly from a storm water pipe.

2 All these samples were taken down to the
3 Department of Ag's analytical lab down at MSU, and
4 tested for 148 pesticide compounds, as well as
5 nitrates.

6 Just real quickly, these are sampling
7 locations in Helena. I got that one on the west
8 side. That's actually the Henderson ditch, which
9 runs along Henderson Street. The second site is
10 in Nature Park, that sort of drains in the central
11 downtown part of Helena.

12 The third site, that's actually the
13 KMart ponds, so named because they're by KMart.
14 That is actually the major storm water discharge
15 place for the City of Helena. It is a six or
16 eight foot pipe that comes out there.

17 Then the fourth site, that's just sort
18 of off of Colonial Drive on the east side of
19 Helena. It's very little drainage, storm water
20 drainage over there.

21 For Billings, this gets a little
22 complicated. The first sampling event I actually
23 had someone from the City of Billings help me out
24 and collected the samples. Those were the ones,
25 the light blue dots there are where he collected

1 samples from three different locations.

2 Then in August 2011, I was in Billings
3 doing some other work, and it start to rain, so I
4 ran out and started collecting samples. And I did
5 not know where the City of Billings guy, exactly
6 where he had collected samples at that point, so
7 where I sampled was a little bit different. The
8 one on the left, that's Hogan's Slough over there,
9 and we both collected water from the Hogan's
10 Slough, just not at the same spot.

11 The middle ones, that's actually the
12 City County drain, artificial drain that the City
13 of Billings has. Over on the right, that's Alkali
14 Creek. We both sampled pretty much the same spot.
15 And then that one sort of upper middle, that's
16 actually where I was working at the time that it
17 was raining. That's Alkali Creek. I was
18 collecting sediment samples, and there happened to
19 be like five or six storm water discharge pipes
20 that came into Alkali Creek right there, so I
21 collected a sample while I was there.

22 Just a brief overview of what we found.
23 For Helena, we had a total of 31 different
24 pesticide compounds that were detected. Samples
25 averaged 13 pesticides per sample, and we had one

1 sample that had 25 different pesticide compounds
2 in it.

3 Billings, we had a whole lot less
4 sampling in Billings, just those two sampling
5 events. We found 26 different pesticides; samples
6 averaged 15 pesticides per sample; and there was
7 one samples with 24 different pesticide compounds.

8 So I'm pretty sure none of you are sort
9 of experienced in pesticides in water, but those
10 numbers are huge. You don't see that sort of
11 anywhere else, even in agricultural areas, or very
12 few agricultural areas you would find those sort
13 of numbers.

14 This is just a list of what we found. I
15 know this is very busy, and it's hard to read.
16 But in blue, you have the chemical name, and in
17 black in parentheses you have the trade name. So
18 if you went and bought a pesticide at a store,
19 that's what it would be called in the black there.

20 I basically just put this slide on here
21 so you can sort of look around and see if you guys
22 recognize anything. I know there is Glyphosate up
23 there, which is in a product called Roundup. I
24 think everybody has heard of Roundup. That is the
25 first and only time we've ever detected Glyphosate

1 in water. It was in the storm water of Helena.
2 We actually don't test all of our samples for
3 Glyphosate. You don't really expect to find it in
4 water, but --

5 MR. WENDLAND: So you found these in one
6 of the urban settings. Where do you find it in ag
7 sampling? Have you found Glyphosate?

8 MR. MULDER: We have not, but we don't
9 test every sample for Glyphosate.

10 MR. WENDLAND: Because I think
11 production agriculture has had the bad name all
12 the time, that we're polluting waters obviously,
13 and we're seeing that isn't really the truth. But
14 that's why I say because agriculture uses a lot of
15 Glyphosate right now. That's Roundup. So that's
16 why I'm asking if you found that in any ag
17 samples, any ag runoff samples.

18 MR. MULDER: We have not found it in any
19 ag samples, but with the caveat that we don't test
20 a lot of our samples for Glyphosate.

21 CHAIRMAN SALLEY: Why is that? Why
22 don't you test --

23 MR. MULDER: Glyphosate, it tends to
24 stick to soils once it is applied. It is not very
25 soluble. Well, it's fairly soluble, but not very.

1 It usually breaks down really quick. You can
2 actually spray Glyphosate in a plant crop, and go
3 back into that application area in a day or two,
4 so it goes away pretty quickly.

5 MR. WENDLAND: No residual.

6 MR. MULDER: We sort of got a whole
7 gamut of things up there. There's a lot of
8 herbicides, a lot of insecticides, a lot of
9 fungicides. So you've got a whole gamut of
10 different things.

11 There is Diazanon up there. That's an
12 insecticide. It is kind of weird that we found it
13 because Diazanon used to be a big residential
14 insecticide, but the residential use of that was
15 cancelled many years ago. So why we're finding it
16 here, we're not really sure. Probably somebody
17 has got it in a garage or basement and have been
18 whipping it out.

19 There is Picloram up there, which is
20 Tordon. Has anybody heard of Tordon? It's used
21 heavily for knapweed and things like that.

22 MR. WENDLAND: There's still a lot of it
23 used in ag.

24 MR. MULDER: Picloram?

25 MR. WENDLAND: Tordon.

1 MR. MULDER: It is used for noxious
2 weeds. I don't know if it has any crop uses.
3 Does it?

4 MR. WENDLAND: Well, that's what I'm
5 saying. It is used quite a bit in production ag,
6 I think.

7 MR. SMITH: I know that in Ravalli
8 County, our Weed board -- I don't know if they use
9 Tordon or what they're using, but they're always
10 spraying along the road for knapweed or whatever
11 they find it in fields -- not agriculture fields,
12 which is native. But they're always going out.
13 Sometimes they use bugs, sometimes they spray
14 particularly along the roads.

15 So I don't know if you're getting that
16 runoff off the road that it gets into a ditch, or
17 -- but they use it all over the county, not just
18 in urban areas.

19 MR. MULDER: Yes. Now to sort of try to
20 break down the pesticides that we see in most
21 samples, they sort of fall into two different
22 classes.

23 One is the Phenoxy herbicides, things
24 like 2,4-D, MCPA, MCPP. Phenoxyes have been
25 around since the 1940s, I believe, and they're

1 chemicals that are just sort of used everywhere
2 for everything. They're used in a lot of crops.
3 2,4-D is used a lot for noxious weed control.
4 They're also heavily used in like lawn and turfs,
5 things like that. So these things are just
6 everywhere.

7 The second class is what we call soil
8 sterilants, herbicides that are put down to kill
9 everything -- driveways, right-of-ways. Wherever
10 you want nothing to grow, it is things you put
11 down. And we find a lot of those all over the
12 state, not just in storm water.

13 Do you guys want trivia? 2,4-D was
14 actually a component in Agent Orange.

15 MR. WENDLAND: Just 10,4-D in Agent
16 Orange instead of 2,4-D, right?

17 MR. MULDER: 2,4-D is really bad. They
18 put 2,4-D in there as a defoliant to kill the
19 jungle.

20 One thing I did is I wanted to compare
21 the concentrations we were seeing in the storm
22 water as compared to the other surface water
23 sampling we have done. I don't know if you guys
24 are familiar with box plots, but they're just
25 showing the range of concentrations.

1 In this case we're looking at 2,4-D, and
2 I used 2,4-D because 2,4-D is sort of ubiquitous
3 in our environment. That may sound a little
4 weird, but I know our Enforcement Division, if
5 they take vegetation samples, they're hard pressed
6 to find vegetation without 2,4-D.

7 We do a lot of surface water sampling,
8 stream sampling essentially. You can see on the
9 right there. We've taken 104 stream samples. I'd
10 say 80, 90 percent of those stream samples had
11 2,4-D in it. We've also done some precipitation
12 sampling, and had 2,4-D in the precipitation.
13 2,4-D is just sort of everywhere.

14 But if you look at it, the surface water
15 samples, the concentrations that we find in
16 surface water, they're very, very low. Usually
17 right around the detection limit. And that number
18 there, that number is the mean concentration for
19 all our 2,4-D detections in surface water. You
20 can see it's pretty low, 0.0115. Low
21 concentration.

22 But if you go to our storm water, you
23 get a much wider range of concentrations, and in
24 general they're much higher, the mean
25 concentration being 1.1 parts per billion, so two

1 orders of magnitude higher than what we're finding
2 in natural stream water.

3 And I did the same thing for several
4 other pesticides, and it was true for all of them.
5 Concentrations, and the range of concentrations
6 are much higher in the storm water than what we're
7 finding in just regular stream sampling.

8 Once we get our laboratory results, we
9 have to try and make some sort of sense. What
10 does this mean? What we do is we take our
11 pesticide detections, and we compare them to
12 drinking water standards, and then we also compare
13 them to some aquatic life benchmarks -- which I'll
14 get to in a minute.

15 But these are the samples or detections
16 that were greater than 50 percent of the drinking
17 water standard. And we didn't have a whole lot.
18 The ones in black are greater -- the concentration
19 column there. If they're in black, they were
20 greater than 50 percent of the drinking water
21 standard; and then we had the one in red, that was
22 way over the drinking water standard for MCPA.

23 And the one weird thing I guess I should
24 bring up. The reason we use 50 percent of the
25 drinking water standard is by statute if it gets

1 above 50 percent, that's when we have to start
2 worrying.

3 And I guess the one weird thing about
4 the one that exceeded the standard, that MCPA of
5 33 parts per billion, well, you can see by the
6 date that was it collected in 201. That's a very
7 old sample.

8 MR. WENDLAND: Was that the one Helena
9 site?

10 MR. MULDER: Yes. That's the east side
11 of Helena. That was actually collected July 16th,
12 2012, is what that should read. So that was a
13 thunder storm that came through on July 16th. It
14 had a very high concentration of MCPA. It just so
15 happened that the next day there was another
16 thunder storm. I went out and collected samples
17 on the 17th, too, and on the 17th there was no
18 MCPA in that samples. So something -- there must
19 have been a large plug of something coming through
20 there on the 16th.

21 It was also weird that on the 17th, we
22 didn't find any MCPA, and that's weird in itself,
23 because every other sample that we collected had
24 MCPA in it. It's sort of doubly weird.

25 So sort of overall, it doesn't appear to

1 be any sort of huge issue as far as human health
2 goes. Of course, nobody is out drinking storm
3 water, but in many cases, like in Billings, the
4 storm water ends up in the creek, which ends up in
5 the Yellowstone, which ends up in somebody's
6 drinking water.

7 MS. STEINMETZ: Have you done any
8 corresponding groundwater studies for pesticides?

9 MR. MULDER: We have not. You mean
10 around Helena or --

11 MS. STEINMETZ: I was just curious if
12 you had looked for pesticides in groundwater.

13 MR. MULDER: We have some -- we've done
14 some sampling around Helena, just not directly
15 related to storm water. And Helena is actually a
16 very weird town, because every city in the world I
17 think dumps their storm water in a creek or river.
18 In Helena it actually goes into ponds, and either
19 evaporates or percolates into the ground. So
20 Helena is a bit weird in that respect. And I have
21 thought about drilling a well below like KMart
22 ponds, but not yet.

23 This a very busy table. But this is
24 where I took detections, and compared them to
25 aquatic life benchmarks. These are not standards.

1 They're benchmarks that EPA put out a few years
2 ago. So basically in the left column you've got
3 the site; the next column, you've got the
4 pesticide detected; the next column, you've got
5 the date; and then you've got the concentrations
6 of that pesticide.

7 In those right three columns I have
8 these bench marks for various things. You can
9 have up to eight different benchmarks for each
10 pesticide, so you have like an acute and a chronic
11 benchmark for fish; you have an acute and chronic
12 benchmark for invertebrates; you can have an acute
13 and chronic benchmark for vascular plants; and you
14 can have an acute and chronic benchmark for
15 non-vascular plants.

16 So I didn't include all the benchmarks
17 up there, just the ones that we were exceeding.
18 Again, if it's in red, it exceeded one of the
19 benchmarks. If it is in black, it exceeded 50
20 percent of that benchmark. And you can see, we
21 have quite a few exceedences up there.

22 As far as the ones that exceeded those
23 chronic -- in that right-hand column -- chronic
24 invertebrate benchmarks, that is not really a big
25 deal, because we had like one sample that would

1 have -- it would be above benchmark. All the
2 other samples would be below benchmark. So as far
3 as chronic effects, it's not necessarily an issue
4 there.

5 But those acute benchmarks, that can be
6 sort of problematic. Again, as far as Helena
7 goes, this is not any sort of natural system that
8 has any sort of aquatic life in it, but this is
9 just what we have to try and figure out what these
10 concentrations mean.

11 So a potential problem there maybe,
12 which is why we're going to continue this
13 monitoring. We're also going to expand and do
14 other cities, and see if we can get some sort of
15 hold on what's going on here.

16 Finally we also did test all these
17 samples for nitrates. We did find nitrates in
18 most of the samples, but the concentrations were
19 actually very low in my mind, I guess. And that
20 sort of surprises me. All this runoff is picking
21 up all these pesticides. Why is it not picking up
22 the fertilizers, too? So I'm not sure what's
23 going on there. But I have a party dog and a cake
24 because it is good for me.

25 MR. KILBREATH: Rick, DEQ has MS4 storm

1 water permits for the seven big communities in
2 Montana, and they test all those events, and I
3 think nitrate is one of the things they test for.
4 And in places like Missoula, you can see
5 differences in nitrate from the residential
6 communities to the commercial communities, so that
7 the residential communities, the drainage would
8 have higher nitrate because it had more
9 fertilizer.

10 And I think it would be interesting to
11 compare their MS4 data with what you've got to see
12 if there is correlations. And I don't know. I
13 can't remember the other things they analyzed for.
14 I know they don't analyze for 157,000 weird things
15 like you do, but they've got a program that
16 analyzes for storm water, and would have years of
17 data in it. It might be interesting to look at
18 that.

19 MS. STEINMETZ: You said that this is an
20 ongoing study. Do you just plan to continue doing
21 the same sort of sampling, or do you plan on
22 expanding it?

23 MR. MULDER: We're going to expand it,
24 just for other cities. We're going to try
25 Missoula, and restart Billings again, try to. But

1 that requires getting volunteers to do it, so I
2 can't just drive down there every time it rains.

3 And we also want to sort of change how
4 we're sampling. I tried to do this last year, but
5 I'd like to sample at different times during the
6 same storm, so get samples at the beginning of the
7 storm, middle of the storm, end of the storm. And
8 I tried to do that last summer, but we never had a
9 sustained rain in Helena last summer, just thunder
10 storms here and there. So that never happened.
11 So I do want to change the timing of when we
12 sample to see if the pesticides go up and down
13 during that event.

14 MS. STEINMETZ: The two day -- what was
15 it -- the 16th and 17th, that might be an
16 indication of what you might see beginning -- you
17 see a big flood coming through, and then at the
18 end, it's all been cleared out. So yes.
19 That's --

20 MR. MULDER: That was sort of two brief
21 events with nothing in between. So I'm hoping for
22 a sustained day or two of rain here sometime.

23 MR. KILBREATH: Our fields would like to
24 see a sustained two day rain, too.

25 MS. BUCKLIN-SANCHEZ: Rick, this is

1 Karen Sanchez. And I was wondering if there is
2 capacity for doing the testing, that is paying for
3 the lab analysis. If other communities like
4 Bozeman were interested or could come up with
5 volunteers to do the testing, do you have money to
6 pay for the lab results?

7 MR. MULDER: We do. Because the lab is
8 -- this is a Department of Agriculture lab, and
9 Department of Agriculture project, we don't get
10 charged by the sample. So yes, there is capacity
11 to do other sampling, and Bozeman would probably
12 be a good spot to do it, if you know of anyone.

13 MS. BUCKLIN-SANCHEZ: I'll think about
14 that.

15 MR. KILBREATH: You might get a lot of
16 water bottles out of this deal.

17 MR. MULDER: Within reason. We can't
18 take a million samples.

19 MR. SMITH: This is Keith. You had
20 already mentioned the MS4 is taking samples for --
21 assuming oil, and grease, and nitrates, and
22 whatever runoffs. Are those composite samples?
23 Are they point samples? Do you know?

24 MR. KILBREATH: I don't know, Keith.
25 You used up all my knowledge on that with that one

1 sentence I gave you

2 MR. SMITH: I guess my question is:
3 Could you take parts of those samples and send
4 them --

5 MR. KILBREATH: It seems like a great
6 opportunity.

7 MR. SMITH: That way he doesn't have to
8 go out and try and collect them. He takes the
9 samples and looks for pesticides that you're
10 already testing for.

11 MR. KILBREATH: I think it's the public
12 works guys that are doing those samples, and we're
13 the guys that are there.

14 MR. SMITH: I don't know -- because I'm
15 not from Missoula -- what kind of sampling points
16 they have there. I know they collect them, and
17 take samples. Like in waste water, you have grab
18 samples, you have composites. Composites collect
19 over 24 hours and mixes.

20 MR. MULDER: And for the City of
21 Billings, that was the storm water guy who
22 collected these samples for me. There was a
23 little miscommunication. I wanted him to collect
24 raw storm water runoff, but he actually collected
25 in these receiving waters. Then after he got the

1 results for the first things, he like ignored me
2 forever. Apparently didn't want to know. So I'm
3 going to try and recontact him, and get him to do
4 it again, because he's out there sampling anyway.

5 MR. SMITH: That was my point. They're
6 already collecting samples for all those other
7 things, volatiles, organics, or whatever. Just
8 take a bottle of that and ship it off to --

9 MR. MULDER: I'd provide them with
10 bottle.

11 MR. KILBREATH: We could get you the
12 contact names that are turning in those samples
13 that are doing it for those MS4 permits.

14 MR. SMITH: I don't know if they're
15 doing them at the same places he needs it, whether
16 they're doing raw, composite, grabs, whatever.
17 It sounds like his are grab samples.

18 MR. MULDER: We could work that out. I
19 know this guy, he had to -- I don't know how he
20 does this, but within a half hour of the onset of
21 rainfall he had to be out sampling. I don't know
22 how he works that.

23 CHAIRMAN SALLEY: Any other questions?

24 (No response)

25 CHAIRMAN SALLEY: Thank you. That

1 brings us to our public comment. I don't see a
2 lot of public here.

3 Move on to agenda items for next
4 meeting. Does anybody have anything of interest
5 they want to bring up at our next meeting?

6 MS. STEINMETZ: We should have a couple
7 of action items on the agenda for the next
8 meeting, which would be good, since it's been
9 quiet lately.

10 Hopefully Silver-Bow. We're waiting for
11 a legal review on that. We had completed our
12 report. It had been reviewed. But our
13 remediation legal reviewed it, and they had some
14 things that they wanted to look into a little bit
15 more closely, so we're waiting for them to get
16 back to us on that.

17 And I believe that Mike Suplee will be
18 ready with his nutrient package, I believe. That
19 was the last I heard, and hopefully that hasn't
20 changed.

21 So those are the two action items that
22 I'm aware of possibly for our next meeting, which
23 is June 14th. So it would be great to see as many
24 of you here as possible since we do have those
25 action items.

1 Is there any requests for updates,
2 briefings?

3 (No response)

4 CHAIRMAN SALLEY: I guess we'll all know
5 how that bill turns out by then, if the thing is
6 going to pass, if the Governor is going to sign it
7 or not. That's an interesting one. No, I don't
8 think so. Anything else?

9 MS. STEINMETZ: The last time I talked
10 to Stacey Otterstrom with the Governor's Office --
11 she is his appointments coordinator, and this was
12 a week and a half ago, I think. She said that
13 they were still working on appointments that had
14 expired in January. So I think WPCAC is probably
15 still a ways out, but she has all your
16 applications except Michael, who we talked about
17 that.

18 And Corey did indicate that he's not
19 reapplying. We haven't been able to get a hold of
20 Roger, but it sounds like everybody else would
21 like to continue on, which is wonderful.

22 And the reason I brought that up is
23 because we had talked about having John North talk
24 about WPCAC responsibilities, and the Department's
25 responsibility to WPCAC as far as bringing water

1 quality issues. We had talked about waiting until
2 we had some new members, so we'll just maybe sit
3 tight until we have a couple new members.

4 CHAIRMAN SALLEY: Is there any other
5 business we need to address?

6 (No response)

7 CHAIRMAN SALLEY: Hearing none, I'll
8 entertain a motion to adjourn.

9 MR. SMITH: So moved.

10 MR. WENDLAND: Second.

11 CHAIRMAN SALLEY: All those in favor.

12 (Response)

13 CHAIRMAN SALLEY: Opposed.

14 (No response)

15 CHAIRMAN SALLEY: We stand adjourned.

16 (The proceedings were concluded

17 at 12:05 p.m.)

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C E R T I F I C A T E

STATE OF MONTANA)

: SS.

COUNTY OF LEWIS & CLARK)

I, LAURIE CRUTCHER, RPR, Court Reporter,
Notary Public in and for the County of Lewis &
Clark, State of Montana, do hereby certify:

That the proceedings were taken before me at
the time and place herein named; that the
proceedings were reported by me in shorthand and
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IN WITNESS WHEREOF, I have hereunto set my
hand and affixed my notarial seal
this _____ day of _____, 2013.

LAURIE CRUTCHER, RPR
Court Reporter - Notary Public
My commission expires
March 12, 2016.

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