

STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION

Coteau Properties Company	)	Case No. RC-10-598
	)	OAH File No.
Notice of Violation No. 1004	)	20100364
	)	
	)	
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TRANSCRIPT OF HEARING

Taken At  
Public Service Commission Hearing Room  
12th Floor, State Capitol  
Bismarck, North Dakota  
December 17, 2010

(APPEARANCES AS NOTED HEREIN)

BEFORE ALLEN HOBERG  
ADMINISTRATIVE LAW JUDGE

**A P P E A R A N C E S**

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COMMISSIONER TONY CLARK  
COMMISSIONER KEVIN CRAMER  
COMMISSIONER BRIAN R. KALK

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FOR COTEAU PROPERTIES.

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FOR THE PUBLIC SERVICE  
COMMISSION.

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1 (The following proceedings were had and  
2 made of record, Friday, December 17, 2010,  
3 commencing at 9:06 a.m.):

4 JUDGE HOBERG: Let's start.

5 For the record, it's a few minutes after  
6 nine, December 17th, 2010. This is the time and  
7 place scheduled in the Public Service Commission  
8 Hearing Room in the State Capitol in Bismarck, North  
9 Dakota for the hearing in the matter of Coteau  
10 Properties Company Notice of Violation No. 1004.

11 My name is Allen Hoberg. I'm the  
12 designated hearing officer today with the Office of  
13 Administrative Hearings. We'll take appearances  
14 from counsel at this time, starting with you,  
15 Mr. Bjella, please.

16 MR. BJELLA: Yes, Your Honor. My name is  
17 Brian Bjella, with the law firm of Crowley Fleck,  
18 representing The Coteau Properties Company. Along  
19 with me is Chris Friez.

20 JUDGE HOBERG: Thank you. And he's  
21 representing the company?

22 MR. BJELLA: Yes, also with Crowley Fleck.

23 JUDGE HOBERG: We have passed around a  
24 sign-up sheet so I think we have everybody that's  
25 over there. Did everybody get on the sign-up sheet?

1 Mr. Gruman, please.

2 MR. GRUMAN: Good morning. Mark Gruman,  
3 legal counsel, Public Service Commission. I'm here  
4 representing staff. Next to me is Jim Deutsch,  
5 Director of Reclamations of the Public Service  
6 Commission.

7 JUDGE HOBERG: Thank you. Of course, to  
8 my left are members of the Public Service  
9 Commission; Commissioner Tony Clark, Commission  
10 Chairman Kevin Cramer, and Commissioner Brian Kalk.  
11 Shortly, beginning with Commissioner Cramer, who has  
12 the reclamation portfolio, I'll ask them for their  
13 opening comments, but, first, I'm going to give a  
14 brief summary, some background information.

15 On October 4th of this year, the Public  
16 Service Commission Reclamation Division issued  
17 Notice of Violation 1004 to Coteau Properties for  
18 failure to install the appropriate measures to  
19 control erosion and sedimentation from a section of  
20 haulroad at the Freedom Mine. On October 29th, the  
21 Commission received a request for a formal hearing  
22 from Coteau Properties in this matter. On  
23 November 2, 2010, the Reclamation Division issued a  
24 modification of notice of violation 1004. On  
25 November 24th of this year, the Commission issued a

1 Notice of Formal Hearing scheduling today's hearing  
2 under North Dakota Century Code Chapter 38-14.1.

3 We've held a couple of prehearing  
4 conferences in this matter. The first one was on  
5 December 15th, 2010, at which we identified the  
6 issues for this hearing, and the issues are the  
7 following: Along with this request for hearing,  
8 Coteau Properties did file a motion to vacate the  
9 hearing, which the Commission will have to take  
10 under advisement. We're obviously holding the  
11 hearing anyway today, but there is a motion to  
12 vacate that is pending based on the fact of an  
13 inappropriate or inadequate identification of the  
14 location. Erroneous, I guess, is a better word.

15 So the allegation, one of the first  
16 allegations on the first issue is the erroneous  
17 location in NOV 1004, but, again, that was amended  
18 by the modification issued later.

19 The second issue identified is an  
20 allegation of violation of North Dakota  
21 Administrative Code Section 69-05.2-16-08(1)(c).  
22 And the third issue is allegation of violation of  
23 North Dakota Administrative Code Section  
24 69-05.2-24-01(2)(a). And, of course, both of those  
25 relate to the failure to install appropriate

1 measures to control erosion and sedimentation.

2 Then the final issue that will be  
3 considered will be if the violations, the second two  
4 issues are proven, what should be the penalties for  
5 the violation, if any, and we have the four factors  
6 involved under North Dakota Century Code Section  
7 38-14.1.32(1), subdivisions a through d.

8 At this time I'll call on the  
9 Commissioners for their opening comments.

10 Commissioner Cramer, please.

11 COMMISSIONER CRAMER: Thank you, Your  
12 Honor. Thanks, everyone, for being here. I don't  
13 have a lot to say because, of course, the record to  
14 this point is quite skimpy, which is unusual for us.  
15 Usually in so many of the situations that we  
16 adjudicate, we have a huge record before the hearing  
17 and so there's not a lot at this point to comment  
18 on. And I think that's appropriate. It's always a  
19 little bit awkward when the agency that is -- you  
20 know, that is involved as one of the parties to the  
21 case is also the agency that adjudicates it, so it's  
22 appropriate that at this point we don't know very  
23 much about it. That gives me some comfort. I've  
24 been somewhat anxious to get to the facts of the  
25 case, and I appreciate the work everyone has put

1 into it. And I also appreciate the new arrangement  
2 of the hearing room. We'll have to see how all of  
3 this works, but I'm glad to see we're using some of  
4 the technology that has been here for quite some  
5 time and I hope that that hasn't disrupted, you  
6 know, the parties too much. It will just be a nice  
7 experiment while we also get to the point and to the  
8 justice of this case. Thank you all for your  
9 participation.

10 JUDGE HOBERG: Thank you, Commissioner  
11 Cramer. Commissioner Clark, please.

12 COMMISSIONER CLARK: Just good morning and  
13 welcome.

14 JUDGE HOBERG: Thank you. Commissioner  
15 Kalk, please.

16 COMMISSIONER KALK: Good morning. Thank  
17 you for your work and let's get to work, I guess.

18 JUDGE HOBERG: Thank you, Commissioners.

19 At the second prehearing conference we  
20 talked about stipulation as to the evidence, and the  
21 procedure today is that all of the evidence is going  
22 to come in because there's no objection as to  
23 foundation. And assuming it's all relevant, which  
24 we will at this point in time, unless there's an  
25 objection, I believe we have Exhibits 1 through 22

1 submitted by the Reclamation Division, and I'm going  
2 to admit Exhibits 1 through 16 and 21 through 22 and  
3 take official notice of Exhibits 17 through 20 since  
4 those relate to statutes or, I should say, rules and  
5 documents already on the record in this matter, so  
6 they will all be entered on the records as admitted  
7 or officially noticed.

8 And as to Coteau's Exhibits 1 through 22,  
9 I believe, also there's no objection to those as to  
10 foundation, so those will be admitted.

11 I think this is an appropriate time to  
12 provide those documents to the Commissioners so they  
13 have the documents that we are referring to and we  
14 will be referring to virtually all of them during  
15 the course of the hearing, I believe.

16 Commissioner Kalk.

17 COMMISSIONER KALK: You know, I would have  
18 a question for you and the fellow Commissioners.  
19 This is 22 documents I've never seen before, and I  
20 would prefer to read through them a little bit  
21 before we start having people testify to them. I  
22 just wanted to hear your gentlemen's thoughts on it,  
23 even if it was just 15, 20 minutes. If the pace is  
24 such that we have time to review when the witnesses  
25 go through it, I don't have a problem with that, but

1 I would just like to bring that question out,  
2 concern out, I would say. I don't know if these are  
3 one-page documents or these are 50-page documents.

4 JUDGE HOBERG: Some of them are fairly  
5 long, I think. Some of them are maps --

6 MR. GRUMAN: I certainly respect that. I  
7 prepared a cover sheet and perhaps -- I mean,  
8 perhaps we could disseminate them and then if Mr. --  
9 or Commissioner Kalk still has considerations or  
10 concerns, we can go from there.

11 JUDGE HOBERG: Well, it's my understanding  
12 that the parties, through the witnesses, are going  
13 to go through all of the exhibits and will refer to  
14 the exhibits, of course, and identify them as we go  
15 through and they'll be explaining. You know, I  
16 understand that you don't have them beforehand,  
17 which isn't -- I know it's not common for your  
18 situation.

19 COMMISSIONER KALK: Most folks do it that  
20 way, I get that.

21 JUDGE HOBERG: But if at any time,  
22 Commissioners, you want to slow down, you have  
23 some -- you want to take a little time to look at  
24 something so you can ask questions, but, you know,  
25 we'll be going through these and your questions will

1 follow later, so, hopefully there will be enough --

2 COMMISSIONER KALK: I just wanted to bring  
3 that out just in case it gets to where --

4 JUDGE HOBERG: Right. Right. Let us know  
5 if you want to spend some more time as we're going  
6 through.

7 Okay. Why don't we pass out the exhibits,  
8 hand them out to the Commissioners and the parties.

9 MR. GRUMAN: This is the copy for the  
10 record.

11 JUDGE HOBERG: And as we're passing these  
12 out, of course, I know Counsel are aware of this,  
13 but we'll be referring to the exhibits by the  
14 exhibit numbers when we're talking about them so the  
15 Commission will have an idea and I will have an idea  
16 which exhibit we're talking about.

17 Thank you, counsel. Here's the hearing  
18 procedure we'll follow today. The Reclamation  
19 Division will proceed first and they'll be calling  
20 two witnesses, I believe, Mr. Gruman. Their  
21 witnesses will be up at the podium up there and  
22 after they identify themselves, they'll be talking  
23 about their exhibits, which will be on the screens  
24 there. All of your exhibits will be on the screens?

25 MR. GRUMAN: Correct.

1                   JUDGE HOBERG: All right. Okay. And  
2 there will be direct examination by Mr. Gruman,  
3 cross-examination by Mr. Bjella, if he has  
4 questions, then questions by the Commissioners, of  
5 course, and then we'll follow that with any further  
6 questions by counsel or the Commissioners as  
7 necessary.

8                   Upon completion of the Reclamation  
9 Division's presentation of its case, I'll call on  
10 Coteau to present its case and, Mr. Bjella, you have  
11 three or four witnesses?

12                  MR. BJELLA: Four, Your Honor.

13                  JUDGE HOBERG: Four witnesses. They will  
14 all be over at the witness chair over to my left,  
15 where witnesses usually are, under the traditional  
16 method, and there will be direct examination by  
17 Mr. Bjella, cross-examination by Mr. Gruman, if he  
18 has any, and then questions by the Commissioners and  
19 such further questions by counsel and the  
20 Commissioners as necessary.

21                  And, again, I've already admitted -- I  
22 think maybe I forgot to actually say that I admitted  
23 Exhibits 1 through 22 of Coteau, so those also are  
24 admitted. I already indicated that the Reclamation  
25 Division's exhibits are admitted.

1                   And the proceedings are being  
2                   tape-recorded and recorded by a court reporter. Our  
3                   court reporter today is Linda --

4                   THE REPORTER:   Gingery.

5                   JUDGE HOBERG:   -- Gingery.  Thank you.

6                   And, of course, all testimony today is under oath,  
7                   and I think I'll just give that admonition once  
8                   today since we have so many witnesses.

9                   And this is for the benefit of all of the  
10                  witnesses testifying here today.  I'm required by  
11                  law to tell all witnesses at administrative hearings  
12                  that the maximum penalty for perjury in the state is  
13                  a Class C felony, punishable by a maximum five years  
14                  imprisonment, \$5,000 fine, or both.  And, of course,  
15                  perjury is essentially not telling the truth at a  
16                  hearing such as this.  When I swear you in, I'll ask  
17                  you a couple more questions and then swear you in at  
18                  the time when you testify, but you've heard the  
19                  admonition already.

20                  The burden of proof today or the burden of  
21                  persuasion in this matter rests with the Reclamation  
22                  Division to prove the allegations of the modified  
23                  Notice of Violation 1004 by the greater weight of  
24                  the evidence.

25                  And, finally -- I guess not quite finally.

1 If a party doesn't agree with the final decision of  
2 the Public Service Commission, which they'll be  
3 issuing sometime following the conclusion of this  
4 hearing, they may have appeal rights or other rights  
5 under the Administrative Agency Practice Act,  
6 Chapter 28-32 of the North Dakota Century Code and  
7 the Rules and Statutes of the Commission.

8 So, finally, we all have mics, or at least  
9 most of the people here have mics. I think it would  
10 be appreciated if you're not speaking to turn your  
11 mic off. Mine has a blue light to show that it's  
12 on. Some of them, perhaps, have a green light to  
13 show that they're on.

14 MS. JEFFCOAT-SACCO: Green and red.

15 JUDGE HOBERG: Green and red. Red is off.  
16 Green is on. So if you're not speaking, please turn  
17 your mic off.

18 All right. Any questions, Mr. Bjella,  
19 about the procedures?

20 MR. BJELLA: No, Your Honor.

21 JUDGE HOBERG: Thank you. Mr. Gruman?

22 MR. GRUMAN: No, Your Honor. I should  
23 just note that before I indicated that all my  
24 exhibits were on the Smart Board. That was  
25 incorrect. Actually, Exhibits 1 through 15 will be;

1 16 through 21 will not.

2 JUDGE HOBERG: Okay. Thank you.

3 MR. GRUMAN: You're welcome.

4 JUDGE HOBERG: All right. Before we start  
5 the evidentiary portion, do you wish to make an  
6 opening statement, Mr. Gruman?

7 MR. GRUMAN: A very brief opening  
8 statement, yes, Your Honor.

9 JUDGE HOBERG: Please.

10 MR. GRUMAN: Thank you.

11 Good morning. As you know, the purpose of  
12 today's hearing is for you to determine whether good  
13 cause exists to absolve Coteau of those violations  
14 cited in NOV 1004.

15 The proceedings today will center upon a  
16 haulroad constructed at the Freedom Mine,  
17 specifically a ditch located on the north side of  
18 this same haulroad. Mr. Mike Berg and Mr. Dean Moos  
19 from Reclamation staff will testify that Coteau  
20 failed to install the appropriate measures to  
21 control or prevent erosion infiltration of this  
22 north haulroad ditch as required by Commission  
23 rules. Mr. Moos will also testify concerning the  
24 appropriateness of the \$1,500 penalty.

25 PSC staff respectfully request that the

1 Commission find Coteau in violation of the provision  
2 of the NDAC 69-05.2-24-01(2)(a) and  
3 69-05.2-16-08(1)(c) and that you assess the \$1,500  
4 civil penalty that was previously proposed. Thank  
5 you.

6 JUDGE HOBERG: Thank you, Mr. Gruman.  
7 Mr. Bjella, any opening?

8 MR. BJELLA: No, Your Honor.

9 JUDGE HOBERG: Okay. Please call your  
10 first witness, Mr. Gruman.

11 MR. GRUMAN: Thank you, Your Honor. Staff  
12 calls Mr. Mike Berg.

13 JUDGE HOBERG: I'm going to ask all the  
14 witnesses before they testify to state their full  
15 name and spell it for the record, please.

16 THE WITNESS: Michael Berg.  
17 M-i-c-h-a-e-l, B-e-r-g.

18 JUDGE HOBERG: All right. Thank you,  
19 Mr. Berg, and did you hear the admonition I gave  
20 earlier in regard to perjury?

21 THE WITNESS: I did.

22 JUDGE HOBERG: Being advised of the  
23 penalty for perjury, do you promise to tell the  
24 truth in this matter being heard? If so, answer I  
25 do.

1 THE WITNESS: I do.

2 JUDGE HOBERG: Thank you. Mr. Gruman,  
3 please.

4 MICHAEL BERG,

5 being first duly sworn, was examined and testified  
6 as follows:

7 DIRECT EXAMINATION

8 BY MR. GRUMAN:

9 Q. Where are you employed, Mr. Berg?

10 A. Employed at the North Dakota Public  
11 Service Commission.

12 Q. And how long have you been employed with  
13 the State of North Dakota?

14 A. I've been employed with the State for  
15 eight years, over eight years. Four years at Water  
16 Quality Division and four-plus years here at the  
17 Commission.

18 Q. What is your educational background?

19 A. I have a bachelor's degree in ag and  
20 biosystems engineering from the University of North  
21 Dakota -- NDSU. I graduated in 2007.

22 Q. Do you have any professional service  
23 licenses?

24 A. I'm a registered, licensed professional  
25 engineer in the State of North Dakota.

1 Q. And when did you receive that license?

2 A. 2007.

3 Q. What are your duties with the Commission?

4 A. I review permit applications, revisions,  
5 also do inspections and enforce the laws of  
6 reclamation for the State.

7 Q. Have you received any special training  
8 directly relevant to today's proceedings?

9 A. I received surface and groundwater  
10 hydrology in 2007 and permitting hydrology in 2008.

11 Q. How would you define water management for  
12 mining purposes?

13 A. Water management on a mine, if water comes  
14 in contact with disturbed areas, it has to be  
15 contained or flow through a BMP before discharging  
16 off the mine.

17 JUDGE HOBERG: A what? A BM --

18 THE WITNESS: Sorry. Best management  
19 practice.

20 JUDGE HOBERG: Thank you.

21 MR. GRUMAN: May I proceed, Your Honor?

22 JUDGE HOBERG: Yes.

23 MR. GRUMAN: Thank you.

24 Q. (MR. GRUMAN CONTINUING) Concerning your  
25 inspection duties, approximately how many

1 inspections have you completed during the course of  
2 your career?

3 A. Over 170.

4 Q. How about the Freedom Mine in particular?

5 A. Seventy have been at the Freedom Mine.

6 Q. How many of those inspections concern the  
7 issues of water management?

8 A. In some way, shape or form, most, if not  
9 all, of them have.

10 Q. Generally speaking, where is the Freedom  
11 Mine?

12 A. Located north/northwest of Beulah, North  
13 Dakota.

14 JUDGE HOBERG: Is that too fast?

15 THE REPORTER: No.

16 MR. GRUMAN: By all means, please slow us  
17 down. Thank you.

18 Q. (MR. GRUMAN CONTINUING) Proceeding to  
19 September 2nd, were you at the Freedom Mine on that  
20 day in question?

21 A. Yes, I was conducting a complete  
22 inspection with Mr. Guy Welsh of our Reclamation  
23 staff.

24 Q. And for the purposes of the record, could  
25 you please define, what is a complete inspection?

1           A.     A complete inspection is an inspection  
2 where we look at all permits and all aspects of  
3 mining.

4           Q.     And, of course, today here we're  
5 concerning NOV 1004. When you say "permit  
6 inspection," did that include on September 2nd NACT  
7 8102 and NACT 8203?

8           A.     Yes, it did.

9           Q.     Mr. Berg, could you please turn on this --  
10 maybe we'll just have you turn on that as well. One  
11 brief second. It's just going to warm up.

12                   Mr. Berg, on the flat screen here is a  
13 photograph marked PSC Staff Exhibit 1. What is  
14 this?

15                   JUDGE HOBERG: Mr. Gruman, I'm sorry.  
16 Maybe you want to move the mic a little over that  
17 way because you're speaking that way.

18                   MR. GRUMAN: You want me to move it?

19                   JUDGE HOBERG: Yes.

20                   MR. GRUMAN: How is this, Your Honor?

21                   JUDGE HOBERG: That would be good. Thank  
22 you.

23                   MR. GRUMAN: Very good. Thank you.

24           Q.     (MR. GRUMAN CONTINUING) Again, on the  
25 flat screen monitor here is a PSC Staff Exhibit 1, a

1 photograph. What is this photograph?

2 A. This is a 2010 aerial photo. It's an NAIP  
3 aerial photo, which was taken by the federal  
4 government, which we have access to.

5 JUDGE HOBERG: What would be NAIP?

6 THE WITNESS: National Agriculture  
7 Imaging --

8 JUDGE HOBERG: Something like that.

9 THE WITNESS: Something like that. It's  
10 used in the FSA offices for ground cover and stuff.

11 MR. GRUMAN: Can the audience in the back,  
12 can you see, or would you like him to move to the  
13 other side when he's explaining? Okay. If so, just  
14 let us know.

15 JUDGE HOBERG: Mike, is that mic on?

16 THE WITNESS: Yes.

17 Q. (MR. GRUMAN CONTINUING) Okay. We have  
18 several -- first off, which way is north, south,  
19 east and west on this photograph?

20 A. North is up. South is down. East and  
21 west (indicating).

22 Q. If you could, just describe some of the  
23 landmarks that can be seen on this photograph for  
24 us.

25 A. Up at the northwest is the Freedom office.

1 South of that is Antelope Valley Station and south  
2 of that is Dakota Gasification. The red lines on  
3 this aerial photograph represent permit boundaries.

4 Q. If you could define, maybe, 8102 and 8203  
5 for us using that?

6 A. Yeah. 8102 runs -- this is only a portion  
7 of it, but it follows this red line down over, comes  
8 down.

9 JUDGE HOBERG: "This red line" won't come  
10 off in the record very well. You're talking about  
11 towards the north, the top half of the --

12 THE WITNESS: Sorry. Yeah. It  
13 cross-sects Section 18, following down north half of  
14 Section 19. It skirts down into Section 24 and then  
15 up into Section 13.

16 Q. (MR. GRUMAN CONTINUING) And how about  
17 8203?

18 A. It cross-sects Section 18 again. On the  
19 East Half includes Section 17 and the Northwest  
20 Quarter of Section 20.

21 Q. And now, lastly, today at various times we  
22 are going to be referring to what's been referred to  
23 as a haulroad. Can you please just describe where  
24 this haulroad in question is located on PSC Staff  
25 Exhibit 1?

1           A.     It goes across Section 18 from southwest  
2 to the northeast.

3           Q.     And using your finger, could you just  
4 point to the intersection of 8102, 8203 and the  
5 haulroad?

6           A.     It would be near the center of Section 18,  
7 located in the Southeast Quarter.

8           Q.     Thank you, Mr. Berg. Proceeding to the  
9 Smart Board to your left, can you please proceed  
10 with the next slide?

11          A.     (Witness complies.)

12          Q.     You have here what's been marked as PSC  
13 Staff Exhibit 2. What is this document?

14          A.     This document is a post-mining topography  
15 map from Division 48, permit 8102. It's the same  
16 area shown in Exhibit 1. Shows the contours of the  
17 area.

18          Q.     And it's what's referred to as a  
19 topographical map; is that correct?

20          A.     Correct.

21          Q.     Thank you. Can you please proceed to the  
22 next slide?

23          A.     (Witness complies.)

24          Q.     And what is this document? I'm showing  
25 you what's been marked as PSC Staff Exhibit 2A.

1 What is this document?

2 A. This is the same as PSC Staff Exhibit 2,  
3 only the yellow areas indicate the directional flow  
4 of the water on the reclaimed area.

5 Q. Could you please, on PSC Staff Exhibit 2A,  
6 and try to describe somewhat, where is the haulroad  
7 located on that map?

8 A. The haulroad is shown in the brown line  
9 from the southwest to the northeast across Section  
10 18.

11 JUDGE HOBERG: The bottom brown line?

12 THE WITNESS: Correct.

13 Q. (MR. GRUMAN CONTINUING) And it's kind of  
14 bisecting the middle of the document; is that  
15 correct?

16 A. Correct.

17 Q. And then for our purposes, could you,  
18 again, as you did with PSC Staff Exhibit 1, just  
19 show the intersection of the haulroad and 8102 and  
20 8203?

21 A. It would be -- the red line, again,  
22 represents -- Section 18 represents the permit  
23 boundary, so your intersection would be in the  
24 Southeast of 18.

25 JUDGE HOBERG: Where the red and brown

1 line meet at approximately the center of the  
2 exhibit?

3 THE WITNESS: Correct.

4 Q. (MR. GRUMAN CONTINUING) Thank you. Now,  
5 before you had testified that you were at the  
6 Freedom Mine on September 2nd, 2010. On that date  
7 during the complete inspection, did you observe  
8 anything of relevance to today's proceedings?

9 A. Yes, I did.

10 Q. And what did you observe?

11 A. At the intersection of the permit  
12 boundaries and the haulroad, there's a culvert  
13 located approximately thereof. On the south side of  
14 that culvert a large area of sedimentation was  
15 located to the southeast.

16 Q. Okay. So what you're doing is you're  
17 pointing to PSC Staff Exhibit 2A. Are you, again,  
18 pointing to the specific location of the  
19 intersection of 8102, 8203 and the haulroad?

20 A. Correct.

21 Q. And is that -- this location you're  
22 talking about, again, just for clarification, is  
23 that on the north side or the south side of the  
24 haulroad?

25 A. The south side.

1           Q.     Thank you.  Now, you testified that during  
2     the inspection on September 2nd, you noticed a large  
3     accumulation of sediment.  Once you made that  
4     observation, what did you do next?

5           A.     At that time Mr. Schmidt, Terence Schmidt  
6     from Coteau Properties, was with me.  I informed him  
7     that the area needed to be cleaned up and that silt  
8     fences possibly needed to be installed in this area.

9           Q.     Did you inspect the north side of the  
10    haulroad at this location at that time?

11          A.     No, I did not.

12          Q.     And why not?

13          A.     The south side was the area of sediment.  
14    It was acting as a sump and it was routine  
15    maintenance.  So that's the area we were  
16    concentrating on.

17                 JUDGE HOBERG:  I'm not sure if you got  
18    that name of the person that was with him.

19                 THE REPORTER:  I think so.

20                 JUDGE HOBERG:  Please continue.

21                 MR. GRUMAN:  Thank you, Your Honor.

22          Q.     (MR. GRUMAN CONTINUING)  So just for  
23    clarification, your observations September 2nd  
24    concerning the south side of the haulroad, is NOV  
25    1004 a result of those observations?

1           A.     No.

2           Q.     Then why are your observations, why are  
3 they relevant to today's proceedings, of September  
4 2nd?

5           A.     Because the sediment -- the south side of  
6 the haulroad had been stabilized with concrete  
7 matting and the sediment had to come from someplace.

8           Q.     Thank you. Proceeding to September 29,  
9 then, 2010, did you, again, inspect portions of  
10 permits 8102 and 8203 of the Freedom Mine?

11          A.     Yes, I did.

12          Q.     And why did you -- why did you perform an  
13 inspection on that date?

14          A.     That was just a followup to see if the  
15 sump had been maintained.

16          Q.     Okay. When you say "followup on whether  
17 the sump was maintained," so you're saying you  
18 wanted to follow up on the observations you just  
19 testified to concerning September 2nd?

20          A.     Correct.

21          Q.     Thank you. Proceeding to, then,  
22 September 29, 2010, what did you observe on that day  
23 in question?

24          A.     Sediment was still on the south side of  
25 the haulroad. Sediment had not been removed yet.

1 At that time we took a look at the north side of the  
2 haulroad and noticed that there was sediment  
3 deposited on reclaimed topsoil.

4 Q. Mr. Berg, could you please proceed to the  
5 next slide?

6 A. (Witness complies.)

7 Q. Now, we have here what's marked on the  
8 slide as PSC Staff Exhibit 3. What is this  
9 document?

10 A. This is a picture of the south side of the  
11 haulroad at the culvert location. The sediment in  
12 the middle is what I was indicating needed to be  
13 removed. You can also see sediment positioned that  
14 would actually be to the south farther out.

15 Q. If you like, by all means, please proceed  
16 to PSC Staff Exhibit 1, if you think it would  
17 further clarify your answer, but it's up to you.

18 A. (Witness complies.)

19 Q. Now we're referring to what's been marked  
20 as PSC Staff Exhibit 1.

21 A. The sediment was located on the south side  
22 of the haulroad at the intersection of permit 8102  
23 and 8203, near the center of Section 18. As you can  
24 see from the aerial photo, this area has not been  
25 re-spread with topsoil and is acting as a sump where

1 it collected sediment.

2 Q. Thank you. Could you please proceed back  
3 to the slide before?

4 A. (Witness complies.)

5 Q. And, again, we're looking at PSC Staff  
6 Exhibit 3. Do you know when this photograph was  
7 taken?

8 A. Taken September 29th.

9 Q. And that was during your inspection?

10 A. During the inspection.

11 Q. Thank you. Would you please proceed to  
12 the next slide?

13 A. (Witness complies.)

14 Q. What's been displayed has been marked PSC  
15 Staff Exhibit 4. What is this document itself?

16 A. This is a photograph taken, again, on  
17 September 29th of the north side of the haulroad at  
18 the intersection of 8102, 8203 and the haulroad.

19 Q. And why is this relevant to today's  
20 proceeding, if you could just explain?

21 A. This is the reclaimed --

22 JUDGE HOBERG: Mr. Berg, I don't know if  
23 you're coming through real well on that. You need  
24 to kind of testify into the mic and point as you  
25 can.

1                   THE WITNESS: Okay. This area has been  
2 reclaimed upstream. You can see a reclaimed stock  
3 pond located to the north. There's sediment that  
4 was deposited in the haulroad ditch as well as  
5 deposited out on the reclaimed land, reclaimed  
6 topsoil.

7                   Q. (MR. GRUMAN CONTINUING) And why is that  
8 relevant to today's proceedings?

9                   A. Deposition of sediment on topsoil is a  
10 violation. It has been written in the past, a  
11 violation for such matters.

12                  Q. So you made these observations. What  
13 happened next?

14                  A. Proceeded back to the office, showed the  
15 photographs to Mr. Jim Deutsch and Mr. Dean Moos on  
16 the morning of the 30th. At that time, after  
17 discussing it with them, Dean and I decided to go  
18 back up and further investigate the area.

19                  Q. And did you do so?

20                  A. We did.

21                  Q. Please explain. When you say "went back  
22 up," are you talking September 30th then?

23                  A. On September 30th we went back up to the  
24 Freedom Mine, Coteau property.

25                  Q. Beginning at when you and Mr. Moos

1 traveled to the Freedom Mine on September 30th, what  
2 happened next?

3 A. When we arrived at the office, we had a  
4 short discussion with Coteau personnel. From there  
5 we proceeded out to the haulroad, the intersection  
6 by 8102 and 8203 to further investigate this area.

7 Q. Upon arrival, what did you observe?

8 A. We started on the south side. The  
9 sediment as shown in Exhibit 1 -- or excuse me --  
10 Exhibit 3 hadn't been removed yet. It was still  
11 there. Basically, we saw the same thing. The  
12 sediment was deposited on top of topsoil in the  
13 north side of the haulroad ditch.

14 Q. Just backing up a little bit, why did you  
15 start with the south side first again?

16 A. It was just easier to access. We parked  
17 on the south side to stay off the haulroad.

18 Q. What happened next?

19 A. After that, we proceeded down the ditch,  
20 proceeded around the area to investigate where the  
21 sediment was coming from.

22 Q. Now, you testified and, of course, PSC  
23 Staff Exhibit 4 indicates that there was an amount  
24 of sedimentation -- sedimentation that you noticed  
25 on the north side. Did you make an estimation as

1 far as how large this sedimentation area was?

2 A. Yeah. Yes, I did. Using my GPS on my  
3 mobile computer, my tablet computer, I walked the  
4 area. The area was approximately 2,800 square feet  
5 located on top of topsoil. It was approximately  
6 four to eight inches in depth.

7 Q. What did this size of sedimentation  
8 indicate to you?

9 A. That there was more erosion than normal.

10 Q. Could you please proceed to the next  
11 slide?

12 A. (Witness complies.)

13 Q. Thank you. What's been displayed has been  
14 marked PSC Staff Exhibit 5. What is this document?

15 A. This is a picture looking to -- excuse  
16 me -- looking to the southwest, approximately at the  
17 culvert location. This is -- the towers located in  
18 the center of the picture are Antelope Valley  
19 Station. The sediment is located in the ditch  
20 bottom. The stripping edge is approximately where  
21 Ms. Unruh and I are standing in that photo, and the  
22 sediment is deposited out to the right of the  
23 picture if you're looking at it.

24 JUDGE HOBERG: I'm sorry. Who is standing  
25 with you at the center of the photo?

1                   THE WITNESS: Jessica Unruh, Ms. Jessica  
2 Unruh.

3                   JUDGE HOBERG: From Coteau?

4                   THE WITNESS: Coteau Properties.

5           Q.       (MR. GRUMAN CONTINUING) So you are the  
6 two parties on the left there?

7           A.       Correct.

8           Q.       Maybe even for further clarification, if  
9 you wouldn't mind proceeding over to PSC Staff  
10 Exhibit 1.

11          A.       (Witness complies.)

12          Q.       From the view of where this photograph was  
13 taken and what direction is it that the photographer  
14 was facing?

15          A.       It would have been at the intersection of  
16 the permit boundary and the haulroad, looking to the  
17 southwest.

18          Q.       Thank you. Just one more question  
19 concerning PSC Staff Exhibit 5. Before you had  
20 testimony -- testified that there was a  
21 sedimentation deposit that was 2,800 square feet, in  
22 your estimation, four to eight inches thick. Is  
23 that what's displayed here on PSC Staff Exhibit 5?

24          A.       A portion of it is. The portion where the  
25 weeds are shown on the right-hand side of the photo,

1 going to the right is the portion that has been  
2 reclaimed.

3 Q. Thank you. Now, proceeding on, what  
4 happened next?

5 A. From there we looked at the ditch bottoms.

6 Q. Well, backing up a little bit, did you see  
7 any indications of some pooling of some water?

8 A. Yes, there was.

9 Q. And utilizing PSC Staff Exhibit 5 during  
10 your testimony, could you please explain what  
11 observation you made in that regard?

12 A. Coteau had notified us that on  
13 September 9th they had received a large rain event.  
14 Mr. Schmidt and Mr. Friedlander are located standing  
15 to the right in the photo -- or actually standing on  
16 the high water mark of the strandline of that pool  
17 area of the rain event.

18 Q. Thank you. Now, I guess I interrupted you  
19 before. I asked you what happened next, and you had  
20 discussed about making some observations concerning  
21 a ditch. Please proceed from there.

22 A. Upon inspection there, Mr. Moos and I --  
23 or I should say I noticed that the ditch bottoms had  
24 large gullies cutting into the bottom of them.

25 Q. Okay. I'm just going to stop you there.

1 Perhaps for clarification, if you could proceed to  
2 PSC Staff Exhibit No. 1.

3 A. (Witness complies.)

4 Q. When we're talking about a ditch, where  
5 exactly is that ditch located on this flat screen  
6 here?

7 A. It runs parallel to the haulroad, all the  
8 way through Section 18.

9 Q. So it's beginning from pretty much -- if  
10 you could show again here and kind of explain?

11 A. The ditch actually flows the whole  
12 distance. The area of concern is from the permit  
13 boundary of 8102 and 8203 heading to the southwest  
14 and heading to the northeast.

15 JUDGE HOBERG: So it's along the whole  
16 length of the haulroad?

17 THE WITNESS: There's a ditch along the  
18 whole length.

19 JUDGE HOBERG: On the north side?

20 THE WITNESS: On the north side.

21 Q. (MR. GRUMAN CONTINUING) You testified  
22 that during your observations concerning the ditch,  
23 that you noticed a gully. Just one moment here. Is  
24 that correct?

25 A. Correct.

1 Q. Okay. What observations did you make  
2 concerning the gully, if you could explain?

3 A. The gully was approximately 6 to 18 inches  
4 wide and approximately 6 to 24 -- ranged from 6 to  
5 24 inches deep. If I could go --

6 Q. Please do. Please proceed to the next  
7 slide.

8 A. (Witness complies.)

9 Q. Thank you. What's been displayed as PSC  
10 Staff Exhibit 6, what is this document?

11 A. This is a document -- this is a picture of  
12 the north haulroad running to the northeast, along  
13 the north side ditch, approximately at the culvert  
14 permit boundary of 8102 and 8203.

15 Q. When was this photograph taken?

16 A. This was taken on September 30th.

17 Q. Could you please proceed to the next  
18 slide?

19 A. (Witness complies.)

20 Q. Thank you. It's been displayed here as  
21 PSC Staff Exhibit 7. What is this document?

22 A. This is a picture looking to the northwest  
23 again of the haulroad ditch. The gully, which I was  
24 describing earlier, ranged from 6 to 8 inches in  
25 width, 6 to 24 inches in depth, ran approximately

1 750 feet to the northeast and approximately 450 feet  
2 to the southwest.

3 Q. Maybe just for clarification, if you could  
4 proceed over to PSC Staff Exhibit 1. Just explain  
5 on this where the gully is located in relation to  
6 the haulroad.

7 A. The location where I was stating was at  
8 the intersection of the permit boundary and the  
9 haulroad.

10 Q. And you said 750 northeast and 450  
11 southwest. Can you please explain that on PSC Staff  
12 Exhibit 1?

13 A. From the culvert that distance, there's a  
14 couple of tree rows that are actually located there.  
15 Those are to the northeast and southwest.

16 Q. Okay. If you could explain maybe just  
17 relative. I mean, how far are we talking here? How  
18 many inches?

19 A. Depends on your scale.

20 Q. Well, I understand that. I'm trying to  
21 describe here. If you could just explain. Where  
22 does it start and where does it end?

23 A. If you start at the permit boundary and go  
24 to that first -- where the color changes on your  
25 photo, there's a green row of trees in there running

1 to the north and south and there's also -- to the  
2 northeast there's a row of trees running to the east  
3 and west.

4 Q. Thank you. What type of material eroded  
5 to form the gully?

6 A. Spoil material.

7 Q. And how do you know that?

8 A. That's what the haulroad was constructed  
9 out of in this area.

10 Q. Could you please proceed to the next  
11 slide?

12 A. (Witness complies.)

13 Q. It's been displayed and has been marked  
14 PSC Staff Exhibit 8. What is this document?

15 A. This is a photograph looking to the  
16 southwest again of the ditch bottom. This is the  
17 gully in the bottom of the ditch. In the background  
18 you can see a couple of towers from DGC.

19 Q. Are there any other features that you feel  
20 noteworthy in this photograph?

21 A. The vegetation in the bottom of the ditch  
22 bottom you can still see the grow rows. It's  
23 sparsely vegetated.

24 Q. Thank you. Would you please proceed to  
25 the next slide?

1           A.     (Witness complies.)

2           Q.     We have here what's been marked as PSC  
3 Staff Exhibit 9.  What is this document?

4           A.     This is just an up-close photograph of  
5 those -- of the previous document with a hard hat in  
6 it to show the severity of the gully.

7           Q.     Again, now when was this photograph taken?

8           A.     September 30th.

9           Q.     Are there any other comments you'd like to  
10 make?

11          A.     Again, the vegetation is sparse.

12          Q.     Now, you testified that the, quote,  
13 unquote, vegetation was sparse.  What effect would  
14 this have upon erosion control?

15          A.     Sparse vegetation would help to minimize  
16 it, but it would not do a whole lot to mitigate it.

17          Q.     On this topic, if you could proceed back  
18 to PSC Staff Exhibit 5?

19          A.     (Witness complies.)

20          Q.     Now, you had -- 5, please.

21          A.     Sorry.

22          Q.     Now, you previously testified concerning  
23 the sparsity and inadequate erosion control.  What  
24 does PSC Staff Exhibit 5 indicate in that regard?

25          A.     That more erosion occurred than normally

1 should have.

2 Q. Was there any vegetative cover in the  
3 gully?

4 A. In the gully, no.

5 Q. Mr. Berg, are you familiar with North  
6 Dakota Administrative Code 69-05.2-16-08(1)?

7 A. Yes.

8 Q. And are you familiar with North Dakota  
9 Administrative Code 69-05.2-24-01(2)(a)?

10 A. Yes.

11 Q. In regard to these two Admin Codes, did  
12 Coteau make any efforts in regard to their mandates  
13 under the Administrative Codes?

14 A. They had seeded the ditch and they had  
15 mulched the ditch when it was first constructed, but  
16 that was over a year ago.

17 Q. Did Coteau meet their obligations pursuant  
18 to these two Admin Codes?

19 A. No.

20 Q. Why not?

21 A. Because it wasn't the best technology  
22 currently available.

23 Q. What additional efforts should have been  
24 undertaken by Coteau, in your opinion?

25 A. Erosion control fabric, silt fences,

1 possibly rock check dams, concrete matting, similar  
2 to what was done on the south side.

3 Q. What would those mechanisms have done?

4 A. The erosion control matting would have  
5 slowed the flow of the water, as well as the silt  
6 fences help to contain the sediment upstream of this  
7 area prior to going to the culvert.

8 Q. Now, during your testimony we've been  
9 focused on the north side of the haulroad. And NOV  
10 1004 only concerns the north side of the haulroad,  
11 not the south; correct?

12 A. Correct.

13 Q. And why not? Why not the south?

14 A. Because the south already had concrete  
15 matting located in the drainage and was controlling  
16 the erosion on that side.

17 Q. Were there gullies on the south side?

18 A. No.

19 Q. Is it likely that the south side and the  
20 north side of the haulroad received the same amount  
21 of rainfall?

22 A. Yes.

23 Q. Did the south side receive the same amount  
24 of runoff as the north side?

25 A. No.

1 Q. Why not?

2 A. If I can go to --

3 Q. Please do. You're proceeding to what's  
4 been marked as PSC Staff Exhibit 2A. Please  
5 proceed.

6 A. On this exhibit you can see that the flow  
7 into the road ditch on the north side of the road is  
8 into it. On the south side of the road the water  
9 flows away from the road ditches. So the north side  
10 of the road had a watershed to actually carry more  
11 water than the south side did.

12 Q. Mr. Berg, you testified that there was a  
13 gully on the north side. In your opinion, how long  
14 had that gully existed prior to your observations of  
15 September 30th?

16 A. Prior to September 2nd.

17 Q. Please substantiate your position. Why do  
18 you come to that conclusion, to that opinion?

19 A. Since the south side of the road was  
20 stabilized and did not show signs of erosion even on  
21 the 30th, the sediment had to come from someplace  
22 and since there was no other erosion noted when  
23 walking around the area upstream to the drainage,  
24 the likely place is the haulroad ditches.

25 Q. Is there any extenuating circumstances,

1 that you are aware of, that would absolve Coteau of  
2 NOV 1004?

3 A. No.

4 Q. In summary, why was NOV 1004 issued  
5 against Coteau?

6 A. Because the best management practices were  
7 not used to control erosion in the bottom of the  
8 ditch.

9 Q. Now, you testified before concerning a  
10 major rainfall event in September. And clearly  
11 you've done a number of inspections at the Freedom  
12 Mine. Have there been places where Coteau have put  
13 in and utilized best management practices pursuant  
14 to their mandates, those best management practices  
15 failed and you did not issue an NOV?

16 A. Yes.

17 Q. Please explain.

18 A. Actually, on September 29, we also -- we  
19 drove several roads, but one in particular was the  
20 haulroad that was constructed on Section 34, which  
21 ran out to an SPGM pile. Silt fences were in place  
22 on this haulroad. Silt fences were full of sediment  
23 and had washed out. There was no NOV written on  
24 this area because the best management practices were  
25 in place.

1 Q. SPGM, that's simple plant growth material?

2 A. Yes.

3 Q. Would you please proceed to what has been  
4 marked as PSC Staff Exhibit 10?

5 A. (Witness complies.)

6 Q. Thank you. What is this document?

7 A. This is a picture looking to the  
8 northwest -- or sorry -- northeast of the north side  
9 haulroad ditch. The culvert again located  
10 approximately at the permit boundary of 8102 and  
11 8203. There's erosion control matting that's been  
12 placed in the bottom. This is the after picture  
13 taken October 20th. Silt fences have been installed  
14 across the drainages.

15 Q. Thank you. Could you please proceed to  
16 the next slide?

17 A. (Witness complies.)

18 Q. What is -- this has been displayed -- or  
19 what's been displayed has been marked as PSC Staff  
20 Exhibit 11. What is this document?

21 A. This is the haulroad looking to the west,  
22 southwest. North side of the ditch again. Again,  
23 taken on October 20th after the repairs had been  
24 completed.

25 Q. Does this also include, of course, what

1 you had indicated before, the silt fences and the  
2 matting?

3 A. Correct.

4 Q. Mr. Berg, what we've been shown in PSC  
5 Staff Exhibits 10 and 11, if those efforts had been  
6 put into place, would NOV 1004 have been issued?

7 A. No.

8 Q. Mr. Berg, if what's been shown in PSC  
9 Staff Exhibits 10 and 11, if they had been put into  
10 place, the sediment piles that we noticed, would  
11 they have been smaller or larger in comparison, if  
12 they had been put into place?

13 MR. BJELLA: I'm going to object. He's  
14 speculating.

15 JUDGE HOBERG: I think we'll need some  
16 more foundation on that.

17 MR. GRUMAN: First off, it's my opinion  
18 that Mr. Berg is an expert. I think that his  
19 background has exhibited that in that fashion.  
20 Essentially, I'm asking his opinion that if the best  
21 management practices had been put in place as staff  
22 had requested and as they had done through their  
23 abatement procedures, whether the sediment piles  
24 that we've seen in our PSC exhibits, would they have  
25 been smaller or larger. I think he's ultimately

1 going to offer that opinion.

2 JUDGE HOBERG: Well, I think you need some  
3 more further background on how he can make that  
4 determination.

5 Q. (MR. GRUMAN CONTINUING) Okay. Not giving  
6 a conclusion, could you reach a conclusion in that  
7 regard?

8 A. Yes.

9 Q. And what would you substantiate that  
10 conclusion upon, what observations or what  
11 understanding?

12 A. That the water has slowed down, has a  
13 stable surface to run on. Also, the sediment --  
14 silt fences would stop the sediment prior to  
15 reaching the bottom of the culvert ditch or where  
16 the culvert is located.

17 MR. GRUMAN: Is that -- so if Mr. Berg has  
18 testified as to his understanding of the technology  
19 that we're requesting, is that adequate foundation  
20 to now offer opinion?

21 JUDGE HOBERG: Any further objection,  
22 Mr. Bjella?

23 MR. BJELLA: Well, Your Honor, there's no  
24 way of knowing what might have happened given the  
25 rainfall event. So for him to testify that in his

1 opinion X, Y and Z would have happened had what he  
2 asserts should have been done, the BMP's, there's  
3 just absolutely no way of knowing that, what would  
4 have occurred.

5 JUDGE HOBERG: I think -- I think the  
6 question probably is a little misleading. Perhaps  
7 the question might be framed in terms of what would  
8 likely happen under those circumstances of having  
9 the best practices. Is it likely given the weather  
10 conditions that are normal, something like that.

11 MR. GRUMAN: Yeah. I'll rephrase, Your  
12 Honor.

13 JUDGE HOBERG: Yeah.

14 Q. (MR. GRUMAN CONTINUING) Obviously, you  
15 provided testimony today and we've offered a number  
16 of facts, including a rainfall event, best  
17 management procedures and what you've seen as far as  
18 technology. Is it more probable than not that the  
19 sediment pile would have been smaller than what you  
20 observed on September 29th and 30th?

21 A. It is more probable that it would have  
22 been smaller.

23 Q. Thank you.

24 MR. BJELLA: I'm still going to object.  
25 He's still speculating as to what might have

1       happened.

2                   JUDGE HOBERG:   Speculating as to what?

3                   MR. BJELLA:    What might have happened.

4                   JUDGE HOBERG:   Yeah.  I think under the  
5 way it was reworded, I'll overrule the objection and  
6 let it stand.

7           Q.     (MR. GRUMAN CONTINUING)  Mr. Berg, is  
8 there anything today that we've missed that you  
9 would like to discuss with the Commission?

10          A.     Not that I'm aware of.

11                  MR. GRUMAN:    I have no further questions.

12                  JUDGE HOBERG:   Thank you, Mr. Gruman.

13                  Mr. Bjella, do you have any questions of  
14 Mr. Berg?

15                  MR. BJELLA:    Yes, Your Honor.

16                  He hasn't actually talked about it, but  
17 Reclamation Division Exhibit No. -- I'm looking for  
18 the September 30th inspection report.  I guess  
19 that's No. 16.

20                  JUDGE HOBERG:   Sixteen is the code  
21 sections.  Fifteen would be the September 30th  
22 inspection report.  Is that what you're looking for?

23                  MR. BJELLA:    Yes.

24                  JUDGE HOBERG:   It's in evidence, so you  
25 may question on it.

1 MR. GRUMAN: Yep, it's submitted into the  
2 record, so --

3 MR. BJELLA: Does he have a copy?

4 JUDGE HOBERG: Do you have a copy up  
5 there?

6 THE WITNESS: I do not.

7 MR. GRUMAN: I can provide him one.

8 JUDGE HOBERG: Why don't you do that,  
9 please?

10 MR. FRIEZ: I'll give you all the  
11 exhibits.

12 JUDGE HOBERG: Do you have Exhibit 15?

13 THE WITNESS: I do.

14 JUDGE HOBERG: Mr. Bjella, please.

15 MR. BJELLA: Okay.

16 CROSS-EXAMINATION

17 BY MR. BJELLA:

18 Q. Okay. Mike, if you look on page 2, the  
19 fourth paragraph and then the last sentence. It  
20 says, "Although the September 9th storm contributed  
21 to the development of the erosion and sedimentation  
22 features, it appears that these features existed  
23 prior to the September 9 storm as evidenced by the  
24 sediment that was noted on the south side of the  
25 haulroad on September 2, 2010, inspection report."

1                   Now, you used the words "it appears" so  
2 you are speculating, are you not?

3           A.     I use the words "it appears" a lot.  It's  
4 just the way we write our report.

5           Q.     Okay.

6           JUDGE HOBERG:  Were you speculating?

7           THE WITNESS:  I -- I was drawing the  
8 conclusion off of the September 2nd sedimentation.

9           JUDGE HOBERG:  Does the word "appears"  
10 mean that what is you saw?

11          THE WITNESS:  I did not see it on  
12 September 2nd, no.

13          JUDGE HOBERG:  Mr. Bjella.

14          Q.     (MR. BJELLA CONTINUING)  You previously  
15 testified that you did not inspect the north ditch  
16 on September 2nd; is that correct?

17          A.     Correct.

18          Q.     And, Mike, is it not true that disking,  
19 seeding and mulching to establish a vegetative cover  
20 is considered a best management practice?

21          A.     It is.  And I also stated that in my  
22 testimony prior.

23          Q.     Now, you've also stated that the sediment  
24 on the south side had to come from somewhere, but,  
25 again, you are speculating that it came from the

1 north ditch; aren't I correct?

2 A. I don't know if it's speculating. I'm  
3 drawing a conclusion from the south road ditch being  
4 stabilized and runoff -- water running away from the  
5 ditch.

6 Q. But we have no evidence presented by the  
7 Reclamation Division as to the status of the north  
8 side ditch on September 2nd or prior to the rainfall  
9 event on September 9, do we?

10 A. No.

11 Q. And then is it also conceivable that that  
12 sedimentation or at least a portion of that  
13 sedimentation on the south side came from the south  
14 side ditches?

15 A. Without seeing any erosion and the  
16 concrete matting in place, possibly a small amount,  
17 but I'd be speculating.

18 Q. And I believe you also earlier testified  
19 that other silt fences on another road did wash out  
20 during those rainfall events; would that be correct?

21 A. Correct.

22 MR. BJELLA: Nothing further, Your Honor.

23 JUDGE HOBERG: Thank you, Mr. Bjella.

24 Commissioner Cramer, please, do you have  
25 any questions?



1           A.     Typically, no. I mean, because the sump  
2     on the south side -- or the area that was acting as  
3     a sump on the south side of the road, like I said,  
4     it's typical maintenance for us to say it needs to  
5     be cleaned and maintained. That's nothing really  
6     out of the ordinary.

7           Q.     I want to ask, too, about the removal of  
8     the sediment. And this is an area that always makes  
9     me -- concerns me a little bit, and that is once  
10    it's possible or once a company might seem it's  
11    possible that something like sediment could be used  
12    as evidence, is it common for them to remove it in  
13    the absence of the inspectors and, if so, does that  
14    lead to other possible speculation?

15          A.     Can you clarify what you're asking?

16          Q.     Well, what I'm getting at, in your earlier  
17    testimony you talked about the south side --

18          A.     Right.

19          Q.     -- and you asked them to remove it, but  
20    then later, on September 29, you know, you looked at  
21    the north side and you see more what I consider  
22    evidence or you see more silt or sediment?

23          A.     Correct.

24          Q.     Is it common to have -- is it common to  
25    have that removed when it seems possible, if not

1 even probable, that an NOV might be issued? And  
2 what I'm getting at, is it fair to judge the  
3 practices after an inspection as either being  
4 cooperative or uncooperative depending on --  
5 depending on the perception that an inspector might  
6 take? I'm not being very clear, I'm afraid.

7 If they were to have removed it, would  
8 they not be running the risk of tampering, say, with  
9 evidence and if they don't remove it, are they  
10 guilty -- could they then be presumed to be guilty  
11 of not removing it? That's more hypothetical, but  
12 that's the point I'm trying to get to.

13 A. Okay. I guess on the south side, that was  
14 supposed to -- I mean, we had instructed them to  
15 remove this area.

16 Q. I understand that.

17 A. On the north side we caught it late in the  
18 day. When I saw it, went home and went back up the  
19 next morning, it was still there. They did not  
20 remove it.

21 JUDGE HOBERG: But they hadn't been asked  
22 either, had they?

23 THE WITNESS: What's that?

24 JUDGE HOBERG: They hadn't been asked?

25 THE WITNESS: No, they hadn't been asked.

1 Because at that point on the 29th, after taking the  
2 pictures, you know, I had stated to Mr. Schmidt that  
3 I was going to go back and talk with Dean and Jim on  
4 the issue.

5 Q. (COMMISSIONER CRAMER CONTINUING) Okay.  
6 Thanks. Just one other thing and this is just over  
7 the words "appearances," and you said you use them a  
8 lot. I mean, that's a common -- I mean, isn't  
9 regulation based largely on your observations as an  
10 expert?

11 A. Correct.

12 Q. And aren't appearances really the result  
13 of an observation?

14 A. Yeah.

15 COMMISSIONER CRAMER: I have nothing  
16 further.

17 THE WITNESS: Yeah, it appears, you know,  
18 appears that way.

19 COMMISSIONER CRAMER: I understand. Thank  
20 you.

21 JUDGE HOBERG: Thank you, Commissioner  
22 Cramer. Commissioner Clark, please?

23 COMMISSIONER CLARK: No questions.

24 JUDGE HOBERG: No questions.

25 Commissioner Kalk.



1           A.     If you can see the kind of green line up  
2 here where the crop edge is.

3           JUDGE HOBERG:   To the far north?

4           THE WITNESS:   Yes, to the far north.  And  
5 across the drainage way, that area has been  
6 re-spread with topsoil.  This area where the  
7 sediment is on has not been.  Therefore, it was  
8 acting as a sediment sump.

9           Q.     (COMMISSIONER KALK CONTINUING)  So that's  
10 okay?

11          A.     This is a deposit on overburden, which is  
12 okay.

13          Q.     So that's the nuance.  It's overburden  
14 it's sitting on top of, not untouched soil?

15          A.     It's sediment sitting on top of  
16 overburden.

17          Q.     Interesting.  When you look at Exhibit 3,  
18 does that concrete run underneath?  I mean, is that  
19 all the way through or did something break away  
20 there, you know, where the topsoil is sitting?

21          A.     I believe it's all the way through, but  
22 that would be something you'd have to ask Coteau  
23 because they installed it.

24          Q.     So when you looked at this on  
25 September 2nd, I'm assuming somebody at the mine was

1 with you?

2 A. Correct.

3 Q. You said this was a concern; right?

4 A. Correct.

5 Q. Wouldn't it seem logical then, the company  
6 would then figure out where this was coming from and  
7 go do some investigative work?

8 A. I would think so.

9 Q. That's not your role. You come out and do  
10 the inspection, give them your thoughts?

11 A. Correct.

12 Q. Okay. Then can you jump to Exhibit 8  
13 again? Exhibit 8. I've got a question on that.

14 A. (Witness complies.)

15 Q. Yeah, Exhibit 8, please.

16 A. Sorry. I'm going off the numbers on the  
17 bottom.

18 Q. Sure. How deep do you suppose that gully  
19 is?

20 A. In the deepest part there it's probably  
21 24 -- probably two foot.

22 Q. Okay.

23 A. I mean, we didn't take a tape measure and  
24 measure everything.

25 Q. So one of the questions, I guess, and this

1 is -- maybe they'll object to my question, but, you  
2 know, how long do you think something like this  
3 would take to happen, based on your experience? I  
4 mean, I know it could be one big rain event. Let me  
5 rephrase it. When was the last time you may have  
6 ever looked at this area?

7 A. I can't remember the last time I did. You  
8 know, like I told Commissioner Cramer, it's not  
9 visible from the road and, you know, you've got  
10 48,000 acres to cover up there.

11 Q. Okay.

12 A. You just --

13 Q. And then Exhibit 4, perhaps, again.

14 A. (Witness complies.)

15 Q. Walk me through again what direction  
16 you're facing and what you see here.

17 A. This is facing to the north. Northwest,  
18 actually. You can see the weed line, approximately  
19 in the center of the photo there. This would have  
20 been the area that has been reclaimed. When they  
21 constructed the haulroad, they stripped out into  
22 that area for the ditch bottom. Sediment comes  
23 along here, through the center of the photo.

24 Q. So this is sediment sitting on top of  
25 topsoil?

1           A.     Correct.

2           Q.     So in your opinion, as an inspector, does  
3 it really matter to you where it came from, the fact  
4 is, it's sitting on top of topsoil?

5           A.     It was cause and effect. The cause of --  
6 this was the effect of the erosion.

7           Q.     But if a violation, potential violation  
8 takes place, the fact it's sitting on top of  
9 topsoil, that's the violation, where it came from  
10 and all those other factors, you can issue a  
11 violation based on that?

12           JUDGE HOBERG: Well, I thought your  
13 testimony, Mr. Berg, was it's only a violation if  
14 it's in violation of best practices; isn't that --  
15 no?

16           COMMISSIONER KALK: That becomes the root  
17 of the whole thing, I think. You know what, that's  
18 enough for now. I think I'll ask the next question  
19 of the next folks.

20           JUDGE HOBERG: Well, you can respond to my  
21 question, please.

22           THE WITNESS: Sediment on top of topsoil  
23 can be a violation. You know, we do have to take  
24 samples of that and such to make sure it is sediment  
25 or spoil or contaminations. One of the issues is

1 that is not clearly defined in the Century Code and  
2 the Administrative Code. It's not a clear rule such  
3 as the erosion one is.

4 COMMISSIONER KALK: Sure. Thanks. That's  
5 all I have, Your Honor.

6 JUDGE HOBERG: Thank you, Commissioner.

7 Mr. Gruman, do you have any further  
8 questions of Mr. Berg?

9 MR. GRUMAN: No, Your Honor.

10 JUDGE HOBERG: No further questions.

11 Mr. Bjella?

12 MR. BJELLA: No, Your Honor.

13 JUDGE HOBERG: All right. Thank you,  
14 Mr. Berg. Let's take about a five-minute recess  
15 here.

16 (Recess was taken.)

17 JUDGE HOBERG: Okay. We're back on the  
18 record after a short recess. It's about 10:25.

19 And, Mr. Gruman, would you call your next  
20 witness, please.

21 MR. GRUMAN: Staff calls Dean Moos.

22 JUDGE HOBERG: Mr. Moos, did you hear the  
23 admonition I gave earlier in regard to perjury?

24 THE WITNESS: I did.

25 JUDGE HOBERG: Being advised of the

1 penalty for perjury, do you promise to tell the  
2 truth in this matter being heard? If so, answer I  
3 do.

4 THE WITNESS: I do.

5 JUDGE HOBERG: Thank you. Mr. Gruman,  
6 please.

7 DEAN MOOS,

8 being first duly sworn, was examined and testified  
9 as follows:

10 DIRECT EXAMINATION

11 BY MR. GRUMAN:

12 Q. Where are you employed, Mr. Moos?

13 A. North Dakota Public Service Commission.

14 Q. What's your title with the North Dakota  
15 Public Service Commission?

16 A. I'm the Assistant Director for the  
17 Reclamation Division.

18 Q. How long have you been employed with the  
19 North Dakota Public Service Commission?

20 A. Twenty-two years.

21 Q. And how long have you been Assistant  
22 Director?

23 A. The past six.

24 Q. What's your educational background?

25 A. I have a bachelor of science degree in

1 soil science from North Dakota State University.

2 Q. Do you have any professional licenses?

3 A. I do.

4 Q. And what are they?

5 A. I'm a registered professional soil class  
6 surveyor with the State of North Dakota.

7 Q. What are your present duties with the  
8 North Dakota Public Service Commission?

9 A. As Assistant Director, I assist the  
10 Director in matters relating to permitting,  
11 inspection, enforcement and administrative duties.

12 Q. You testified that you've been the  
13 Assistant Director of Reclamation since 2006. What  
14 were your duties with the Commission prior to 2006?

15 A. I was an environmental scientist.

16 Q. What were your duties as an environmental  
17 scientist?

18 A. Permit reviews, inspection, enforcement.

19 Q. Concerning inspections, approximately how  
20 many inspections have you completed during the  
21 course of your career?

22 A. About 750.

23 Q. How many of those inspections concern the  
24 issues of water management?

25 A. The vast majority of them, I guess. Water

1 management is the one universal inspectable element  
2 to nearly all our inspections.

3 Q. And, again, could you please define water  
4 management for mining purposes?

5 A. Water management, as it relates to mining  
6 and reclamation, is ensuring that all surface runoff  
7 is routed through either a pond or best management  
8 practice to meet the required effluent standards.

9 Q. Are you familiar with the Freedom Mine?

10 A. Yes, I am.

11 Q. And how so?

12 A. I was principal inspector there from when  
13 I started until about 2003.

14 Q. Mr. Moos, proceeding to September 30th,  
15 2010, were you at the Freedom Mine?

16 A. Yes, I was.

17 Q. And why?

18 A. Mike Berg was on an inspection on  
19 September 29th and had come back and had shown us  
20 photos of an area of sediment deposition and wanted  
21 a second opinion from us, and he met with myself and  
22 Jim Deutsch and we decided that it deserved a second  
23 look and that two of us should go up there.

24 Q. Please continue. What happened next?

25 A. We went up to the mine and we met Joe

1 Friedlander from Coteau and Terence Schmidt and we  
2 proceeded out -- at the office there and told them  
3 why we were there and then proceeded out to the  
4 field.

5 Q. And what happened next?

6 A. We went out to the -- to the area of  
7 concern and we parked on the south side of the  
8 haulroad.

9 Q. And maybe just for clarification, since  
10 PSC Staff Exhibit 1 is still up on the Smart Board  
11 there, when you say "area of concern," can you  
12 please just point out?

13 A. The area again -- the haulroad culvert is  
14 right in this area.

15 JUDGE HOBERG: You need to describe it a  
16 little bit more for the record, please.

17 THE WITNESS: It's, again, near the  
18 intersection of permits 8102 and 8203 and the  
19 haulroad near the center of Section 16 and primarily  
20 where the culvert was, in and about that same  
21 location.

22 Q. (MR. GRUMAN CONTINUING) Thank you,  
23 Mr. Moos. You testified that you proceeded to that  
24 location you just indicated on September 30th, 2010.  
25 Upon arrival, what happened next?

1           A.     Like I said, we parked on the south side.  
2     There's easier access on the south side, and we went  
3     down to the area of sediment accumulation on the  
4     south side of the haulroad at the culvert outlet.

5           Q.     What did you observe?

6           A.     An area of sediment accumulation.

7           Q.     Okay.   What happened next?

8           A.     We checked the area out, you know, the  
9     area of sediment accumulation on -- it wasn't on re-  
10    spread topsoil or subsoil, but an area channel was  
11    left open for water management purposes and, you  
12    know, we ascertained that the sediment wasn't from  
13    the south side of the haulroad.   There was no  
14    evidence of erosion.   There was concrete matting on  
15    the side of the haul -- the ditch bottom leading  
16    down to the culvert and there was no sediment  
17    deposition within that concrete matting.   So,  
18    obviously, the sediment was coming from some other  
19    location.

20          Q.     What happened next?

21          A.     We proceeded to the north side of the  
22    haulroad, crossed the haulroad and saw the area of  
23    sediment accumulation on the north side.

24          Q.     Can you please describe this area of  
25    sedimentation?

1           A.     Sure.  Can I switch --

2           Q.     By all means.  Whatever you think would be  
3 most appropriate.  I'm just going to identify it  
4 when you get there.  What's been displayed is PSC  
5 Staff Exhibit 4.  Please proceed with your  
6 question -- or your answer.

7           A.     This is -- although this photo was taken  
8 on the 29th, it's the same thing that we saw on the  
9 30th.  This was taken from the top of the haulroad.  
10 This would be the inslope on the haulroad ditch  
11 right here.  We're standing on the haulroad.

12                   JUDGE HOBERG:  The lower portion of the  
13 exhibit?

14                   THE WITNESS:  The lower portion of the  
15 exhibit, correct.  The area in here is the area of  
16 sediment accumulation and this vegetation line here  
17 is the re-spread edge, this reclaimed land behind  
18 here and, again, you can see the sediment and the  
19 sediment accumulation extended out into the topsoil  
20 re-spread area here.  There's a stock pond located  
21 to the northwest there.  You can see the stock pond  
22 and the natural drainages down through the ditch,  
23 through the center portion through the culvert.  The  
24 culvert location is about right.  You cannot see it.

25                   JUDGE HOBERG:  Stock pen at the far north

1 of the exhibit?

2 THE WITNESS: Correct.

3 Q. (MR. GRUMAN CONTINUING) Mr. Moos, you  
4 were here during Mr. Berg's testimony. Mr. Berg  
5 testified that the area of sedimentation was  
6 approximately 2,800 square feet and 4 to 8 inches  
7 thick. Would you agree with that assessment?

8 A. Yes, I would.

9 Q. Now, based upon that and the other  
10 observations that you've testified to today, what  
11 did that area of sedimentation indicate to you?

12 A. Well, it was a large area of sedimentation  
13 and, obviously, the sediment came from somewhere and  
14 I think our next objective was to determine where  
15 that sediment had come from, what was the source of  
16 the sediment.

17 Q. Did you continue that analysis on the day  
18 in question?

19 A. Yes, I did. I proceeded to walk up the  
20 drainage. Oops. What did I do here, Scott?

21 Q. Please continue. Thank you.

22 A. Anyway, I proceeded to walk up the  
23 drainage to the stock pond and see if there was any  
24 erosion in there and there was no apparent erosion  
25 in there, that I could see.

1           Q.     And if I can just stop you there when you  
2     say no apparent erosion. The area of sedimentation  
3     that we're looking at, how would any sediment coming  
4     from the stock pond, how would that contribute to  
5     that size, in your opinion?

6           A.     There would have been some significant  
7     erosion considering the amount of sediment that was  
8     in the haulroad ditch here and it was apparent that  
9     there was no erosion up here that would be  
10    contributing that amount of sediment.

11          Q.     Thank you. What happened next?

12          A.     Well, one thing I noted when I was out  
13    there is the high waterline, and you can see it here  
14    on the photo. You can tell that there was, from  
15    that September 9th event, water ponding in this  
16    area.

17                 JUDGE HOBERG: You have to describe it, I  
18    think, Mr. Moos, where the high waterline is on  
19    there.

20                 THE WITNESS: You can see the difference  
21    in the vegetation. It's hard to show, give a  
22    reference to it, but you can see where the  
23    vegetation, there's somewhat of a change there.  
24    There's a strandline, debris.

25                 JUDGE HOBERG: Off to the left and right

1 of the --

2 THE WITNESS: To the left. And the right  
3 side, it's not as readily apparent, but it is there.

4 Q. (MR. GRUMAN CONTINUING) Thank you. What  
5 happened next?

6 A. Still looking for a source for the  
7 sediment and then we looked to the haulroad ditches.

8 Q. Please continue. What did you observe in  
9 that regard?

10 A. I'll switch the slides here.

11 Q. By all means. I'm just going to when  
12 you're done -- what's been displayed is PSC Staff  
13 Exhibit 5. Please continue with your testimony.

14 A. Again, here, this is standing about at the  
15 culvert and, again, you can see the area of sediment  
16 accumulation in the foreground here, and you can see  
17 the gully that is formed going up to the southwest  
18 here. The haulroad -- this is the haulroad  
19 embankment on the far left side of the photo, and  
20 this is the topsoil re-spread edge again, coming  
21 down, and here's the gully that is formed going to  
22 the southwest, and this drains down to the culvert  
23 and through the culvert. And then switch slides  
24 again.

25 Q. By all means. PSC Staff Exhibit 6, what

1 does this indicate?

2 A. This is going to the northeast. Again,  
3 the culvert would be off the screen here, but,  
4 again, the start of the sediment accumulation here  
5 and erosion continuing up the haulroad ditch, the  
6 haulroad embankment on the right side of the photo  
7 and the re-spread edge on the left-hand side of the  
8 photo.

9 Q. Now, for clarification, you had testified  
10 concerning a gully. Can you please describe that  
11 gully to the Commission?

12 A. The gully extending to the northeast was  
13 approximately 750 feet long and going to the  
14 southwest was approximately 450 feet, and it ranged  
15 in width from 6 to 18 inches and 6 to 24 inches  
16 deep. It varied throughout the course, the depth  
17 and the width, but those are just some range of  
18 width and depth.

19 Q. Now, just for clarification, when you  
20 testify 450 feet southwest and 750 feet northeast,  
21 that's from a point. Would that be the intersection  
22 of 8102, 8203 and the haulroad?

23 A. Actually, from the culvert, which is about  
24 at that location.

25 Q. Okay. Thank you. Mr. Moos, what type of

1 material eroded from the gully?

2 A. Spoil or overburden. The haulroad was  
3 constructed of overburden materials and, therefore,  
4 the ditch would be the same material.

5 Q. Now, in your testimony you indicated that  
6 you observed a pile of sedimentation. Was that  
7 sedimentation analyzed?

8 A. Yes, it was.

9 Q. Please continue.

10 A. If I could go back to --

11 Q. By all means. I'm just going -- I'll just  
12 identify it. What's been marked as PSC Staff  
13 Exhibit 4. Please continue.

14 A. We did sample the sediment in two  
15 locations. We did not sample on the ditch bottom  
16 itself, but we went out into the topsoil re-spread  
17 area. We went about -- the first sample was  
18 collected about three feet north of this re-spread  
19 edge. And the second sample is collected about  
20 15 feet north of that re-spread edge.

21 Q. Now I'll come back to September 30th, but  
22 just since we're on the subject of samples, once you  
23 received that sample, what did you do next with it?

24 A. It was taken to Minnesota Valley Testing  
25 Lab for a standard soil overburden analysis.

1 Q. Did you receive a conclusion as part of  
2 that analysis?

3 A. Yes, we did.

4 Q. And what was the conclusion?

5 A. It was somewhat surprising, I guess. The  
6 sediment sample came back as a topsoil, almost  
7 topsoil quality. It was similar to topsoil quality,  
8 and that was somewhat surprising to us.

9 Q. Please expand upon that. Why was it  
10 surprising to you?

11 A. We were expecting to have the overburden  
12 quality. It was, you know, very good quality  
13 material and I suspect or I think there's several  
14 reasons for that.

15 Q. If you would like to expand?

16 A. Well, there was a lot of vegetation debris  
17 matter in the sediment and that contributes to  
18 organic matter. Organic matter is what makes  
19 topsoil topsoil. It's why our topsoils are nice,  
20 dark color. When you have vegetative matter in it,  
21 we made an effort to segregate out the obvious, but  
22 there's a lot of debris in there. Also, it's next  
23 to a haulroad. There's haulroad dust fines that  
24 settle down in this area and, again, that's organic  
25 matter. That contributes to higher organic matter,

1 so the only conclusion I can come to. If I could go  
2 one more slide?

3 Q. By all means, please do. It's been marked  
4 as PSC Staff Exhibit 6. Please continue.

5 A. The sediment was extremely wet when we  
6 were out there, super saturated. This is an area  
7 where the gully had dried. Sorry, Scott. An area  
8 here where sediment had started to dry. You can see  
9 the light color of it, and that certainly isn't, you  
10 know, topsoil. It's a lighter color. It's starting  
11 to dry and has a light color. In fact, the samples  
12 on the edge of the bag, like I said, it was  
13 literally so wet we poured the sediment into the bag  
14 and it dried almost a light gray or almost a white  
15 color.

16 Q. Now, proceeding back to your analysis and  
17 your observations of September 30th, 2010, what  
18 other observations did you make? Or more  
19 specifically you testified concerning a ditch and a  
20 gully. Please continue.

21 A. The ditch and the gully and through the  
22 amount of cover, the vegetative cover that was in  
23 the ditch.

24 Q. Is there a slide you would like to --

25 A. Yes.

1           Q.     -- utilize in that regard? Please proceed  
2 to wherever you feel relevant. What's been marked  
3 as PSC Staff Exhibit 8. Please continue.

4           A.     Again here, a picture of the ditch bottom,  
5 again the haulroad off to the -- haulroad embankment  
6 off to the right side here.

7           JUDGE HOBERG: You mean the left side,  
8 don't you?

9           THE WITNESS: Left side. I'm sorry.

10          Q.     (MR. GRUMAN CONTINUING) Please continue  
11 or perhaps you finished.

12          A.     Anyway, the ditch, this is the ditch  
13 bottom. The water is running down from the top to  
14 the bottom and here's the ditch, the vegetation that  
15 is in the ditch bottom. You can see the drill rows  
16 here and on the side slope here, there's barren  
17 areas there. There's areas that have, you know,  
18 relatively good cover, but then there is barren  
19 areas within there.

20          Q.     Now, looking at PSC Staff Exhibit 8, that  
21 sparsity of vegetative cover, what effect would that  
22 have upon erosion control?

23          A.     It would certainly contribute to it.  
24 Probably not adequate to control the erosion.

25          Q.     Would not adequately mitigate erosion;

1 would that be correct?

2 A. Right.

3 Q. Is there any vegetative cover within the  
4 gullies?

5 A. The gully itself was barren.

6 Q. What effect would that have upon erosion  
7 control?

8 A. Well, it certainly would contribute to it.  
9 There would be nothing to slow the water.

10 Q. Mr. Moos, are you familiar with North  
11 Dakota Administrative Code 69-05.2-16-08(1)?

12 A. I am.

13 Q. And North Dakota -- are you familiar with  
14 North Dakota Administrative Code  
15 69-05.2-24-01(2)(a)?

16 A. I am.

17 Q. Did Coteau make any efforts in regard to  
18 these two Administrative Codes?

19 A. Other than the seeding and the mulching in  
20 the area. The area was mulched when the haulroad  
21 was constructed in 2009 and seeded, and that was the  
22 only erosion control that was in place in this  
23 section of the haulroad.

24 Q. So is it your opinion, in their -- did  
25 those efforts -- did Coteau meet their obligations

1 in regard to those two Administrative Codes I just  
2 indicated?

3 A. I think in this area they did not. They  
4 were not sufficient; otherwise, we wouldn't have --

5 Q. Please explain.

6 A. We wouldn't have the erosion that we're  
7 seeing here. It's a relatively long slope, steep  
8 slope, and they were not sufficient. In addition,  
9 we're in an area of overburden here, constructed out  
10 of overburden, not the best material for growing the  
11 vegetative cover that's needed to control the  
12 erosion in an area like this.

13 Q. Just expanding upon, you testified about  
14 steep slope and in this -- which direction are we  
15 facing in this photograph?

16 A. Here we're facing to the southwest.

17 Q. Yet NOV 1004, of course, is issued  
18 concerning a good portion of the whole ditch in  
19 question; is that correct?

20 A. That's correct.

21 Q. So also east of the culvert; is that  
22 correct?

23 A. That's correct.

24 Q. How would -- just to differentiate. Of  
25 course, we've got your testimony concerning this

1 side of the culvert. How about the other side? How  
2 would the slope affect that side?

3 A. Again, it's a similar slope there. A long  
4 slope and actually even a little longer on that  
5 side.

6 Q. Expanding upon your testimony concerning  
7 whether or not Coteau has met their obligation  
8 concerning the two Administrative Codes, what  
9 additional efforts should Coteau have done?

10 A. A number of things that could have been,  
11 silt fences, erosion control, matting fabric, the  
12 concrete matting that was used somewhere on the  
13 south side, rock check dams, just a number of things  
14 that could have been used in conjunction with the  
15 vegetative cover.

16 Q. And why were those necessary?

17 A. Just to slow the water, protect the  
18 surface.

19 Q. Now, there's been testimony before that  
20 indicates that NOV 1004 concerns only the north side  
21 of the haulroad ditch and not the south. Why the  
22 north and not the south?

23 A. There wasn't a problem on the south side.  
24 There was -- there was management practice taken  
25 there. The concrete matting was in place. There

1 was no erosion there.

2 Q. And expanding upon that, you indicated  
3 silt fences and rock check dams, erosion control  
4 fabric necessary on the north. Why not all of those  
5 specific technologies on the south side, if you  
6 could expand upon that further?

7 A. Again, if I could go back to one of the  
8 exhibits?

9 Q. Please do. It's been marked as PSC Staff  
10 Exhibit 2A.

11 A. This exhibit shows the flow of water in  
12 this area. There's water on the north side, again,  
13 the brown line through the center of Section 18 is  
14 the haulroad and, of course, the north haulroad  
15 ditch. We have water flowing into the ditch on the  
16 north side and there's a portion of this area that  
17 flows into the ditch on the south, to the southwest  
18 of the culverts. On the south side the water is  
19 flowing away from the haulroad ditch, so basically  
20 all the south side water that's flowing there is the  
21 water that's coming off the haulroad itself. The  
22 adjacent area is flowing away from that haulroad  
23 ditch, whereas on the north side you have water  
24 flowing into it.

25 Q. Are there any extenuating circumstances,

1 that you're aware of, that would absolve Coteau of  
2 NOV 1004?

3 A. No.

4 Q. Mr. Moos, you testified that you observed  
5 a gully. In your opinion, how long did that gully  
6 exist on the north haulroad ditch?

7 A. Well, I think --

8 MR. BJELLA: I'm going to object to that.  
9 He's speculating. He has no proof.

10 MR. GRUMAN: Again, he's an expert. I  
11 think he can offer his opinion.

12 JUDGE HOBERG: I still think we need some  
13 basis for it.

14 Q. (MR. GRUMAN CONTINUING) Have you formed  
15 an opinion in that regard as far as whether it's  
16 more probable than not?

17 MR. BJELLA: I'm going to object. He's  
18 testifying as a fact witness.

19 MR. GRUMAN: Opinion testimony can be  
20 offered by an expert, Your Honor.

21 JUDGE HOBERG: Yes. Yes. You may  
22 proceed. I'll overrule. You may proceed.

23 THE WITNESS: Can you rephrase the  
24 question?

25 Q. (MR. GRUMAN CONTINUING) Certainly. Well,

1 I think there's been a request for some foundation  
2 in regard to your opinions. Clearly, you've reached  
3 a conclusion. What would you substantiate that  
4 conclusion upon?

5 A. That the erosion was there prior to?

6 Q. Yeah. Well, I think what the question  
7 specifically was, was how long was that gully there?

8 A. There was sediment -- the sediment on the  
9 south side of the road was there September 2nd, as  
10 Mike had observed on his September 2nd inspection,  
11 so I don't think the source of the sediment has  
12 changed from September 2nd to the 29th. It's -- you  
13 know, there's probably additional sediment there on  
14 the 29th from the 2nd following the September 9th  
15 storm, but there was sediment clearly there on the  
16 2nd already, so --

17 Q. All right. And based upon those  
18 observations, can you -- do you have an opinion to  
19 offer whether it was more probable than not that  
20 that gully existed, say, September 2nd, 2010?

21 A. I would say --

22 MR. BJELLA: Your Honor, I think we need a  
23 clarification. Are we're talking north side or  
24 south side here? He just said that there was  
25 sediment present, but he was apparently referring to

1 the north side, but we have nothing to show that or  
2 prove that.

3 JUDGE HOBERG: I think we do need some  
4 clarification, Mr. Gruman, what side are you talking  
5 about?

6 MR. GRUMAN: Certainly, I'll expand upon  
7 the record.

8 Q. (MR. GRUMAN CONTINUING) When you were  
9 talking about sediment, were you talking about the  
10 north side or the south side?

11 A. I was referring to the south side.

12 Q. And when I'm talking about the gully, is  
13 that on the north side or the south side?

14 A. The north side.

15 Q. My understanding, you testified that you  
16 noticed the sedimentation that was observed on  
17 September 2nd -- or you heard today testimony  
18 concerning the sediment that was observed on the  
19 south side on September 2nd. In your opinion, is it  
20 more probable or not, that that gully existed on  
21 September 2nd?

22 A. I would think --

23 MR. BJELLA: Again, I'm going to state my  
24 objection to this question.

25 JUDGE HOBERG: I'll overrule. I think

1 there's a basis now. You may respond.

2 THE WITNESS: I think it's very probable  
3 that it was there on the 2nd.

4 Q. (MR. GRUMAN CONTINUING) Thank you.  
5 Obviously, there's been some testimony today  
6 concerning sedimentation on the north and the south  
7 side of the culvert. Do you have an opinion as far  
8 as whether it was more probable or not that the lack  
9 of BMP's contributed to the size of that  
10 sedimentation?

11 A. I do.

12 Q. Can you please provide some foundation in  
13 that regard? Obviously, you have a conclusion.  
14 What would you base that conclusion upon?

15 A. Well, the effectiveness of the BMP's. If  
16 there had been additional BMP's, they would have  
17 slowed the water, trapped more sediment upstream.

18 MR. BJELLA: Again, I'm going to object as  
19 pure speculation what would have happened during  
20 those rainfalls.

21 JUDGE HOBERG: What's a BMP again, for the  
22 record?

23 THE WITNESS: Best management practice.

24 JUDGE HOBERG: What's your objection,  
25 Mr. Bjella?

1           MR. BJELLA: Well, he's speculating as to  
2 what would have happened. I mean, heaven only knows  
3 what would have happened. I think it's just pure  
4 conjecture and not relevant and objectionable.

5           MR. GRUMAN: Again, he's an expert. He  
6 can offer his opinion. I believe he's provided  
7 adequate foundation, I think.

8           JUDGE HOBERG: I'll overrule. You can  
9 respond.

10          MR. GRUMAN: Thank you.

11          THE WITNESS: Would you restate the  
12 question?

13          Q. (MR. GRUMAN CONTINUING) Certainly. I  
14 believe you've provided enough foundation, so I  
15 guess I'll just -- as a segue way, do you have an  
16 opinion whether it was more probable than not that  
17 the size of the sedimentation piles were affected by  
18 the lack of best management practices that you  
19 observed on the result of Coteau?

20          A. Yeah, I would say that without the BMP's,  
21 the best management practices, in place, that the  
22 amount of sediment deposition would be greater than  
23 had they been in place.

24          Q. In summary, why was NOV 1004 issued?

25          A. For erosion from the haulroad and ditch

1 and resulting sedimentation.

2 Q. Mr. Moos, you -- staff has recommended a  
3 penalty of \$1,500 for NOV 1004; is that correct?

4 A. That's correct.

5 Q. Could you please just summarize the  
6 protocols associated with arriving at that amount?

7 A. There's four factors that we consider in  
8 assessing penalties; the history of violations, the  
9 seriousness of the violation, negligence associated  
10 with the violation, and, lastly, good faith.  
11 There's a deduction -- there can be a deduction for  
12 good faith.

13 Q. Just expanding, if you will, upon each of  
14 those factors and how they're -- applicability to  
15 this matter. Thank you.

16 A. On history nothing was assessed. This was  
17 only the second violation that Coteau has received  
18 in the last three years and we do not consider a  
19 history of violation until after the third violation  
20 within a three-year time period. Seriousness, there  
21 was erosion, there was sedimentation, so we did  
22 assess \$250 for seriousness. Negligence, we  
23 assessed \$1,250 for the fact that there was no best  
24 management practices instituted on the north side of  
25 the haulroad. It wasn't willful. It wasn't willful

1 neglect, but it was neglect nonetheless. And then,  
2 lastly, for good faith, we did not deduct anything  
3 for good faith, in that the compliance in this case  
4 was normal and what would have been expected.

5 JUDGE HOBERG: Are those four factors, are  
6 those what I referred to earlier in 38-14.132?

7 THE WITNESS: I believe so.

8 JUDGE HOBERG: Mr. Gruman.

9 MR. GRUMAN: Thank you, Your Honor.

10 Q. (MR. GRUMAN CONTINUING) Is there anything  
11 further you would like to add to advise the  
12 Commission today?

13 A. No, I don't believe so.

14 MR. GRUMAN: I have no further questions.

15 JUDGE HOBERG: Thank you, Mr. Gruman.

16 Mr. Bjella, please.

17 CROSS-EXAMINATION

18 BY MR. BJELLA:

19 Q. Mr. Moos, just to clarify, with respect to  
20 this north ditch, you have no evidence of any kind  
21 which demonstrates how that ditch looked on  
22 September 2nd; is that correct?

23 A. That's correct.

24 Q. Now, you also talked about sediment and  
25 sediment deposition on the south side. Now, isn't

1 it very conceivable that the sediment that exists on  
2 the south side came before the concrete mats were  
3 placed in there by Coteau?

4 A. I think if we go back to the one slide,  
5 it's over the edge of the --

6 JUDGE HOBERG: We're on Exhibit 3 now.

7 THE WITNESS: I'm sorry. Exhibit 3 here.  
8 And you see there's sediment on the edge of the  
9 concrete mat indicating that the concrete mat was in  
10 place when that sediment was on there.

11 JUDGE HOBERG: I think somebody asked this  
12 earlier, but is the concrete mat underneath that  
13 sediment?

14 THE WITNESS: I don't believe so.

15 JUDGE HOBERG: So it's been displaced?

16 THE WITNESS: I think it's an open channel  
17 under there, my recollection.

18 JUDGE HOBERG: So I think you're saying  
19 that the very left edge of that looks like it's  
20 overflowing onto the --

21 THE WITNESS: Onto the concrete mat.

22 JUDGE HOBERG: -- square concrete mat  
23 that's there? Okay.

24 Q. (MR. BJELLA CONTINUING) You testified as  
25 to the topsoil report that you had prepared. And

1       you indicated it was topsoil quality?

2             A.     Mm-hmm.

3             Q.     Isn't that a strong indication that that  
4       didn't come from the ditch?

5             A.     You could make that inference that it's  
6       not from the ditch, but, I mean, there was --  
7       going -- like I say --

8                     JUDGE HOBERG:   Exhibit 4.

9                     THE WITNESS:   I'm on Exhibit 4.  And going  
10       up that drainage, I mean, there was no -- there was  
11       no other erosion, no other sedimentation up this  
12       direction, going up toward the stock pond, and the  
13       flow was coming down through this channel.  Like I  
14       said, I was surprised at the quality of the  
15       material, that it was topsoil quality.  There is a  
16       number of methods that they can use.  They're very  
17       expensive, where they can burn off the true organic  
18       carbon, the vegetative matter that's in there, a lot  
19       of debris, plant debris in the sediment.  They can  
20       burn that off.  It's an expensive process.  In  
21       hindsight we probably should have had that done.  
22       The coal fines, you have to live with the coal  
23       fines.  Like I say, it is next to the haulroad.  
24       There's fines that come off the trucks and windblown  
25       material and that could have contributed, too.

1           Q.     (MR. BJELLA CONTINUING)  As far as the  
2 watershed goes, I believe this watershed is  
3 approximately 350 acres; is that correct?

4           A.     I believe so.

5           Q.     And when you did your inspection on the  
6 30th, you just inspected a small portion of that  
7 watershed?

8           A.     That's right.

9           Q.     And the topsoil quality of your soil  
10 tests, it's certainly indicative that some of that  
11 sediment could have very well come from that entire  
12 watershed; correct?

13          A.     There's a certain possibility that there  
14 would have been what's called sheet erosion just  
15 from some of the reclaimed areas above it, but  
16 there's a lot of sediment there and to attribute  
17 that all to sheet erosion -- and sheet erosion is  
18 just removing a very fine layer across a large area.  
19 It would be hard to draw the conclusion that it was  
20 all from sheet erosion.

21          Q.     And the erosion that exists that you show  
22 on one of your photos on the south side, it's very  
23 likely that at least a portion of that erosion, if  
24 not a substantial portion, came from the south side  
25 ditch; wouldn't that be correct?



1 guess, notwithstanding that, there was no BMP, best  
2 management practices, in place in this haulroad  
3 ditch at that time. And we can speculate all we  
4 want whether if they were there, would they have  
5 been effective there after that rainfall event. As  
6 Mike testified, there were BMP's in place at other  
7 sections of the haulroad and did fail, but we did  
8 not write the violation for those.

9 Q. So if there would have been a bunch of  
10 plastic from silt fences and straw matter piled up  
11 with the sediment, at least you would have known  
12 they tried?

13 A. Right.

14 Q. What is the BMP standard? I mean, who  
15 determines what that is at any given time? Is that  
16 a moving target as technology advances?

17 A. It is a moving target. It's not an  
18 established -- what works in one area may not work  
19 in another. It's oftentimes in combination. You  
20 have to use a number of them. And that's, I think,  
21 the beauty of BMP's, are not a prescriptive like  
22 some of the other engineering practices, but more of  
23 a field engineer, if you will.

24 Q. So, you know, the planting of materials to  
25 avoid erosion and, you know, the disking in and -- I

1 mean, that might be a BMP in a particular area, but  
2 it might not be in another area?

3 A. That's right. That's exactly right.

4 Q. So then you testified to the barrenness, I  
5 think you said the word barren, I think maybe Mike  
6 did as well, of the gully itself, but prior to  
7 whatever formed the gully, do you know that it was  
8 barren then or are we assuming it was?

9 A. If I can go back to one of the exhibits?

10 Q. Sure. Please. Either 6 through 8,  
11 somewhere in there, I think. So Exhibit 8.

12 A. You know, again -- Exhibit 8. And the  
13 gully itself was barren. Of course, anything that  
14 was there is washed away, but the area adjacent to  
15 it, that is barren, so you have to make the  
16 inference --

17 Q. So you're just making the inference, to  
18 use your term, or the assumption that the actual  
19 gully itself was probably similar in terms of plant  
20 cover to what's next to it, which isn't exactly  
21 barren, but it is thin or sparse?

22 A. Right.

23 Q. Okay. Okay. So the event that created  
24 the sediment, is it likely that it was the same  
25 event that created this gully or would that gully

1 have been -- in your opinion, based on your  
2 observations and your expertise, would that gully  
3 have been there prior to that event?

4 A. I think it's probably over time it  
5 developed and, you know, certainly on September 9th  
6 that contributed to it, probably contributed  
7 significantly to it, but it was over time, you know,  
8 throughout the summer, I'm guessing.

9 COMMISSIONER CRAMER: Okay. I have  
10 nothing further. Thank you.

11 JUDGE HOBERG: Thank you, Commissioner  
12 Cramer. Commissioner Clark, please.

13 EXAMINATION

14 BY COMMISSIONER CLARK:

15 Q. Just a couple. You had mentioned a  
16 previous violation. What was that related to?

17 A. There was one -- Coteau, I assume you are  
18 referring to?

19 Q. At Coteau.

20 A. There was one earlier this year for lack  
21 of an energy dissipator on the pond discharge.

22 Q. Okay. Would the erosion in the north  
23 ditch alone, would that be enough to trigger a  
24 possible violation, issuance of a violation by  
25 staff?

1           A.     The erosion?

2           Q.     Right.  I guess what I'm asking is, as I  
3 understand Staff's case, it's a combination of the  
4 erosion that happened and then the resulting  
5 sedimentation that ended up on reclaimed land.  If  
6 you just had a situation like this where, let's say,  
7 that you didn't have a lot of visible sedimentation  
8 on reclaimed land, but you had major erosion going  
9 on -- I'm terming it major, but you had some level  
10 of significant erosion going on in a haulroad ditch,  
11 would something like this potentially be enough for  
12 a violation if you didn't feel that best practices  
13 had been followed?

14          A.     No, I think if you look at the way the NOV  
15 is written, we're really emphasizing the erosion,  
16 not so much the sedimentation, but more the erosion.

17          Q.     But, again, my question, if you -- is  
18 there any requirement, as you understand it, in the  
19 Code that it has to be a combination of both erosion  
20 and sedimentation on the reclaimed land or one or  
21 the other?

22          A.     It refers to both.  Erosion and siltation  
23 as the Code refers to it.

24          Q.     But do they have to be in combination to  
25 issue the notice of violation, or can they be

1 separate?

2 A. I don't believe so. I don't believe so.

3 JUDGE HOBERG: Well, I would just refer  
4 you to the rules. The two rules are written  
5 differently in that regard. There's two separate  
6 rules that are alleged. They're written a little  
7 bit differently. So I'll refer you to the rules.

8 COMMISSIONER CLARK: I'll be sure to  
9 review that closely. Thank you. That's all I have.

10 JUDGE HOBERG: Thank you, Commissioner  
11 Clark. Commissioner Kalk, please.

12 EXAMINATION

13 BY COMMISSIONER KALK:

14 Q. Dean, thank you for your testimony. You  
15 were talking elevation earlier. Give me, again, the  
16 drop in elevation, if you will, from, you know, like  
17 let's take Exhibit 8 from the top to the bottom of  
18 the sediment pile, your best guess from walking the  
19 ground.

20 A. I don't think -- if we can pick out the  
21 contour lines on here.

22 JUDGE HOBERG: On Exhibit 2A.

23 THE WITNESS: I guess I didn't look that  
24 up. But it is about -- I'm a soil scientist so I  
25 put everything in three percent grade increments.

1           Q.     (COMMISSIONER KALK CONTINUING)   That's  
2     what I was thinking.

3           A.     I estimate it to be a three to six percent  
4     grade.

5           Q.     Okay.   That's actually helpful.   Okay.  
6     And then -- let's see here.   Sample size, how do you  
7     determine sample size?   Because I appreciate the  
8     discussion you had with folks about that.   How do  
9     you determine that?

10          A.     Just -- they don't need a large sample and  
11     it's just a small bag that is submitted to the lab  
12     and we did offer a split sample to Coteau, which  
13     they also --

14          Q.     I guess when I was thinking sample size,  
15     back to the previous lifetime and you have to  
16     determine so many sample points and all that --

17          A.     Oh, I see.

18          Q.     -- so it's not so much the volume of the  
19     sample, you know, the delineation of this, that and  
20     the other thing, because, quite honestly, to me one  
21     sample doesn't mean anything.   So how would you -- I  
22     mean --

23          A.     There was two samples taken and we just  
24     thought that was, you know, representative of the  
25     area.

1                   COMMISSIONER KALK:   Okay.   Thank you.  
2   That's all I have.

3                   JUDGE HOBERG:   Thank you, Commissioners.  
4                   Mr. Gruman, any further questions of  
5   Mr. Moos?

6                   MR. GRUMAN:    Just two.

7                                           REDIRECT EXAMINATION

8   BY MR. GRUMAN:

9                   Q.    Before it was referred to as far as what  
10   you inspected and I guess whether it be small,  
11   medium or large.  I believe it was referred to as  
12   small.  The route that you took, you and Mr. Berg,  
13   why was that adequate or why did you take that  
14   route?  Why don't you expand upon that?

15                  A.    As far as the --

16                  Q.    Yeah, why did you -- the locations that  
17   you went to to observe, to make essentially -- to  
18   predicate NOV 1004, why did you just do that?

19                  A.    I guess our purpose was to find the source  
20   of the sediment and we thought we found it in the  
21   haulroad ditch.

22                  Q.    I mean, in hindsight, do you feel that you  
23   should have made more observations?

24                  A.    I guess there was no reason to.  Like I  
25   say, we walked to the stock pond to the northwest.

1 There was no evidence of erosion or deposition in  
2 that area, so it's hard to make the conclusion that  
3 it came from above that area.

4 Q. The other -- thank you. The other  
5 question that I had is before there was a discussion  
6 during your cross-examination concerning BMP's and I  
7 believe the exact word was "moving target," which  
8 perhaps implies an arbitrariness. What we're doing  
9 against Coteau right now, is that arbitrary or is it  
10 codified in such a way, i.e., that they did and they  
11 knew they did and they knew they should have done  
12 what they were supposed to? Could you please expand  
13 on that?

14 A. It is somewhat of a moving target and,  
15 like I say, oftentimes it's a combination of factors  
16 that are needed, of best management practices that  
17 are needed. In this instance there was the  
18 vegetation, there was the mulch. The mulch was  
19 applied a year ago when the road was constructed in  
20 2009. And that deteriorates over time and loses  
21 some of its effectiveness. And the vegetation  
22 itself, like I said, it's seeded into spoil, it's  
23 sparse in areas. Again, most sparse in the ditch  
24 bottom where your channel lies in the flow.  
25 Therefore, it would seem that additional measures

1 would be needed there.

2 Q. Put another way, in your opinion, are we  
3 unfairly targeting Coteau for this NOV?

4 A. No.

5 Q. Please explain.

6 A. Again, the seeding alone -- seeding and  
7 mulching alone was not sufficient to control the  
8 erosion.

9 MR. GRUMAN: Thank you, Mr. Moos.

10 I have no further questions, Your Honor.

11 JUDGE HOBERG: Thank you, Mr. Gruman.

12 Just kind of a followup. Is there any  
13 prior approval of BMP's?

14 THE WITNESS: Generally not. A lot of  
15 times they're field-approved and they'll make  
16 reference that we will install BMP's and a lot of  
17 times they are field-approved when we're out on  
18 inspections. If you look in the permits, they'll  
19 just reference BMP's, such as silt fences, erosion  
20 control matting, but they're not a very restrictive  
21 application.

22 JUDGE HOBERG: Thank you.

23 COMMISSIONER KALK: Your Honor, I would  
24 have a question when it gets back to my turn.

25 JUDGE HOBERG: Commissioner Kalk, go

1 ahead.

2

FURTHER EXAMINATION

3

BY COMMISSIONER KALK:

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Q. That was kind of where I was going with that 3 to 6 grade. I didn't follow it all the way through. Given a 3 to 6 grade, would this type of BMP's be -- I mean, other grades that have that same 3 to 6, is this the kind of things you've seen there in your experience?

10

11

12

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A. In this instance, it's probably a little different than a 3 to 6 percent grade on a gently reclaimed land, because there you have soil, you have infiltration on it, you don't have channelized flow. Here you're channelizing all the flow into that road ditch and some type of BMP would be needed there.

17

COMMISSIONER KALK: Okay. Thank you.

18

19

JUDGE HOBERG: Thank you. Commissioner Cramer, please.

20

FURTHER EXAMINATION

21

BY COMMISSIONER CRAMER:

22

23

24

25

Q. I think this is really an important part of all of this in our determination, because that's why I asked earlier about prior to the event, prior to this silting that was obvious, an obvious

1 observation from the road, I mean, is there any  
2 reason to imply or that the company could conclude  
3 that they've got -- they've met the BMP standard by  
4 previous inspections or lack of -- and I know it was  
5 testified to earlier that without getting out and  
6 walking it, you might not know that. I'm just  
7 trying to get some context in which, you know, in  
8 previous or other situations where maybe the staff  
9 has seen inadequate measures --

10 A. It wasn't noted previously. Some of the  
11 previous inspection records report some erosion  
12 control that was done further upstream of this  
13 haulroad ditch. Like Mike said, it's a big mine.  
14 It's hard to see everything.

15 COMMISSIONER CRAMER: No, I agree. That's  
16 all I have. Thank you.

17 JUDGE HOBERG: Thank you, Commissioner.

18 Mr. Bjella, do you have any further  
19 questions of this witness?

20 MR. BJELLA: Yes, Your Honor.

21 REDIRECT EXAMINATION

22 BY MR. BJELLA:

23 Q. Dean, would you please look at your  
24 Exhibit No. 8?

25 A. (Witness complies.)

1 Q. And could you establish the water flow  
2 line in that exhibit?

3 A. Mm-hmm. Water is flowing down from the  
4 top of the photo to the bottom.

5 Q. But the width of the flow line?

6 A. The width, I guess I don't -- you know,  
7 certainly within the channel area there, is where  
8 the flow, you know, was in this area. Beyond that,  
9 I guess I don't know how much.

10 Q. Well, isn't it pretty readily apparent  
11 that the flow line is between the two stands of tall  
12 grass?

13 A. This side, well, this is a re-spread edge  
14 here. This is the haulroad embankment. If it was  
15 running that deep, it would have been running over  
16 onto the reclaim area, is that what you were --

17 Q. Well, I guess what I'm trying to submit  
18 here is that the flow line wasn't just in that  
19 narrow, little gully there?

20 A. The majority of it was in this area, I  
21 would say. Concentrated flow was in there. If it  
22 was running the full depth of that, I think it would  
23 probably wash all of that out.

24 JUDGE HOBERG: "By the full depth of  
25 that," you mean from the taller grass on both sides?

1                   THE WITNESS: Right. I mean, this  
2 haulroad embankment is probably 12 feet high in that  
3 area.

4                   JUDGE HOBERG: Well, is there any evidence  
5 that it was running higher into that sparse grass  
6 there on the side?

7                   THE WITNESS: I think before it got this  
8 high, it would have run over onto the reclaimed land  
9 over here, because this is lower on this side, on  
10 the right side than it is on the left side. Left  
11 side embankment is considerably higher.

12                  Q. (MR. BJELLA CONTINUING) Isn't it  
13 indicative that the flow was on the toe of the  
14 inslope?

15                  A. In here? This area on the toe of the  
16 inslope here?

17                  Q. Yeah.

18                  A. I don't doubt that there was flow into  
19 here.

20                  Q. Now, you talked about what is the slope or  
21 the degree of slope in this ditch. And you said 3  
22 to 6. Did you conduct a survey to determine that?

23                  A. No, I did not, but I mapped soils for  
24 about ten years and our first year is spent in  
25 grading slopes 1 to 3 percent, 3 to 6, 6 to 9, and

1 that's just, you know, based on professional  
2 judgment.

3 Q. But, again you're speculating, especially  
4 on 4, 5 and 6 percent, you're just speculating on  
5 that; right?

6 A. With a degree of professional judgment.

7 Q. And the lab analysis which you had  
8 conducted which indicates topsoil, could that  
9 reflect large amounts of vegetation and mulch that  
10 were in the ditch that washed down as a result of  
11 the September 9 storm?

12 A. I believe that, you know, we took care to  
13 pick out vegetation, the clumps of vegetation as we  
14 were sampling it. Like I said, this material was  
15 extremely wet. It was almost in the form of being  
16 liquid, and, you know, certainly, I'm sure, there  
17 would be some of that that was left behind from  
18 either the vegetation or the mulch that was  
19 upstream.

20 MR. BJELLA: Nothing else, Your Honor.

21 JUDGE HOBERG: Thank you, Mr. Bjella.

22 Any further questions, Mr. Gruman?

23 MR. GRUMAN: No, Your Honor.

24 JUDGE HOBERG: Any further questions of  
25 Mr. Moos? Thank you, Mr. Moos.

1 Mr. Gruman.

2 MR. GRUMAN: Your Honor, subject to  
3 recall, that concludes the Staff's case in chief.

4 JUDGE HOBERG: All right. Thank you.

5 We're going to take a recess for lunch  
6 about 11:45 to about 1:15. Do you have a short  
7 witness, Mr. Bjella, that you can pretty much  
8 guarantee will be about one-half hour?

9 MR. BJELLA: Well, our first witness will  
10 likely take longer than that.

11 JUDGE HOBERG: Would you like to take that  
12 witness first? I mean, it's your game plan, so  
13 we'll certainly honor that, if you want to take that  
14 witness first. I'm just wondering if there's a  
15 short witness that you're willing to take out of  
16 order. I'm not requiring you to do that.

17 MR. BJELLA: Right. Can you just give me  
18 a minute or two?

19 JUDGE HOBERG: Sure. Sure.

20 (Recess taken in place.)

21 JUDGE HOBERG: Okay. I think we're ready  
22 to go back on the record.

23 Mr. Bjella, have you come to a decision  
24 about how you want to proceed?

25 MR. BJELLA: Yes, Your Honor. I guess

1 initially we want to indicate, we had indicated we  
2 would call up to four witnesses, one of whom was  
3 going to be Terence Schmidt. We have decided not to  
4 call him. And then as far as our first witness  
5 would be Bill Kirk, and I guess although we do  
6 anticipate his testimony will go for some time, we  
7 can maybe at least get some of the preliminaries out  
8 of the way --

9 JUDGE HOBERG: Sure.

10 MR. BJELLA: -- if that's acceptable.

11 JUDGE HOBERG: We'll be taking a break in  
12 the middle then?

13 MR. BJELLA: Yes.

14 JUDGE HOBERG: Sure. Mr. Kirk, you are up  
15 there.

16 Before I swear you in, why don't you state  
17 your full name and spell it for the record, please.

18 THE WITNESS: William Kirk.

19 W-i-l-l-i-a-m, K-i-r-k.

20 JUDGE HOBERG: Thank you. Is the green  
21 button on or a blue one?

22 THE WITNESS: The blue button is on.

23 JUDGE HOBERG: Okay. Thank you.

24 Mr. Kirk, I think you heard the admonition  
25 I gave earlier in regard to perjury; is that

1 correct?

2 THE WITNESS: Yes, Your Honor.

3 JUDGE HOBERG: Being advised of the  
4 penalty for perjury, do you promise to tell the  
5 truth in that matter being heard? If so, answer I  
6 do.

7 THE WITNESS: I do.

8 JUDGE HOBERG: Thank you. Mr. Bjella,  
9 please.

10 MR. BJELLA: Thank you, Your Honor.

11 WILLIAM KIRK,

12 being first duly sworn, was examined and testified  
13 as follows:

14 DIRECT EXAMINATION

15 BY MR. BJELLA:

16 Q. Again, please state your full name and  
17 business address.

18 A. My name is William Kirk. I work for The  
19 Coteau Properties Company, whose address is 204  
20 County Road 15, Beulah, North Dakota.

21 Q. And, Bill, what is your position with  
22 Coteau?

23 A. My position title is staff mining  
24 engineer. I work in the environmental department.

25 Q. And how long have you worked with Coteau?

1           A.     I have worked for The Coteau Properties  
2 Company for 30 years.

3           Q.     And would you please describe your college  
4 education?

5           A.     I graduated in 1975 from the University of  
6 Utah, in Salt Lake City, with a bachelor of science  
7 degree in civil engineering.

8           Q.     And do you hold professional recognitions  
9 or registrations?

10          A.     Yes. I'm a licensed professional engineer  
11 in the States of North Dakota and Mississippi.

12          Q.     And could you briefly describe your  
13 professional experience as an engineer in the mining  
14 industry?

15          A.     I began my employment with Coteau  
16 Properties in May of 1980. I was originally hired  
17 as a civil engineer for the Environmental Department  
18 in the Western Division Office, which was located  
19 here in Bismarck. I worked out of that office for  
20 ten years and was then transferred to the Freedom  
21 Mine in December of 1989. I was originally hired to  
22 design sedimentation ponds, diversions and haulroads  
23 for North American Coal for all three mines here in  
24 North Dakota, which would be the Freedom Mine, the  
25 Falkirk Mine and the Indian Head Mine. I also

1 conducted probable hydrologic consequences studies  
2 to include in permit applications. And once I got  
3 to Coteau, my duties expanded to include the  
4 administering and management of the surface water  
5 monitoring programs and the groundwater monitoring  
6 programs. And there's also some additional  
7 environmental duties that I carry out at the mine  
8 site.

9 Q. I believe you have experience with the Air  
10 Force. Would you describe that?

11 A. Yes. Subsequent to graduating from  
12 college, I served as an officer in the U.S. Air  
13 Force for four years. I was stationed at Minot Air  
14 Force Base. I spent one year as a civil design  
15 engineer and three years as chief of construction  
16 management.

17 Q. Okay. And I believe you also have some  
18 North Dakota State Water Commission experience.  
19 Would you describe that?

20 A. Yes. When I got out of the Air Force, I  
21 continued my employment with the North Dakota State  
22 Water Commission. That was here in Bismarck. And I  
23 was employed there approximately one year as an  
24 investigations engineer. And that was to work with  
25 Water Resource Boards to investigate potential

1 projects that the State of North Dakota could  
2 perform in regards to water resources here in the  
3 state.

4 Q. And were you present this morning during  
5 the testimony of Mr. Moos?

6 A. I was.

7 Q. And there was a fair amount of discussion  
8 on sediment in the south side ditch and removal of  
9 that sedimentation. Now, is there a reason why that  
10 sedimentation wasn't removed after September 2nd?

11 A. After September 2nd, we had had a series  
12 of rainfall events. That sediment was very wet, as  
13 was the surrounding ground, ditches. We were  
14 hesitant to put equipment down in there to remove  
15 that sediment because, in essence, that would also  
16 do damage to the vegetative cover that we were  
17 trying to establish on the inslopes and in the road  
18 ditches.

19 MR. BJELLA: I guess, Your Honor, at this  
20 point we would just dive into our first exhibit, if  
21 that's acceptable?

22 JUDGE HOBERG: Yes.

23 Q. (MR. BJELLA CONTINUING) Bill, showing you  
24 what has been marked as Coteau Exhibit No. 1, would  
25 you please identify it?

1           A.     Exhibit No. 1 is a section from revision  
2     No. 50 to permit NACT 8102, and this section  
3     describes the design, construction and maintenance  
4     of a new haulroad that was to be constructed at  
5     Freedom Mine, and we designated the haulroad as the  
6     mine area 4 north conveyor haulroad.

7           Q.     And is this representative of the three  
8     permit revisions that were subject to this haulroad?

9           A.     Yes, it is. The haulroad actually crossed  
10    three permit areas and the materials that were  
11    submitted to the Public Service Commission for  
12    review were exactly the same for all three  
13    revisions.

14          Q.     Okay. And turning to page 2, there's some  
15    highlighted portions there. In the first paragraph  
16    with the highlights, would you please read what's  
17    highlighted?

18          A.     "Four culvert installations will be  
19    constructed to accommodate the drainage of surface  
20    water from and across the proposed haulroad  
21    corridor." "Peak flow determinations for the design  
22    of each culvert installation were calculated from a  
23    hydrology model created using TR-20 software.  
24    Culvert installations are sized to pass the peak  
25    flow from the 10-year/6-hour precipitation event

1 using available head."

2 Q. And the reference there to the 10-year/  
3 6-hour precipitation event, is that pursuant to a  
4 PSC regulation?

5 A. That is. That is pursuant to a regulation  
6 in the roads section.

7 Q. So when you, as a mining engineer, are  
8 designing haulroads, you design to that PSC  
9 precipitation event standard?

10 A. Yes. We use the 10-year/6-hour  
11 precipitation event to design the drainage system  
12 for haulroads.

13 Q. And then to the next paragraph with  
14 highlights, please read what's highlighted.

15 A. "At the outlets of the four culvert  
16 installations, outfall treatments will be installed  
17 to prevent channel scour and erosion, and to  
18 dissipate energy associated with erosive water  
19 velocities." "Should site-specific conditions  
20 warrant, the segment of downstream channel into  
21 which the outfall treatment discharges will be  
22 protected with erosion control blanket subsequent to  
23 grading and seeding. Upon completion of haulroad  
24 construction, the inslopes, backslopes and ditch  
25 bottoms will be scarified, seeded and mulched."

1           Q.     Okay.  First of all, when it's referencing  
2     the four culvert installations, that includes the  
3     culvert which is basically the subject of this NOV;  
4     is that correct?

5           A.     That's correct.  It was one of the four  
6     culvert installations on this mine area 4 north  
7     conveyor haulroad.

8           Q.     And now you state in there, "Should  
9     site-specific conditions warrant, the segment of  
10    downstream channel into which the outfall treatment  
11    discharges will be protected with erosion control  
12    blanket subsequent to grading and seeding."

13                    When you refer to "outfall," are you  
14    referring to the south side of this culvert?

15           A.     Yes, the downstream end of the culverts.

16           Q.     Okay.  And you go on to state, "Upon  
17    completion of haulroad construction, the inslopes,  
18    backslopes, and ditch bottoms will be scarified,  
19    seeded and mulched."

20                    Now, with respect to the north ditch,  
21    which is the subject of this NOV; is that what was  
22    done?

23           A.     That was what was done for the north  
24    haulroad ditch, yes.

25           Q.     And then to the next paragraph with

1 highlights, would you please read what's  
2 highlighted?

3 A. "These culvert installations will also be  
4 equipped with best management practice controls.  
5 Structures and materials utilized for this purpose  
6 include straw bale dikes, silt fences, geo-ridge  
7 installations, shallow sumps, erosion control  
8 blankets, rock riprap, and articulated concrete  
9 mats. These structures and materials may be used  
10 individually, or may be used in combination at each  
11 outfall."

12 Q. So, again, this reference is to what you  
13 would like -- what you may do at the outfall of the  
14 culverts; is that correct?

15 A. That is correct, what we may use at the  
16 outfalls of the culverts.

17 Q. Now, is it a best management practice by  
18 seeding of grass followed by mulching and crimping  
19 to establish a vegetative cover?

20 A. Yes.

21 Q. Showing you what's been marked as Coteau  
22 Exhibit No. 2, would you please identify this  
23 document?

24 A. Exhibit No. 2 is a letter written to  
25 Mr. Joe Friedlander, Environmental Manager at The

1 Coteau Properties Company, dated March 10th, 2009,  
2 informing The Coteau Properties Company that  
3 Revision No. 50 to permit 8102 has been approved.

4 Q. So this was approving the revision which  
5 we just reviewed on Exhibit 1?

6 A. That's correct.

7 Q. Were any conditions associated with this  
8 approval?

9 A. If you look at the second page of Exhibit  
10 No. 2, there were no conditions attached to that.

11 Q. Next, showing you Exhibit 3, would you  
12 please identify this document?

13 A. Exhibit No. 3 is notice of violation, NOV  
14 1004, issued to The Coteau Properties Company. The  
15 date is October 4th, 2010.

16 Q. And it is stated therein that Coteau  
17 failed to install appropriate measures to control  
18 and prevent erosion and siltation. Do you agree  
19 with that statement?

20 A. No, I don't.

21 Q. Showing you what has been marked as Coteau  
22 Exhibit No. 4, the PSC Regulation 69-05.2-24-03,  
23 would you please identify this regulation?

24 A. This regulation comes from the North  
25 Dakota Administrative Code regarding surface coal

1 mining regulations and it deals with roads,  
2 specifically the design and construction of primary  
3 roads.

4 Q. And referring on the second page of that  
5 exhibit, would you please read what's highlighted in  
6 yellow?

7 A. "In accordance with the approved plan, all  
8 primary roads must: Be constructed or reconstructed  
9 and maintained to have adequate drainage control,  
10 using structures such as bridges, ditches, cross  
11 drains, and ditch relief drains. The drainage  
12 control system must be designed to safely pass the  
13 peak runoff from a ten-year, six-hour precipitation  
14 event, or greater event as specified by the  
15 commission."

16 Q. And was this the regulation pursuant to  
17 which you designed and then Coteau ultimately  
18 constructed this haulroad and this ditch?

19 A. Yes, it is.

20 Q. And it also says in there "or greater  
21 event as specified by the commission." Has the  
22 Commission specified a greater event?

23 A. No, sir, they haven't.

24 Q. Showing you what has been marked as Coteau  
25 Exhibit No. 5, would you please describe this

1 exhibit?

2 A. Exhibit No. 5 is an internal office  
3 correspondence written by Jessica Unruh to Joe  
4 Friedlander, and it is in regards to the results of  
5 a vegetation cover survey that was conducted on  
6 October 1st, 2010, in the area of the NOV.

7 Q. So this study would have been completed  
8 subsequent to the rainfall events of September 6  
9 through 9?

10 A. That's correct.

11 Q. And this was conducted before any NOV was  
12 issued in this case; would that be correct?

13 A. That's also correct. The NOV was issued  
14 on October 4th.

15 Q. And what was the purpose of this survey?

16 A. The purpose of this survey was to  
17 determine the vegetative cover on the inslopes, the  
18 remainder, the undisturbed portions of the ditch  
19 bottom and the backslopes of the north ditch of the  
20 haulroad.

21 Q. So this is specific to the north ditch?

22 A. Yes, it is.

23 Q. After the September 6 through 9 rainfall  
24 events?

25 A. Yes.

1 Q. And what are the results of this survey?

2 A. The results of this survey indicated that  
3 total basal cover was measured at 77.9 percent.

4 Q. And describe the significance of that  
5 figure.

6 A. The significance of that relates to a  
7 quantitative standard that has been used by the  
8 industry to establish erosion -- a measurement of  
9 erosion control. That quantitative standard is  
10 found in Memo No. 19.

11 Q. So it's the same procedure that PSC  
12 specifies and accepts for ground coverage  
13 measurement?

14 A. Yes, it is.

15 Q. And, again, what does this mean, "basal  
16 cover measured at 77.9 percent in terms of ground  
17 coverage which remained after the September 6  
18 through 9 rainfall events"?

19 A. What it indicates is that 77.9 percent of  
20 the points that were used by the point-frame method  
21 contacted either live herbaceous cover, litter or  
22 rock.

23 Q. Is the 77.9 percent considered a good  
24 result?

25 A. It is. Especially for a ditch that has

1       only been -- I guess it's only been seeded for a  
2       year. It's only been through one growing season.

3           Q.     Taking one exhibit just slightly out of  
4       order, I would like to refer you to Exhibit No. 7.  
5       Could you please identify this exhibit? No. 7. It  
6       should have the number.

7           A.     I've got 6 and 8. I have no 7. Excuse  
8       me. Here we go. I'm sorry. Exhibit No. 7 is  
9       Policy Memorandum No. 19 to mine operators. It's a  
10      document that is issued by the Reclamation Division  
11      of the Public Service Commission to all mine  
12      operators and the Lignite Energy Council.

13          Q.     Is this the policy procedure that the PSC  
14      has specified for mine operators?

15          A.     Yes. This is -- this policy memorandum  
16      provides guidelines to mine operators for removing  
17      sediment ponds and pond site reclamation.

18          Q.     And what is the standard established by  
19      this policy?

20          A.     On page 2 of the policy under item No. 2,  
21      it sets a -- in lieu of -- I'll just read the  
22      statement, the sentence here. "As an alternative to  
23      a visual assessment, the operator may submit data to  
24      document a minimum of 73 percent live basal cover  
25      and litter cover or 83 percent first hit cover."

1           Q.     So how does this standard compare to the  
2 results of Coteau's vegetative cover survey after  
3 the rainfall events?

4           A.     Policy Memorandum No. 19 for basal cover  
5 sets a standard of 73 percent. From Jessica's memo,  
6 the result of the on-ground survey taken after the  
7 September 9th storm was 77.9 percent, so it is in  
8 excess of the 73 percent.

9           Q.     And is this indicative that there still  
10 was substantial vegetative cover after the  
11 September 9 rainfall event?

12          A.     It does.

13          Q.     And I understand this standard can also be  
14 applied for reclaimed land; is that correct?

15          A.     That is correct.

16                 JUDGE HOBERG: Is this a good place to  
17 stop?

18                 MR. BJELLA: I think it's a good place to  
19 stop.

20                 JUDGE HOBERG: Okay. Let's take a recess  
21 until 1:15. We'll start promptly at 1:15.

22                 (Recess was taken.)

23                 JUDGE HOBERG: Okay. We're back from  
24 luncheon recess. It's about 1:15. We're continuing  
25 with the testimony of William Kirk, and just a

1 reminder, you're still under oath.

2 Mr. Bjella, please continue.

3 MR. BJELLA: Thank you, Your Honor.

4 Q. (MR. BJELLA CONTINUING) Next, Bill,  
5 referring you to Exhibit No. 6, a series of photos,  
6 would you please identify these?

7 A. Exhibit No. 6 is a series of photos taken  
8 by personnel from The Coteau Properties Company.  
9 These photos were all taken at the site of the NOV,  
10 principally in the north haulroad ditch. And if I  
11 may, I'll just go through these briefly --

12 Q. Yes, please.

13 A. -- one at a time to describe them. The  
14 first photo is taken on the west side of the culvert  
15 in the north ditch. We're looking basically  
16 southwest and the embankment behind the two  
17 individuals is the haulroad fill section. And what  
18 this photo was entered for is to show the visual  
19 assessment of the vegetative cover on the north  
20 haulroad inslope. Also pictured is the ditch  
21 itself, and the erosion gully is evident in the  
22 lower portion of the picture. In the area that the  
23 two individuals are walking, that was also part of  
24 the ditch bottom and some of the side slope. And  
25 one thing I believe this picture shows quite readily

1 is the flowline that developed in the flow ditch  
2 during the September 9th precipitation event.

3 The next photo is also on the north side  
4 of the haulroad. It would be the west haulroad  
5 ditch.

6 JUDGE HOBERG: Why don't we refer to them  
7 as we go along as 1, 2, 3, 4, 5? This would be 2.

8 THE WITNESS: Okay. This would be 2.  
9 Photo No. 2 shows the west haulroad ditch on the  
10 north side of the haulroad. Again, it indicates,  
11 you can see on the left-hand side of the photo, that  
12 would be the inslope of the haulroad ditch and the  
13 degree the vegetation had filled in there during the  
14 year. On the right side you can see how the ditch  
15 transitions into reclaimed mine land and, again, you  
16 can see the ditch bottom, which illustrates not only  
17 the gully that was created by the storm, but the  
18 remaining vegetation in the bottom of the ditch.

19 MR. GRUMAN: Your Honor, I'm going to  
20 object. I think we need some foundation for that  
21 conclusion. I mean, what was just testified to is  
22 that it was a gully created during the September 9th  
23 event. Could you please qualify that?

24 JUDGE HOBERG: Mr. Bjella, any response?

25 I think we probably need a little more

1 foundation on that, too, so --

2 Q. (MR. BJELLA CONTINUING) Well, I guess,  
3 did you observe this gully prior to the September 9  
4 rainfall event?

5 A. No, I did not.

6 Q. Did you observe it afterwards?

7 A. Yes, I did.

8 MR. GRUMAN: I have no further objections.

9 JUDGE HOBERG: All right. Please  
10 continue.

11 THE WITNESS: Photo No. 3 consists of a  
12 photo taken near the beginning of the erosion in the  
13 east ditch of the north -- north of the haulroad.  
14 We're standing upstream quite a ways of the culvert,  
15 which is located approximately downstream from the  
16 pickup truck that is parked on the haulroad. Again,  
17 this just gives an illustration of the vegetation  
18 cover that was evident on this date. Again, this  
19 photo was taken after the precipitation event of  
20 September 9th.

21 Item No. -- picture No. 4 is similar to  
22 picture No. 3, taken at approximately the same  
23 location. We're looking to the west. You can see  
24 the smokestacks of Antelope Valley Station to the  
25 right side of the picture, the smokestacks of DGC to

1 the left and, again, just evidence of the vegetation  
2 that was present on the inslopes and backslopes of  
3 the ditch.

4 Photo No. 5 is another photo taken of the  
5 east ditch. It was taken approximately 175 feet  
6 east of the culvert and it shows a Coteau employee  
7 with one foot in the erosion gully and one foot,  
8 what I would say, near the original bottom of the  
9 ditch. What he is spanning there with the tape  
10 would be the estimated peak depth or peak height of  
11 the flow in the ditch.

12 Photo No. 6 is, again, a photo of the east  
13 ditch taken east of the culvert. Very much in the  
14 same area as the previous photo. Again, showing the  
15 erosion gully and the vegetation both on the inslope  
16 and backslope and what remains in the ditch bottom.

17 Photo 8 predominantly --

18 JUDGE HOBERG: I'm sorry. Are you on 7?

19 THE WITNESS: Is it 7? I lost count.

20 Photo No. 7 would be the next photo. That  
21 is looking west. Again, we're on the upstream  
22 extent of the erosion in the east ditch and it shows  
23 the cover again on the inslope of the road fill. I  
24 believe if you look on the right-hand side of the  
25 photo, you can also see that ditch repairs at this

1 time were underway. It appears that the gully has  
2 been starting to be repaired by backfilling the  
3 erosion feature.

4 Photo No. 8 is just a close-up of the  
5 haulroad inslope in the east ditch, east of the  
6 culvert. Again, just giving a visual representation  
7 of the vegetative cover at that time.

8 Photo No. 9, another photo of the inslope.  
9 This is of the west ditch, west of the culvert.  
10 Again, you're on the north side of the haulroad.

11 And photo No. 10 is another photo of the  
12 inslope of the west ditch. Again, just showing the  
13 vegetative cover that existed on October 5th.

14 Q. (MR. GRUMAN CONTINUING) And, Bill, what  
15 do these photos demonstrate in terms of grass cover  
16 after the September 9 rainfall event?

17 A. I believe these photos reinforce visually  
18 the survey that was taken on October 1st. The  
19 vegetation survey, again, was taken October 1st.  
20 These photos were taken either just before or just  
21 after that survey was taken.

22 Q. Do they demonstrate that except for where  
23 the actual erosion ditch occurred, that good grass  
24 cover was present?

25 A. In my opinion, they do demonstrate that.

1           Q.     Showing you what's marked as Coteau  
2 Exhibit No. 8, PSC Regulation 69-05.2-16-08, I'd  
3 like to refer you to -- is this one of the  
4 regulations that was cited in the NOV?

5           A.     Yes, it was.

6           Q.     In reviewing the language that's  
7 highlighted there, it states in part that, control  
8 measures must be designed and constructed to quote,  
9 minimize erosion to the extent possible; is that  
10 correct?

11          A.     That's correct.

12          Q.     So this does not state that a mine  
13 operator must prevent all erosion; is that correct?

14          A.     That's correct.

15                 MR. GRUMAN: Your Honor, if I may just  
16 make a note, at least our copy, there is also  
17 highlighted 1(d), and I think, at least for the  
18 record, we should clarify the two Admin Codes that  
19 are cited at NOV 1004, it's 1(c), but not 1(d). So  
20 just in case that is what that indicates, I wanted  
21 to state that on the record.

22                 JUDGE HOBERG: Yeah, I've already cited  
23 what the issues are and I did cite only subsection  
24 1(c).

25                 MR. GRUMAN: Thank you, Your Honor.

1 MR. BJELLA: Thank you.

2 Q. (MR. BJELLA CONTINUING) Bill, next,  
3 showing you Coteau Exhibit No. 9, 69-05.2-24-01,  
4 would you please identify this?

5 A. This exhibit is taken from the North  
6 Dakota Administrative Code from the surface coal  
7 mining regulations. It deals with performance  
8 standard for roads and other transportation  
9 facilities.

10 Q. And not to read it, but in referring to  
11 the highlighted portion there, does this indicate  
12 that vegetation is identified as a primary best  
13 management practice?

14 A. It does.

15 Q. Next, showing you what is Coteau Exhibit  
16 No. 10, please identify.

17 A. Exhibit No. 10 is a letter written by  
18 myself, addressed to Mr. Jim Deutsch, Director of  
19 the Reclamation Division, written on September 17,  
20 2009. The first two pages consist of a haulroad  
21 construction report and the third page consists of a  
22 certification form and these items are required to  
23 be filed with the Public Service Commission as  
24 stated in the first paragraph subsequent to  
25 construction of a primary haulroad.

1           Q.     Commonly known as a haulroad certification  
2 letter?

3           A.     Yes, report and certification letter.

4           Q.     And looking -- referring to the  
5 highlighted portion on page 2, would you please read  
6 that?

7           A.     "The only work that remains consists of  
8 the installation of storm water best management  
9 practices, such as disking and seeding of road ditch  
10 bottoms and slopes and installation of silt fence  
11 adjacent to culvert installations to control  
12 erosion."

13          Q.     Now, this does not state that BMP's will  
14 be employed in all circumstances and situations;  
15 right?

16          A.     No.

17          Q.     When you use the words "such as," you're  
18 using it as example?

19          A.     I do.

20          Q.     And does this indicate that BMP's will be  
21 placed where you believe it is needed?

22          A.     Yes.

23          Q.     And did Coteau disk and seed the road  
24 ditch bottoms as stated in this letter?

25          A.     Yes. We scarified, seeded and mulched the

1 road ditch bottoms.

2 Q. And when it refers to installation of silt  
3 fence adjacent to culvert installations, are you  
4 referring to the outfalls?

5 A. It can be either infalls -- inlets or  
6 outfalls.

7 Q. Now, you were present for the testimony of  
8 Mr. Moos this morning?

9 A. Yes.

10 Q. And there was a lot of testimony  
11 concerning the sedimentation on the south side. Do  
12 you recall that testimony?

13 A. Yes, I do.

14 Q. And based upon the testimony that was  
15 presented, it appears that the position of the  
16 Reclamation Division is that the sedimentation  
17 evident on September 2nd on the south side came from  
18 the north side ditch. Do you agree with that?

19 A. No, I disagree.

20 Q. Where do you believe the majority of the  
21 sedimentation on the south side ditch that was  
22 evident on September 2nd came from?

23 A. I believe the majority of the sediment  
24 that was observed during that inspection came from  
25 the erosion of the south haulroad ditches where they

1 outlet into the main channel underneath the culvert  
2 under the haulroad --

3 Q. And when was the -- excuse me.

4 A. -- which would be in the south road ditch.

5 Q. And when was this sedimentation noticed by  
6 Coteau?

7 A. It was noticed in mid July of 2010.

8 Q. Mid July of 2010. Okay. And what did  
9 Coteau, then, do about that sedimentation and  
10 erosion that was occurring?

11 A. Because we had observed deposition below  
12 the culvert and because of the gullies that were  
13 starting to form at the outfall of these two  
14 ditches, we went in and repaired those ditches, put  
15 them back to their original configuration. The very  
16 end of the ditches where they out -- where they  
17 dumped into the drainage channel downstream, we  
18 installed engineering fabric and articulated  
19 concrete mats. Upstream of the mats where the slope  
20 in the ditch became more gentle, we still had to  
21 repair the ditch. We not only restored the  
22 configuration of the ditch, but we reseeded it and  
23 then we installed erosion control blanket.

24 Q. And this, again, was due to your erosion  
25 experience on the south side of the ditch; is that

1 correct?

2 A. Yes, this was all because of erosion on  
3 the south side.

4 Q. And also it was mentioned this morning  
5 that the south haulroad ditches have limited  
6 watersheds. Do you agree with that observation?

7 A. No, I don't agree with that.

8 Q. Why not?

9 A. Because those road ditches extend both to  
10 the west and to the east for some distance and the  
11 watershed becomes fairly significant when you  
12 consider the area of haulroad that drains into the  
13 ditch, the amount of area that's occupied by  
14 inslopes, backslopes, ditch bottoms, and there was  
15 also some areas that drain into those ditches south  
16 of the haulroad. I think this is what -- to further  
17 substantiate my comment, is that if there was such  
18 little watershed draining in the south road ditches,  
19 why did they erode so heavily? Why did they require  
20 the placement of articulated concrete mats?

21 Q. Thank you.

22 A. It was more significant than I think has  
23 been alluded to today.

24 Q. Thank you. And also this morning there  
25 was testimony with respect to what the Reclamation

1 Division believed was the slope of the ditch. Do  
2 you recall that testimony?

3 A. Yes, I did.

4 Q. And has Coteau had a survey prepared of  
5 that ditch?

6 A. Subsequent to the repairs of the north  
7 haulroad ditch, both the east and western segments,  
8 I -- under my direction, I sent out a professional  
9 land surveyor to do a survey of those road ditches.

10 Q. And what were the results?

11 A. The result was that regarding slopes on  
12 the east ditch from the inlet of the culvert to  
13 approximately 330 feet upstream, the slope of the  
14 ditch was 2.72 percent. From that point where that  
15 slope ended, upstream to about 900 feet east of the  
16 culvert inlet, the slope dropped below 1 percent.  
17 It was .89 percent. In regards to the west ditch,  
18 the survey showed that from the culvert inlet for a  
19 distance of approximately 520 feet, that slope was  
20 3.25 percent, 3.25. Beyond that break point,  
21 farther upstream, the ditch also flattened out to  
22 1 percent or less.

23 Q. Next, showing you -- if you will go to  
24 Exhibit No. 12, please. Would you please identify  
25 it?

1           A.     Exhibit No. 12 is a letter from the North  
2     Dakota Department of Health to Mr. Joe Friedlander,  
3     the environmental manager at the Freedom Mine. This  
4     letter is in response to a request that  
5     Mr. Friedlander had submitted to the Health  
6     Department seeking alternate effluent limitations  
7     for pond overflows resulting from the precipitation  
8     event of September 9th, 2010.

9           Q.     So is this in relation to the NDPDES  
10    permit which Coteau holds from the Department of  
11    Health?

12          A.     Yes, it is.

13          Q.     And that stands for?

14          A.     National Pollutant Discharge Eliminations.  
15    Excuse me. North Dakota Pollutant Elimination --  
16    North Dakota Pollutant Discharge Elimination System.

17          Q.     Thank you. And in this letter what is the  
18    reference to, quote, pond overflow discharge? What  
19    does that mean?

20          A.     What it means is that we had an event that  
21    exceeded -- or a series of events or an event that  
22    exceeded the design capacity of the pond. The  
23    storm, therefore, produced flows through the  
24    emergency spillways and when those flows were  
25    sampled, some of them were in excess of the effluent

1 limitations we're normally held to, so we were  
2 asking for a variance for an exceptional event.

3 Q. And was a variance granted?

4 A. That variance was granted by the Health  
5 Department.

6 Q. Does it specifically reference rainfall  
7 event on September 9?

8 A. It does.

9 JUDGE HOBERG: Looking at that, can you  
10 explain that rainfall event a little bit more? I  
11 mean, it does kind of at the bottom of the exhibit,  
12 but it's a little unclear to me what that means. It  
13 says, The amount of rain received at the mine in the  
14 ten days leading up to the overflows ranged from 4.1  
15 to 6.6 inches, so that was in the ten days leading  
16 up?

17 THE WITNESS: Yes, it was.

18 JUDGE HOBERG: Total for those ten days?

19 THE WITNESS: Yes, Your Honor, it does.

20 JUDGE HOBERG: And then actually on the  
21 9th it was 1.8 to 3.5 inches?

22 THE WITNESS: That's correct.

23 JUDGE HOBERG: Okay. Thank you.

24 Q. (MR. BJELLA CONTINUING) Next, showing you  
25 what has been marked as Coteau Exhibit No. 13, North

1 Dakota Administrative Code 33-16-01-25, is this the  
2 Health Department regulation which gives it the  
3 authority to approve alternate limits in certain  
4 circumstances?

5 A. Yes, it is.

6 Q. In looking at the highlighted portion,  
7 subsection 5, does this provision allow the  
8 Department of Health to approve alternate limits for  
9 situations such as acts of God or flood events over  
10 which the permittee has little or no control?

11 A. Yes, that is stated in the regulation.

12 Q. And, Bill, are you a resident of Mercer  
13 County?

14 A. I am. I live in -- I reside in Beulah,  
15 North Dakota.

16 Q. And are you aware as a citizen of Mercer  
17 County that after the September 9 rainfall event,  
18 Mercer County issued an emergency declaration?

19 A. Yes, I was aware of that.

20 Q. Showing you what has been marked as  
21 Exhibit No. 14, would you please identify it?

22 A. Exhibit No. 14 is a certified copy of an  
23 emergency declaration issued by the Mercer County  
24 Board of County Commissioners that basically states  
25 that Mercer County had suffered damages from the

1 precipitation event of September 9th, 2010 and  
2 because of the amount of damage that had occurred,  
3 they were declaring an emergency.

4 Q. Was one of the areas identified receiving  
5 damage the rural Beulah area?

6 A. Yes, it is.

7 Q. And how far is the mine located from  
8 Beulah?

9 A. The mine is located about seven miles  
10 northwest of Beulah, North Dakota.

11 Q. Okay. And does this document indicate  
12 that due to this precipitation event the county  
13 sustained a large amount of road damage and fence  
14 loss?

15 A. It does.

16 Q. In review of the NOV issued by the  
17 Reclamation Division, do you find any reference in  
18 there to a consideration of this major rainfall  
19 event?

20 A. No, I don't find any.

21 Q. Showing you what is marked Exhibit No. 15,  
22 is this a memorandum issued by the Reclamation  
23 Division November 18, 2010?

24 A. Yes, it is.

25 Q. And is this a memorandum which essentially

1 describes the basis for the NOV?

2 A. It is.

3 Q. Is there any mention in the memorandum as  
4 to whether the rainfall events which occurred  
5 September 5 through 9 might have exceeded the  
6 Reclamation standards established by PSC regulation  
7 for a 10-year/6-hour design event?

8 A. There is no mention of that in this  
9 memorandum.

10 Q. In the NOV Coteau was cited for being  
11 negligent and failing to install appropriate measure  
12 to control or prevent erosion by failure to install  
13 sediment control measures in the haulroad ditch. Do  
14 you agree with that statement?

15 A. No, I do not.

16 MR. BJELLA: I have no further questions.

17 JUDGE HOBERG: Thank you, Mr. Bjella. Did  
18 you intend to cover the rest of the documents?

19 MR. BJELLA: They are coming in a later  
20 witness.

21 JUDGE HOBERG: Later witness. Okay.  
22 Mr. Gruman.

23 MR. GRUMAN: Thank you, Your Honor.

24

25

CROSS-EXAMINATION

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BY MR. GRUMAN:

Q. Mr. Kirk, referring again to -- well, it would be PSC Exhibit 12. It would be the memorandum issued by you in September 2009. Let me refer to an installation of silt fences concerning the haulroad. Just let me know when you're ready, when you know what I'm reference to. Essentially, it's my understanding --

A. Sir, is that Exhibit No. 10?

Q. I'm sorry. It's actually PSC Staff 12. I stated it wrong.

A. That's all right.

Q. You found that document?

A. Yes, I have.

Q. Okay. So it's just my understanding that in there you're talking about how in certain situations in certain areas silt fences would be appropriate; is that correct?

A. That's correct.

Q. But you're not specifically stating -- in your opinion, in that memo you're not specifically stating that that silt fence should be anywhere near that intersection of 8102, 8203 and the haulroad?

A. No. To put it in perspective, sir?

1 Q. Certainly. Please.

2 A. At the time I wrote this letter, no BMP's  
3 had been installed at that point. And all that  
4 remained to be done. That work remained to be done.  
5 And, therefore, even the seeding and mulching had to  
6 be accomplished. So what I was trying to reflect in  
7 that statement, in that construction report, was  
8 that we still had yet to put in our BMP's for that  
9 haulroad construction.

10 Q. Would you agree that when you're making a  
11 determination as far as -- I'm saying any efforts  
12 above and beyond seeding and mulching, is that an  
13 arbitrary process or is there something that you put  
14 forward, some type of logical way to reach that  
15 conclusion as far as, for instance, when are silt  
16 fences in or out? Do you have some type of process  
17 involved?

18 A. First of all, I believe that the ultimate  
19 and best BMP that you can have attendant with  
20 haulroad construction on the inslopes and the  
21 ditches and the backslopes would be a good cover  
22 vegetation. That's primary.

23 Q. Please continue.

24 A. Where we see points where a road ditch may  
25 be very susceptible to erosion, such as where

1 perhaps there is another stream that intersects this  
2 haulroad ditch and then that haulroad ditch  
3 basically replaces the stream down to the culvert  
4 crossing, we know that this could be an area of  
5 increased flows. Therefore, we'll take additional  
6 steps to protect that area.

7 Q. Well, perhaps then the million-dollar  
8 question here is --

9 A. Okay.

10 Q. -- you made a decision not to put silt  
11 fences at that intersection on the north side. Why  
12 not?

13 A. Why not? Because we felt, again, that the  
14 best thing to do in that road ditch was to get  
15 vegetation established. That was our primary goal.  
16 At that culvert, some of the pictures do not show  
17 it, the ditch did not have much of a backslope. It  
18 was very shallow in that broad valley. If we were  
19 to have put silt fence upstream of those culverts,  
20 of that culvert on either side, it's very possible  
21 that eroded material that was generated from the  
22 watershed that drained in this culvert, which you  
23 have to remember also is 350 acres, that sediment  
24 could have collected behind that silt fence, which  
25 is what their purpose is, and then some of that

1 sediment could have actually overtopped the  
2 backslope and started to deposit on reclaimed land.  
3 That's why I felt that was not a good choice to put  
4 at the upstream end of this culvert.

5 MR. GRUMAN: Just one moment, Your Honor.

6 Thank you, Your Honor.

7 Q. (MR. GRUMAN CONTINUING) Proceeding --  
8 expanding upon what you just indicated, it's my  
9 understanding, what I understood, is that if silt  
10 fences would have been installed on the north ditch,  
11 they would have unduly collected sediment and  
12 created perhaps a sediment problem in that regard  
13 and that was predicated upon the 350 acres; is that  
14 a good summation of what you just indicated?

15 A. That is, sir.

16 Q. Okay. Wouldn't you agree, though, and, of  
17 course, we have the map, PSC Staff Exhibit 1.  
18 You've been here. You've seen PSC Staff Exhibit 2  
19 and 2A, the topography maps. Isn't it, in fact,  
20 true, that the sheet erosion itself, it wouldn't be  
21 focused upon any certain silt fence, in actuality it  
22 would be aggregated over a larger surface area?  
23 Using that principle in mind, could you please  
24 remedy that?

25 A. I'm not following your logic, sir, in your

1 question.

2 Q. Well, perhaps, maybe I'm not completely  
3 understanding your answer, either. You indicated  
4 that if the silt fences would have been installed in  
5 that channel, that they would have collected an  
6 undue amount of sedimentation and that was  
7 predicated upon essentially a certain surface area  
8 channeling into any certain silt fence. Wouldn't  
9 you agree, though, that those 350 acres actually  
10 would have been spread upon more silt fences; i.e.,  
11 if you would have installed silt fences, there  
12 wouldn't be just one or two, there would have been  
13 multiple as indicated in PSC Staff Exhibits 10 and  
14 11; wouldn't that be correct?

15 A. I'd say that would be correct.

16 Q. Thank you. Now, clearly, you've had many  
17 years of experience and including at Freedom Mine.  
18 Have there been situations where in particular BMP's  
19 above and beyond seeding and mulching, where you put  
20 those BMP's in place at Freedom Mine?

21 A. Oh, yes.

22 Q. Using one example, I mean, what was the  
23 reasoning behind that?

24 A. I can remember one in particular where we  
25 had a haulroad section that crossed West Antelope

1 Creek, which is an intermittent stream. And our  
2 haulroad ditch on the upstream side of that road  
3 intercepted West Antelope Creek. And we know West  
4 Antelope Creek can produce significant flows.  
5 Therefore, the segment of haulroad ditch from that  
6 junction to the culvert crossing under the haulroad  
7 for West Antelope Creek, we paid particular  
8 attention to the potential for erosion in that  
9 ditch. We took special measures to protect that.  
10 Those special measures, though, were also identified  
11 in a permit revision so it was made clear the steps  
12 we would take to do that.

13 Q. Thank you. And you indicated "special."  
14 Just expanding upon that, would you agree in  
15 relation to BMP, those special efforts, they're  
16 certainly applicable in those situations where we  
17 have channelized flow or higher water velocities in  
18 a channel location; would that be correct?

19 A. That's correct.

20 Q. Proceeding now to Coteau Exhibit No. 5,  
21 and that's this subject vegetation cover sampling  
22 methodology. Just let me know, I guess, when you're  
23 ready. I have a couple questions concerning that  
24 document.

25 A. Okay. I'm ready, sir.

1           Q.     Okay.  Thank you.  To begin with, I'm  
2           noticing here most of the way through the document  
3           it talks about 200 feet west.  Just to kind of give  
4           us an idea, am I reading this correctly that this  
5           basal cover was only taking place 200 feet on either  
6           side of that intersection of 8102, 8203 and the  
7           haulroad?  Would that be a correct assumption, or am  
8           I reading this wrong?

9           A.     That would be wrong, sir.

10          Q.     Please remedy or please clarify.

11          A.     What -- let's see.  I'm referring to a  
12          total of 40 frames were taken five paces apart  
13          ending approximately 200 feet west of the culvert.  
14          And your question was, is that what it covered?

15          Q.     Maybe I can rephrase.  That old  
16          terminology, a picture is worth a thousand words.  I  
17          hate to have you get up, but since we have PSC Staff  
18          Exhibit 1 here, bring this with you and just kind of  
19          indicate to us where exactly this analysis was  
20          taken, if you wouldn't mind, please.

21          A.     Do you want me to try and answer it  
22          verbally first?

23          Q.     Sure.  Certainly.

24          A.     From reading this memo, the areas that  
25          were surveyed -- there were four distinct areas.

1 Four hundred points were surveyed within each area.  
2 The first area was taken on the west inslope,  
3 beginning just upstream of the culvert and going  
4 west and then they went to the backslope and took  
5 another set of 40 frames.

6 Q. If I may --

7 A. And then the same methodology was used for  
8 the inslope and backslope areas on the east side of  
9 the culvert and there, there is no distance given.

10 Q. You know, when we're talking about inslope  
11 and outslope, I'm looking for a simple --  
12 essentially, for lack of a better word, a  
13 two-dimensional answer utilizing PSC Staff  
14 Exhibit 1. I'm curious, from the culvert, how far  
15 along the haulroad ditch did you go to take your  
16 samples on this side, how far on the -- how many  
17 samples did you take on the north haulroad ditch on  
18 the other side of the intersection? That's what I'm  
19 trying to clarify in my mind.

20 A. Well, sir, since I did not perform the  
21 survey, I would have to say I don't know.

22 Q. Okay. Do you know who did?

23 A. Yes, it was taken by Jessica Unruh and  
24 Tara Berger.

25 Q. Very good. Thank you. Moving on. Of

1 course, you did testify as to the document and as to  
2 the foundation of the document; correct?

3 A. Correct.

4 Q. So the next matter is, if you can please  
5 summarize for us, if I understood your earlier  
6 testimony, you were talking about essentially we've  
7 got a 77.9 percent conclusion and that met certain  
8 criteria or certain threshold. Could you please  
9 explain that again, what you were talking about  
10 there?

11 A. The threshold was described in some papers  
12 that are referenced in policy memorandum No. 19 that  
13 the PSC produced, Ries and Hofmann, to be --  
14 specifically. And there the conclusion that they  
15 came -- they were studying reclaimed land and what  
16 constituted a degree of vegetation cover that they  
17 felt would be equivalent to the amount of vegetative  
18 cover and erosion that occurs on native ungrazed  
19 grassland. So what they were saying, what they  
20 concluded through their study, was that if you could  
21 achieve this ground cover of 73 percent, that was  
22 equivalent to what they saw for protection on native  
23 ungrazed grassland. Therefore, they were using that  
24 as a standard for determining good erosion  
25 protection.

1           Q.     So I guess, you know, the next, I think,  
2     logical question here is that we have this study and  
3     we have this threshold amount for erosion, but you  
4     agree -- one factor that's, I think, extremely  
5     important when we're talking about erosion control  
6     would be water velocity; would that be correct?

7           A.     Oh, yes, I would agree.

8           Q.     And I think by extension, NOV 1004 at its  
9     heart concerns a ditch; correct? You understand  
10    that?

11          A.     Yes.

12          Q.     And that's channelized flow; correct?

13          A.     That is correct.

14          Q.     So if this study was predicated upon, for  
15     instance, a flat surface and that type of erosion, a  
16     non-channelized flow, would you agree that that  
17     threshold amount would not be applicable to this  
18     matter?

19          A.     There are tracts of native grassland in  
20     North Dakota that are much steeper than the road  
21     ditch slopes, so, no, I wouldn't agree with that.

22          Q.     But in -- I mean, a steep -- of course,  
23     we're all -- most of us are North Dakotans here.

24          A.     Right.

25          Q.     I think we understand what you're talking

1 about. There's a big difference between, you know,  
2 a rolling hill --

3 A. Yes.

4 Q. -- a large surface area, and a channel and  
5 a ditch; correct? I mean, those are two different  
6 creatures; correct?

7 A. Two different creatures, yes.

8 Q. So you would agree there's a possibility  
9 that this threshold is not applicable to this  
10 matter; would that be correct?

11 A. You could surmise that.

12 Q. Okay. Lastly, concerning this Coteau  
13 Exhibit No. 5, clearly, as we just hit upon, the  
14 77.9 percent basal cover and, obviously, you were  
15 here today and you saw Mr. Moos' and Mr. Berg's  
16 testimony and our photographs; correct?

17 A. Correct.

18 Q. I think you would agree that a number of  
19 our exhibits, it certainly didn't indicate a  
20 78 percent vegetation cover; would that be correct?

21 A. At a particular point that would be true.

22 Q. Okay.

23 A. But I would also contend that several of  
24 your photographs do show areas that probably meet  
25 that standard or are in excess of that standard.

1           Q.     Just one moment, please.  Moving on.  
2     Well, if you remember, during your direct testimony,  
3     I offered an objection and the objection was  
4     predicated upon -- I believe, your conclusory  
5     statement was the ditch -- or excuse me -- the gully  
6     was created on September 9th.  Am I correct in that  
7     regard, is that what you testified to?

8           A.     Yes.  Yes.

9           Q.     And if I remember right -- thank you.  If  
10    I remember right, your answer was, well, I know it  
11    was created on September 9th because that's the  
12    first time I saw it.  I believe that was your  
13    answer?

14          A.     Yes, sir.

15          Q.     To qualify that, I probably should have  
16    expanded upon further.  Were you there on September  
17    8th, September 7th, et cetera?  How do you know that  
18    it didn't exist prior to this, even as far back as  
19    September 2nd?

20          A.     I cannot testify that I was -- that I saw  
21    that on September 8th.  But in my travels about the  
22    mine, I travel that road extensively.  Being a  
23    hydrologist and civil engineer for the mine, I'm  
24    often aware -- when I drive down a haulroad -- you  
25    know, people look for different things.  I look for

1 erosion. I look for how structures are holding up.  
2 I'm looking for plugged culverts on a routine basis.

3 Q. And I respect that.

4 JUDGE HOBERG: Well, did you have some  
5 further -- I don't know if -- had you finished your  
6 answer?

7 Q. (MR. GRUMAN CONTINUING) Please do.

8 A. That's fine.

9 Q. So, I mean, specifically, I guess,  
10 following up on that, did you ever directly observe  
11 a gully prior to that? I mean, were you ever in  
12 that specific location prior to September 9th?

13 A. Oh, yes. Yes.

14 Q. So definitively, what do you feel the  
15 first day that there was 100 percent possibility  
16 that that gully had -- when it was formed?

17 A. September 9th.

18 Q. Expanding upon the two Administrative  
19 Codes, it's my understanding you testified that  
20 vegetation is primary, at least as far as the  
21 envision of those codes; is that correct?

22 A. Repeat the question, please.

23 Q. I could rephrase that. I guess I don't  
24 have particular -- we were discussing one of the  
25 Administrative Codes cited in NOV 1004, and I

1 believe it discusses several parameters that didn't  
2 use best management practice. I think it was  
3 prudent engineering practices. They list  
4 vegetation. And if I remember, in your testimony I  
5 believe you indicated that vegetation was primary;  
6 correct?

7 A. In my mind, yes, vegetation is primary.

8 Q. But you would agree that certain  
9 situations do arise where efforts other than --  
10 above and beyond vegetation would be necessary;  
11 correct?

12 A. Absolutely. Yes.

13 MR. GRUMAN: Just one minute. Just two  
14 further questions, Your Honor. Thank you.

15 Q. (MR. GRUMAN CONTINUING) Proceeding back  
16 to, of course, we just discussed, your observations  
17 concerning the -- whether or not the gully was in  
18 place before or after September 9th. We've  
19 discussed gully. Did you -- at that time, in those  
20 observations, did you observe any other type of an  
21 erosion?

22 A. Yes, I did.

23 Q. What did you observe?

24 A. I've observed rilling in the north road  
25 ditch.

1 JUDGE HOBERG: What was that?

2 THE WITNESS: What I call "rilling," sir.  
3 What I would say would be minor erosion features.

4 JUDGE HOBERG: Please continue.

5 Q. (MR. GRUMAN CONTINUING) Anything else?

6 MR. BJELLA: I think we need to clarify.  
7 Are we talking the north road ditch, which is the  
8 subject of the NOV, or outside of the NOV area?

9 MR. GRUMAN: Certainly. The north  
10 haulroad ditch.

11 MR. BJELLA: Inside or outside of the NOV  
12 area?

13 MR. GRUMAN: I mean, it's inside the NOV  
14 areas, inside permits 8102 and 8203, parallel to the  
15 haulroad.

16 MR. BJELLA: Well, the haulroad -- the  
17 north ditch goes for miles.

18 MR. GRUMAN: Correct. And NOV 1004  
19 concerns that entire haulroad ditch for 8102 or 8203  
20 or at least a good portion of it, at least to my  
21 understanding.

22 MR. BJELLA: Right, but you're not citing  
23 us for the whole length. You're citing us for a  
24 very certain segment.

25 JUDGE HOBERG: Do you want to narrow it

1 more specifically?

2 THE WITNESS: That haulroad is  
3 approximately 12,500 feet long.

4 JUDGE HOBERG: Just give them a minute.

5 Q. (MR. GRUMAN CONTINUING) Just moving on, I  
6 just have one further question, is that when you  
7 installed the concrete matting on the south side, at  
8 that time did you observe -- or excuse me -- observe  
9 the north side of the culvert at that time when you  
10 installed the concrete matting?

11 A. Yes, I did.

12 Q. And what did you observe at that time?

13 A. I observed some sediment deposition. I  
14 observed there was rilling on the inslopes, the  
15 ditch bottom and the backslopes of the north  
16 haulroad ditch.

17 Q. How much?

18 A. But not to the degree or the significance  
19 of what we observed on the south side.

20 Q. How much deposition?

21 A. I could only speculate on that. Minor.

22 MR. GRUMAN: I have nothing further.

23 JUDGE HOBERG: Thank you, Mr. Gruman.

24 Commissioner Cramer, please.

25 COMMISSIONER CRAMER: You know, I don't.

1 I had two questions, one relating to the most recent  
2 opportunity to observe that ditch area prior to  
3 September 9th, and one related to the minimum  
4 standards and going above and beyond them. I think  
5 Mr. Gruman asked both and you answered them both, so  
6 thank you for your testimony.

7 JUDGE HOBERG: Thank you, Commissioner.  
8 Commissioner Clark, please.

9 EXAMINATION

10 BY COMMISSIONER CLARK:

11 Q. I do have a couple and one is on that,  
12 because I do need some clarification.

13 In response to either Mr. Gruman or  
14 Mr. Bjella, I can't recall, you said you hadn't been  
15 in the north culvert prior to the September event.  
16 I don't know if you were thinking of a specific  
17 amount of time, or when was the last date that you  
18 were there and actually observed it?

19 A. I can't give you that date, sir. I'm  
20 sorry.

21 Q. Or even like within a few weeks?

22 A. I probably would have been by that area  
23 within a two-week time period, put it that way.

24 Q. Actually in the ditch or just driving  
25 along?

1           A.     Just driving along.

2           Q.     Do you have any sense for when you were  
3 actually in the ditch and observed the rilling that  
4 you referred to?

5           A.     Obviously, we were there the same time we  
6 were working on the south road ditch, which was in  
7 mid July. Also, when -- as we were doing repairs in  
8 late July. That I know I was there. That was  
9 probably as far as physically being down into the  
10 ditch, other than just observing it from the  
11 shoulder of the haulroad. That would be the most  
12 accurate testimony I could give you.

13          Q.     Okay. Thanks. Did you have a sense for  
14 after you installed the erosion control measures on  
15 the south side, how much did that mitigate the  
16 erosion and sedimentation problem that had existed  
17 there before? So you had observed -- I'm assuming  
18 you observed some sort of sedimentation that was  
19 taking place on the south side ditch?

20          A.     Yes.

21          Q.     You installed the control measures. How  
22 much did that cut down on that?

23          A.     I would say it has reduced the erosion in  
24 that portion of the repaired ditch down to almost  
25 nothing. It's very minimal.

1           Q.     The reason I ask is because I know in some  
2 of the -- at least as I understand it, there was  
3 sedimentation that was observed by Commission staff  
4 in that south ditch prior to the September rain  
5 event on September 2nd. And that was, I understand,  
6 pointed out to the company. Was -- do you consider  
7 that to be the minor sedimentation that you're  
8 talking about, or at that point did anyone from the  
9 company think, well, maybe we ought to check the  
10 north side here and see if it's coming from there?  
11 I mean, I'm trying to gauge your analysis of your  
12 belief that it came mainly from the south side and  
13 not from the north ditch and after the control  
14 measures were established on the south side if there  
15 was any thought to go check the north side and see  
16 if it was still coming from there being that there  
17 was still sedimentation flowing from it?

18           A.     There is always sediment coming through  
19 that culvert from the north road ditch just because  
20 of the nature of the construction. My reference  
21 back to minimal erosion was what I had observed  
22 being deposited on the north side. And, obviously,  
23 that had built up to the bottom of the culvert and  
24 subsequent rainfalls, any erosion that would occur  
25 in the north road ditch would be transferred to the

1 south side. Some of it would be carried down. But  
2 once we took care of that stuff on the south side of  
3 the ditch, we seemed to have minimal sedimentation  
4 problems occurring on the south side.

5 Q. So I better understand the analysis that  
6 was done by -- I can't remember. I think you  
7 mentioned a civil engineer or someone like that who  
8 did the percentage slope calculation. You had  
9 recited a certain length that that percentage had  
10 been calculated over?

11 A. Yes.

12 Q. Does that correspond to basically where  
13 the worst of the erosion was, or is that some  
14 other --

15 A. What we did is, we had had -- we had the  
16 inspection report of September 30th in hand. And  
17 that report, if I recall correctly, said that the  
18 erosion gully was evident at a distance of 450 feet  
19 to the west and I believe 750 feet to the east.  
20 Yes. What I directed the surveyors to do then was  
21 to go and perform a survey of that ditch, both  
22 ditches, and to go beyond the extent of the gullying  
23 and, again, give us an as-built survey of those  
24 ditches so that I could look at what the slopes  
25 were.

1 Q. So, again, how far was the surveyor?

2 A. Sure.

3 Q. I mean, how many feet?

4 A. On the west ditch, we went back  
5 approximately, I think, it was about 650 feet. Went  
6 about 200 feet beyond what was cited as the  
7 distance. And on the east ditch we went back  
8 approximately 900 feet, about 150 feet beyond what  
9 was cited for the erosion gully.

10 Q. What would the reason be for going beyond  
11 the -- the 200 feet beyond where the gully was?

12 A. Basically, I wanted to make sure we got  
13 the area in question. Because when we had to repair  
14 those ditches, we had to send equipment down into  
15 the ditch and they had to access those ditches, not  
16 in the immediate area because the inslopes of the  
17 road were too steep. So we had to go quite a ways  
18 back. So we repaired those ditches beyond the  
19 gullies, because, basically, once we had to put  
20 trucks and equipment in there to repair the gully,  
21 we've basically destroyed all the vegetation in the  
22 ditch bottom. And so I asked them to take that  
23 distance so that I was sure to catch I think the  
24 area that we were concerned with that was eroding.  
25 Obviously, the inference had been made we had steep

1 ditches here, so I wanted to get a survey of that  
2 area that was inferred so that we had some accurate  
3 measurements.

4 Q. Sure. Would there have been a difference  
5 in the grade or the slope, percentage slope, if it  
6 had just been calculated over where the gullies  
7 themselves were?

8 A. Yeah.

9 Q. I'm just trying to gauge whether, you  
10 know, as a matter of kind of the denominator being  
11 bigger, if it skews it one way or another as to  
12 percentage slope.

13 A. When I plotted those slopes, I plotted a  
14 profile of the ditch for the entire survey. On the  
15 west ditch they indicated that the gully had  
16 developed about 450 feet to the west. When I  
17 plotted those profiles, there was a noticeable  
18 change in slope at that 520 feet, where it went from  
19 less than 1 percent to 3.25 percent. And the same  
20 was true on the east ditch. When I plotted the  
21 profile, it was very noticeable that there was a  
22 flatter slope, and then as we got into the valley  
23 and into the fill, it steepened to 2.72 percent.

24 Q. Okay. And when the -- when you went in  
25 after the event to prepare it, that's when mats and

1 fences were later installed; is that right?

2 A. That's correct. The photos you saw, the  
3 PSC exhibits, I believe it was No. 11 that indicated  
4 all the -- you saw the ditch line with what I call  
5 erosion control blanket and the intervals of silt  
6 fence put up that was --

7 Q. Was that as a result of a request from the  
8 Reclamation staff to do it that way or your call at  
9 that time?

10 A. Yes. Yes.

11 COMMISSIONER CLARK: All right. That's  
12 all I have. Thanks.

13 JUDGE HOBERG: Those are Exhibits 10 and  
14 11 that show that.

15 THE WITNESS: Thank you.

16 JUDGE HOBERG: Commission Kalk, please.

17 EXAMINATION

18 BY COMMISSIONER KALK:

19 Q. Could Don or somebody put up PSC 2A? Or  
20 find Scott or somebody who can get that magical  
21 board to work, instead of you and I going back and  
22 forth. Thank you for your testimony, Bill.

23 A. Thank you.

24 Q. Okay. Just to refresh my memory, okay,  
25 this exhibit talks about the staff viewpoint of the

1 water flow. Do you agree with the arrows here, that  
2 they're going to generally flow northwest to  
3 southeast and it's going to come through those  
4 culverts? I mean, do you agree with that?

5 A. Yes, sir, I do.

6 Q. Okay. Then I'm trying to understand. I'm  
7 not a hydrologist to the level that some folks are,  
8 I'll give you that. I mean, the water has got to go  
9 somewhere?

10 A. Right.

11 Q. So when you figured out your flow rates, I  
12 mean, to say some of it is going to come from one  
13 area, I mean, all that water is going to have to  
14 channel through those culverts; correct?

15 A. That's correct. Everything to the north.  
16 The haulroad, like you say, is draining from  
17 northwest to southeast, a number of culverts.

18 Q. When you did the modeling, you talked  
19 about the peak flow of 10-years/6-hours. What is  
20 TR-20 software? I'm not familiar with that. I know  
21 like MODFLOW and FLOWMOD and those things.

22 A. TR-20 is a software that was developed by  
23 the Soil Conservation Service, now the NRCS, and  
24 it's a hydrologic model that predicts peak flows.

25 Q. Okay. You use that software. And then

1 where do you get your data set from, your ten years,  
2 six hours? Where does that come from?

3 A. The different precipitation events are  
4 dictated by a -- it comes from the National -- NOAA  
5 and the National Weather Service. They have a  
6 publication called TP-40, and that publication has  
7 taken rainfall records and they have statistically  
8 analyzed those records and they have a manual that  
9 shows for all the states in the lower 48 and, I  
10 guess, Alaska and Hawaii, what your different  
11 rainfall depths are for these different types of  
12 storms. For example, you can look at North Dakota  
13 and you can get the 10-year/6-hour. You can get the  
14 25-year/24-hour.

15 Q. So based on your experience back on the  
16 Water Commission, my experience with federal data  
17 sets has been they're way behind the times. So if  
18 we're in a wet cycle in North Dakota, these data  
19 sets may not be as accurate as they could be and in  
20 a North Dakota data set we've got a range of  
21 precipitation from the west to the east that varies  
22 greatly, so how do you pare that down to something  
23 that actually makes sense with what's going to go  
24 through that culvert?

25 A. What they have done is they have told us,

1       okay, you give yourself a design event that you need  
2       to design to, so in this case for haulroads it's the  
3       10-year/6-hour event. That gives you a rainfall  
4       depth.

5           Q.     That's a number they give you that says in  
6       North Dakota it's going to rain, this is the event  
7       they give you. How do you collate that to what is  
8       actually going to happen? You could have ten years  
9       of data at the mine that I would have more  
10      confidence in to use in that flow than a data set  
11      from some national organization.

12          A.     However, that is accepted practice to use  
13      that. For example, I have a copy of the North  
14      Dakota Hydrology Manual from my days at the State  
15      Water Commission. Those rainfall events are  
16      presented in that publication and so, therefore,  
17      it's very common practice for engineers to use that  
18      data and to use that data to put it into a model and  
19      that model, you let the model, based on other  
20      inputs, it gives you peak flows.

21          Q.     Which -- okay.

22          A.     And that's what TR-20 does. It takes that  
23      rainfall with other inputs and converts it to a peak  
24      flow.

25          Q.     Do you have anywhere in the mines that

1 have concrete best management practices that there  
2 is just no way that the soil will support the flows  
3 in some of the areas? Is there anywhere that you  
4 have concrete structures that just are designed that  
5 way because you can't --

6 A. Yes, sir, we do.

7 Q. So how did you get to that? How does that  
8 number come to where, okay, this is going to have to  
9 be concrete? You go through trial and error, it  
10 doesn't work, or you just get some output method  
11 that says, you know what, the only thing that will  
12 hold this is concrete?

13 A. When you start analyzing a channel or a  
14 structure to contain flow and you start seeing  
15 velocities, as the velocities climb, you know that  
16 those structures are going to be more susceptible to  
17 erosion, especially if they're an earthen structure,  
18 an earth surface. If you see high velocities, you  
19 need to start looking at something better than just  
20 grass and bare earth to begin with.

21 Q. Sure. Commissioner Clark had some  
22 questions about, I think it was the 3.25 percent,  
23 the 2.72 percent grades you were talking about.

24 A. Yes.

25 Q. So what would be a percent grade, based on

1 your experience, that would allow you -- that would  
2 make you think we need concrete?

3 A. Well, unfortunately, that's not a simple  
4 question to answer, because you also have to take  
5 into account the geometric configuration of the  
6 channel that's going to contain the flow or the  
7 structure that's going to contain the flow and then  
8 how much flow you're expected to put down that.

9 Q. Based on the model?

10 A. Based on the model.

11 COMMISSIONER KALK: Okay. I think that's  
12 enough.

13 JUDGE HOBERG: Thank you, Commissioner  
14 Kalk.

15 Mr. Bjella, any further questions?

16 MR. BJELLA: No, Your Honor.

17 JUDGE HOBERG: Mr. Gruman, anything  
18 further?

19 MR. GRUMAN: No, Your Honor.

20 JUDGE HOBERG: Thank you, Mr. Kirk.  
21 We'll take a recess here, ten-minute  
22 recess.

23 (Recess was taken.)

24 JUDGE HOBERG: We're back on the record  
25 after a recess, and we're going to call Mr. Kirk

1 briefly, maybe a question or so.

2 Commissioner Kalk, you have a question?

3 COMMISSIONER KALK: I do.

4 FURTHER EXAMINATION

5 BY COMMISSIONER KALK:

6 Q. Sorry I forgot to ask you the first time  
7 you were up here.

8 A. That's all right.

9 Q. I just wanted to talk about -- I mean, I  
10 think the goal of everybody here is to make sure we  
11 run a good, efficient operation and cut down on  
12 these kind of things. But tell me this, when you're  
13 going through your decision process, I'm going to do  
14 this and I'm going to do that, I mean, do you ever  
15 consider calling our inspectors up and say, this is  
16 what I'm going to do? How does that dialogue take  
17 place? If you've got an area where -- you know, at  
18 what point do you have that dialogue, I'm going to  
19 do this and get some feedback from them so it's  
20 before an NOV would be potentially issued or  
21 something like that? Do you have that dialogue?

22 A. Typically, I don't.

23 Q. Okay.

24 A. Typically, we keep it an internal  
25 decision. I think that makes it easier for us and

1 for the inspectors to kind of keep that distance a  
2 little bit. I mean, I will ask their opinion on  
3 certain things, but I've always felt that we're --  
4 we have the primary responsibility to do what we  
5 need to do to take care of a problem.

6 Q. Fair enough. Okay. And then if -- would  
7 it be possible to recreate the calculations, or do  
8 you have them somewhere, of your flow rates through  
9 those four culverts?

10 A. They are in the permit revision, sir.

11 Q. Okay. So we could dig those out?

12 A. There are tables, yeah, for each -- there  
13 are four culverts under the haulroad and there are  
14 tables that summarize the watershed characteristics  
15 and sizes and then the calculation of peak flows and  
16 the culverts that were specified to handle those  
17 flows. They were all included in the permit  
18 revision.

19 COMMISSIONER KALK: Fair enough. Thank  
20 you very much.

21 JUDGE HOBERG: Thank you, Commissioner  
22 Kalk.

23 And along the lines of the Commissioner's  
24 first question, you do file the revisions and you  
25 did offer Exhibit 1 that has some general guidelines

1 about what you're going to be doing; correct?

2 THE WITNESS: Yes, that was -- the purpose  
3 of that section basically describes the culverts,  
4 what we intend to do, what we intend to build, what  
5 the ultimate outcome would be.

6 JUDGE HOBERG: Thank you. Commissioner  
7 Cramer.

8 EXAMINATION

9 BY COMMISSIONER CRAMER:

10 Q. Along those lines, one of the things that  
11 occurred to me and it's one I said earlier that I  
12 think Mark had asked you about the minimum standard,  
13 and I think in your revision you create a standard  
14 that the Commission approves of the revision, which  
15 is the standard, and then is it then your testimony  
16 that this particular event, it created this gully,  
17 if you will, that seems to be the focus of the NOV  
18 or is -- doesn't seem to be, is the focus of the  
19 NOV, was far above and beyond what we approved as a  
20 Commission in the revised -- yeah, in the revised  
21 permit? Is that basically the contention?

22 A. Yes, sir, you've hit the nail on the head.  
23 What we're contending is that we turned in a  
24 revision with the design of the drainage system  
25 centered around a 10-year/6-hour design event. A

1 subsequent witness to me will delve into that  
2 further concerning the rainfall records that we have  
3 and the type of flows that it created. And the  
4 purpose of that testimony is to demonstrate just how  
5 severe the flow conditions that that storm created.

6 Q. What I'm wondering then, Bill, was there  
7 any attempt to try and find -- and I'm not  
8 suggesting that it is incumbent upon you to do this,  
9 but do we know of any other areas in the vicinity  
10 that are pre-mined where this event might have  
11 created a similar type of a gully, if you will, or  
12 erosion? Because my point being, I sometimes think  
13 that the post-mine standard is almost higher than  
14 the pre-mine standard, you know, in an area. Do you  
15 know of anything like that?

16 A. Now, you're talking like in Mercer County  
17 itself where the storm occurred?

18 Q. That's where I'm thinking about, yes.

19 A. There was evidence of culverts under  
20 county roads being totally washed out. There was  
21 attendant erosion in cropland fields and channels,  
22 natural channels throughout northern Mercer County.  
23 They have been documented.

24 COMMISSIONER CRAMER: Okay. Nothing  
25 further. Thanks.

1 JUDGE HOBERG: Thank you, Commissioner.

2 Any further questions of Mr. Kirk?

3 MR. GRUMAN: Not from staff.

4 MR. BJELLA: No, Your Honor.

5 JUDGE HOBERG: Thank you again, Mr. Kirk.

6 MR. BJELLA: We call Mr. Steve Hoetzer.

7 JUDGE HOBERG: Mr. Hoetzer, would you  
8 please give us your full name and spell it for the  
9 record.

10 THE WITNESS: My full name is Stephen,  
11 S-t-e-p-h-e-n. Hoetzer, H-o-e-t-z-e-r.

12 JUDGE HOBERG: Thank you. And were you  
13 here earlier when I gave the admonition in regard to  
14 perjury?

15 THE WITNESS: Yes, sir, I was.

16 JUDGE HOBERG: Being advised of the  
17 penalty for perjury, do you promise to tell the  
18 truth in this matter being heard? If so, answer I  
19 do.

20 THE WITNESS: Yes, sir, I do.

21 JUDGE HOBERG: Thank you. Mr. Bjella,  
22 please.

23 STEPHEN HOETZER,

24 being first duly sworn, was examined and testified  
25 as follows:

DIRECT EXAMINATION

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BY MR. BJELLA:

Q. Steve, would you please give us your business address.

A. Again, my name is Steve Hoetzer. My business address is 600 South Second Street, Bismarck, North Dakota.

Q. And by whom are you employed?

A. I'm employed by Apex Engineering Group as a senior water resource engineer and a professional engineer.

Q. And would you please state your college education?

A. I have a B.S. degree in civil engineering from Indiana Institute of Technology, and I majored in structural engineer and water quality.

Q. And do you have professional certifications?

A. Yes. I'm a registered professional engineer in the State of North Dakota.

Q. Okay. And can you please describe for us your work experience?

A. When I graduated from college in 1970, I worked one year for U.S. Steel, American Bridge Division, as a field engineer constructing high-rise

1 office buildings. Consequently, in 1971 I moved to  
2 North Dakota, went to work for the North Dakota  
3 State Water Commission as a structural engineer. I  
4 worked for them for nine years, and during that time  
5 I moved from the structural division designing water  
6 resource structures and became a hydrologist and a  
7 drainage engineer for those years. I was  
8 responsible for the design of legal drains that the  
9 Water Commission was doing at that time. And I was  
10 also part of the regulatory group who set up  
11 basically the drainage regulations for farm drainage  
12 in the State of North Dakota.

13 In 1979 I left the State Water Commission  
14 and started my own company, American Engineering.  
15 We specialized in the design, construction, planning  
16 of water resource facilities, specializing in -- in  
17 surface water drainage. We worked for 11 water  
18 resource districts, county water resource districts  
19 at one time and, basically, we did the design of  
20 major legal drains. Some of these drains drained  
21 areas of better than 70,000 acres. I also was a  
22 special consultant to the Garrison Conservancy  
23 District on O&M and the operation of the system. I  
24 did that for about five years through my company.

25 One of the main things that I did at

1 American Engineering was we initially started off,  
2 my company initially started off helping North  
3 American Coal design and put together the original  
4 water management plan and water resource facilities  
5 for the Falkirk Mine and the Coteau Mine. This was  
6 done in the early 1980's. Then we designed 11 -- or  
7 during that same period, between 1980 and 1995, we  
8 designed 11 MSHA ponds or the big sediment runoff  
9 control ponds for four different mines in the State  
10 of North Dakota. They were the Falkirk Mine, the  
11 Coteau Mine, the Coyote Station. I believe that was  
12 part of MDU's mining operation at the time. And  
13 also for BNI Coal.

14 Then I went to work and kind of took a  
15 little break from water resources and went to work  
16 for J-Sons, Incorporated, a company that builds  
17 large concrete grain elevators. We built, I think,  
18 32 elevators in a little bit over five years. These  
19 elevators contain and store about 1.8 million  
20 bushels for each one of those types of structures.

21 Then in 2000 -- basically in 2004, I went  
22 to work for Ulteig Engineers, here in Bismarck, as a  
23 water resource engineer, designing municipal surface  
24 drainage structures, major storm sewers, and now  
25 just recently I joined a small group, Apex

1 Engineering, and we specialize in, again, surface  
2 water management, water treatment, sewage treatment  
3 and transportation.

4 So I've been at -- and most of my -- a lot  
5 of this time was spent and all these projects  
6 basically involved a lot of hydrology and that's  
7 probably -- besides being a structural engineer, my  
8 main thing that I've been hired to do is basically  
9 hydrology for all of these companies.

10 MR. BJELLA: At this point, Your Honor,  
11 I'd like to offer the further testimony of  
12 Mr. Hoetzer as an expert in engineering and  
13 hydrology.

14 JUDGE HOBERG: Mr. Gruman?

15 MR. GRUMAN: No objection.

16 JUDGE HOBERG: Yes, I'll recognize him as  
17 such.

18 MR. BJELLA: Thank you.

19 Q. (MR. BJELLA CONTINUING) Now, Steve, have  
20 you inspected the north haulroad ditch which was the  
21 subject of this PSC's NOV?

22 A. Yes, I have.

23 Q. Showing you what has been marked, and you  
24 should have them there, Steve, Exhibits 16 through  
25 20.

1           A.     Yes, I have them.

2           Q.     Okay.  Were these utilized by you in  
3 reviewing rainfall events in early September 2010?

4           A.     These exhibits were -- I used and they  
5 were also prepared under my direction.

6           Q.     And would you please describe each exhibit  
7 individually briefly?

8           A.     Exhibit 16 is a rainfall hyetograph of the  
9 rain gauge, automatically reading rain gauge, in  
10 Section 31, Township 146, Range 87 on the Freedom  
11 Mine at Coteau.  This shows the distribution of the  
12 September 9th rainfall.  And the rainfall began  
13 around 6:40 in the evening and then continued for  
14 approximately two hours to 8:40 in the evening.  And  
15 this bar graph represents the intensity or the  
16 amount of rainfall that fell in each five-minute  
17 increment during that two-hour period.  And as you  
18 can see, the rain started slowly and then at about  
19 the one-hour point, it picked up dramatically and  
20 you can see that five-hour increment -- five-minute  
21 increments were a little jagged, but still you can  
22 see the major amount of rainfall fell within the  
23 first -- I mean within one hour.

24                     Exhibit No. 17 is a rainfall accumulation  
25 graph for the same gauge in Section 31.  And this

1 graph is another visual representation that shows  
2 the cumulative amount of rainfall over the given  
3 time frame. And the reason this graph was prepared  
4 is this is part of the input that we used in our  
5 hydraulic -- in our computer hydraulic modeling for  
6 the rainfall of September 9th.

7 Exhibit No. 18 is an aerial photo of the  
8 watershed in question. This has been talked about  
9 and shown on the visual representations that were  
10 presented by the PSC and also used by us. This  
11 shows the subdivisions in the watershed. As you can  
12 see, the watershed is basically the north half of  
13 Section 18. The red line on there indicates culvert  
14 C-47+00. That's the stationing of that culvert.  
15 The watershed has a drainage area of 350 --  
16 approximately 355 acres and we have subdivided it  
17 into three watersheds. And I will refer to them as  
18 follows: The east watershed or the eastern portion,  
19 as you see, there's a north arrow on the bottom, so  
20 north is the top of the page. The east subwatershed  
21 has 146 acres in it and, as you can see, it's  
22 predominantly cropland and some rangeland, a small  
23 amount of rangeland. The central watershed is  
24 148 acres. It's predominantly rangeland and it  
25 contains a large -- or it contains, not large. It

1 just contains a wetland or maybe a stock pond. And  
2 it drains to the same culvert C-47. And then the  
3 west watershed is 24.47 acres and, again, is made up  
4 of predominantly haulroad and rangeland. This also  
5 was used in developing our hydrologic model, both  
6 for pre-mine conditions and for the September 9th  
7 event.

8 Exhibit No. 19 is a map that shows the  
9 locations of the rain gauging system within the  
10 Coteau Mine. You can see there are a large number  
11 of rain gauges on this site, and I asked the Coteau  
12 Mine to prepare this so I had an idea of the amount  
13 of rain that fell at each location within the mine.  
14 And you can see the watershed, the green ones are  
15 ones that we didn't -- we used one and as I  
16 remember -- I indicated earlier, the one that I used  
17 to develop that distribution or rainfall rate map,  
18 was the one in Section 37 that shows 3.15 inches, so  
19 it was north of the watershed that is shown in the  
20 crosshatched area and is the subject of this  
21 hearing.

22 The most intense rainfall or the most  
23 amount of rainfall that fell over this two-hour  
24 period is the green triangle in the lower left-hand  
25 corner of the photo and is actually southwest of the

1 subject area and they received 3.38 inches in a  
2 two-hour period. This equates to the 2-hour/100 --  
3 in excess of the 2-hour/100-year event of three  
4 inches. The ones that were actually used to develop  
5 the hydrologic model for the September 9th storm are  
6 the ones that are shown in red in this -- on this  
7 photo -- I mean on this exhibit. We used these four  
8 gauges and we used a triangulation method to  
9 determine the amount of rainfall that I'll describe  
10 here shortly that we have used in our hydraulic  
11 model for simulating the conditions that occurred on  
12 September 9th over that watershed.

13 Q. And, Steve, did you, personally,  
14 experience this September 9 rainfall event?

15 A. Yep, I did.

16 Q. Would you briefly describe that, please?

17 A. On September 9th it just happened to be  
18 that I had a very sick, large dog and had made --  
19 had called the vet for kind of an emergency visit in  
20 Beulah. So I left my home at Lake Sakakawea, close  
21 to Pick City, and started to drive for -- toward  
22 Beulah. And on the way, my wife and I kept hearing  
23 on the radio -- and I also have a weather radio  
24 because I'm a weather nut, I guess, besides being a  
25 hydrologist, and we were listening to all the storm

1 warnings that were going out and as we drove down  
2 200 headed towards Hazen and Beulah, we could see  
3 these very, very heavy, black thunderstorms  
4 developing. In fact, we drove between them. And  
5 just as we drove into the veterinary office on the  
6 north edge of Beulah, we experienced some rain and a  
7 little bit of hail.

8 So we went in and had a consultation with  
9 our vet and when we were leaving, we started back  
10 toward home probably about an hour later and we  
11 wound up driving through a portion of this severe  
12 thunderstorm and, in fact, the thunderstorm was so  
13 intense that we pulled off the road and parked along  
14 the road for about ten minutes until it was to a  
15 point where we could safely drive on down the road.

16 Q. Okay. Now, Steve, it's my understanding  
17 that there were actually two rainfall events in  
18 early September, the first being on the 6th and the  
19 second on the 9th. Would you first please describe  
20 your analysis of the September 6 rainfall event?

21 A. The September 6th rainfall event happened  
22 over the Memorial Day holiday weekend and it's  
23 very -- I think it's significant in what I'm going  
24 to talk about here in a little bit. On  
25 September 6th this watershed received 2.7 inches of

1       rainfall in a 24-hour period and we had basically --  
2       this rainfall was widespread and gentle -- over our  
3       whole area and was very gentle.

4               And the significance of this rainfall  
5       event is that when we do hydrology in North Dakota  
6       for both the PSC and almost all of our other  
7       clients, unless specifically specified, we use what  
8       is called the SCS method, and one of those  
9       parameters in the SCS method is the antecedent  
10      moisture condition.

11             JUDGE HOBERG:   Is SCS Soil Conversation  
12      Service?

13             THE WITNESS:   SCS is Soil Conversation  
14      Service.   Pardon me for that.   It shows you how old  
15      I am.   It's now known as the NRCS, but they call it  
16      the SCS method because they were the ones who  
17      developed this.   This method is accepted by MSHA and  
18      everybody else and it's one of the main -- it's used  
19      by the Corps of Engineers in North Dakota.   It is  
20      the method that's used by most cities for major  
21      watershed planning and development.

22             And one of the parameters in that is the  
23      antecedent moisture condition.   That means the  
24      amount of water that's actually in the ground or in  
25      the near surface when the rainfall event happens.

1 And normal design conditions that are used in that  
2 method is what we call antecedent moisture condition  
3 II and that means that the water -- the ground is  
4 wet, but it's not saturated and, therefore, there is  
5 room for the ground to absorb moisture. So that if  
6 you were -- for the design event you would use  
7 antecedent moisture condition II, and that usually  
8 states that 1.4 to 2.1 inches has fallen in the  
9 previous five days.

10           However, the rainfall of September 6th,  
11 which was only three days before the major rainstorm  
12 of September 9th, dropped 2.7 inches on this  
13 watershed based on the gauges and information that I  
14 collected from Coteau and, therefore, that moves us  
15 up into antecedent moisture condition III, which  
16 states that you had to have had greater than  
17 2.1 inches in the preceding five days and that means  
18 that the ground is wet to saturated and, therefore,  
19 if there's rainfall on it, we're going to see a lot  
20 more runoff. And I'll -- and that's the main  
21 significance of that watershed, is not only the  
22 September 9th event was extreme, but it was preceded  
23 by another event on the 6th that really caused us to  
24 have very wet conditions in our soil on the ground  
25 at that time.

1           Q.     (MR. BJELLA CONTINUING)   Okay.   And would  
2     that -- those wet conditions of AMC III on the 6th,  
3     would that have contributed to higher runoff volumes  
4     and higher flow rates than the design event of the  
5     PSC of a 10-year/6-hour precipitation event?

6           A.     Yes, because, as I said previously, it's  
7     standard practice to assume that the antecedent  
8     moisture condition II is used and this would have  
9     put us in antecedent moisture condition III.   I  
10    should add that there is also an antecedent moisture  
11    condition I and none of us use that or it's not  
12    standard practice to use that, because that assumes  
13    that you have a dry condition and if you have a dry  
14    condition with all the models in the SCS method, it  
15    really, really has a major impact on reducing flows.

16          Q.     Now, with respect to the level of  
17    precipitation that's incorporated into the  
18    Reclamation Division's design event, what level of  
19    precipitation is that?

20          A.     The design event for the ten years -- for  
21    the 6-hour/10-year event is 2.5 inches for the  
22    Coteau Mine site.   This has been used since I  
23    started work in the 1980 's and has been pretty much  
24    used as the standard.   And we've used that design  
25    event of 2.8 inches over six hours and antecedent

1 moisture condition II for all of the design events  
2 for all the MSHA ponds and the other work that we've  
3 done for doing probable hydrologic consequences for  
4 the PSC.

5 Q. And then, Steve, would you please describe  
6 the results of your analysis for the September 9  
7 rainfall event?

8 A. As I said, I used -- the September  
9 rainfall event, as I said earlier in the exhibits,  
10 fell over a two-hour period and the peak amount that  
11 we received on the mine was that southwest gauge of  
12 3.38 inches which equates to a two-year -- to a  
13 2-hour/100-year event. And this track of this storm  
14 was basically to the northeast and, as you can see  
15 from Exhibit No. 19, that it goes from southwest to  
16 northeast and the rain diminishes both sides of more  
17 or less a centerline. And we took these four gauges  
18 that are shown on Exhibit No. 19 of 2.73, 2.49, 1.18  
19 and 0.97 and used a method of triangulation and it's  
20 standard that we do this. It's kind of how we  
21 interpret TP-40. We use the same type of method.  
22 And we came up with our estimate of this rainfall  
23 having occurred over this 355-acre watershed of  
24 2.2 inches in two hours. Those were -- those --  
25 that 2.2 inches was then used to compare our -- was

1 used to develop a hydraulic model -- hydrology  
2 model, hydrology runoff model, to simulate or to  
3 predict what the flow rate -- the flow volume and  
4 flow rate was received over this watershed or  
5 generated by this watershed.

6 Q. Now, Steve, based upon your calculations,  
7 what did you determine to be the year and hour event  
8 that was experienced, then, in this watershed?

9 A. This watershed had, based on using TP-40  
10 again and comparing it, because it's what we  
11 normally use, came out to be the 2-hour/25-year  
12 event. Again, the most important thing is the  
13 moisture condition and the high intensity over an  
14 extremely short period of time.

15 Q. So just so I understand, the PSC standard  
16 is 10-year/6-hour and what we experienced here was a  
17 25-year/2-hour?

18 A. Yes.

19 Q. Showing you what has been marked as Coteau  
20 Exhibit 20, would you please identify it?

21 A. Coteau Exhibit No. 25 --

22 Q. 20.

23 A. Pardon me. No. 20 is a rainfall  
24 comparison curve that shows -- the red line on this  
25 shows a standard 10-year/6-hour distribution. The

1 bottom is the number of minutes. The left side in  
2 vertical is the number of inches. And this is how  
3 that rainstorm is normally distributed. The red  
4 line shows a design calculation used in the SCS  
5 method called a type 2 distribution and that's what  
6 we use to model and to design the structures,  
7 whether they're culverts, spillways or whatever  
8 facilities on the mine. The blue line represents  
9 the September 9th storm event and, as you can see,  
10 it starts out relatively -- the first 50 minutes  
11 relatively similar to our design event. Then we  
12 have a major peak. We wind up receiving the rest of  
13 the rainfall event in basically 60 minutes and it  
14 was 2.2 inches that we used from the gauges and  
15 compare that to 2.5 inches. But, again, the most  
16 critical thing is how intense and over what short  
17 period of time we received that rainfall on, again,  
18 wet ground.

19 Q. And then showing you Coteau Exhibit  
20 No. 21, would you please identify it?

21 A. Exhibit No. 21 is a graph, a bar graph  
22 that shows the runoff volume to culvert C-47+00 in  
23 this watershed. We developed these runoff volumes  
24 using a computer model that's called HEC-HMS. It is  
25 developed by the U.S. Army Corps of Engineers.

1 We used the SCS method. We used the same times of  
2 concentrations that Coteau used in their initial  
3 design and checked them to make sure they were  
4 reasonable with what we would have done. And the  
5 time of concentration is the amount of time it takes  
6 for the water to reach from the furthest point of  
7 the watershed to the bottom end of the watershed.  
8 We used their initial CN numbers for antecedent  
9 moisture condition II and then we used antecedent  
10 moisture condition III for the CN numbers for the  
11 September 9th storm. CN numbers relate to the  
12 amount of runoff that we will experience based on a  
13 given event and CN numbers are dependent on the  
14 antecedent moisture condition.

15 What graph -- what Exhibit No. 21 shows is  
16 that the 10-year/6-hour event, the watershed would  
17 have -- would generate, based on the model, 13.4  
18 acre feet of runoff. The September 9th event would  
19 have generated 27.5 acre feet of runoff or twice the  
20 runoff that you would receive from the design  
21 condition. And this is basically related to the  
22 very, very short period of time of the event, the  
23 high intensity of the event and, also, the fact,  
24 again, that I said that it occurred on saturated  
25 ground.

1           Q.     Okay.  And, next, turning to Coteau  
2 Exhibit No. 22, would you please identify it?

3           A.     Again, Exhibit No. 22 is the result of the  
4 same hydraulic model run under the same conditions  
5 in order to simulate and show the effects of the  
6 September 9th event on the watershed above culvert  
7 C-47+00.  The west ditch or the west ditch watershed  
8 which I've described, which is shown on Exhibit 18,  
9 and had a drainage area of 24.7.  Under design  
10 condition would have anticipated a flow of 7.4 cubic  
11 feet per second or 7.4 CFS.  The projected amount --  
12 the projected runoff rate from the September 9th  
13 storm for the west watershed and consequently  
14 reaching the west ditch was 28.4 CFS, or  
15 approximately four times the runoff rate in the west  
16 ditch.  The east ditch, which has a watershed of  
17 46.1 acre feet -- I mean 46.1 acres and is  
18 predominantly cropland, and would have generated 3  
19 point -- 32.7 cubic feet per second under the design  
20 conditions of the 10-year/6-hour event and the  
21 September 9th storm would have produced 200 -- 124.6  
22 CFS, again, approximately four times the runoff rate  
23 that would have been anticipated from the design  
24 conditions.

25                     And, again, these reflect the high

1 intensity of the rainfall and the very wet  
2 conditions that were in effect in the watershed  
3 prior to the September 9th event.

4 Q. And, Steve, did the short duration of the  
5 September 9 event cause an increased volume of  
6 runoff and increased discharge rate greater than the  
7 10-year/6-hour precipitation event required by PSC  
8 regulation?

9 A. Yes, I believe they do. And Exhibits 21  
10 and 22 show that and those are, again, as I said,  
11 based on our hydraulic models.

12 MR. BJELLA: I have no further questions  
13 of this witness.

14 JUDGE HOBERG: Thank you, Mr. Bjella.  
15 Mr. Gruman, please.

16 CROSS-EXAMINATION

17 BY MR. GRUMAN:

18 Q. At any time during your analysis, did you  
19 calculate the velocity of water in the north  
20 haulroad ditch?

21 A. No, I did not.

22 MR. GRUMAN: Nothing further.

23 JUDGE HOBERG: Thank you, Mr. Gruman.  
24 Commissioner Cramer, please.

25

EXAMINATION

1  
2 BY COMMISSIONER CRAMER:

3 Q. Just a couple. Thanks, Steve.

4 Realizing that the only way to conclude  
5 that there were 2.2 inches is the triangulation of  
6 the --

7 A. Right.

8 Q. -- the measurements of four different  
9 gauges, is there some probability that -- either in  
10 science or in your experience, that would have been  
11 more or less than the 2.2, given how wide the range  
12 is in the four gauges?

13 A. I would think there's a probability  
14 because the watershed is closer to the north edge of  
15 those high intensities, that there could have been  
16 more than 2.2. I doubt that it would be less. I  
17 think it would tend to be slightly higher, not much,  
18 maybe in the range of maybe 2.4 or something like  
19 that.

20 Q. Okay. That's helpful. Thank you. And  
21 then, obviously, as a water expert, but then also as  
22 an engineer, I mean, in your opinion, based on what  
23 you've seen today, do you think that Coteau utilized  
24 best management practices in preventing the erosion  
25 that became the subject of this NOV? And if you

1 don't feel qualified to answer, that's fine.

2 A. No. Yeah, I mean, as I said,  
3 Commissioner, I've been at this for a long time and  
4 I've designed a lot of legal drains, which I realize  
5 are different than roadway ditches, but we have the  
6 same concerns and I can echo what Bill said. My  
7 best management practices and what we used almost  
8 exclusively was vegetation. I mean, seeding -- I  
9 mean disking, seeding and mulching were the main  
10 things that we built major agricultural ditches to  
11 and this one, when I inspected it, I was amazed at  
12 the amount of vegetative cover that they had  
13 adjacent to the channel for a ditch that was one  
14 year old.

15 COMMISSIONER CRAMER: Nothing else. Thank  
16 you.

17 JUDGE HOBERG: Thank you, Commissioner  
18 Cramer.

19 Commissioner Clark, please.

20 COMMISSIONER CLARK: No questions.

21 JUDGE HOBERG: Thank you.

22 Commissioner Kalk, please.

23 EXAMINATION

24 BY COMMISSIONER KALK:

25 Q. I have a couple. Thank you, Steve, for

1 your testimony. I'm just trying to make sure I  
2 understand. I've got a good visual, a better  
3 visual, the flow rate of 7.4 cubic feet per second,  
4 that makes sense to me, I can visualize that, but  
5 how do you decide, okay, we're going to have this  
6 much flow going through a dike or a ditch or a  
7 culvert or whatever you call it, and then it hits  
8 the ground surface, whether that ground surface can  
9 handle that? Because, I mean, who knows, maybe --  
10 how do you determine if the soil can handle that  
11 flow rate?

12 A. When you design a channel, there's a  
13 number of parameters that go into the decision of  
14 what size and shape that this channel has to be. As  
15 you said, the first parameter is the amount of water  
16 or the rate at which that water is going to be  
17 flowing down the rig. The next one is what kind  
18 of -- what is the geometry of the channel, how wide  
19 is it, what are the side slopes. Those are the next  
20 two sets of critical elements. The next critical  
21 element is what is the channel going to be lined  
22 with, call it a liner. You can be anywhere, as in  
23 this case, grass channels or you can use -- you can  
24 use armored channels. You can use concrete  
25 channels. And each one of those has a specific

1 coefficient that goes with you and you run those  
2 numbers to determine what size of a channel that  
3 you're going to need.

4 Q. So if we could, then let's say we take the  
5 7.4 cubic feet per second as the 10-year parameter,  
6 is there some model, some formula, some something  
7 you can produce that says at that flow rate going  
8 through there that soil structure would have held?

9 A. Yes.

10 COMMISSIONER KALK: So could that be a  
11 late-filed exhibit or something? If he's saying  
12 that there's something out there that shows that at  
13 7.4 cubic feet that that soil would have held, that  
14 would be very helpful.

15 JUDGE HOBERG: Well, except do we know  
16 what the soil is there?

17 COMMISSIONER KALK: That's the point.  
18 We're making the ascertainment that this was designed  
19 to hold a 7.4 flow rate. We know it didn't hold a  
20 28.4. I believe it didn't hold it. But we don't  
21 know that, where that tipping point is, and the  
22 witness said he feels it would have, so I'm just  
23 wondering, is there something that we can have in  
24 the record that would prove that?

25 JUDGE HOBERG: Mr. Bjella?

1 MR. BJELLA: I don't know if there is or  
2 not. Not to my knowledge, but I'm not a  
3 hydrologist, so I don't know what that evidence  
4 would be.

5 COMMISSIONER KALK: What the evidence  
6 means, though, that's my question. We are saying  
7 this is built to design to hold that, well, show me  
8 something other than expert testimony that it works.

9 JUDGE HOBERG: I don't know if either of  
10 your experts are aware of anything. Maybe you want  
11 to consult with them briefly.

12 COMMISSIONER KALK: Well, then, how do you  
13 come to that conclusion, I guess, is my point, if we  
14 can't produce something?

15 JUDGE HOBERG: Well, maybe the witness can  
16 tell us that.

17 THE WITNESS: I haven't seen the  
18 calculation that would show that. I mean personally  
19 I haven't examined those calculations.

20 JUDGE HOBERG: How do you come to the  
21 conclusion then?

22 COMMISSIONER KALK: I get the conclusion  
23 about the flow rates, but I don't --

24 THE WITNESS: We were talking about flow  
25 rates.

1                   COMMISSIONER KALK:  Maybe that goes back  
2 to be a previous witness then, I guess.  Maybe we'll  
3 do that.

4           Q.       (COMMISSIONER KALK CONTINUING)  I do have  
5 another question.  Based on your experience --  
6 you've been here today and heard, I think, all the  
7 testimony?

8           A.       Yes.

9           Q.       What do you think when the company decided  
10 they would put concrete on the south side, but not  
11 the north side, understanding that the flow rates  
12 are equal?  I mean, eventually it's going to flow  
13 from one side to the other.  To me that struck me as  
14 interesting.

15          A.       Well, Commissioner --

16                   JUDGE HOBERG:  Mr. Hoetzer, can you get a  
17 little closer to the mic?

18                   THE WITNESS:  Pardon me.  Commissioner,  
19 when I went out and inspected it, the cable concrete  
20 that was placed in the south channel was placed on a  
21 point where the channel came down the slope and had  
22 a definite break as it dropped into the lower end of  
23 the culvert and, therefore, I would assume that they  
24 were experiencing high velocities in that drastic  
25 change of slope and, therefore, they decided that

1 the best way to stop the erosion, from what I  
2 understand had happened, was to put a cable concrete  
3 type of erosion effect to protect the lower end of  
4 the culvert. And I think the photo even tends to  
5 show that that was very steep on that south side and  
6 when I was out there, I didn't see any type of major  
7 channel change or slope changes in the north channel  
8 that would have indicated to me that cable concrete  
9 would be a necessity. I think it's above and  
10 beyond. That cable concrete in that location  
11 appears to be above and beyond what I think was  
12 necessary to stop the erosion. It was probably an  
13 easy way to do it and they had the material.

14 Q. (COMMISSIONER KALK CONTINUING) Maybe we  
15 can pull back up PSC Staff 2A again, because my  
16 looking at the contour map, the slope looks to be  
17 the same on both sides of the road. So that, I  
18 guess when I look at that, the contour map looks the  
19 same slope on both the north and the south side. So  
20 based on your experience -- unless I'm missing  
21 something.

22 A. Well, the only arm the very last short  
23 reach of the channel into that culvert.

24 Q. Okay. So that would be the difference,  
25 then, that last drop-off, in your opinion?

1           A.     That last bit, the drop-off into that  
2 channel, is what I was saying.

3           COMMISSIONER KALK:   Okay.  Thank you very  
4 much.

5           JUDGE HOBERG:   Thank you, Commissioner.  
6           Mr. Bjella, do you have any further  
7 questions?

8           MR. BJELLA:   No, Your Honor.

9           JUDGE HOBERG:   Mr. Gruman?

10          MR. GRUMAN:   No, Your Honor.

11          JUDGE HOBERG:   All right.  Thank you,  
12 Mr. Hoetzer.  Am I pronouncing that right?

13          THE WITNESS:   Hoetzer.

14          JUDGE HOBERG:   Hoetzer.  I'm sorry.  Thank  
15 you very much.

16          One more witness, Mr. Bjella?

17          MR. BJELLA:   Yes.  Dave Schouweiler.

18          JUDGE HOBERG:   Mr. Schouweiler, would you  
19 state your full name and spell it for the record,  
20 please.

21          THE WITNESS:   It's Dave Schouweiler.

22          D-a-v-e.  S-c-h-o-u-w-e-i-l-e-r.

23          JUDGE HOBERG:   Thank you.  And you were  
24 here earlier when I gave the admonition in regard to  
25 perjury?

1 THE WITNESS: Yes, I was, Your Honor.

2 JUDGE HOBERG: Being advised of the  
3 penalty for perjury, do you promise to tell the  
4 truth in this matter being heard? If so, answer I  
5 do.

6 THE WITNESS: I do.

7 JUDGE HOBERG: Thank you. Mr. Bjella,  
8 please.

9 MR. BJELLA: Thank you.

10 DAVE SCHOUWEILER,

11 being first duly sworn, was examined and testified  
12 as follows:

13 DIRECT EXAMINATION

14 BY MR. BJELLA:

15 Q. Dave, please state your address.

16 A. 3115 Morgan Circle, Bismarck, North  
17 Dakota.

18 Q. And please describe your college  
19 education.

20 A. I have a bachelor's degree in civil  
21 engineering from NDSU and a master's degree in  
22 management from the University of Mary.

23 Q. And are you currently retired?

24 A. I retired from my position at BNI Coal in  
25 the summer of 2007. I currently am self-employed as

1 an independent stock trader.

2 Q. Okay. Now, going back to your  
3 professional experience as a mining engineer, would  
4 you please describe for us your employment and  
5 experiences?

6 A. My mining experience started in 1979. I  
7 was a professional engineer working for a consulting  
8 firm here in Bismarck and our firm had been hired to  
9 assist Consolidation Coal in the building of a  
10 haulroad at the Glenharold Mine. And Consol's  
11 concern was that they were building the road through  
12 some abandoned spoils, in other words, dirt that had  
13 been all mixed up due to a previous mining  
14 operation, and they were looking for assistance in  
15 choosing the best material to build that road in  
16 order to maximize stability. And my job was to  
17 assist them in choosing those soils, making the  
18 appropriate tests that would lead to a successful  
19 construction.

20 At the end of that job, I was offered a  
21 full-time job with Consolidation Coal at the  
22 Glenharold Mine in the position of permit  
23 coordinator. And that was an engineering position.  
24 What my specific duties were to design haulroads,  
25 sedimentation ponds, diversion ditches, post-mining

1 topography plans, and also to prepare permit  
2 revisions on an as-needed basis, and I was also  
3 involved with environmental monitoring and  
4 environmental control.

5 In 1981 I was promoted and transferred to  
6 the regional office in Denver where I was the  
7 regional permit coordinator. I had similar  
8 responsibilities for four mines in the western  
9 region of the United States. When Consol closed  
10 their mine or closed the office in 1983, I was  
11 transferred to a new office in St. Louis, where I  
12 combined a couple of regions and had basically the  
13 same duties. And in 1984 I had the opportunity to  
14 apply for a job back in North Dakota at the  
15 Glenharold Mine and I was transferred to -- back to  
16 the Glenharold Mine in the position of reclamation  
17 engineer. My duties there were, you know, very  
18 similar to what they had been. In addition, I  
19 planned the day-to-day operations of the scraper and  
20 dozer fleet at the mine in performing reclamation  
21 work.

22 In the summer of 1984 Basin bought out  
23 Consol's contract and it was really uncertain as to  
24 who was going to be retained and who was going to be  
25 let go, and I applied for a position with Baukol

1 Noonan, as it was called at that time, and was hired  
2 into the position of civil engineer. Again, the  
3 same -- kind of the same job duties; designing  
4 haulroads, sedimentation ponds, diversion ditches,  
5 post-mining topography plans, and also assisting in  
6 the preparation of permit applications.

7 In 1994 I was promoted to the position of  
8 senior mining engineer. I was given responsibility  
9 for operating a computerized mine planning system  
10 and took on some additional duties in the mine  
11 planning area, but, still, was mainly responsible  
12 for the design of those civil engineering  
13 structures. My boss retired in 1999 and I was  
14 promoted to the position of manager of engineering.  
15 Initially, I retained my engineering duties, but  
16 over the next seven years, I hired another three  
17 people to our staff and was responsible for training  
18 them to do the things that I had been doing. And  
19 then in the summer of 2007, I retired in order to  
20 become a private investor.

21 MR. BJELLA: Your Honor, we would like to  
22 offer the further testimony of this witness as an  
23 expert in mine engineering.

24 JUDGE HOBERG: Mr. Gruman?

25 MR. GRUMAN: No objection.

1 JUDGE HOBERG: So recognized.

2 MR. BJELLA: Thank you.

3 Q. (MR. BJELLA CONTINUING) Dave, have you  
4 inspected the haulroad ditch in Section 18, which is  
5 the subject of this hearing?

6 A. Yes. When I returned from a trip, my wife  
7 mentioned that I had been contacted by Bill Kirk and  
8 the message she gave me was that he was wondering  
9 whether I wanted a job. And I told her that I  
10 didn't really want a job, but it would be fun to  
11 talk to Bill again and find out what was going on.  
12 I hadn't talked to him since I retired. So what he  
13 did was he explained the situation that they had at  
14 Coteau with the haulroad, the ditches, the storm,  
15 the erosion, the sedimentation, the NOV, and  
16 indicated that they were looking for someone to  
17 perform an independent evaluation or independent  
18 analysis. And although I realize that it did fit my  
19 previous experience very well, you know, I informed  
20 Bill that I was no longer a professional engineer,  
21 that I had notified the board that I wasn't going to  
22 be practicing. My license is on retired status.  
23 And that I had had no involvement in mining for  
24 three-and-a-half years, and he indicated that they  
25 were going to hire Steve Hoetzer to do the

1        engineering calculations and so forth. They weren't  
2        necessarily looking for a professional engineer, but  
3        they wanted someone who was familiar with mining  
4        activities and especially as it relates to the  
5        construction of haulroads and haulroad ditches and  
6        culverts. And with that understanding then, I  
7        agreed to perform the work that he was asking me to  
8        do.

9                    On November 3rd, we had a meeting at the  
10       Freedom Mine and present were Brian and Chris and  
11       Bill Kirk, who has previously testified, and then in  
12       addition, Terence Schmidt and Jessica Unruh. And at  
13       that time Bill kind of went over again, you know,  
14       basically what had occurred and what the concerns  
15       were and we had a chance to drive out to the  
16       location of the NOV. And at that time it was a  
17       warm, windy day. The access was good. Didn't have  
18       any problem getting around. I was able to observe  
19       the ditches. I noticed that there had been repairs  
20       made to the backslopes or the slope going up from  
21       the bottom of the ditch onto the reclaimed area. I  
22       inquired about those and was informed that Jessica  
23       and Bill had performed a survey of both the north  
24       and south ditch in that portion of road and that  
25       they had identified areas of the required

1 maintenance and repairs and that in July, I believe  
2 late July, those repairs had been made.

3 I had a chance to look at the haulroad. I  
4 noticed that it was designed very typical to all the  
5 rest of the haulroads at the coal mines in North  
6 Dakota. It had a 90-foot surface, gravel, 4 to 1  
7 side slopes, just appeared to be holding up very  
8 well. I had a chance to look at the ditches, both  
9 the north ditch and the south ditch. I noticed in  
10 the south ditch the placement of the concrete  
11 blocks. I think that's been discussed earlier. And  
12 in the north ditch, by the time I saw it, that area  
13 had -- that had eroded had been repaired and it  
14 looked very similar to, I believe, Exhibit 11.

15 JUDGE HOBERG: 10 and 11.

16 THE WITNESS: 10 and 11 where it showed  
17 that the erosion control blankets had been placed  
18 and the siltation fences had been placed  
19 perpendicular to the ditches. And I observed the  
20 construction of a culvert and then I also noticed  
21 the area where the -- that had been ponded behind  
22 the inlet to the culvert.

23 At that time we went back to the office,  
24 met in Bill's office again, and at that time I  
25 informed the group that based on what I had seen, it

1 appeared that the haulroad had been  
2 well-constructed, very similar to -- using very  
3 similar methods to what's accepted practice. I had  
4 looked at the ditch. I thought that the ditch had  
5 very good cover, especially considering it had only  
6 been in place for a little over a year. It looked  
7 like the culvert had been properly placed and the  
8 material around it had been compacted and I didn't  
9 see any evidence of negligence.

10 So, you know, based on the construction  
11 of the road, the construction of the ditches, the  
12 maintenance projects that I had observed, I  
13 basically concluded that the damage appeared to have  
14 been caused by the precipitation event through a  
15 process of elimination.

16 Q. (MR. BJELLA CONTINUING) And, Dave, are  
17 you familiar with the Public Service Commission's  
18 design standards pertaining to the 10-year/6-hour  
19 precipitation event with respect to construction of  
20 haulroads?

21 A. Yes. You know, because of my experience  
22 in both permitting and in engineering design, that  
23 was a standard that we had used on a regular basis.  
24 Prior to 1977 some states had reclamation standards.  
25 Some didn't. In the Surface Mining Reclamation and

1 Control Act of 1977, Congress basically established  
2 a standard through that and then North Dakota, as  
3 you're aware, chose to enact as stringent or more  
4 stringent standards and take over the program.

5 So the 10-year/6-hour event actually did  
6 two things. It was specified in, I believe, the  
7 Administrative Code and it established a design  
8 standard where companies could prepare, design  
9 designs for their structures and have faith that  
10 they were going to be approved. And then it also  
11 provided the companies some level of protection in  
12 that when a precipitation event occurred that was  
13 greater than the design event, then even though  
14 there was some damage, and, you know, it's very  
15 normal to expect damage when you have a storm that's  
16 in excess of the design event, that the company  
17 would be presumed to be in compliance with the  
18 Century and the Administrative Code.

19 Q. And have you reviewed the haulroad design  
20 specifications submitted by Coteau to the Public  
21 Service Commission?

22 A. After I had that meeting on November 3rd,  
23 I was able to take along -- take home with me a copy  
24 of the design and I also requested copies of all the  
25 Public Services Commission inspections,

1 correspondence between The Coteau Properties and the  
2 Public Service Commission over the period of that  
3 summer and up until, you know, November 3rd, and I  
4 was able to do a rather detailed review of the  
5 design of both the ditch and the haulroad, and I  
6 concluded that they were both performed in a very  
7 standard -- using standard practices and I didn't  
8 find anything that was -- that deviated from that.

9 Q. So, in your opinion, the haulroad was  
10 properly designed?

11 A. Yes, it was.

12 Q. And, in your opinion, does it appear the  
13 haulroad was properly constructed in accordance with  
14 this standard?

15 A. Yes, it does. I was able to review and  
16 see that the haulroad had been designed by a  
17 professional engineer and been certified, that  
18 following construction of the haulroad, that it had  
19 been further certified that it was constructed in  
20 accordance with the approved plan and that that  
21 certification letter had been submitted to the  
22 Public Service Commission, which reinforced my own  
23 opinion that it had been properly constructed.

24 Q. Now, in the north ditch it's already been  
25 testified that Coteau used the seeding, mulching and

1 crimping. Do you believe that was the best  
2 management practice to establish the vegetative  
3 cover in this particular ditch?

4 A. Yes, I do. I don't know, we've talked  
5 quite a bit about, you know, different methods that  
6 you can use in ditches, but the primary purpose in  
7 using a grass waterway or beefing up that design in  
8 any manner is to try to prevent the flow of water  
9 from coming in contact with the soil. So like in a  
10 grass waterway, you have grass that's growing up,  
11 you have flow perpendicular to the grass, so the  
12 grass lays down and the flow actually occurs on top  
13 of the grass. The water that's beneath the grass  
14 doesn't flow fast enough to erode the soil. So when  
15 you have a grass waterway, the best protection you  
16 can have is a good grass cover and that's a reason  
17 why you don't have to have a grass cover that looks  
18 like your lawn, you know, where every square inch is  
19 covered with grass, because as that grass bends  
20 over, it takes up more space and covers more ground.  
21 Normally, you know, in a situation where you  
22 anticipate that the flows and velocities are going  
23 to be higher than what a grass waterway can normally  
24 handle, then you will use better methods to try to  
25 separate the water from the soil. You know, you go

1 to rock riprap. You go to the concrete mats like  
2 were used in that -- those perpendicular ditches on  
3 the south side of the road. You know, there's other  
4 methods that you can use to design to a higher  
5 standard, but normally what we do there is rather  
6 than take a low standard and try to make it better,  
7 we just design to a higher standard. And, normally,  
8 that standard is chosen by a governmental body and  
9 in this case it's the 10-year/6-hour event. So that  
10 was what was required and, in my opinion, it was  
11 appropriate for this situation.

12 Q. Now, Dave, the Reclamation Division has  
13 asserted that additional BMP's were needed in this  
14 ditch. Would you agree?

15 A. No. You know, there are, you know, silt  
16 fences, bale dikes, erosion control matting. Those  
17 are all fine products and where they're normally  
18 used is in the establishment of a good vegetative  
19 cover. Like right after you construct something,  
20 it's very similar to like when you seed a lawn, you  
21 know, it's very vulnerable to precipitation and  
22 damage from precipitation at that time. So what you  
23 want to do is you want to try to cover the soil and  
24 provide a plant growth medium for that to enable  
25 those plants to grow and to -- vegetative cover to

1 establish itself, but once the vegetative cover has  
2 been established, then really those silt fences,  
3 bale dikes, these things actually get in the way.  
4 They block the flow and what can happen during a  
5 large event is that those structures eventually  
6 fail, you know, they aren't very strong. They're  
7 just kind of tacked into the ground, so you get a  
8 high-flow event or maybe you're getting a foot, two  
9 feet, three feet of water flowing down through that  
10 ditch, it overwhelms these structures. And what  
11 happens is they don't fail all at the same time,  
12 they fail like maybe one bale will get washed away  
13 and then the rest of the bales will actually force  
14 the water into that confined area that's empty and  
15 the velocities, the turbulence, everything increases  
16 and those structures can actually do harm to the  
17 ditch. The idea, again, is to provide a wide,  
18 uniform depth of flow where the water does not come  
19 in contact with the ground.

20 Now, during a precipitation event that  
21 greatly exceeds a 10-year/6-hour event, the  
22 velocities and the turbulence can be such that they  
23 will actually put enough friction on the plants that  
24 cause them to be removed. And at that point then,  
25 the ground is without protection and the erosion

1 occurs very quickly.

2 Q. And, in your opinion, do you believe  
3 Coteau was negligent in either the design,  
4 construction or maintenance of the north ditch?

5 A. No, I don't. Everything I saw, you know,  
6 indicated that they had done everything that they  
7 were supposed to do. You know, based on a review of  
8 the design, they had indicated that they were going  
9 to seed and mulch and -- the ditches and they did  
10 that. And they'd performed maintenance. They had  
11 inspected them for areas where they needed  
12 additional repair and maintenance, and during my  
13 review, I didn't find anything that would lead to a  
14 determination of negligence.

15 MR. BJELLA: I have no further questions  
16 of this witness.

17 JUDGE HOBERG: Thank you, Mr. Bjella.  
18 Mr. Gruman, please.

19 MR. GRUMAN: Thank you.

20 CROSS-EXAMINATION

21 BY MR. GRUMAN:

22 Q. Just in summary, on what dates in  
23 question again did you analyze the north haulroad  
24 ditch?

25 A. November 3rd.

1           Q.     Prior to November 3rd, did you have any  
2 knowledge, personal knowledge, as far as -- and this  
3 is personal knowledge as far as what was located in  
4 the north haulroad ditch or the disposition?

5           A.     No, I didn't. During the course of my  
6 visit and subsequent conversations, and so forth, I  
7 did conduct my own investigation, if you can call it  
8 that, to try to determine what the conditions were  
9 prior to the September 9th storm, but I had no  
10 direct knowledge.

11          Q.     Did I understand your testimony correctly  
12 that when seeding and mulching takes hold, that's  
13 the appropriate time for silt fences?

14          A.     No. When I was --

15          Q.     Please explain.

16          A.     Maybe I didn't explain this very well, but  
17 when you first construct something and you create a  
18 seed bed, you know, you do your disking and loosen  
19 the soil in preparation for seeding, then that ditch  
20 is in probably as vulnerable condition as it's ever  
21 going to be in. The adding of seeding, seed itself  
22 doesn't do any good. You can mulch, which adds one  
23 level of protection, and at that point then you can  
24 add further layers, you know, such as silt fences,  
25 such as bale dikes, matting, you know, those types

1 of things, but the idea is to protect those plants  
2 while they are emerging and allow for the emergence  
3 of a strong vegetative cover.

4 Q. Just specifically directed to that then,  
5 why weren't silt fences appropriate for the north  
6 haulroad ditch, in your opinion?

7 A. Well, they were very appropriate or they  
8 may have been appropriate right at the time of  
9 construction, but at the time I was up there, the  
10 vegetative cover looked excellent.

11 MR. GRUMAN: I have nothing further.

12 JUDGE HOBERG: Thank you, Mr. Gruman.

13 Commissioner Cramer, please.

14 EXAMINATION

15 BY COMMISSIONER CRAMER:

16 Q. Just one thing. Thanks, Dave. Clearly  
17 you haven't seen my lawn. But that aside, based on  
18 what you saw in terms of the vegetative cover, let's  
19 say this event of -- this rain event of  
20 September 9th would have occurred a year or two  
21 later, might it actually have been enough or  
22 adequate to prevent -- and I realize this is  
23 somewhat speculative -- but is the one year enough  
24 to establish it to the point where it -- or would  
25 two years have been a better establishment to

1 prevent the occurrence?

2 A. Normally, it's a site by site thing. You  
3 know, there's several -- quite a few things that go  
4 into establishing a vegetative cover. You know, you  
5 have your soil conditions, your type of soil, when  
6 and if you get rain and, you know, there's a lot of  
7 different factors. And, you know, in a year or two  
8 from now, the vegetative cover might be even worse.  
9 You know, it doesn't necessarily always improve.

10 Q. Sure. So, I mean, I guess what I was  
11 getting at, perhaps, was the event of September 9th  
12 so overwhelming that maybe it wouldn't have mattered  
13 even if it was five years?

14 A. That's my opinion.

15 COMMISSIONER CRAMER: I have nothing else.

16 JUDGE HOBERG: Thank you, Commissioner  
17 Cramer. Commissioner Clark, please.

18 COMMISSIONER CLARK: Nothing.

19 JUDGE HOBERG: Commissioner Kalk?

20 COMMISSIONER KALK: (Shakes head.)

21 JUDGE HOBERG: I don't know that you  
22 completely answered Commissioner Cramer's question.  
23 Was one year sufficient enough time to establish the  
24 grass cover, in your opinion?

25 THE WITNESS: Yes, it was. In my opinion,

1 the grass cover was excellent.

2 COMMISSIONER KALK: Okay. Thank you.

3 MR. BJELLA: Nothing further, Your Honor.

4 JUDGE HOBERG: Nothing further,

5 Mr. Bjella. Mr. Gruman?

6 MR. GRUMAN: No, Your Honor, nothing

7 further.

8 JUDGE HOBERG: Thank you, Mr. Schouweiler.

9 Mr. Bjella.

10 MR. BJELLA: That concludes our case, Your

11 Honor.

12 COMMISSIONER KALK: What's the protocol?

13 I wanted to ask Bill a couple more questions, if

14 possible.

15 JUDGE HOBERG: Yeah, we can get to him in

16 a second. I just want to ask Mr. Gruman first if

17 he's going to put on a rebuttal case?

18 MR. GRUMAN: I hate doing this because I

19 know it's Friday. I promise it will be ten minutes

20 or less. I would like to call up Jessica Unruh --

21 I'm probably butchering her name so I apologize --

22 just to discuss this interoffice correspondence.

23 JUDGE HOBERG: Ms. Unruh. I assume that's

24 you.

25 THE WITNESS: Yes, that's correct.

1 MR. BJELLA: Just to clarify, interoffice  
2 correspondence?

3 MR. GRUMAN: Specifically, it would be  
4 your Exhibit No. 5. Your Honor, whenever. Just let  
5 me know when you're ready.

6 JUDGE HOBERG: Just a minute. I'm finding  
7 Exhibit 5.

8 Okay. Ms. Unruh, would you state your  
9 full name and spell it for the record, please.

10 THE WITNESS: Jessica Unruh.

11 J-e-s-s-i-c-a. U-n-r-u-h.

12 JUDGE HOBERG: Thank you. And you were  
13 here earlier when I gave the admonition in regard to  
14 perjury; correct?

15 THE WITNESS: Yes, I was, Your Honor.

16 JUDGE HOBERG: Being advised of the  
17 penalty for perjury, do you promise to tell the  
18 truth in this matter being heard? If so, answer I  
19 do.

20 THE WITNESS: I do.

21 JUDGE HOBERG: Thank you. Mr. Gruman,  
22 please.

23 MR. GRUMAN: Thank you.

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JESSICA UNRUH,

being first duly sworn, was examined and testified  
as follows:

DIRECT EXAMINATION

BY MR. GRUMAN:

Q. Ms. Unruh, I probably should have had you  
approach PSC Staff Exhibit No. 1, but essentially  
what my question is, with this memorandum, I'm  
trying to get in my head from an overhead  
two-dimensional view, just where exactly you went to  
collect your data for this, so if you could do that  
right now, please.

A. I would prefer, actually, to use one of  
our Coteau exhibits.

Q. Okay. Which one in particular?

JUDGE HOBERG: This one?

THE WITNESS: That's the one.

JUDGE HOBERG: That's Exhibit 18.

MR. GRUMAN: Just one moment, Your Honor.  
I'm ready.

JUDGE HOBERG: Please continue.

THE WITNESS: I believe your question is  
exactly where the survey was conducted?

Q. (MR. GRUMAN CONTINUING) Yeah, exactly. I  
mean, just generally. I'm not asking for every

1 spot.

2 A. Yes. I state here that the first set of  
3 frames was taken on the west inslope, which you can  
4 see on the map. We started five paces west of the  
5 culvert on the inslope and we continued along the  
6 ditch to the west until 40 frames were taken there  
7 and then we walked a little bit further to the west  
8 and started our frames on the backslope of the  
9 ditch. We completed 40 frames on the backslope of  
10 the ditch up to about 200 feet to the west of the  
11 culvert. And on this map that we have out, Exhibit  
12 No. 18, the scale on this map is one inch is 500  
13 feet, so it would be a little less than a quarter of  
14 an inch to the west of the culvert that the survey  
15 was not completed. That area is shown in PSC  
16 Exhibit No. 5, which I don't believe I have up here,  
17 but that picture shows that area that I'm talking  
18 about. You can see where myself and Mike Berg are  
19 standing in that picture. And there's a definite  
20 lack of a backslope in this area, just as Bill Kirk  
21 had testified to earlier as the reason we did not  
22 install silt fences in that area. For that reason  
23 of a lack of a backslope is the same reason that I  
24 did not conduct the vegetative survey in that  
25 particular area because I did not believe that it

1 was representative of the entire ditch, on either  
2 side of the culvert, that same method can be  
3 employed to both sides.

4 Q. Perhaps I'm misunderstanding you. Was --  
5 in Coteau Exhibit No. 18 there's a dash here,  
6 C-47+00?

7 A. Yes.

8 Q. And you've testified that you went west of  
9 that approximately 200 feet; is that correct?

10 A. No, just on the backslope. On the inslope  
11 we started five paces to the west of the culvert, so  
12 we started basically right at the culvert with our  
13 survey on the inslope, because there's a definite  
14 inslope as you can see in this PSC Staff Exhibit  
15 No. 5. There's a definite inslope to perform a  
16 survey there. But on the backslope, you are correct  
17 in saying that in the first 200 feet west of the  
18 culvert, we did not perform the survey because it  
19 was not representative of the entire ditch.

20 Q. Thank you. Was there any survey done east  
21 of the culvert location?

22 A. Yes. And the exact, same method was  
23 applied to the east. We started on the inslope,  
24 worked our way east, continued east a little bit to  
25 offset for that lack of a backslope closer to the

1 culvert and we did our 40 frames on the east side  
2 until about 200 feet east of the culvert on the  
3 backslope.

4 MR. GRUMAN: I have nothing further.

5 JUDGE HOBERG: Thank you, Mr. Gruman.

6 Mr. Bjella, any questions?

7 MR. BJELLA: No, Your Honor.

8 JUDGE HOBERG: Commissioners, any  
9 questions?

10 COMMISSIONER CRAMER: None. Thank you.

11 COMMISSIONER KALK: I have to ask a  
12 question.

13 JUDGE HOBERG: Commissioner Kalk, please.

14 EXAMINATION

15 BY COMMISSIONER KALK:

16 Q. In full disclosure, is it true you're a  
17 North Dakota State graduate?

18 A. Yes, that would be correct.

19 Q. And where did you get your training in  
20 surveying land and these type of processes?

21 A. North Dakota State University.

22 Q. Did you have any major professors that  
23 might be represented today?

24 A. I did have one major professor.

25 COMMISSIONER KALK: That's the only

1 question I have.

2 JUDGE HOBERG: Thank you, Commissioner  
3 Kalk. Any further questions of Ms. Unruh? Thank  
4 you.

5 COMMISSIONER CLARK: You're not supposed  
6 to undercut her credibility. (Laughter.)

7 COMMISSIONER CRAMER: That's up to the  
8 other side.

9 JUDGE HOBERG: I believe we have some more  
10 questions of Mr. Kirk.

11 You don't have any further witnesses, do  
12 you, Mr. Gruman?

13 MR. GRUMAN: Staff does not, no.

14 JUDGE HOBERG: Thank you.

15 Mr. Kirk, we are recalling you, please.  
16 And Commissioner Kalk, we'll start with you since  
17 you have the questions.

18 COMMISSIONER KALK: Thank you, sir.

19 FURTHER EXAMINATION

20 BY COMMISSIONER KALK:

21 Q. Thanks again, Bill. I just want to walk  
22 through again, thinking more about your previous  
23 testimony. You said something to the effect, I  
24 believe, that you saw scarring -- I don't remember  
25 the exact words -- on the north side of the haulroad

1 prior to September 9th; is that correct? Is that  
2 what I remember you saying?

3 A. Rilling, yes, sir.

4 Q. Rilling. Okay. All right. So you saw  
5 something up there prior to September 9th and then  
6 you saw something on the south side that prompted  
7 you to put those concrete structures in place?

8 A. Yes.

9 Q. So, once again, what was that decision  
10 point of why one side but not the other?

11 A. Okay. What was observed on the south side  
12 where we placed the articulated concrete mats --

13 Q. How long, by the way -- you can't tell  
14 from the photo, but PSC Staff 3, how far outside the  
15 photo do those mats go?

16 A. Those mats are -- they measure eight feet  
17 by eight feet and they were placed two mats wide.  
18 As I remember, we went back ten mat lengths to the  
19 east -- excuse me -- to the west, which would have  
20 been 80 feet, and I think 12 mat lengths to the  
21 east, which would be, what, 96 feet.

22 Q. Close enough.

23 A. Close enough. And then beyond that, we  
24 also had to do some channel repair that we used  
25 erosion blanket.



1 really it.

2 JUDGE HOBERG: Thank you, Commissioner  
3 Kalk. Any further questions of this witness,  
4 Mr. Bjella?

5 MR. BJELLA: No, Your Honor.

6 JUDGE HOBERG: Mr. Gruman?

7 MR. GRUMAN: Staff has one.

8 JUDGE HOBERG: All right.

9 RECROSS-EXAMINATION

10 BY MR. GRUMAN:

11 Q. Just expanding upon your earlier  
12 testimony before. Between the time period of  
13 September 9th and September 30th, at any point did  
14 you physically observe -- specifically observe the  
15 north haulroad ditch in question?

16 A. Between September 9th and --

17 Q. September 9th and September 30th.

18 A. Definitely, yes.

19 Q. Okay. On what occasions, generally?

20 A. To go out and after the storm event of  
21 September 9th we spent most of the day out on the  
22 mine looking at numerous examples of collected  
23 runoff and sedimentation. We visited that site and  
24 then when we knew we had -- we wanted to see how  
25 that ditch had held up, so, yes, I was there between

1 those two dates.

2 Q. It was probably hit upon, but I guess  
3 since we're here, what did you observe on those  
4 dates in question?

5 A. I observed on the north road ditch that we  
6 had some significant gullying in the north road  
7 ditch.

8 MR. GRUMAN: Staff has nothing further,  
9 Your Honor.

10 JUDGE HOBERG: Thank you. Any further  
11 questions of Mr. Kirk? Commissioner Clark.

12 EXAMINATION

13 BY COMMISSIONER CLARK:

14 Q. Of any of the erosion that you noticed in  
15 the mine generally after the event, was this the  
16 most significant?

17 A. No, sir, it wasn't.

18 Q. Can you describe some of the other -- I  
19 mean, what would be more significant?

20 A. Can I plead the Fifth?

21 (Laughter.)

22 JUDGE HOBERG: Since it's regulatory, I'm  
23 not sure you can.

24 THE WITNESS: There were examples, and I  
25 believe Dave was with me on that. We've got some

1 haulroad ditches where we've got section line roads,  
2 ditches that drain into them. There was some very  
3 significant head-cutting problems. We also noticed  
4 some significant deepening and widening of erosion  
5 features that were previously in other road ditches,  
6 in overburden ditches.

7 Q. (COMMISSIONER CLARK CONTINUING) sure.  
8 I'm just trying to establish what brings us here in  
9 this particular case, if it differentiates itself  
10 from something else.

11 A. It was not the only case of erosion that  
12 we saw on the mine site.

13 COMMISSIONER CLARK: Okay. Thanks.

14 JUDGE HOBERG: Any further questions of  
15 Mr. Kirk? Mr. Bjella?

16 MR. BJELLA: No, Your Honor.

17 MR. GRUMAN: Staff has one, Your Honor,  
18 just one follow-up.

19 RE-CROSS-EXAMINATION

20 BY MR. GRUMAN:

21 Q. Before you had testified that between  
22 September 9th and September 30th you did inspect the  
23 north haulroad ditch and you found some areas of  
24 significant erosion. In those areas did you have  
25 BMP's in place?

1           A.     We had -- are you talking about other  
2 areas?

3           Q.     Mm-hmm.  Other areas, correct.

4           A.     In most places, no.  We did have areas,  
5 other areas of vegetative ditches that also  
6 exhibited rilling and major gullying.

7           Q.     Okay.  Anything else, or is that  
8 essentially what you observed?

9           A.     As far as damage, that was probably the  
10 most significant damage we saw.  We had a number of  
11 ponds that overflowed.  There was a lot of debris  
12 that had been brought down by the storm into some of  
13 our ponds.  One of our MSHA ponds there was a  
14 principal spillway that had a trash rack on it and  
15 the storm had brought down -- we had put erosion  
16 blanket in some reclaimed watersheds and the storm  
17 actually brought down, washed completely some  
18 erosion blanket, brought it down and wrapped it up  
19 into the trash rack on the spillway, so we had a lot  
20 of maintenance items to take care of.

21          Q.     And for all that you have testified to,  
22 there was no NOV issued for those?

23          A.     No, there weren't.

24                 MR. GRUMAN:  Nothing further, Your Honor.

25                 JUDGE HOBERG:  Anything further of

1 Mr. Kirk? Thank you, Mr. Kirk.

2 Mr. Gruman, do you have any other evidence  
3 to present at this hearing? Just evidence now.

4 MR. GRUMAN: Nope.

5 JUDGE HOBERG: Thank you.

6 Mr. Bjella, any other evidence to present?

7 MR. BJELLA: No, Your Honor.

8 JUDGE HOBERG: Thank you. At the second  
9 prehearing conference we discussed a couple of  
10 things, not the least of which was filing of written  
11 closing arguments or briefs and filing of proposed  
12 findings of facts and conclusions of law, which is  
13 how the parties would like to close this matter and,  
14 of course, that's the generally accepted practice  
15 anyway, and the parties will be filing simultaneous  
16 briefs on January 7th and reply briefs on  
17 January 14th of next year, 2011. And with their  
18 reply briefs they will be filing proposed findings  
19 of facts and conclusions of law, so by the 14th of  
20 January you should have everything in regard to  
21 argument from the parties.

22 Am I correct in that?

23 MR. GRUMAN: Yeah. Just to expand upon  
24 that, I think we are all in agreement, that once  
25 that last reply brief is accepted by the Commission,

1 I believe the 30-day determination period begins at  
2 that point.

3 JUDGE HOBERG: That would be correct.  
4 That would be when the hearing would officially  
5 close.

6 Anything to add to that, Mr. Bjella? Is  
7 that your understanding?

8 MR. BJELLA: Yes, Your Honor.

9 JUDGE HOBERG: Okay. So with that, if  
10 there's nothing else to bring to the attention of  
11 the Commission.

12 MR. BJELLA: I just have like a one-minute  
13 closing statement I'd like to make.

14 JUDGE HOBERG: You want to make a closing  
15 now?

16 MR. BJELLA: Yeah, one minute.

17 JUDGE HOBERG: I don't think you have  
18 anything, do you?

19 MR. GRUMAN: No.

20 MR. BJELLA: I think based upon what  
21 you've heard today, we've seen no evidence at all of  
22 any erosion in that north ditch on September 2nd,  
23 other than after the September 9 event. We have  
24 testimony of BMP of very good grass coverage. We  
25 have testimony that this haulroad and ditch was

1 built to the PSC design standards, the 10-year/6-  
2 hour event. We have a precipitation event greatly  
3 exceeding that event and all these factors combined  
4 demonstrate that Coteau did a good job, was not  
5 negligent and should have not have been issued this  
6 NOV. Thank you.

7 JUDGE HOBERG: Thank you, Mr. Bjella.

8 Commissioner Cramer, closing comments,  
9 please.

10 COMMISSIONER CRAMER: Well, just thank you  
11 to everybody for the hearing. And I think it all  
12 boils down to a couple pretty basic points, whether  
13 or not -- whether or not there was evidence prior to  
14 the September 9th event. I think that's the bottom  
15 line on that north side, so we'll have to see. The  
16 one -- the one issue I have or one question I have,  
17 I guess, for whoever our advisers are, I know Illona  
18 is, I guess, our legal adviser. Do we have a  
19 technical adviser? Because I'm looking over and  
20 seeing the director and the assistant director both,  
21 so is there somebody else?

22 MS. JEFFCOAT-SACCO: We've been assigned  
23 one by the director, Bruce Johnson.

24 COMMISSIONER CRAMER: Very good. I have  
25 nothing else. Thanks.

1 JUDGE HOBERG: Thank you, Commissioner.  
2 Commissioner Clark, please.

3 COMMISSIONER CLARK: Just thank you.  
4 Merry Christmas, everyone.

5 JUDGE HOBERG: Thank you. Commissioner  
6 Kalk, please.

7 COMMISSIONER KALK: Thank you for the  
8 great work and the same, Merry Christmas.

9 JUDGE HOBERG: Thank you, Commissioners.  
10 It's about 4:05, and this hearing is closed, again,  
11 subject to the filing of the documents we discussed.

12 MR. BJELLA: Thank you all.

13 (Concluded at 4:04 p.m., the same day.)

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CERTIFICATE OF COURT REPORTER

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I, Linda L. Gingery, a Registered  
Professional Reporter,

DO HEREBY CERTIFY that I recorded in  
shorthand the foregoing proceedings had and made of  
record at the time and place hereinbefore indicated.

I DO HEREBY FURTHER CERTIFY that the  
foregoing typewritten pages contain an accurate  
transcript of my shorthand notes then and there  
taken.

Dated at Bismarck, North Dakota, this 29th  
day of December, 2010.

-----  
Linda L. Gingery  
Registered Professional Reporter

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