

1 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
2 REGION 5

3 IN THE MATTER OF: )  
4 ROBERT J. HESER, ANDREW ) DOCKET NO.  
HESER and HESER FARMS ) CWA-05-2006-0002  
5 Respondents. )  
6 Proceeding to Assess a Class II ) Honorable William  
Civil Penalty Under Section ) Moran  
7 309(g) of the Clean Water Act, )  
33 U.S.C. Section 1319(g). )  
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9  
10 Hearing held pursuant to notice, on Monday,  
11 April 30, 2007 at the hour of 9:00 a.m. at Clinton  
12 County Courthouse, 850 Fairfax, Carlyle, Illinois,  
13 before the HONORABLE WILLIAM B. MORAN, United States  
14 Administrative Law Judge.

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23 SULLIVAN REPORTING CO.,  
24 By H. Lori Bernardy, Reporter, CSR# 084-004126



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18 Environmental Protection Agency.)

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I N D E X

WITNESSES	DIRECT	CROSS	REDIRECT	RECROSS
GREG CARLSON				
By Mr. Martin	19			

I N D E X

EXHIBITS	MARKED	ADMITTED
Complainant's Exhibit 9a		14
Complainant's Exhibit 20a		14
Complainant's Exhibit 23		15
Complainant's Exhibit 58		16
Complainant's Exhibit 7		56
Complainant's Exhibit G		73
Complainant's Exhibit H		122
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P R O C E E D I N G S

JUDGE MORAN: Good morning. This is at that continuation of the Hearing in the Hesper matter.

I'm Judge Moran. Counsel are the same as in several weeks back when we continued this proceeding, so there's no need to go through an introduction again.

I have in front of me two matters and then Counsel can correct me if there's anything else.

I have Complainant's Motion and Memorandum in support of Motion to Supplement the Prehearing Exchange.

And then I have Complainant's Motion to Exclude testimony or other evidence not produced or identified by Respondents prior to the hearing.

Beginning with EPA, are there any other motions that were filed from EPA?

MR. MARTIN: No, your Honor.

JUDGE MORAN: And any motions filed by the Respondents?

MR. NORTHRUP: No.

JUDGE MORAN: Okay.

Well, I have a couple comments about these particular motions.





1                   Let's deal first with the Motion to  
2 Exclude Testimony or Other Evidence. This relates  
3 to -- and I have to give EPA Counsel -- I have to  
4 give them an opportunity to correct me and then  
5 Respondents -- but my recollection is that when I  
6 read this, this deals with some personal notations  
7 regarding the financial --

8                   It all deals with the ability to pay.  
9 And it involves personal notes from one of the Hesers  
10 related to their financial situation and apparently  
11 submission of some unsigned tax returns; is that  
12 correct?

13                   That's what I'm dealing with?

14                   MS. PELLEGRIN: Yes, your Honor.

15                   JUDGE MORAN: Okay.

16                   Just give me a moment while I try to  
17 find something here --

18                   Okay, now the law is expressly clear  
19 in terms of the environmental appeals for above  
20 submission of such evidence.

21                   And there are a couple problems with  
22 the Complainant's Motion:

23                   First of all, in the motion beginning  
24 at page two, you know, EPA presents their request for



1 additional financial information as if it's some sort  
2 of an Internal Revenue Service mandated requirement  
3 that the Respondents provide all of the information  
4 that's listed on there.

5 That's not the case at all.

6 It's subject to the Court's review as  
7 to the reasonableness of the request of the financial  
8 information.

9 So I just wanted to clear that up,  
10 first of all.

11 The second point I want to make about  
12 this is that, I think EPA misses the mark in terms of  
13 its criticism of this, meaning that, while I well  
14 recognize that unsigned tax returns really don't  
15 carry any weight unless the Respondents then  
16 subsequently provided signed tax returns and those  
17 tax returns are identical as to the unsigned ones  
18 except for the fact that the signature was missing  
19 from the first delivery of tax returns.

20 You know, these don't carry any  
21 weight.

22 It's not the threat that EPA poses it  
23 to be nor would the handwritten or whatever the  
24 details were about this information related to the



1 financial situation of the Respondents.

2                   You know, the point here simply is  
3 that any competent Counsel could, irrespective of my  
4 admitting the documents or not, could cross-examine  
5 the witness through whom these documents were  
6 intended to be submitted, and demonstrate why they  
7 should be afforded no weight.

8                   And, in fact, if the EPA Counsel  
9 didn't do that, I would ask questions of my own.

10                   And the net affect of this would be  
11 that if admitted, they would be awarded and afforded  
12 virtually no weight just because of the infirmities  
13 about such information which I've just outlined.

14                   So, you know, I thought it was a  
15 little bit over the top in terms of the language in  
16 the Motion:

17                   If the Court is inclined to allow  
18 Respondents to ignore the requirement of 522 and to  
19 disrespectfully disregard the prehearing orders --  
20 you know, I don't take it as disrespect or disregard.

21                   It is what it is.

22                   And you know, it is late. And if  
23 Counsel for Respondents still wants to try and admit  
24 this, I may admit it. I don't know.



1                   It should be obvious about that.

2                   But the weight that I would give it  
3 would be from, an artist's standpoint, would be at  
4 the vanishing point of a picture, of an artistic --  
5 in other words, it would be afforded zero or nearly  
6 zero weight.

7                   So that addresses that.

8                   I don't think there was any Response  
9 to the Motion from Mr. Northrup or Mr. Small; is that  
10 correct?

11                  MR. NORTHRUP: That's correct.

12                  MR. SMALL: No.

13                  JUDGE MORAN: I have yet to respond it. I will  
14 cross that bridge when I come to it if that is  
15 intended to be admitted, the document.

16                   It has not yet been presented for  
17 admission to documents; is that right?

18                  MR. NORTHRUP: That's correct.

19                  JUDGE MORAN: Okay, so that disposes of one at  
20 least for now.

21                   The second Motion from EPA -- and I'm  
22 at a loss to understand the point of this. But, you  
23 know, I've been at a loss before.

24                   And sometimes people don't steer me





1 right.

2 But on this motion entitled "Motion or  
3 Memorandum in Support of Motion to Supplement the  
4 Prehearing Exchange EPA wants to have in the record a  
5 document from the United States House of  
6 Representatives which was issued very recently,  
7 April 16, 2007, where there is a memo.

8 The summary of subject matter is  
9 related to a hearing on non-point source solution and  
10 the impacts of agriculture on water foul.

11 And, you know, the first thought I had  
12 when I read through this was: What the heck does  
13 that have to do with the Complaint?

14 The charges in the Complaint, there's  
15 no -- I think even in the memo from Congress they  
16 talk about the Clean Water Act does not deal with  
17 non-point source discharges.

18 If I recall that was mentioned  
19 somewhere in that memo. And that's not what these  
20 charges are about.

21 These are about point source  
22 discharges.

23 Am I wrong?

24 MS. PELLEGRIN: Well, if I may speak to that,



1 your Honor, and we'll have our --

2 JUDGE MORAN: Just tell me whether I'm right or  
3 wrong about that?

4 MS. PELLEGRIN: Well, the agricultural runoff  
5 that -- this watershed is largely agricultural - and  
6 we'll have a witness to talk about this - so it's the  
7 agriculture runoff from the farm fields in the area,  
8 including Respondent's newly created farm field that  
9 was prior to that a wetland, on causing or  
10 contributing to the impaired waters downstream in  
11 Lake Centralia, which are impaired for among other  
12 things, phosphorus and total suspended solids and  
13 manganese, which is -- actually, phosphorus is an  
14 ingredient in the fertilizer that's used.

15 So it ties together. And if your  
16 Honor will permit me to try that all up with our  
17 expert witness who's much more articulate on this  
18 than I am, it certainly ties together in terms of the  
19 downstream waters, the navigable Lake Centralia that  
20 we're talking about at the end of this Martin Branch.

21 JUDGE MORAN: Okay. Thank you, Miss Pellegrin.

22 Let's see, how many counts were there  
23 in this case, one?

24 MR. MARTIN: One.



1           JUDGE MORAN: And paragraph three on page two  
2 talks about 301 of the Clean Water Act, discharge of  
3 any pollutant from a point source. Discharge of any  
4 pollutant from a point source.

5           Paragraph 23: Therefore, Respondents  
6 are persons who discharge pollutants from a point  
7 source into waters of the United States without a  
8 permit.

9           Background of memo from the United  
10 States House of Representatives:

11           This memorandum briefly summarizes  
12 non-point source pollution. It then focuses in more  
13 detail on agricultural runoff.

14           You know, I've never heard of the fact  
15 that there was some sort of a hearing -- this is not  
16 legislative history.

17           So when EPA tries to admit that  
18 document, I assume I'll here from Respondents either  
19 objecting to it or agreeing to its submission.

20           Do you have anything else you want to  
21 say about this at this point, Mr. Northrup?

22           MR. NORTHRUP: No. I mean, we had the same  
23 concern when we first received it as far as -- you  
24 know, we received just a couple days before the



1 hearing, and we're not concerned about - it was more  
2 the relevancy.

3 It appears to have nothing to do with  
4 the case here and, specifically, with our two acres  
5 at issue.

6 Now it may show that non-point source  
7 pollution is a problem with agricultural fields and  
8 things like that.

9 But there's nothing to tie it to our  
10 particular property at issue. And there's nothing to  
11 sort of tie it to the Complaint either, which does  
12 talk in terms of point source pollution.

13 So we were going to object if and when  
14 EPA tried to admit it.

15 JUDGE MORAN: Okay. All right, are we ready to  
16 proceed with the continuation of the hearing?

17 MR. MARTIN: Your Honor, U.S. EPA also sent in  
18 a Motion to Supplement attached, I believe it was  
19 Section 308.

20 Respondents and the soil survey for  
21 Marion County as well as a complete copy of Exhibit 9  
22 which is a file from the Conservation District from  
23 the state of Illinois.

24 JUDGE MORAN: So there was a supplement to the





1 Prehearing Exchange in the interim between the first  
2 leg of this hearing?

3 MR. MARTIN: Yes, per your request with regard  
4 to the 308 Responses which were exerted formerly at  
5 the last phase of the hearing.

6 JUDGE MORAN: Yes, okay.

7 MR. MARTIN: You were provided the soil survey.

8 JUDGE MORAN: All right.

9 MR. MARTIN: And Exhibit 9a as well.

10 JUDGE MORAN: All right, and you're intending  
11 to introduce that now in the record by stipulation or  
12 through a witness?

13 MR. MARTIN: I don't know.

14 MR. NORTHRUP: We can do it by stipulation,  
15 that's fine. We had talked about those exhibits  
16 earlier.

17 JUDGE MORAN: Yes.

18 Are they in these exhibit books now?

19 MR. MARTIN: Yes, they are, as well as the  
20 former excerpt versions as well.

21 JUDGE MORAN: Okay. Give me that, please.

22 MR. MARTIN: It's part of 9a.

23 We put an "a" after the original  
24 Exhibit Number.



1           JUDGE MORAN: Okay, so we have Exhibit 9a  
2 admitted by stipulation.

3                         What's the other Exhibit Number?

4           MR. MARTIN: The soil survey is formerly 20.  
5 Now in the supplemented exhibit is 20a.

6           JUDGE MORAN: 20a as in apple, right?

7           MR. MARTIN: Yes.

8           JUDGE MORAN: And Counsel for Respondent, do  
9 you agree to that as well, admitted?

10          MR. NORTHRUP: Yes, we do.

11          JUDGE MORAN: Okay. Exhibits 9a and 20a are  
12 admitted.

13                                 (WHEREUPON, Complainant's  
14                                 Exhibit Numbers 9a and 20a were  
15                                 admitted into the record.)

16          JUDGE MORAN: Okay, anything else, housekeeping  
17 or otherwise, before we proceed?

18          MR. MARTIN: Yes. The other exhibit is 23a,  
19 which is the Section 308 response.

20          JUDGE MORAN: Refresh my recollection about  
21 that, please Mr. Martin. The 308 responses, was that  
22 something where we had an incomplete document again?

23          MR. MARTIN: Yes, it is.

24          JUDGE MORAN: Okay.



1                   And Counsel for Respondent has seen  
2 this?

3           MR. NORTHRUP: Yes.

4           JUDGE MORAN: So are you leaving in both the  
5 original, Mr. Martin, and 23a in the record?

6           MR. MARTIN: Yes, your Honor.

7           JUDGE MORAN: Okay. Any objection to that,  
8 Mr. Northrup.

9           MR. NORTHRUP: No.

10          JUDGE MORAN: Okay. 23a is also admitted.

11                   So that's 9a, 20a and 23a.

12                                   (WHEREUPON, Complainant's  
13                                   Exhibit Number 23a was admitted  
14                                   into the record.)

15          MR. MARTIN: And there's also one additional,  
16 your Honor, and it is marked Plaintiff's Exhibit 58.

17                   And this is updated rain data --  
18 underground rain data.

19          JUDGE MORAN: Underground rain data?

20          MR. MARTIN: Wonderground rain data.

21          JUDGE MORAN: And this was not provided before  
22 the close of the first stage of this hearing?

23          MR. MARTIN: That's correct, but it's the same  
24 type of data that was provided originally. It's just



1 updated further

2 JUDGE MORAN: Okay, any objection to that?

3 MR. NORTHRUP: No.

4 JUDGE MORAN: All right.

5 Was that admitted by stipulation?

6 MR. NORTHRUP: Yes.

7 JUDGE MORAN: Okay, Exhibit 58 is admitted.

8 (WHEREUPON, Complainant's  
9 Exhibit Number 58 was admitted  
10 into the record.)

11 MR. MARTIN: One further thing, I was reading  
12 over the record, and when we stipulated to the  
13 documents that we formally stipulated to at the end  
14 of the first stage, you noted that you weren't  
15 accepting any factual data within the documents.

16 And I want a clarification on that,  
17 because it's my understanding when you stipulate to  
18 the document, it is what it's supposed to be.

19 And your stipulation seemed to reserve  
20 the right to dispute factual matter within the  
21 document.

22 But I wanted to seek a clarification  
23 to make sure that those documents are in and the  
24 factual matter within them will not be challenged.





1           JUDGE MORAN: Well, first of all, you can't  
2 have a colloquy with Counsel for the Respondent.

3                    It's directed to me and that's the way  
4 it works, okay?

5                    In terms of the stipulation, it is as  
6 it's agreed to, that document with the document  
7 number or was it multiple documents?

8           MR. MARTIN: It was multiple documents.

9           JUDGE MORAN: Well, Counsel for the Respondent  
10 has the right to agree that the document is what it  
11 purports to be and that it's an authentic copy.

12                   And for that limited purpose it can be  
13 admitted. And then on cross-examination the  
14 Respondent Counsel can chip away at some of the facts  
15 in there or present their own facts through other  
16 exhibits or witnesses which call in question that.

17                   So really no -- as I see it, there's  
18 no inherent problem.

19                   I do not believe for example that the  
20 mere fact that they stipulated to the admission of  
21 the document means that they therefore agree to  
22 everything in the document itself.

23                   That's my view of it. Now I'll hear  
24 from Mr. Northrup or Mr. Small.



1           MR. NORTHRUP: No, that's our view, too, and  
2           that's our intent, particularly I think, with some of  
3           the aerial photos.

4                        They may have been marked 1998; we  
5           disagree with that date. But we didn't have a  
6           problem with the fact that this was an aerial photo  
7           that came from NRCS or something like that.

8                        And I can't remember if we stipulated  
9           to any of the memos, for instance that Mr. Carlson  
10          had.

11                       Again, we don't have a problem that  
12          those are authentic, we just take issue with maybe  
13          some of the things he said in some of the memos.

14                       JUDGE MORAN: Okay.

15                       So that's my ruling on that,  
16          Mr. Martin, and I can't imagine any other Court in  
17          any form dealing with that differently.

18                       Anything else?

19                       MR. MARTIN: No, your Honor.

20                       JUDGE MORAN: Okay. So we're going to pick up  
21          with whom?

22                       MR. MARTIN: Mr. Carlson.

23                       JUDGE MORAN: Mr. Carlson.

24                       Mr. Carlson, it's been such a long



1 time I'm going to swear you in again.

2 (Whereupon the Witness was sworn  
3 by the Administrative Law  
4 Judge.)

5 JUDGE MORAN: Have a seat. Continuation of testimony  
6 of mister -- is it Greg Carlson?

7 THE WITNESS: Yes, sir.

8 GREG CARLSON,  
9 having been duly sworn by the Administrative Law  
10 Judge, witnesseth and saith as follows:

11 DIRECT EXAMINATION (CONT'D)

12 BY MR. MARTIN:

13 Q. Good morning, Mr. Carlson.

14 A. Good morning.

15 Q. Let's go back and discuss your inspections  
16 of the site of the alleged violation.

17 Mr. Carlson, how many times have you  
18 been to the site of the alleged violation?

19 A. Four times.

20 Q. And when did these visits take place?

21 A. The first visit was September 19, 2003, the  
22 second visit was August 30, 2006.

23 The third visit was March 8th and 9th  
24 of 2007 and the last visit was yesterday.



1 Q. And can you give a date for yesterday,  
2 please?

3 A. April 29, 2007.

4 Q. Let's talk about your first inspection.  
5 Who accompanied you on this first inspection to the  
6 site?

7 A. Ward Lenz and Katherine Kelley of the U. S.  
8 Army Corps of Engineers Office out of St. Louis.

9 Q. And why did they accompany you to the site?

10 A. Because they had done previous work on the  
11 site and I needed to coordinate my work with theirs.

12 Q. In general, what was the purpose of your  
13 first inspection?

14 A. To characterize the site in terms of its  
15 remnant wetland hydrology or hydrology generally  
16 vegetation on the site soils on the site, to ask  
17 questions of the Hesper brothers.

18 Q. Did you also ask questions of the Corps of  
19 Engineers regarding its previous inspection of the  
20 site?

21 A. Yes, I did.

22 Q. And why did you do that?

23 A. To coordinate their work with mine to  
24 particularly understand where their initial soil bore





1 holes were.

2 Q. Okay, let's turn back to your inspection  
3 report for your first inspection, that's  
4 Complainant's Exhibit 7, specifically, I ask you to  
5 turn to pages 29 to 31.

6 A. (So complied with request.)

7 JUDGE MORAN: EPA Exhibit 7?

8 MR. MARTIN: Yes, Complainant's 7, pages 29 to  
9 31.

10 THE WITNESS: Okay.

11 BY MR. MARTIN:

12 Q. Have you looked through pages 29 through  
13 31?

14 A. I have.

15 Q. What are those forms called?

16 A. This is a hydric soil documentation profile  
17 description forms. There's three of them.

18 Q. And what are these forms used for?

19 A. They're used to document the soil profile.  
20 And I also use them to document vegetation at one  
21 particular point and to make notes on hydrology.

22 Q. Do these forms contain information gathered  
23 at your first inspection?

24 A. They do.



1 Q. Okay, looking at page 29, is this soil  
2 sample identified with a certain number in any way?

3 A. Identified in the top right of the form as  
4 S1 for sample one.

5 Q. Just to summarize your previous testimony  
6 what, if anything, findings of wetland soils  
7 vegetation and hydrology does this profile form  
8 document?

9 A. It documents that there's a hydric soil at  
10 this location, and it documents some fill material in  
11 terms of wood debris and charcoal.

12 It documents a secondary indicator of  
13 hydrology in the form of oxidized rhizo spears.

14 It makes some notes with regard to  
15 dried algal mats in the vicinity and crayfish  
16 chimneys in the vicinity.

17 Q. In general where are your findings with  
18 regard to soil on this form?

19 A. I'm sorry, can you repeat that question?

20 Q. Just tell us where your findings for soil  
21 are set forth on this form.

22 A. Under -- in the middle, under the rows and  
23 columns section of the form.

24 Q. Okay, and where are the findings that you



1 mentioned regarding hydrology located on this form?

2 A. They're at the bottom of the form under the  
3 explanation of the soil profile. There's a few lines  
4 there for comment.

5 And the oxidized rhizo spears are  
6 noted on the notes section of the rows and columns,  
7 under the second row and the third row.

8 Q. Okay, thank you. Directing your attention  
9 to page 30 --

10 JUDGE MORAN: Let me just, before you do that  
11 as I have on occasion.

12 Mr. Carlson, there's nothing on this  
13 form -- for instance on the form that I have in front  
14 of me, at the very bottom, on page Bates 29, do you  
15 see where this says:

16 Is this a hydric soil? And then it  
17 says "yes" in parentheses and "no" in parentheses?

18 THE WITNESS: I do.

19 JUDGE MORAN: Okay, and that's not marked, is  
20 it?

21 THE WITNESS: It is not.

22 JUDGE MORAN: Okay. So I think what Mr. Martin  
23 was trying to ask you is:

24 How in this document would one



1 conclude that, as you stated, that shows this sample  
2 to be hydric soil?

3 What information on this form tells an  
4 individual looking at the form that this is hydric  
5 soil, since the box is not checked?

6 THE WITNESS: In the first two columns under  
7 lowest depth, you have 0 to 5 and a half, 5 and a  
8 half to 9.

9 The matrix color was a 10 YR 4/1, that  
10 is a depleted matrix.

11 And then under redox, Fe Masses, which  
12 refers to iron masses, there is a percentage of them  
13 and a size and a color for those reduction masses,  
14 10 YR 4/4 and 7 YR 3/4 in the column beneath it.

15 Those colors together indicate a  
16 depleted matrix, and the colors themselves indicate a  
17 hydric soil.

18 JUDGE MORAN: Okay, thank you.

19 Go ahead Mr. Martin.

20 BY MR. MARTIN:

21 Q. And just to clarify:

22 Are these findings concerning these  
23 profile description forms, are they described in your  
24 inspection report?





1           A.    Yes.  The interpretation of the forms and  
2           conclusions are in the inspection report written part  
3           of it.

4           Q.    Thank you.  Let's turn to page 30.

5           A.    All right.

6           Q.    Was this soil data sheet identified in any  
7           way?

8           A.    Up on the top right, it's identified as S3.

9           Q.    Okay, in general, could you describe the  
10          findings, if any, regarding wetland soil vegetation  
11          hydrology documented on this form?

12          A.    In the hydric nature of the soils it's  
13          documented under the colors under the first two  
14          columns.

15                    You have a 10 YR 4/2 in the top part  
16          of this matrix.  And you have a 10 YR 4/1 beneath it.

17                    They both have redoximorphic  
18          concentrations to them.  They're within the upper  
19          part of the soil.

20                    So that is a depleted matrix in the  
21          upper part of the soil; it's a hydric soil.

22                    Oxidized rhizo spears are noted in the  
23          first column -- excuse me, the first row, last column  
24          under notes.



1                   It makes reference to up in the top  
2 right part of the form there's some handwritten notes  
3 there regarding drainage patterns in the wooded area.

4           Q.    Does that describe at the top right-hand  
5 corner of the form detailed side sketch; is that  
6 where you're referring?

7           A.    Right, that's correct. Under detailed side  
8 sketch, the top right of the form.

9           Q.    Go ahead.

10          A.    It also notes crawfish burrows.

11          Q.    And what does crawfish burrows indicate to  
12 you?

13          A.    Well, it's a biological indicator.  
14 Crawfish have gills, so they get oxygen from the  
15 water, from an aquatic environment.

16                   And generally, what it means to me is  
17 that at least in that location the water table is  
18 fairly near the surface, and the crawfish are using  
19 that so they have water in the bottom of their  
20 burrow.

21                   It's an indication of wetness on the  
22 site that that aquatic organism is living there.

23          Q.    I believe you already covered your written  
24 material on the notes section.



1                   Is there anything of significance  
2 written at the bottom of the page?

3           A.    The silt coats are mentioned.  The silt  
4 coats on the ped faces of the second soil horizon  
5 from 4 to 12 inches, and I believe Ward Lenz  
6 testified regarding the significance of the silt  
7 coats.

8           Q.    All right, turning to page 30 --

9           JUDGE MORAN:  And while you're getting ready to  
10 do that, Mr. Carlson, refresh my recollection if you  
11 didn't already state this:

12                   Are you the person who filled out  
13 these forms?  Is this your handwriting?

14           THE WITNESS:  No.

15           JUDGE MORAN:  Do you know whose handwriting it  
16 is?

17           THE WITNESS:  Under the top left, under  
18 recorder, that's Katherine Kelley.

19           JUDGE MORAN:  Okay, you can tell that by the  
20 initials?

21           THE WITNESS:  Right.

22           JUDGE MORAN:  And do you recognize her  
23 handwriting as well?

24           THE WITNESS:  And I remember she took the



1 notes.

2 JUDGE MORAN: Okay.

3 MR. MARTIN: Thank you, your Honor.

4 BY MR. MARTIN:

5 Q. Turning to page 31.

6 A. All right.

7 Q. Is this soil sample identified with a  
8 number?

9 A. On the top right though it's partially  
10 obliterated by the perforation from the three hole  
11 punch, it's S2.

12 Q. What's the reference -- what's the other  
13 reference on the top right?

14 A. Point two.

15 Q. Does this refer to the same soil boring  
16 location?

17 A. It does.

18 Q. Just to summarize your previous testimony  
19 and the explanation that is included in your  
20 inspection report, what findings, if any, of wetland  
21 soil vegetation and hydrology does this form  
22 document?

23 A. Similar to the previous two holes there  
24 under the first two rows, 0 to 8 inches.





1                   There's a depleted matrix with  
2 redoximorphic concentrations within it and that  
3 indicates it's a hydric soil.

4                   On the first two rows, far right  
5 column under notes, there's notes for oxidized rhizo  
6 spears which is a secondary indication of hydrology.

7                   The silt coats are mentioned on the  
8 bottom under the comments section, the bottom three  
9 lines. And the oxidized rhizo spears are also  
10 mention in there again.

11                   And then there's also a note. Third  
12 row, far right column under notes regarding organic  
13 and charcoal was found down to ten and a half inches.

14           Q.    And what can that organic debris and  
15 charcoal indicate to you?

16           A.    That the site soil had been disturbed and  
17 dredge material had been placed within it.

18           Q.    And is dredge material the same thing as  
19 fill material?

20           JUDGE MORAN: The same thing as what?

21           MR. MARTIN: The same thing as fill material.

22           THE WITNESS: Practically speaking it is, yes.

23           BY MR. MARTIN:

24           Q.    I'd like to turn your attention to what has



1       been marked Exhibit F on the easel to your right.

2           A.    Okay.

3           Q.    It's marked Exhibit F and it also has a  
4       label computation sheet at the top left.

5           JUDGE MORAN:  Let me just stop you here.

6                        Is this a previously admitted  
7       document?

8           MR. MARTIN:  This is part of the inspection  
9       report that we're currently discussing that has not  
10       been admitted.

11          JUDGE MORAN:  Right, but is it also in the  
12       binder?

13          MR. MARTIN:  It's actually the next document.  
14       It's at page 33.

15          JUDGE MORAN:  Okay.

16          MR. MARTIN:  This is a blowup.

17          JUDGE MORAN:  Yes.

18          MR. MARTIN:  And I'll --

19          JUDGE MORAN:  What's that?

20          MR. MARTIN:  Well, I'll just ask the witness.

21          JUDGE MORAN:  Okay, that's fine.

22       BY MR. MARTIN:

23           Q.    Mr. Carlson, do you recognize the document  
24       marked Exhibit F?



1 A. I do.

2 Q. And what is it?

3 A. It's my graphing scaling of the location of  
4 most of the data points that the U.S. EPA and the  
5 Corps did on the alleged violation site.

6 Q. Okay, I'd like to turn your attention to  
7 page 33 of the exhibit book?

8 A. All right.

9 Q. Is Exhibit F a copy of the document at  
10 page 33?

11 A. It is.

12 Q. Okay, let's keep our attention on Exhibit F  
13 just so it's easier for every one to see.

14 What underlying data is this figure  
15 based upon?

16 A. This is based upon the soil bore holes,  
17 most of the soil bore holes taken on-site.

18 Q. There's a figure, a hand-drawn figure  
19 on-site. What underlying data is that figure based  
20 on?

21 A. I'm not sure which line you're referring  
22 to.

23 Q. The curved figure as well as an L-shaped  
24 figure, I'm asking you what underlying data are those



1 drawings based on?

2 A. Those are based on the 1993 pre-disturbance  
3 aerial photo. And they depict -- the L-shape on the  
4 right-hand side is the altered Martin Branch channel,  
5 the north/south leg and the east/west leg. It's  
6 labeled as a new channel.

7 And on the western and northern edges,  
8 that line depicts the edges of the forested area that  
9 was on the site prior to disturbance.

10 Q. And, again, what was the purpose of  
11 creating this document?

12 A. It was for my own education to where the  
13 data points were located across the site.

14 Q. And when you refer to data points, are you  
15 referring to the soil boring locations?

16 A. That's correct.

17 Q. And are these the soil borings that were  
18 taken by Ward Lenz in February of 2000, as well as  
19 the sore borings that you yourself took in September  
20 of 2003?

21 A. Most of them, yes.

22 Q. Does this drawing plot the location of all  
23 the soil samples taken by the Corps of Engineers and  
24 the EPA?





1 A. No, it does not.

2 Q. Why not?

3 A. On the southwest there are a couple data  
4 points taken by Ward Lenz that weren't referenced to  
5 a benchmark, so the precise location of them wasn't  
6 known.

7 And then on the northeast corner of  
8 the site and the northern portion of the site there  
9 were four other points taken that don't fit on the  
10 scale of this drawing.

11 Q. Okay. You referenced the first two samples  
12 that the locations weren't known?

13 A. They weren't precisely known.

14 Q. Are you aware of where those locations are  
15 now?

16 A. Yes.

17 Q. Okay.

18 MR. MARTIN: With the Court's permission I'm  
19 going to now ask you to approach Exhibit F,  
20 Mr. Carlson, and I'm going to ask you to mark on  
21 Exhibit F the location -- first of all, starting with  
22 EPA sample locations.

23 JUDGE MORAN: He's going to mark the locations  
24 that he just said it was not precisely known where



1 they were taken.

2 MR. MARTIN: Actually, we're completed with  
3 that discussion for the moment.

4 And I'm going to ask Mr. Carlson to  
5 mark the locations of the of the EPA samples which  
6 are known.

7 JUDGE MORAN: Okay. You can go up to that.

8 Do you have a marker available?

9 BY MR. MARTIN:

10 Q. Okay, starting with the EPA reference site,  
11 I'd like for you to circle the EPA locations and  
12 label them with the identification designations that  
13 you just discussed?

14 A. Okay. On the lower southwest corner of  
15 Exhibit F, the last data point on the third transect,  
16 in other words, the western-most data point is  
17 labeled S1 and it's circled in red.

18 The western-most data point on this  
19 first transect, which is labeled T-1 on Exhibit F,  
20 the western-most data point has been circled and has  
21 been labeled S2.

22 Then, on the top right-hand side of  
23 Exhibit F, another data point has been circled and  
24 labeled S3.



1 Q. So just to summarize, you have just circled  
2 S1 and labeled S1, S2, and S3 and these are EPA  
3 sample locations at the site of the alleged  
4 violation?

5 A. There's another one but these are the  
6 labeled one.

7 JUDGE MORAN: Well, he didn't ask if there's  
8 another one. Why don't you try and just answer the  
9 questions that Mr. Martin asks you.

10 Don't volunteer information, please.

11 BY MR. MARTIN:

12 Q. What other sample location did you attempt  
13 to take at the site?

14 A. On transect labeled T1, the third data  
15 point to the left, was another attempted data point.

16 Q. Okay, could you circle that point and label  
17 it failed data point.

18 MR. SMALL: Your Honor, I'm going to object to  
19 the relevancy.

20 If it's failed, why are we wasting our  
21 time?

22 JUDGE MORAN: I'm not aware. I don't know why.  
23 But I'm going to allow him to do that. There may be  
24 a purpose that I'm not aware of. I don't know. I'm



1 going to allow that.

2 Go ahead, Mr. Martin.

3 MR. MARTIN: Just to respond.

4 JUDGE MORAN: No. You won, so move on.

5 MR. MARTIN: If you could go ahead and label  
6 that location with the designation I just mentioned.

7 THE WITNESS: Okay. I just labeled the third  
8 data point on the transect labeled 21, it's the third  
9 data point to the left, circled in red and labeled it  
10 failed data point.

11 BY MR. MARTIN:

12 Q. Why were you unable to obtain data at this  
13 point?

14 A. Well, we did obtain -- well, it was  
15 unsampleable because of charcoal debris.

16 Q. And is charcoal debris the same thing as  
17 fill material?

18 A. It can be, yes.

19 Q. Now are you aware of the Corps of Engineers  
20 samples on Exhibit F?

21 A. Yes.

22 Q. Okay, I'm going to ask you now to circle --  
23 actually, you don't need to circle them.

24 Just label the Corps of Engineers





1 samples with the identification designations that  
2 Ward Lenz gave, the sample locations starting with  
3 the northern most samples.

4 A. Okay, on Transect one which is labeled T1  
5 with an arrow on Exhibit F, the first data point to  
6 the left of that symbol is Transect one and point  
7 one. So, I labeled that T11.

8 The second point over is Transect 1  
9 point two, so I labeled that T12.

10 Dropping down to the middle transect  
11 which is labeled T2 which an arrow pointing to the  
12 transect line on Exhibit F.

13 The first data point to the west or  
14 left of that T2 symbol is T2 point 1 labeled T21.

15 The next data point to the left or  
16 west of that is T2 point two designated T22.

17 The next point over is to the west or  
18 left is labeled T23 for transect two point 3.

19 Going further to the left or west,  
20 I've labeled the western-most point on transect two  
21 and transect T24 for transect two point four.

22 And moving to the last transect on the  
23 south end of the site which is labeled T3 with an  
24 arrow pointing at it on Exhibit F.



1                   The first data point to the left or  
2 west of that symbol, I've labeled T31 for transect 3  
3 point one.

4                   And then the next symbol over, I would  
5 need to refresh my recollection on those two data  
6 points.

7 BY MR. MARTIN:

8           Q.    That would be included in Mr. Ward Lenz's  
9 inspection report, which is Exhibit 8?

10           JUDGE MORAN: Do you want to direct him to a  
11 particular page, Counsel?

12                   And while he's doing that I would just  
13 comment that one of the obvious reasons why EPA may  
14 have wanted to identify a failed data point would be  
15 if Counsel for Respondent could argue that that  
16 tended to show that it is not a hydric soil.

17                   And so there's been an explanation put  
18 forth as to why there was a failing.

19                   I don't know what's going on in the  
20 mind of EPA Counsel, but that's just something that's  
21 possible.

22 BY MR. MARTIN:

23           Q.    Data sheets start at page --

24           A.    Okay, going back to Transect 3, the second



1 data point to the left is labeled T33 for transect 3  
2 point 3.

3 The one to the left, the next data  
4 point to the left of that is labeled a little  
5 differently. It's labeled T31B for transect 3 point  
6 one B.

7 And then the next data point to the  
8 left of that or west is labeled T34 for transect 3  
9 point 4.

10 Q. Can I just ask you, Mr. Carlson, you  
11 started in transect 3 to 31, are you saying the next  
12 transect designation is 33?

13 A. It is based on Ward's data forms, yes.

14 Q. Okay, and the next is 31B?

15 A. One B, that's correct.

16 Q. Still looking at exhibit F, there are  
17 circles that are located at the soil boring  
18 locations, and some are shaded circles.

19 What is the significance of the shaded  
20 circles on Exhibit F?

21 A. The shaded circles are hydric soil points.

22 Q. Okay, thank you.

23 Turning back to Complainant's  
24 Exhibit 7, your inspection report from your first



1 inspection on page 26?

2 A. Page 26?

3 Q. Yes.

4 A. All right.

5 Q. At about the middle of the page there,  
6 there's a reference to a meeting with the Hesper  
7 brothers after you took these samples.

8 Can you summarize this meeting and  
9 what was discussed?

10 A. Well, we explained to the Hesper brothers,  
11 their father, and their legal Counsel that EPA had  
12 received a referral from the Corps of Engineers and  
13 were investigating that referral under Section 404 of  
14 the Clean Water Act.

15 And I told them that no decision had  
16 been made at this time. I was the investigator.

17 And then I let them know the possible  
18 scenarios or outcomes that could come from this point  
19 on, from basically no action to a formal enforcement.

20 Q. Anything else?

21 JUDGE MORAN: You can ask questions -- when the  
22 witness is not responding fully, you can ask him  
23 questions to focus his attention on a particular part  
24 of the report, Mr. Martin.





1 MR. MARTIN: Okay.

2 THE WITNESS: I don't have any other  
3 recollection at this time.

4 MR. MARTIN: Okay.

5 BY MR. MARTIN:

6 Q. Please turn to page 27 and page 28 of  
7 Complainant's Exhibit seven?

8 A. All right.

9 Q. There's a reference at the bottom of the  
10 page continuing on the next page to a view of the  
11 aerial photographs. Do you see that?

12 A. I do.

13 Q. What does this refer to?

14 A. This refers to my work at the United States  
15 Department of Agriculture, Natural Resources  
16 Conservation Service Office in Salem, Illinois.

17 And I'm looking at their in-house  
18 aerial photographic. And I'm looking at the 1993 to  
19 1994 photography.

20 I'm looking at that sheet that was in  
21 Ward's notes with the 1998 data on it. And I'm  
22 looking at the crop slides. And I make particular  
23 note of the 1999 crop side.

24 And then I just make a note in a time



1 sequence manner later in '99 we have the initial  
2 Heser Complaint and videotape.

3 And then he made a note about what the  
4 Corps found or verified in February of 2000 when they  
5 inspected the site.

6 Q. Okay. And with regard to the review of the  
7 crop sides and the aerial photographs, does this  
8 summarize your review of USDA crop slides and aerial  
9 photographs that you previously testified to?

10 A. Well, this is a subset of though those.  
11 This is not all of the ones I had previously talked  
12 about.

13 Q. But it's part of your review at the USDA  
14 Office

15 A. That's correct.

16 Q. By the way, at the bottom of the page 27,  
17 there's a reference to the 1998 USDA FSA aerial  
18 photograph?

19 A. I see that.

20 Q. Is the date referenced in your inspection  
21 report correct?

22 A. It's correct as to what was on that photo  
23 print.

24 Q. But as we have discovered, what is the date



1 portrayed on that aerial photograph?

2 A. The 1998 aerial photograph is actually the  
3 1993 photograph same photograph.

4 Q. We've had previous testimony on this issue  
5 as well; is that correct?

6 A. We have.

7 Q. Did you ever get an explanation from the  
8 USDA office on these dates?

9 A. Yes.

10 Q. And what was that explanation?

11 MR. NORTHRUP: Objection, hearsay.

12 JUDGE MORAN: Overruled.

13 THE WITNESS: I'm sorry, where are we at now?

14 BY MR. MARTIN:

15 Q. What was that recollection?

16 A. That they used 1993 as their baseline map  
17 and make many photographs of that per year.

18 And whatever particular year they're  
19 in when they're doing work on it, they just put that  
20 date on the photograph.

21 Q. Okay, thank you. Please turn to page 34,  
22 Complainant's Exhibit 7.

23 A. (So complied with request.)

24 Q. On this page appears two hand drawn



1 figures. Do you recognize these drawings?

2 A. I do.

3 Q. And what are they?

4 A. This is what I call a trace.

5 In other words, on the top part of the  
6 photograph - this is the 1999 crop slide from the  
7 USDA office.

8 I have it projected on a screen. I  
9 put my trace paper over the screen and I trace off  
10 the features of the site on to the trace.

11 The F denotes field. There's a  
12 particular note about -- about cleared and crop  
13 section in the alleged violation site, sort of just  
14 to the left of center of that trace.

15 JUDGE MORAN: Did you create this document,  
16 Mr. Carlson?

17 THE WITNESS: I did.

18 JUDGE MORAN: And you did it by -- you put  
19 tracing paper over a screen where this image was  
20 being projected onto the screen?

21 THE WITNESS: That is correct.

22 JUDGE MORAN: Okay.

23 THE WITNESS: And in the bottom half - those  
24 got cut off - this is the 1993 photography.





1                   And this was my trace of the site from  
2 the 1993. This would not have been projected. This  
3 would have just been a flat photo print.

4                   And, again, the F denotes fields. I  
5 particularly noted a 14.4 acre field which is to the  
6 west and north of the alleged violation site.

7                   The alleged violation site is just to  
8 the southeast of the 14.4 acre F left polygon.

9 BY MR. MARTIN:

10           Q.    What was the purpose of making these  
11 drawings?

12           A.    This is helping me tract the trends on the  
13 site in terms of what changes are happening on the  
14 site over time.

15           Q.    What did you find about what changes were  
16 made over time from this analysis?

17           A.    That we had a forested system which a  
18 stream moving through it or bisecting it and then  
19 that eventually changed to a crop field.

20           Q.    So in 1993 the aerial photograph traced on  
21 the bottom shows a forested area.

22                   And the 1999 trace material shows the  
23 filled areas?

24           A.    On the northwest portion of the site in



1 1999. In other words, the clearance is not completed  
2 in 1999.

3 Q. Is that the area referenced as clear crop?

4 A. That's correct.

5 Q. I'd like you to turn to pages 35 to 38 in  
6 your inspection report.

7 A. All right.

8 Q. Do you recognize these pictures?

9 A. I do.

10 Q. What are they?

11 A. They are photographs of the site and --  
12 there are photographs of the site, there is  
13 photographs of the reference site and there is  
14 photographs from off site.

15 Q. Okay, did you take these pictures?

16 A. I did.

17 Q. Was there anyone else with you when you  
18 took these pictures?

19 A. On some of them, yes.

20 Q. Who was with you on some of them?

21 A. On 37 and 38 Ward Lenz and Katherine Kelley  
22 were with me. On 35 and 36, I'm by myself.

23 Q. Do these pictures accurately depict your  
24 observations at or around the site?



1 A. They do.

2 Q. Mr. Carlson, please look at the picture on  
3 page 35.

4 A. All right.

5 Q. First of all, where is this picture in  
6 relation to the site of the alleged violation?

7 A. This is the first Downstream Road crossing  
8 of the site at Old Salem Road, and I'm looking  
9 upstream from the culverted crossing of Martin Branch  
10 on Old Salem Road.

11 Q. And why did you take this picture?

12 A. To document what the channel looked like.  
13 To document the water in the channel.

14 Q. What -- strike that.

15 What is significant about this  
16 picture?

17 A. Well, in the bottom central portion of the  
18 photo in embarking just a little bit up towards the  
19 northwest or upper left, the darkened area is water  
20 in the Martin Branch channel.

21 So it's documenting the water in the  
22 channel is the most significant part of that.

23 Otherwise, it's a forested riparian  
24 corridor around the channel.



1 Q. Do you recall seeing any aquatic organisms  
2 at this location?

3 A. Yes. At the location in the photograph  
4 there were minnows in the water. I think I noted  
5 five minnows or minnow-sized fish.

6 And I scared up a frog in this  
7 location.

8 Q. And what the significance of that?

9 A. Well, it's significant that -- the  
10 significance of the flow in the stream is that these  
11 aquatic organisms are using it.

12 Q. Turning to page 36 --

13 A. All right.

14 Q. Where was this photo taken in relation to  
15 the site of the alleged violation?

16 A. Turn yourself around 180 degrees, go to the  
17 other side of the road and look downstream at the  
18 Martin Branch channel after it comes under Old Salem  
19 Road.

20 Q. So this is -- both the first two photos  
21 were downstream of the alleged violation?

22 A. Right, both photos are downstream of the  
23 site.

24 Q. And why did you take this photograph?





1           A.    To document the channel conditions.

2           Q.    And what are the channel conditions?

3           A.    Well, again, in the center part of the  
4 photograph, there's ponded water there.

5                        You can see some of the riprap in the  
6 bottom of the photograph that's placed there for  
7 stability purposes.

8                        On the other side of the water,  
9 further into the picture, higher into the picture  
10 about 2 inches from the center, you can also see more  
11 rocks in the channel.

12                       So, again, it's just showing Martin  
13 Branch moving through a forested riparian corridor.  
14 The only difference in this photograph is there's  
15 more rock involved on the channel bottom than there  
16 was upstream.

17           Q.    And you testified the rock was there for  
18 stability purposes.

19                       What is the significance of that?

20           A.    Well, the stability was referencing the  
21 rocks on the bottom of the photograph, not  
22 necessarily rocks at the top of the photograph.

23                       So the significance was that -- that  
24 riprap on the bottom is part of the work by the



1 Highway Commissioner to stabilize that culverted area  
2 so it doesn't blow out.

3 Q. And why was that area in need of  
4 stabilization?

5 A. Well, the Highway Commissioner was  
6 concerned about the flows over the road flowing out  
7 the culvert.

8 Q. And how do you know that?

9 A. I talked to the Highway Commissioner -- or  
10 actually, I think he's referred to as the Township  
11 Road Commissioner, not the highway. It's not a  
12 highway, it's a township road.

13 Q. So you discussed this with him and he had  
14 personal knowledge about the purpose of this riprap  
15 that you've mentioned?

16 A. That's correct.

17 Q. Could you turn to page 37, please.

18 A. All right.

19 Q. Now first of all, where was this photo  
20 taken in relation to the site of the alleged  
21 violation?

22 A. I'm at the site and I'm very near data  
23 point S1.

24 Q. So you're at the site of the alleged



1 violation in this photograph?

2 A. That's correct.

3 Q. And why did you take this photo?

4 A. Well, this photograph documented fill  
5 material over a natural surface horizon.

6 Q. And how does this photo document fill  
7 material?

8 A. Well, in the center of the photograph going  
9 left to right you see a soil probe. And there's a  
10 Swiss Army knife at the right-hand side of that for  
11 scale purposes.

12 The top four inches of that is a  
13 brighter colored material that had woody debris in it  
14 and that laid over the top of about two inches of  
15 charcoal.

16 And that laid over the natural  
17 surface.

18 And so that was an indication of about  
19 six inches of fill material at that particular  
20 location.

21 Q. When you mentioned the top portion of the  
22 material, does that refer to the material closer to  
23 the Swiss Army knife?

24 A. That's correct.



1 Q. Okay, turning to page 38.

2 A. All right.

3 Q. First of all, where was this photo taken?

4 A. This photo was taken as the data collection  
5 point S3 at the reference site.

6 Q. And data collection point S3 is EPA  
7 reference site; is that correct?

8 A. That's correct.

9 Q. Why did you take this photograph?

10 A. To document the conditions of the reference  
11 site.

12 Q. What is significant about what is portrayed  
13 in this photograph?

14 A. Generally that year in a forested system  
15 with abundance of shrubs and herbaceous layer in it.

16 Q. Could you characterize the habitat that is  
17 shown on this photograph?

18 A. I'm sorry, I didn't hear that.

19 Q. Characterize the habitat that is shown on  
20 this photograph.

21 JUDGE MORAN: Is your mic on?

22 MR. MARTIN: I guess.

23 THE WITNESS: Again, this is reference point  
24 and it was a wetlands.





1                   So this is a forested wetlands system.  
2           And it's characterized by a dominance of trees that  
3           provide canopy cover, but there's enough light in it  
4           that there's an abundance of shrubs growing and  
5           herbaceous material growing on the surface.

6                   So this is a forested wetland flood  
7           plane adjacent to Martin Branch.

8           BY MR. MARTIN:

9           Q.    Mr. Carlson, is this where why you took  
10           your vegetation dominance test under the 1987 Corps  
11           of Engineers manual?

12           A.    Yes.

13           JUDGE MORAN:   At S3?

14           THE WITNESS:   That's correct.

15           BY MR. MARTIN:

16           Q.    Mr. Carlson, I'm going to ask you about  
17           your overall observations of wildlife and habitat at  
18           the site during your first inspection.

19                    During this inspection what, if any,  
20           wildlife and/or aquatic life did you observe at or  
21           around the site of the alleged violation?

22           A.    Okay, well other than what I testified to  
23           earlier around Old Salem Road culvert crossing, this  
24           site had the crawfish burrows on the soil surface.



1                   Footprints of small mammals, probably  
2 skunk, raccoon, possum, and deer tracks.

3                   It's generally an intact riparian  
4 corridor that borders Martin Branch on this site.

5           Q.    First of all there, this wildlife that you  
6 just referenced, the tracks that you saw, does that  
7 wildlife depend on habitat provided by forested  
8 wetlands?

9           A.    I would say yes for the crawfish.  Other  
10 mammals that I mentioned use the area, but they don't  
11 necessarily reside there full time.

12          Q.    Turning to the habitat, first of all, what  
13 habitat did you observe upstream and downstream of  
14 the site of the alleged violation?

15          A.    Generally, an intact riparian corridor, in  
16 other words, a forested structure adjacent to either  
17 side of the banks of Martin Branch of varying widths.

18                   But it's essentially continuous other  
19 than the site, from upstream probably about a half  
20 mile to pretty much all the way down to Lake  
21 Centralia other than road crosses.

22          Q.    How, if at all, did the alleged violation  
23 in the case affect habitat at the site of the alleged  
24 violation?



1           A.    Well, clearing out the riparian corridor  
2           and riparian crops, you could have possibly destroyed  
3           any organisms that live in the soil or on the soil  
4           that couldn't move out of the way of the equipment.

5                         Other than that, it would have  
6           disrupted the corridor.

7                         And essentially by disrupting the  
8           corridor, you're removing the cover of the corridor.

9                         So in other words, there would be  
10          probably increased predation if animals are crossing  
11          an open area rather than where they can hide  
12          themselves.

13                        It obviously took away any sort of  
14          area where they could feed at that location, rest at  
15          that location, forage at that location, other than to  
16          the extent that animals may eat soybeans.

17          Q.    Did the activities at the site of the  
18          alleged violation affect the animals' ability to  
19          migrate?

20                A.   It would have been an adverse impact for  
21          migration in the sense that it's a much thinner  
22          corridor at that location.

23                        And, again, you're more exposed to  
24          predation when you're in a open area than you are in



1 a covered area.

2 Q. Okay, Mr. Carlson, looking back at EPA  
3 Exhibit 7 as a whole, which seven starts at page 22  
4 and goes to page 38, is this a true accurate,  
5 complete copy of your inspection report documenting  
6 September 18th 2003 inspection of the site?

7 A. It is.

8 Q. Is this exhibit part of EPA's official case  
9 filed in this matter?

10 A. It is.

11 MR. MARTIN: Your Honor, at this time I'd like  
12 to admit exhibit is seven into the record.

13 MR. NORTHRUP: No objection to bringing it in.

14 JUDGE MORAN: Okay.

15 Complainant's Exhibit 7 is admitted,  
16 CX7.

17 (WHEREUPON, Complainant's Exhibit

18 Number 7 was admitted

19 into the record.)

20 BY MR. MARTIN:

21 Q. Mr. Carlson, let's move on to a different  
22 topic here:

23 Summarizing your prior testimony in  
24 this matter, did you testify that based on your





1 observation you found wetlands at the site of the  
2 alleged violation; is that correct?

3 A. That's correct.

4 Q. All right, you earlier testified that based  
5 on your findings and after further work you found  
6 approximately 2.1 acres of wetland on the site of the  
7 alleged violation?

8 A. Yes, of forested wetlands.

9 Q. In general, what further work where you  
10 referring to that you conducted to find the 2.1 acres  
11 of wetlands on the site of the alleged violation?

12 A. Generally, that was their air photo review  
13 and air photo interpretation work.

14 Q. Aerial photo interpretation work?

15 A. Correct.

16 Q. What documents and other tools did you use  
17 to undertake this aerial interpretation work?

18 A. I obtained pre-disturbance aerial  
19 photograph in stereoscopic fashion.

20 In other words, I had two aerial photo  
21 prints from 1993 that overlap so I could see this  
22 site in stereo, which means seen in three dimensions.  
23 You can see depth, height.

24 And to do stereoscopic analysis, I had



1 a mirror, what's called a mirror stereoscope. I had  
2 an engineer's scale. I have a dot grid I'm using to  
3 measure acreage.

4 I use a string to measure string  
5 length. I have a light cable, and there's a  
6 magnifier, three times magnifier on the stereoscope.

7 Q. Did you use anything else to actually write  
8 on to the aerial photographs of your findings?

9 A. Yes. To do the actual interpretation I  
10 used a transparent sheet of paper to draw my  
11 conclusions on in terms of polygons or linear  
12 features on the site.

13 Q. Okay. You mentioned polygon, what is a  
14 polygon?

15 A. Polygon refers to a many-sided figure.  
16 Figure means closed. It's a closed figure. The  
17 circle is closed.

18 Q. Okay. And in this analysis of the aerial  
19 photograph you were look at wetland boundaries.

20 But you were also looking to locate  
21 Martin Branch; is that correct?

22 A. That's correct.

23 Q. You mentioned stereoscope, could you  
24 describe that a little bit further?



1           A.    Well, a mirror stereo scope has two mirrors  
2           on it, and they reflect image from the two aerial  
3           photographs.

4                        So on your right eye is looking at the  
5           image on one side and your left eye is looking at the  
6           image on the other photo print and the mirror is  
7           reflected up into your eye piece so that you can see  
8           in stereo.

9                        It's about 14 inches long, maybe about  
10          7 inches high.  And it's got an eye piece on it in  
11          the middle that you look into.  It's got mirrors on  
12          its flanks that reflect up the images.

13          Q.    And when you say you can see in stereo, are  
14          you also saying you can see in three dimensions?

15          A.    Correct.

16          Q.    You mentioned you need a stereo pair of  
17          aerial photographs, what does that mean?

18          A.    That refers to -- the aerial photography  
19          you have to -- the two photographs have an overlap.

20                        And it's within that overlap, in other  
21          words, each photo is taken from a different direction  
22          in the sky but it's covering the same area.

23                        And it's that different angles that  
24          allow you to see in stereo.



1                   So it's within the overlap of the two  
2 photographs that you can see in stereo.

3           Q.    So these two aerial photographs were taken  
4 by the same camera but at a different time; is that a  
5 fair way to characterize it?

6           A.    Yeah, just probably seconds of time  
7 difference.

8           Q.    In general, how are these two aerial  
9 photographs analyzed by a stereoscope?

10          A.    Well, their positioned so that I can see  
11 them in stereo with a stereoscope.

12                   And then I'm interpreting the image  
13 that I'm seeing based on what I see and all I know  
14 about the site. Interpretation includes everything.

15          JUDGE MORAN: Let's take a five-minute break.

16                                   (Whereupon a short recess was  
17                                   taken.)

18 BY MR. MARTIN:

19          Q.    Mr. Carlson, you mentioned that the  
20 stereoscope needed a magnifier; is that correct?

21          A.    That's correct.

22          Q.    Does that help you see the site?

23          A.    Yes.

24          Q.    In general, how did you reference a





1 transparent overlay, how did you use that transparent  
2 overlay?

3 A. You have to pick one of the two photos to  
4 use it on - I picked the photo that had the best  
5 resolution, in other words, the clarity of the of  
6 view of the site - and simply tape it in place so  
7 that you can lift it up and put it back down, lift it  
8 up and put it back down as you're looking at things.

9 Q. Okay, I'd like to direct your attention to  
10 what's been marked Exhibit G on the easel before you.  
11 The exhibit is not visible -- well, it's marked  
12 exhibit --

13 JUDGE MORAN: You have to keep to keep your  
14 voice up, Mr. Martin, please.

15 BY MR. MARTIN:

16 Q. I'd like to direct your attention Exhibit G  
17 on the easel before you.

18 A. All right.

19 Q. Do you recognize this document?

20 A. I do.

21 Q. What is it?

22 A. It's two aerial photographs, 1993 aerial  
23 photographs that contains a view of the site.

24 There's two of them; they overlap.



1 And they've been taped together to show the  
2 approximate distance between the two identical images  
3 where you would put your stereoscope.

4 Q. Does this represent your stereoscopic  
5 analysis of the aerial photographs in this case?

6 A. Yes, the interpretation drawings are on the  
7 overlay. That overlays the alleged violation site.

8 Q. So you put together this document?

9 A. Yes, I did.

10 Q. Which is two aerial photographs and a  
11 transparent overlay?

12 A. Correct.

13 Q. Okay, you mentioned you used the 1993  
14 photograph. Why did you pick this year?

15 A. The major reason it's before the  
16 disturbance of the site.

17 And, secondly, it's a very good  
18 photograph. I had seen it at the USDA Office  
19 previously and it had a very good resolution.

20 And it also had some wetness  
21 indicators that showed me that I would be able to  
22 see -- if there was water, I would be able to see it  
23 fairly well.

24 Q. Okay, looking at Exhibit G, the transparent



1 overlay on Exhibit G, is your analysis still visible  
2 on this transparent overlay?

3 A. Yes, if you get up close to it you can see  
4 it.

5 Q. Generally, what information did you write  
6 onto this transparent overlay?

7 A. I wrote at the top of it the information  
8 about the photo, its date and its number or code.

9 On the upper right-hand corner I put a  
10 scale, one inch equals 404 feet, with a northern  
11 arrow pointing up.

12 Then on the site itself, I outlined  
13 the outer edges of the forested parts of the site in  
14 green.

15 I placed the new channel on it, the  
16 north/south and the east/west legs and labeled them  
17 new channel approximate.

18 And, generally, I used red for the  
19 most part. I used red to trace the main Martin  
20 Branch channel through the site.

21 I used blue ink to denote what I  
22 determine to be wetland versus upland areas.

23 I used the wetland symbol to denote  
24 the wetland polygons. I used the "U" symbol to



1 denote the upland polygons.

2 And there's a third feature in there  
3 that I call linear depressions or channel scars, and  
4 I believe those were done mostly in black ink.

5 JUDGE MORAN: And define polygons for me again.

6 THE WITNESS: It's a many sided closed figure.

7 BY MR. MARTIN:

8 Q. Just going through the general marking on  
9 the transparent overlay, did you also mark the  
10 locations of the soil borings?

11 A. Oh, yes, I did.

12 Q. That you and Ward Lenz took at the site?

13 A. I'm sorry, yes, I did.

14 Q. The answer is yes?

15 A. Yes.

16 Q. You noted that you marked onto the  
17 transparent overlay, the scale of the photograph.  
18 What was the scale?

19 A. One inch equals 404 feet.

20 Q. Why is that?

21 A. Well, a scale is important to locate things  
22 on the site.

23 In this instance, particularly because  
24 you measured things on-site you need to be able to





1 scale them off from your notes on to the photograph.

2 So you need to know what the scale is.

3 Q. Okay, going back to your analysis, when you  
4 looked at these aerial photographs with your  
5 stereoscope, what information in these photos were  
6 you looking at?

7 A. The general things you're looking at is the  
8 shape of things.

9 You're looking at the color or tone of  
10 things. You're looking at the texture of things.

11 And you're looking -- in terms of the  
12 three dimensions, you're looking at higher versus  
13 lower areas.

14 Q. With regard to the last thing you  
15 mentioned, the three dimensions, is that also  
16 referred to verticality?

17 A. I've heard that term used before, yes.

18 JUDGE MORAN: Well, that wasn't the question.

19 You just said you've heard the term  
20 used. But the question was that the same difference,  
21 verticality, you said?

22 MR. MARTIN: Verticality.

23 BY MR. MARTIN:

24 Q. Is that another term for seeing in three



1 dimensions?

2 A. Yes.

3 Q. Could you describe the significance of tone  
4 in looking at aerial photographs?

5 A. Yeah, tone and color are essentially  
6 together.

7 And the significance - and this is a  
8 black and white photograph - is that generally  
9 speaking, when you do photo interpretation looking at  
10 color and tone, water areas, either inundated areas,  
11 saturated areas or moist areas, the electromagnetic  
12 spectrum that makes a photograph, those rays are  
13 absorbed by water, so they show up darker.

14 That's the major significance of a  
15 darker area with regard to water impacts.

16 And conversely, dryer areas generally  
17 won't show that same darkness. They'll show a  
18 lighter tone in color.

19 Q. Do these dark areas also say anything about  
20 the type of soils in that area?

21 A. Well, what they say is the darker areas are  
22 the lower areas.

23 Q. Does that say anything about the type of  
24 soil in those lower areas?



1           A.   Well, generally speaking, it's more likely  
2   that that's -- if there are hydric soils that's where  
3   they would be.

4           Q.   And why is that?

5           A.   Because the lower areas are collecting the  
6   water, and the water influences the color and  
7   features in the soil.

8           Q.   Okay, you also mentioned texture.  What is  
9   the significance of texture in analyzing an aerial  
10  photograph for wetlands delineation purposes?

11          A.   Well, in this particular instance I used it  
12  to compare and contrast areas.

13                       For instance on the reference site,  
14  that was an area I knew -- we determined was wetland.

15                       So I looked at that and looked at its  
16  texture for instance to see if there were any similar  
17  areas of texture on the alleged violation site.

18                       So I'm looking for similar areas based  
19  on texture.  And the conclusion I'm drawing is  
20  similar textured areas are with similar vegetative  
21  communities.

22          Q.   Okay.  So what things are on the ground  
23  affect the texture of the photograph?

24          A.   Well, you're essentially looking at plants,



1 trees , shrubs, herbaceous layer, that's what's  
2 showing you texture.

3 Soil can also show you texture. But,  
4 generally, in a forested area you're not seeing that  
5 as well as you can see all the vegetation.

6 Q. Okay, finally, if you could describe the  
7 significance of seeing in three dimensions through  
8 the stereoscope in delineating wetlands?

9 A. Well, that, of course, the key is  
10 stereoscopy.

11 Well, at a site like this, the  
12 differences between high and low are relatively  
13 subtle.

14 And what you can see in stereoscope is  
15 you can essentially see concave - which are depressed  
16 areas - versus a convex shaped area.

17 Like if you had a spoon and put it up  
18 top bump, that would be the convex.

19 Turn that spoon over, the part you  
20 take your soup out of, that's concave.

21 You have that sort of land forms in  
22 this flood plane. You have higher areas and you have  
23 lower depressional areas.

24 Q. So what's the significance of a concave





1 area as opposed to a convex area in delineating  
2 wetlands?

3 A. Well, are going to be your depressional  
4 area that collect water more so than the convex  
5 areas.

6 Q. So, in general, how did you conduct your  
7 analysis of the wetland - non-wetland boundaries at  
8 the site of the alleged violation with the help of  
9 these aerial photographs in stereoscope, just a  
10 summary?

11 A. Well, in summary, I first put the features  
12 on-site that I know of. And the major feature would  
13 be the altered channel, so that's north/south and  
14 east/west legs of the altered channel.

15 Because that's where everything is  
16 measured from on the site.

17 And then I located at the transect  
18 points and the other data points that I knew of,  
19 where I could precisely locate them.

20 And those are all scaled onto that  
21 map, on that overlay.

22 So I know where all hydric and  
23 non-hydric data points are when I'm looking at it.

24 And I'm also comparing it to the



1 reference site, because I've concluded there is  
2 wetland there.

3                   And you do your stereoscope and you're  
4 looking for that verticality, that convex, concave  
5 areas.

6                   And you're looking for the color and  
7 the texture.

8                   And also, when you're doing  
9 interpretation, you're accounting for everything that  
10 you know about the site.

11                   In other words, interpretation is not  
12 science. Interpretation is how much you know and  
13 what you know and how you interpret it.

14                   For instance, in the big picture I  
15 know I'm in a valley and that there's a stream moving  
16 through that valley.

17                   So I generally know that's where the  
18 water is running through and I know it floods.

19                   I know something about the soil survey  
20 and the soils there, that's there's Birds soil unit;  
21 it's depressional in the Hoyleton frequently flooded  
22 soil unit.

23                   So that's other information that I'm  
24 taking into account.



1                   But to actually draw the polygons, I'm  
2 basically correlating -- I see depressional areas  
3 that are a darker background which tells me that  
4 those are the areas where water is collected.

5                   And you have either inundation or  
6 moister soil that's showing up dark. And they  
7 correlate with depressions, and they correlate with  
8 hydric soil units, more or less.

9                   And so I draw my polygons around the  
10 individual areas I think are depressional and wet.

11                   And I also draw my polygons around the  
12 areas that I don't think are. And I'm also drawing  
13 in linear areas that are depressed and dark.

14           Q.    When you say linear areas, are you  
15 referring to streams and tributaries?

16           A.    Yes, streams, tributaries, channel scars.

17           Q.    In general, how could you characterize the  
18 upland areas? Are they concave or convex?

19           A.    The upland areas are going to be convex and  
20 they're going to be generally a lighter color.

21           Q.    Okay, Mr. Carlson, looking at Exhibit G,  
22 are these documents that are taped together, two  
23 aerial photographs and the transparent overlay, are  
24 they the original documents upon which you analyzed



1 wetlands on the stream channel on the site of the  
2 alleged violation?

3 A. Yes.

4 Q. Is it a true, accurate and complete copy?

5 A. Yes.

6 MR. MARTIN: Your Honor, I'd like to move at  
7 this time to include Exhibit G into the record.

8 JUDGE MORAN: Well, it's my understanding  
9 there's not a copy.

10 MR. MARTIN: This is the original.

11 JUDGE MORAN: Okay.

12 And let me just ask you a question  
13 about that, Mr. Carlson:

14 The overlay is sort of in the center  
15 of that exhibit?

16 THE WITNESS: Yes.

17 JUDGE MORAN: And is it attached on there? Can  
18 one lift it up or is it fixed, affixed onto the --

19 THE WITNESS: It's taped on the top edge, so  
20 you can lift it up.

21 JUDGE MORAN: Okay.

22 MR. NORTHRUP: We would object.

23 I don't think we've ever seen this  
24 document before. We've seen the aerial photos, but





1 we've never seen this with the hand drawings or  
2 anything like that, so we would object.

3 JUDGE MORAN: Okay.

4 But it is a demonstrative exhibit and  
5 you'll be able to ask questions about it on  
6 cross-examination.

7 So I'm overruling the objection, and  
8 admitting EPA Exhibit G.

9 (WHEREUPON, Complainant's  
10 Exhibit Number G was admitted  
11 into the record.)

12 BY MR. MARTIN:

13 Q. Just a couple follow-up questions on  
14 Exhibit G:

15 The analysis that is reflected on  
16 Exhibit G, is that a generally accepted analysis used  
17 by wetland delineators?

18 A. Doing aerial photo interpretation, yes.

19 Q. And scaling the results of that analysis on  
20 to transparent overlay?

21 A. Yes.

22 Q. And how many times have you done conducted  
23 an analysis similar to that reflected on Exhibit G?

24 A. I'd say roughly around 75 to 100.



1 JUDGE MORAN: Would you like to move on to  
2 another exhibit now?

3 MR. MARTIN: Yes, sir.

4 JUDGE MORAN: Why don't we just go off the  
5 record now so you can help out.

6 (Whereupon a short recess was  
7 taken.)

8 JUDGE MORAN: Okay, back on the record.

9 BY MR. MARTIN:

10 Q. Mr. Carlson, I direct your attention to  
11 what has been marked Exhibit H on the easel for you.

12 A. All right.

13 Q. Do you recognize this document?

14 A. I do.

15 Q. And what is it?

16 A. This is a document labeled Exhibit 1. It  
17 was -- it is a photocopy of the original Exhibit F,  
18 and it was placed in the administrative order.

19 It was an Exhibit 1 to the EPA 309  
20 Administrative Order issued to the Hesper brothers.

21 Q. Okay, is this a blowup copy?

22 A. It is.

23 Q. And I believe you referenced Exhibit F, but  
24 is this a blowup copy of the aerial photograph and



1 transparent overlay that we just discussed marked  
2 Exhibit G?

3 A. Yes.

4 Q. And can you see your analysis that was  
5 scaled onto the transparent overlay that we just  
6 discussed in Exhibit H?

7 A. Yes, I can.

8 MR. MARTIN: With the Court's permission, I'm  
9 going to ask Mr. Carlson to approach Exhibit H?

10 JUDGE MORAN: Yes.

11 (WHEREUPON the witness  
12 approached the demonstrative  
13 exhibit.)

14 BY MR. MARTIN:

15 Q. And in general, Mr. Carlson, I'm going to  
16 ask you to retrace your analysis that was conducted  
17 on Exhibit G that we've just discussed

18 And would you retrace your analysis  
19 of the location Martin Branch where you found the  
20 site of the alleged violation and the wetlands that  
21 you found on the site of the alleged violation?

22 And starting with Martin Branch, how  
23 did you locate the former Martin Branch on the site  
24 of the alleged violations with your stereoscope?



1           A.    Well, using background material I knew  
2           generally where it was from the USGS topographic maps  
3           from the soil survey.

4                         And then in the aerial photograph, it  
5           shows up very clearly when you look at it, as a black  
6           line moving through the site, weaving its way through  
7           the site.

8           Q.    So Martin Branch itself is visible to you  
9           through the -- viewing the stereoscope?

10          A.    That's correct.

11          Q.    Did you also find tributaries to Martin  
12          Branch?

13          A.    Yes.

14          Q.    And were they also visible under this  
15          stereoscope?

16          A.    Yes.

17          Q.    I'd now ask you to trace the location of  
18          Martin Branch on to Exhibit H with a blue  
19          highlighter, if you would?

20          A.    All right. (So complied with request.)

21                         JUDGE MORAN:  Just refreshing my recollection,  
22          is this pre-disturbance Martin Branch that he's  
23          marking or post-disturbance?

24                         MR. MARTIN:  This is pre-disturbance and --





1 JUDGE MORAN: You'll have to ask him that.

2 THE WITNESS: Yes, this is pre-disturbance.

3 This is a 1993 photo.

4 BY MR. MARTIN:

5 Q. This is the 1993 photo you referenced when  
6 you were talking about Exhibit G; is that correct?

7 A. That's correct.

8 Q. Have you traced the entire location of the  
9 Martin Branch channel?

10 A. I did trace the Martin Branch channel from  
11 the beginning of the top of the "L" where it entered  
12 the Hesper brothers' site.

13 And it essentially bisects the site  
14 from the northeast to the southwest direction. And I  
15 traced it all the way to the south border where it  
16 leaves the site.

17 Q. When you reference the "L," you're talking  
18 about the L-shaped channel that was constructed --  
19 allegedly constructed at the site of the alleged  
20 violation?

21 A. That's correct.

22 Q. Would you also trace the tributaries that  
23 you referenced on to Exhibit H?

24 A. Okay. (So complied with request.)



1 Q. How many tributaries did you just trace on  
2 to Exhibit H?

3 A. I traced three additional tributary  
4 channels on Exhibit H.

5 Q. Taking them one at a time, could you  
6 describe how those tributaries -- and first of all,  
7 where are they located?

8 A. Okay. On the north edge of the site,  
9 beginning at where the farm field changes into the  
10 forest, the blue channel mark is a continuation of a  
11 surface ditch that goes out upstream into the farm  
12 field.

13 So this is what the tributary looked  
14 like as it moved through the forest and left the  
15 field.

16 And it joins Martin Branch not so many  
17 feet into the violation site as Martin Branch enters  
18 the site.

19 Q. Okay, did you trace that surface drain with  
20 a blue marker where it goes off of the site?

21 A. No, I did not.

22 Q. Could you do that?

23 A. (So complied with request.) I traced it  
24 through the farm field, through the northeast.



1 Q. Could you label this tributary as Tributary  
2 One?

3 A. It's labeled Tributary One with an arrow  
4 pointing at the channel within the violation site.

5 Q. You mentioned there were three tributaries,  
6 could you describe the second tributary?

7 A. Down in the southeast corner of the alleged  
8 violation site, there's a tributary that begins near  
9 the corner of the "L" and it goes westward and joins  
10 with the main Martin Branch channel.

11 It starts out as what I would call a  
12 channel scar on it's eastern end. And then it looks  
13 like the western extension of that tributary, it  
14 looks like a ditch to me.

15 Q. And that's all traced from with a blue  
16 highlighter?

17 A. It is.

18 Q. Could you label that Tributary Two?

19 A. (So complied with request.)

20 It's marked tributary Two with an  
21 arrow pointing towards the channel scar part of the  
22 tributary.

23 Q. Okay. Would you describe the third  
24 tributary that you mentioned?



1           A.    The third tributary appears to be a ditch  
2    on the southwest corner of the site.

3                        It's generally a straight east/west  
4    line, and it joins the Martin Branch channel directly  
5    opposite of Tributary Two.

6           Q.    And could you label this tributary  
7    Tributary Three?

8           A.    (So complied with request.)

9           Q.    And, finally, I'd ask you to label the main  
10   channel of Martin Branch?

11           JUDGE MORAN:  Or maybe using a different color.  
12   Maybe that would be easier for you, too, I don't  
13   know.  Use your own judgment.

14           THE WITNESS:  I labeled the main channel Martin  
15   Branch in blue ink with an arrow pointing towards it.

16                        Just to clarify, there's also another  
17   Martin Branch labeled with an arrow pointing towards  
18   Martin Branch channel,

19                        It's just that this one in dark ink on  
20   the north part of the photo is pointing to Martin  
21   Branch on Bill Heser's site, not on the alleged  
22   violation site.

23   BY MR. MARTIN:

24           Q.    Okay.  So that's the part where the channel





1 was actually moved off of the site of the alleged  
2 violation?

3 A. Yes, on the one on the upstream end.

4 Q. And the Martin Branch also exits the site  
5 of the alleged violation as well?

6 A. It does.

7 Q. Okay, Mr. Carlson, after plotting the  
8 location of Martin Branch and its tributaries that  
9 formerly existed on the site,

10 Did you calculate the length of this  
11 channel and its tributaries?

12 A. Yes, I did.

13 Q. And how did you do that?

14 A. With a piece of string. And the string  
15 traces the meanders of the tributaries, and then you  
16 must measure the length of the string.

17 Q. Is this method of calculation generally  
18 used and accepted by members of the UPA in  
19 calculating the stream length?

20 A. Yes.

21 Q. And based on your analysis, how many feet  
22 of the stream channel and tributaries did you find  
23 that formerly existed on the site of the alleged  
24 violation?



1           A.    Well, the main stem of Martin Branch was  
2 measured at approximately 875 feet through the site.

3                    And then, the three tributaries noted,  
4 I did not measure in and of themselves.

5                    I measured them in addition to the  
6 channel scars.

7                    And the total is 180 -- excuse me,  
8 it's about, a little over a thousand feet of  
9 additional tributary and channel scars.

10           Q.    So you made two calculations, and I believe  
11 you measured the main channel at 875 feet?

12           A.    That's correct.

13           Q.    And the additional calculation for the  
14 tributaries was approximately a thousand feet?

15           A.    But that does not equal the three  
16 tributaries mentioned here. That's a subset of that  
17 thousand feet.

18           Q.    Could you explain that?

19           A.    Well, there's other linear depressions on  
20 this site that I do not consider tributaries. I  
21 consider them linear depressions at -- for instance,  
22 connected two wetland polygons.

23           Q.    Okay. So they weren't part of your  
24 calculation of length of the Martin Branch tributary?



1 A. Yes, they were.

2 Q. How so?

3 A. Well, to get the total, which is 18 -- I  
4 mean, 1885, you subtract out 875.

5 So you subtract 875, that's the main  
6 stem from the total length of linear depression  
7 including channel scars and including tributaries.

8 That leaves you something over a  
9 thousand, I think a thousand and ten feet left.

10 These three tributaries marked and  
11 Exhibit 8 are a big subset of that thousand and ten  
12 feet.

13 But there are a couple other areas as  
14 yet unmarked on this photograph that are also linear  
15 depressions, that have length to them that would  
16 equal a thousand ten if you added them all up.

17 Q. Okay.

18 Did you mark those additional areas --  
19 would you trace those areas with a blue marker?

20 A. I can. (So complied with request.)

21 All right, I marked two additional  
22 areas in blue.

23 Q. Okay, could you label those two areas and  
24 give them a description, in other words, channel scar



1 or whatever description you feel is appropriate.

2 A. All right. (So complied with request.)

3 Okay, I labeled the longer of the two  
4 on the western edge of the site linear depression one  
5 with an arrow pointing to it in blue ink.

6 And then there's a shorter linear  
7 segment that is labeled in blue, directions denoted  
8 by an arrow and labeled linear depression two.

9 Q. Okay. I'm going to ask you the total  
10 amount of length that you found.

11 Given your findings with regard to  
12 Martin Branch, the three tributaries that we've  
13 marked on Exhibit H, and the two linear depressions  
14 that you've just testified to, what is the total  
15 length of those three water bodies?

16 A. Approximately 1,885 feet.

17 Q. Okay, thank you.

18 Okay, moving on to your wetland -  
19 non-wetland boundary determination that you  
20 originally conducted on Exhibit G, what was the first  
21 data that you scaled onto the site for this analysis?

22 A. The location of the altered channel, the  
23 "L"-shaped channel, north/south and east/west legs.

24 Q. And why is that?





1           A.    Because that's the benchmark on the site  
2           that things are measured from.

3           Q.    Okay, I'm going to ask you now to approach  
4           Exhibit H again and mark the "L"-shaped channel with  
5           a red marker.

6           A.    (So complied with request.)

7                         I denoted the "L"-shaped channel in  
8           red ink, labeled it with an arrow designating its  
9           location, at least its location of the north/south  
10          leg, and labeled it "L"-shaped channel.

11          Q.    Okay, how did you plot location of this  
12          "L"-shaped channel onto the 1993 aerial photograph?

13          A.    By doing site measurements on the east and  
14          south edges to find out how far it was in from the  
15          forested edge. Because there's a clear distinction  
16          between the forest edge and the field edge on the  
17          east and the south boundaries.

18                         And so I got a width of the east edge  
19          forest canopy and the width of the south edge forest  
20          canopy.

21                         And I know that the north-south leg  
22          with a compass reading is generally north/south and  
23          the east/west leg is running generally east/west.

24                         So then based on these field



1 measurements, then I scale those measurements off on  
2 this photograph and draw me line in for the  
3 "L"-shaped channel.

4 Q. Okay, you previously mentioned that you  
5 drew the eastern edge of the forested area with a  
6 green marker?

7 A. Yeah -- yes, I mean.

8 Q. Could you trace the edge of the forested  
9 area with green marker?

10 MR. SMALL: Your Honor, I'm going to object. I  
11 think we need some sort of a date to clarify here.

12 I don't know what date we're talking  
13 about here.

14 JUDGE MORAN: Why don't you clarify your  
15 questions, Mr. Martin.

16 MR. MARTIN: The prior testimony concerning  
17 Exhibit G --

18 JUDGE MORAN: No, no. I want you to lay a  
19 better foundation before he makes that mark.

20 Just ask some additional questions.  
21 Ask the witness.

22 BY MR. MARTIN:

23 Q. Mr. Carlson, did you plot the location of  
24 the forest on to your original analysis reflected in



1 Exhibit G?

2 A. I did.

3 Q. And how did you do that?

4 A. After purchasing the photography, I laid  
5 the transparency over it. And I traced the outer  
6 edges of the forested areas of the site.

7 Q. And how did you distinguish the forested  
8 areas from the other areas?

9 A. The forested area have a distinct signature  
10 that contrasts with the adjacent field signatures.

11 In stereo, you can actually see the  
12 trees sticking up at you.

13 Q. So you can actually see the trees as  
14 opposed to the surrounding areas?

15 A. Correct.

16 Q. And how would you describe the surrounding  
17 areas?

18 A. In agricultural fields.

19 Q. And you could see that through the  
20 stereoscope as well?

21 A. You don't need a stereoscope to see that,  
22 but, yes.

23 Q. Okay. At this time I ask you to trace with  
24 a green marker the forested areas of the --



1           MR. SMALL: Your Honor, my foundation question  
2 is just a simple one: What year are we talking  
3 about?

4           JUDGE MORAN: Right, but I think it's implicit  
5 in the prior exhibit that year was explained on that  
6 prior exhibit, and this is just the same exhibit but  
7 an enlargement of it; is that right?

8           MR. MARTIN: That's correct, your Honor.

9           JUDGE MORAN: So it's the time period of the  
10 prior exhibit which was what year?

11                         Where you put the transparency, that  
12 aerial photograph on Exhibit G was of what year?

13           THE WITNESS: It's March 28, 1993.

14           JUDGE MORAN: Which is what this is?

15           THE WITNESS: Correct, it's dated up on the top  
16 under Exhibit 1.

17           MR. SMALL: But my objection, your Honor, is  
18 this: I think the underlying photograph maybe that's  
19 been testified to is 1993.

20                         My question is on the transparency,  
21 the transparency which supposedly shows where the "L"  
22 is located and it's locate because you're looking for  
23 the forested area which we know is subsequent to that  
24 1993, what is the date that they use to find that





1 forest when the "L" is actually in place?

2 And I don't think I've actually heard  
3 anything about that. I've heard that the underlying  
4 photograph is 1993, but I don't think I heard  
5 anything else.

6 JUDGE MORAN: All right, well, I'll let you  
7 deal with that on cross-examination.

8 I'm overruling that.

9 BY MR. MARTIN:

10 Q. Would you describe what you just did?

11 A. Using a green marker, I outlined the outer  
12 edges of forested block on Exhibit H.

13 Q. And plotting this forested block of the  
14 1993 aerial photograph, did this help you locate the  
15 location of the "L"-shaped channel at the site?

16 A. Yes.

17 Q. How?

18 A. It defines the edge of the forest canopy  
19 that I'm measuring on-site on the photo.

20 Q. And how did that help you locate the  
21 "L"-shaped channel that is marked in red on  
22 Exhibit H?

23 A. Well, if I know that the general width of  
24 the forest canopy to the east of the channel or the



1 south of the channel, when I go back to this  
2 photograph, I take the measure off of the edge of the  
3 forest canopy on the east and the south, and how many  
4 feet in that is from the south going north or from  
5 the east going west, that's the width of the canopy  
6 that's left.

7                                 And I know that the channel butts up  
8 against that canopy. It's right adjacent to it.

9                 Q.    And is part of the forest reflected on  
10 Exhibit H still in existence today?

11                A.    Yes.

12                Q.    Where are those areas in general?

13                A.    In general, it's the east center portion of  
14 the photograph that is off the Hesper brothers' site  
15 on Bill Hesper's property.

16                                 And also to the east of the  
17 north/south leg of the "L"-shaped channel and south  
18 of the east/west leg of the new channel.

19                                 That canopy is still there.

20                Q.    And that canopy that's still there form  
21 your decision of the location of the "L"-shaped  
22 channel as well?

23                A.    Yes.

24                Q.    And how does it do that?



1           A.    Well, it's like what I said earlier, the  
2           width of that forest canopy that's left on site today  
3           tells me how far in I have to measure on a 1993  
4           photograph to find where that edge of that altered  
5           channel is.

6           Q.    Okay, thank you.

7           A.    (WHEREUPON, the witness returns to his  
8           seat.)

9           Q.    All right, Mr. Carlson, you've plotted the  
10          location of the forested area that formerly existed  
11          on-site and currently existed on the site as you just  
12          testified.

13                        The "L"-shaped channel on the site,  
14          what data point did you next plot on to the  
15          transparent overlay?

16          A.    I would have placed all the soil boring  
17          data that I could place.

18          Q.    And this refers to the soil boring data  
19          that Mr. Lenz took and that you took?

20          A.    That's correct.

21          Q.    And why did you do this?

22          A.    Because that's information on the alleged  
23          violation site that tells me where hydric or  
24          non-hydric data points are.



1 Q. Okay, explain generally how you did this?

2 A. Measuring from the mouth of the Martin  
3 Branch as it enters the site on the upstream end, I  
4 had previously in the field measured the distance  
5 south of that location to where the first transect  
6 was, where the second transect was in terms of where  
7 it started along that north/south leg, and how far  
8 south the third transect began.

9 And that's the beginning point of my  
10 transect.

11 And then I measure out either left or  
12 west based on either Ward's measurements, scaled  
13 measurements or my measurements on how far west from  
14 that baseline all the data points are.

15 And so that allows me to place a  
16 little point which is the approximate location of  
17 each of the bore holes.

18 Q. And you previously testified that you know  
19 the scale of this photograph; is that correct?

20 A. Correct.

21 Q. And did that help you plot the locations of  
22 the soil borings?

23 A. You have to have a scaled measure, so yes.

24 Q. You previously also testified that there





1 were additional soil samples that Ward Lenz took that  
2 were not reflected on your computation sheet in your  
3 inspection report?

4 A. That's correct.

5 Q. Were they plotted on to the transparent  
6 overlay that is part of Exhibit G?

7 A. Two of the six were.

8 Q. In your original analysis two of the six  
9 soil borings of Mr. Lenz were included on the  
10 transparent overlay?

11 A. That's correct, an additional two from the  
12 computation sheet.

13 Q. Okay. And are you aware of the location of  
14 the remaining soil boring locations that Mr. Ward  
15 Lenz took?

16 A. Generally, yes.

17 MR. MARTIN: Okay, at this time, Mr. Carlson,  
18 I'm going to ask you to approach Exhibit H, and I'm  
19 going to ask you to do three things:

20 I'd like you to go to the locations  
21 and mark the locations of the soil boring locations  
22 -- the soil boring locations on the site from the  
23 Corps of Engineers and EPA, if you could use a marker  
24 as well.



1 THE WITNESS: (So complied with request.)

2 BY MR. MARTIN:

3 Q. I'm going to ask you to mark with a single  
4 dot the soil boring locations.

5 And I'm also going to ask you to label  
6 each of these soil boring locations with designations  
7 that either you used in your inspection report or  
8 Mr. Ward Lenz used in your inspection report data  
9 sheets.

10 And three, I'm going to ask you to  
11 circle each dot which is determined to be hydric  
12 soil.

13 JUDGE MORAN: Well, before he does that -- I  
14 mean, Mr. Carlson, are you able to -- looking at  
15 Exhibit H, are you able to remember and then locate  
16 the soil boring spots on Exhibit H?

17 THE WITNESS: Yeah, I have little dots. Some  
18 of the dots are covered by other lines but, yeah, I  
19 know it pretty well.

20 JUDGE MORAN: Well, those little dots, how did  
21 those little dots get there?

22 THE WITNESS: I measured and placed them there  
23 myself.

24 JUDGE MORAN: And those little dots represent



1 the soil borings?

2 THE WITNESS: Correct.

3 JUDGE MORAN: So that's how you were able to do  
4 it, it's because you made these dots previously --

5 THE WITNESS: -- or they were identified  
6 on-site.

7 JUDGE MORAN: On site.

8 THE WITNESS: As so many feet south of the  
9 mouth and so many feet west of the edge of the  
10 altered channel.

11 JUDGE MORAN: And those same dots are on the  
12 transparency?

13 MR. MARTIN: Yes. Yes, if I could just  
14 clarify:

15 This being a blowup copy of this  
16 transparency of the aerial photograph, Mr. Carlson's  
17 original analysis - and I think he's testified to  
18 this - it is visible on Exhibit H.

19 So in a way he's tracing the original  
20 analysis that took place and that is reflected on  
21 Exhibit G.

22 JUDGE MORAN: Okay, I wanted to make it clear  
23 how it was that he could do that. And that wasn't in  
24 the record until just now on this exhibit.



1                               Go ahead.

2               THE WITNESS: Can I ask a point of  
3 clarification?

4               JUDGE MORAN: No.

5               THE WITNESS: Okay.

6               JUDGE MORAN: Maybe a different color, if  
7 that's not working.

8                               You might have to improvise here,  
9 Mr. Martin.

10                              Let's go off the record and straighten  
11 this out.

12   (WHEREUPON, a short recess was  
13   taken.)

14               JUDGE MORAN: Okay, we're back on the record.

15 BY MR. MARTIN:

16               Q. Mr. Carlson, I've asked you to identify the  
17 soil boring locations with dots and I've asked you to  
18 label each soil boring location and circle it if it  
19 tested hydric:

20                              How are you going to do that on  
21 Exhibit H; what color marker?

22               A. Well, one, I need to refresh my memory  
23 using two previous documents:

24                              the data sheets from Ward and the





1 computation sheet.

2 Q. The computation sheet is in your first  
3 inspection report Complainant's Exhibit 7.

4 It was previously used as a  
5 Demonstrative Exhibit F.

6 We can put that up for you?

7 A. Well, just so that I can refer to it. I've  
8 just got to look at it. Can I do that?

9 JUDGE MORAN: Now, hold it, hold it, please.

10 He asked you how you were going to  
11 mark something; that's all he asked you.

12 And you would say I'm going to use  
13 this color, and then you'd say what color.

14 And then he might ask another question  
15 and you might say I can't do that.

16 And then Mr. Martin will say well, why  
17 is it that you're unable to do it.

18 And then you would say to him, well, I  
19 need to refresh my recollection by looking at some of  
20 the prior exhibits.

21 And then we'd go off the record for  
22 you to do that.

23 BY MR. MARTIN:

24 Q. First of all what color marker are you



1 going to use to mark the soil borings on Exhibit H?

2 A. Silver.

3 Q. All right, do you need your reflection  
4 refreshed to be able to do this?

5 A. Yes, I do.

6 Q. Exhibit F, which is visible before you, was  
7 previously used as a demonstrative exhibit.

8 Do we need to put that up for you or  
9 can you use it as it is now?

10 JUDGE MORAN: Let me just -- stop.

11 Mr. Carlson, there are certain  
12 exhibits you need to look at in order to answer  
13 questions for Counsel for EPA; is that right?

14 THE WITNESS: That's correct.

15 JUDGE MORAN: Do you know what those exhibit  
16 numbers are or letters?

17 THE WITNESS: I know it's Exhibit F for one,  
18 and I don't know the exhibit number on the other one.  
19 I know what it is though.

20 JUDGE MORAN: Okay, we're going to go off the  
21 record so you can look at those.

22 And once you have refreshed your  
23 recollection by looking at them, you'll tell us what  
24 exhibits you looked at and we'll proceed to



1 Mr. Martin asking some questions once we've done  
2 that.

3 Okay, so we're going off the record  
4 for you to do that.

5 (WHEREUPON, there was then had  
6 an off-the-record discussion.)

7 JUDGE MORAN: Okay, let's go back on the  
8 record.

9 Okay, ask the witness what exhibits he  
10 just looked at off the record to refresh his  
11 recollection.

12 BY MR. MARTIN:

13 Q. Mr. Carlson, what exhibits did you look at  
14 to refresh your recollection about soil boring  
15 locations?

16 A. Exhibit 8 and Exhibit F.

17 JUDGE MORAN: And so did that refresh your  
18 recollection?

19 BY MR. MARTIN:

20 Q. Did that refresh your recollection --

21 A. It did.

22 Q. -- (continuing) of the soil boring  
23 locations at the site of the alleged violation?

24 A. It did.



1 Q. Will you now proceed to mark the soil  
2 boring locations?

3 A. (So complied with request.)

4 All right.

5 (Whereupon a short recess was  
6 taken.)

7 BY MR. MARTIN:

8 Q. Could you describe what you've just drawn  
9 on Exhibit H?

10 A. Using a silver marker, I put a silver dot  
11 at the location of all data points shown on the  
12 computation sheet exhibit, Exhibit F.

13 And I transferred those dots from the  
14 silver marker to Exhibit H.

15 They denote the sample bore holes.  
16 And in addition to the computation sheet, I placed  
17 two additional bore hole data points labeled one star  
18 and two star on the north central section of the  
19 alleged violation site.

20 I labeled all data points consistent  
21 with what the computation sheet Exhibit F labels them  
22 for the Corps. data points and the EPA data points.

23 Q. Are there four additional soil sample  
24 locations that are not reflected on what you've drawn





1 on the map?

2 A. Yes.

3 Q. On Exhibit H?

4 A. Yes.

5 Q. Are you able to locate where those soil  
6 sample points were at the site, at or around the site  
7 of the alleged violation?

8 A. In a general sense, yes.

9 Q. Could you do that now, please?

10 A. (So complied with request.)

11 I've noted four of the data points.

12 On the northeast portion of the site I've noted three  
13 and four. They're fairly close together.

14 And then on the southwest corner of  
15 the site, I put two dots to designate two bore holes  
16 that are numbered one and two, but I need to refresh  
17 my memory to figure out which one was one and which  
18 one was two.

19 Q. That would be reflected in Exhibit H of the  
20 are Corps of Engineers worksheets of Ward Lenz, and  
21 those data sheets start at page 114.

22 Have a look in your exhibit book at  
23 page 114, Exhibit H, Ward Lenz data forms?

24 A. No, I'm sorry. That doesn't help me.



1 That's not the document I was thinking of.

2 Q. Well, which document were you?

3 A. It was a blowup of a 1993 aerial where Ward  
4 Lenz marked the location of the points on and  
5 numbered them.

6 MR. MARTIN: That would be Exhibit C.

7 Your Honor, at this time I'd like to  
8 put on the easel Exhibit C?

9 JUDGE MORAN: Yes. Or have him just walk over  
10 to it with Counsel in response if he wants to rather  
11 than putting it up and taking it down.

12 THE WITNESS: I've designated the last two data  
13 points in the southwest corner of the site in silver  
14 pen as two and one.

15 And two is west and a little south of  
16 number one.

17 BY MR. MARTIN:

18 Q. Okay, you located these two sample points  
19 based on your review of which exhibit?

20 A. Exhibit C.

21 Q. Now I'm going to ask you to go through each  
22 of these soil boring locations that you marked on  
23 Exhibit H and circle the ones that you determined to  
24 be hydric, hydric soil.



1           A.    (So complied with request.)

2           JUDGE MORAN:  Now of course the problem with  
3 what you just did is there are others, there are  
4 other circles on there, pre-existing circles that  
5 this witness has just drawn.

6                        So unless those are also hydric soils  
7 by happenstance that you had previously circled,  
8 you're going to have to have Mr. Martin ask you some  
9 questions about that because it will be -- I don't  
10 know if it's of any importance, but it's going to be  
11 confusing in the record, and maybe use a different  
12 color.

13           MR. MARTIN:  Can I have a minute or two?

14           JUDGE MORAN:  Yes, we'll go off the record so  
15 you can straighten this out.

16                               (WHEREUPON, there was then had  
17                               an off-the-record discussion.)

18           JUDGE MORAN:  Okay, let's go back on the  
19 record.

20 BY MR. MARTIN:

21           Q.    Okay, Mr. Carlson, I'm going to ask you to  
22 circle the soil boring locations that were found to  
23 be hydric soils.

24                        But to distinguish between circles



1 that were made in silver previously, I'm going to ask  
2 you to circle the soil boring locations in gold to  
3 show which soil boring locations are hydric.

4 A. There's two that I can't place at the  
5 moment without having my memory refreshed.

6 Q. Would Exhibit C refresh your recollection?

7 A. No.

8 Q. Which exhibit would refresh your  
9 recollection?

10 A. Exhibit 8.

11 Q. Exhibit 8, the Corps of Engineering  
12 inspection report data sheets?

13 A. Yes.

14 Q. Please go to your exhibit book, turn to  
15 page 114 of the Corps of Engineers data sheets again  
16 and refresh your recollection.

17 A. All right. (So complied with request.)

18 Q. Has this exhibit refreshed your  
19 recollection?

20 A. It has.

21 Q. Please proceed.

22 A. All right, I marked -- I circled in gold  
23 all the data points that were hydric soils.

24 Q. Now, on this Exhibit H are all of the Corps





1 of Engineers soil borings and all of the EPA soil  
2 boring locations marked on Exhibit H?

3 A. Yes.

4 Q. And how many total soil borings are marked  
5 on Exhibit H, do you believe?

6 A. I believe there's twenty locations.

7 Q. And of these soil boring locations, how  
8 many are determined to be hydric?

9 A. Fourteen.

10 Q. Mr. Carlson, do you have an opinion of the  
11 adequacy of taking twenty soil borings on a site of  
12 this size for wetland delineation purposes?

13 A. I think it adequately characterizes the  
14 soils at the site.

15 Q. All right, thank you. You can sit down  
16 now.

17 You said adequately characterize the  
18 site, what do you base that on?

19 A. Well, my experience and Mr. Ward's  
20 testimony regarding doing about that many in over  
21 320 acres.

22 Q. Mr. Ward Lenz' testimony?

23 A. That's correct.

24 Q. Could you specify what Mr. Lenz was talking



1 about?

2 A. Well, it was in response to a question from  
3 opposing Counsel regarding how many data points would  
4 you take in a day.

5 And Ward responded well, he does about  
6 320 acres. And I think he said twenty to thirty data  
7 points.

8 Q. And what work was Mr. Lenz referring to on  
9 this map of soil boring locations?

10 A. Mapping soils levels at the level, for  
11 county soil surveys.

12 Q. Mr. Carlson, in plotting the locations of  
13 the soil borings on-site, especially after the site  
14 has been disturbed, is there some margin of error  
15 that one would expect?

16 A. Yes, there is a margin of error.

17 Q. Why is there a margin of error?

18 A. Because of limits of your equipment.

19 And more prominently, when you're  
20 scaling off of one in the field when you're going to  
21 a another document with a different scale, you can  
22 errors in that sense.

23 In placing the "L"-shaped channel, you  
24 could have a slight error in terms that it could



1 be -- in reality it could be a little farther to the  
2 east or a little farther to the west.

3 Because I'm doing an average  
4 measurement of that canopy on the east side and on  
5 the south side.

6 So there's room for error when you  
7 change scales and you're measuring from one document  
8 to another.

9 Q. How, if one can, does one account for such  
10 margin of error?

11 A. Well, you understand that when you look at  
12 this Exhibit H, and you're looking at one of those  
13 data points, the size of the point itself is roughly  
14 75 square feet, just the dot on this map.

15 And, of course, the soil boring or  
16 soil probe was maybe a foot square.

17 So you have to realize the point that  
18 you're looking at on that map is not necessarily  
19 precise on the button, that's it.

20 You have a little margin of error  
21 around that to account for changes in scale and where  
22 it was placed.

23 So, you just look at it with some  
24 humbleness in a sense that you're not as precise as



1 you might think.

2 Q. Do you also look at the soil boring  
3 locations in relation to other information that you  
4 gather?

5 A. Well, absolutely.

6 Q. What information did you find relevant?

7 A. Well, in air photo interpretation all the  
8 information that you gather that affects the site is  
9 relevant, the Topo map, the soil surveys, your  
10 on-site visits, the Corps' on-site visits, what you  
11 see on terms of a trend of site changes using the air  
12 photo year to years to look at the site.

13 Your soil boring data on-site, your  
14 reference site, you're taking into account everything  
15 that applies to the site when interpreting.

16 Q. How about the results of the aerial  
17 analysis its?

18 A. I'm sorry?

19 Q. Can you also take into account the results  
20 of your aerial interpretation itself?

21 A. Well, yeah, that is the summation and  
22 conclusion of all your thoughts and interpretation  
23 and drawings, those boundaries on-site.

24 Q. Okay. Now that you located the edge of the





1 forested area, the "L"-shaped channel on the site and  
2 the soil boring locations, what was your next step in  
3 your analysis of delineating wetlands on the site of  
4 the alleged violations?

5 A. Viewing the site in stereoscope, and  
6 deducing what that told me from looking at it, from  
7 analyzing it: high areas, low areas, darker toned  
8 areas versus light lighter toned areas.

9 Q. Did this step allow you to draw boundaries  
10 on-site of the alleged violations?

11 A. Yes.

12 Q. Did this analysis allow you to determine  
13 the polygons that are labeled as wetlands on the  
14 site?

15 A. I missed the first part of your question.

16 Q. Did this analysis allow you to draw your  
17 polygons that found wetland on the site.

18 A. Yes.

19 Q. By the way, the wetland symbol is a symbol  
20 that is similar to a "W"?

21 A. Yes, it is.

22 MR. MARTIN: Your Honor, at this time I'm going  
23 to ask you --

24 JUDGE MORAN: You're -- just so it's clear on



1 the record, you're referring to Exhibit H, and  
2 there's a "K" on that Exhibit H, right?

3 MR. MARTIN: Yes.

4 JUDGE MORAN: And that's what you're talking  
5 about?

6 MR. MARTIN: Mr. Carlson previously testified  
7 that -- Mr. Carlson explained the key that appears on  
8 Exhibit H in the upper left-hand side portion.

9 THE WITNESS: The key is noted just below the  
10 Exhibit 1 label.

11 And a "U" symbol stands for upland.  
12 And a "W" with a line under it signifies wetlands,  
13 and those are placed in each of the polygons as  
14 applicable.

15 BY MR. MARTIN:

16 Q. Okay, speaking of the wetland  
17 determinations that you made marking the polygons  
18 with the wetland symbol, is this finding of wetlands  
19 on the site a finding consistent with the 1987 Corps  
20 of Engineers Wetlands Delineation Manual?

21 A. Yes.

22 Q. And what does the 1987 Wetland Delineation  
23 Manual require in delineating wetlands of this type?

24 A. Well, since this is atypical situation, the



1 manual allows you under atypical situations to use  
2 two of the three parameters, if necessary.

3 Q. So instead of having to find positive  
4 indications of all three parameters, in an atypical  
5 situation two out of three parameters are sufficient?

6 A. That's correct.

7 MR. MARTIN: Your Honor, at this time I think  
8 this would be a place to break for lunch.

9 JUDGE MORAN: Okay, and just before we do that,  
10 just let me make sure:

11 Have you marked, Mr. Martin -- does  
12 this Exhibit H reflect polygons on it?

13 THE WITNESS: Me?

14 JUDGE MORAN: Yes. Oh, I meant to say -- what  
15 is it?

16 THE WITNESS: Carlson?

17 JUDGE MORAN: Carlson, right. Sorry.

18 Does that reflect polygons?

19 THE WITNESS: Yes, it does.

20 JUDGE MORAN: Okay. And as I'm looking up the  
21 definition of a polygon that definition talks about  
22 bounded by straight lines, but your polygons don't  
23 have straight lines; do they?

24 THE WITNESS: No, they don't.



1 JUDGE MORAN: I just wanted to clarify that.

2 We're ready to take a break. It's now  
3 12:13, and we'll start back promptly at 1:30, please.

4 (WHEREUPON, a lunch recess was  
5 taken.)

6 JUDGE MORAN: Go ahead, Mr. Martin.

7 BY MR. MARTIN:

8 Q. Mr. Carlson, I'm going to, again, direct  
9 your attention to Exhibit H which is up on the easel  
10 before you?

11 MR. MARTIN: And with your permission, I'm  
12 going to ask him to approach Exhibit H.

13 JUDGE MORAN: Yes.

14 BY MR. MARTIN:

15 Q. Using the same metallic highlighter, and I  
16 believe it was gold, I'm going to ask you to do two  
17 things:

18 I'm going to ask you to go trace the  
19 boundary of each polygon in which you found a  
20 wetland. And I'm going to ask you to number that  
21 polygon, starting with the northern part of the site.

22 A. On the northernmost polygon I have it  
23 encircled in gold-colored ink and labeled W1 for a  
24 wetland polygon with an arrow pointing at it.





1           Q.    Okay, I'm going to ask you to go through  
2           all the polygons and do the same thing, trace them  
3           and number them.

4                         And then we'll go through your  
5           analysis for each.

6           A.    (So complied with request.)  Okay.

7           Q.    Okay, can you describe what you've just  
8           drawn on Exhibit H?

9           A.    On Exhibit H in gold marker I've encircled  
10          six distinct wetland polygons on the alleged  
11          violation site on Exhibit H and designated them W1  
12          through W6 with an arrow pointing at each individual  
13          polygon.

14          Q.    Okay, starting with polygon W1, could you  
15          describe your wetland delineation analysis?

16          A.    Yes.  Polygon W1 on the north end of the  
17          site:  one, it has a hydric data point generally in  
18          the center of it designated one dash 1 star or one  
19          asterisk.

20                         So it had a hydric data point in it.  
21          It was a darker-colored background indicating wetness  
22          in the soil.

23                         It's adjacent to Tributary One for the  
24          most part, and it was a depression.



1                   So that was Wetland Polygon One.

2           Q.    Proceeding to wetland polygon two, W2?

3           A.    Wetland polygon two was similar to one in  
4 that it was depressional and dark colored.

5                   It doesn't have a data point directly  
6 in it. It had one relatively close to it, labeled  
7 S2, sort of on its bottom right side.

8                   And that was a hydric data point, S2.  
9 And although it's not in the boundary, it's close  
10 enough to it in my view that it lends some support  
11 that that's hydric soils on this end of the site.

12                   And so that one is depressional,  
13 dark-colored, and was also considered a wetland  
14 polygon Number two.

15           Q.    Moving to W3?

16           A.    W3 is on the southeast side of Martin  
17 Branch as it bisects the site. It's probably the  
18 largest polygon.

19                   It has -- it also was depressional  
20 using the stereoscope, dark-colored although not as  
21 dark as W1 or W2.

22                   It had a linear depression through it,  
23 and it also had three hydric data points across  
24 its -- sort of by -- sort of through the middle of



1 the broadest part of that polygon are three hydric  
2 data points from transect number 2.

3 And so those factors led me to believe  
4 that this was also a depressional wet area, and it  
5 was labeled wetland three.

6 Q. Moving down to W4?

7 A. W4 is on the west side of the site, west of  
8 Martin Branch.

9 It's somewhat star shaped. It's got  
10 three prongs through it. It's labeled W4.

11 That was also depressional and it was  
12 dark. And it also had a hydric data point not in it,  
13 relatively close to it in terms of data point T24 is  
14 off to the southwest of the polygon.

15 But, again, it's in the general  
16 vicinity and that lent some support that there's  
17 hydric soils in this part of the site.

18 So that W4 was included as well.

19 Q. In the general vicinity, are you taking  
20 into account the margin of error that you testified  
21 to earlier?

22 A. Okay, that's what I'm referring to

23 Q. W5?

24 A. W5 is in the far southwest corner of the



1 site.

2 It is also depressional, dark and it  
3 has three hydric data points in it.

4 The last one on Transect 3 which is an  
5 EPA sample point, and then two from Ward Lenz.

6 So that was considered wetland polygon  
7 Number five. It is connected to wetlands two and  
8 wetlands four through lineal depressions.

9 Linear depression one connects  
10 wetlands two with wetlands five.

11 Linear depression two connects  
12 wetlands four with wetlands five.

13 So the decision on five was  
14 essentially similar to the previous four, dark,  
15 depressional, with hydric soils in it.

16 Q. What's the connection? Strike that.

17 What's the significance of the linear  
18 connection between those wetlands areas?

19 A. It just indicates a route either -- it  
20 indicates a route for water to move in and in two  
21 directions.

22 Generally, in the flooding environment  
23 when water comes out of the banks, it can travel  
24 through these channels.





1                   And also when the site flood waters  
2 head back into the channel, those are routes water  
3 can run out from one area to another.

4           Q.    Okay, moving on to W6?

5           A.    W6 is the smallest polygon.  It's at the  
6 south center of the alleged violation site.  It's  
7 labeled W6.

8                   It abuts the east side of the main  
9 side of the Martin Branch.

10                   It is dark and it is depressional.  
11 And all though it doesn't have a hydric data point,  
12 it has an upland data point right on its southeast  
13 edge.

14                   So that was dark and depressional and  
15 adjacent to the main stem of Martin Branch considered  
16 wetland number six.

17           Q.    When you reference the southeast edge, what  
18 two different -- differating areas are you referring  
19 to?

20           A.    Well, that's southeast edge of W6.  That's  
21 the location of a non-hydric data point.  It's about  
22 on the line.  But you're essentially at a break  
23 between a hydric unit and a non-hydric unit.

24                   That's what my interpretation leads me



1 to believe given the location of the data point and  
2 the location of the wetlands area.

3 Q. And this line that you referenced that  
4 divides two areas, how do those two areas differ  
5 according to your analysis and photo?

6 A. Well, they all are differ because you're  
7 looking at the uplands which are concave versus  
8 the -- the uplands are convex shaped versus the  
9 concave depressional areas.

10 And the darkness of the soils beneath  
11 them indicating a greater amount of wetness in those  
12 areas than the lighter colored upper areas.

13 Q. What's the difference of tone between these  
14 two areas?

15 A. Light versus dark.

16 Q. You've gone through your six wetland  
17 polygons, and you mentioned several hydric data  
18 points that were either in those polygons or around  
19 those polygons within a margin of error.

20 Did you also take into account the  
21 hydrology that was contained within those soil boring  
22 results?

23 A. Yes. And, again, interpretation would have  
24 taken into account everything.



1                   So I would have taken into account the  
2 data that Ward had collected, the data we had  
3 collected on the reference site, and data that we had  
4 collected the on-site in the sense that there were  
5 still lots of hydric areas on site.

6                   There were still some depressions  
7 on-site that had algal mats and sediment deposits and  
8 crayfish burrows in them.

9           Q.    Okay, so you just mentioned algal mats; is  
10 that another category of information that you took  
11 into account in your analysis?

12           A.    Yes, actually -- algal mats are essentially  
13 related to deposits where water's ponded long enough  
14 for algae to grow.

15           Q.    Where did you observe the algal mats?

16           JUDGE MORAN: Will you spell that, please?

17           THE WITNESS: Yes. Algal mats, A-L-G-A-L and  
18 mats, M-A-T-S.

19           JUDGE MORAN: Okay, thank you.

20           THE WITNESS: There were at least two that I  
21 recall: one, at the September '03 inspection was at  
22 the northeast of the data point S1.

23                    It was about a 50-by-50-foot area.

24                    It's marked in my site inspection notes.



1                   And then off the north/south leg of  
2 the channel, in the general location of W3 at its  
3 sort of northeast peak, there were algal mats at the  
4 location in a smaller depression in an August '06  
5 inspection.

6 BY MR. MARTIN:

7           Q.    What is the significance of finding algal  
8 mats on the site after it had been disturbed?

9           A.    Well, it indicates that the site is still  
10 the pond water; the site still floods.

11          Q.    And where is the site on the water?

12          A.    In depressional areas that remain on the  
13 site.

14          Q.    Is that because you found algal mats near  
15 the depressional areas, not in the disturbed site?

16          A.    That's correct.

17          Q.    Okay. Let's move on to your wetland  
18 acreage calculation.

19                   In drawing the boundaries of the  
20 wetlands that formerly existed on the site, did you  
21 calculate the size of the areas filled?

22          A.    Yes.

23          Q.    And how did you do that?

24          A.    I did it with a -- it's called a dot matrix





1 grid.

2 Q. And how does that work?

3 A. It's a -- it's another transparent sheet of  
4 paper and it has a grid on it.

5 And the grid is made up of rows of  
6 columns and dots.

7 And then below that grid is a scale  
8 ratio for varying scales of different photographs.  
9 And it correlates to, you know, say there's this  
10 photograph like this one of roughly 1 to 400 inches.

11 And then it will have the conversion  
12 of that, one little dot on that matrix grid equals a  
13 fraction of an acre.

14 And so when you lay that grid over  
15 your area and you count up the dots within each  
16 polygon then you simply multiply the dots by the  
17 conversion factor to get acres.

18 Q. Okay, does this method of calculating the  
19 grid generally used and accepted by EPA in  
20 delineating wetlands and calculating acreage of  
21 wetlands?

22 A. Yes.

23 Q. Based on your analysis how many acres of  
24 wetlands did you find at the site of the alleged



1 violation?

2 A. Approximately 2.1 acres of wetlands.

3 MR. MARTIN: Okay, at this time I would like  
4 include the document marked as Exhibit H in the  
5 record.

6 MR. NORTHRUP: No objection.

7 JUDGE MORAN: EPA demonstrative Exhibit H is  
8 admitted.

9 (WHEREUPON Complainant's  
10 Exhibit Number H was  
11 admitted into the  
12 record.)

13 BY MR. MARTIN:

14 Q. Mr. Carlson, after making your findings  
15 regarding the filled wetlands on the stream channel  
16 on the site of the alleged violation what, if any,  
17 enforcement action did U.S. EPA take?

18 A. January 2, 2005 it issued a Section 309(A)  
19 Administrative Compliance Order to Robert and Andrew  
20 Heser.

21 Q. At this time I'd like you to turn to page  
22 16 on page 202.

23 A. (So complied with request.)

24 JUDGE MORAN: Repeat that for me, Counsel, I



1 was making a note.

2 MR. MARTIN: Complainant's Exhibit 16.

3 JUDGE MORAN: Okay.

4 MR. MARTIN: At page 202.

5 THE WITNESS: Okay, I'm there.

6 BY MR. MARTIN:

7 Q. Do you recognize this document?

8 A. I do.

9 Q. What is it?

10 A. This is the January 7, 2005 Administrative  
11 Compliance Order, a couple of cover letters to it  
12 addressed to Robert Heser and Andrew Heser.

13 And it has some attachments to it.

14 Exhibit 1 which is a photocopy of what's up there at  
15 Exhibit H without all the writing on it.

16 And Exhibit 2 which is our Guidelines  
17 for Removal and Restoration Plan.

18 Q. Did you help prepare this document for  
19 issuance?

20 A. I did.

21 Q. And was it issued?

22 A. It was.

23 Q. On what date?

24 A. On January 7, 2005.



1 Q. Was it received?

2 A. Yes, it was.

3 Q. How do you know this?

4 A. It was Federal Express'ed. And we have a  
5 receipt from Federal Express. And the Hesers' legal  
6 Counsel wrote us back a letter based on receiving it.

7 Q. Okay, what was the U.S. EPA's purpose in  
8 issuing this Order?

9 A. To seek restoration of the site, the stream  
10 and wetlands.

11 Q. In general, what does the Order require?

12 A. It requires them to cease any further  
13 filling activities.

14 It requires them to send us within a  
15 set number of days an Intent to Comply Letter.

16 It requires within 30 days a  
17 restoration plan to be submitted.

18 And then it allows EPA time to review  
19 that and make corrections to it.

20 And the bottom line is to get an  
21 approved plan and a schedule to implement the  
22 approved plan.

23 Q. Okay, Mr. Carlson, please turn to page 208.

24 JUDGE MORAN: And was CX 16 previously





1 admitted?

2 MR. MARTIN: No, your Honor.

3 JUDGE MORAN: Okay.

4 Now, you're on 208.

5 MR. MARTIN: Yes, page 208.

6 JUDGE MORAN: I'm sorry, within the same  
7 exhibit?

8 MR. MARTIN: Same exhibit, Complainant's  
9 Exhibit 16, page 208, continuation of paragraph 12 at  
10 the top of the page.

11 THE WITNESS: Okay.

12 BY MR. MARTIN:

13 Q. It states that approximately 3,000 cubic  
14 yards of dredged spoil and organic debris was  
15 discharged into Martin Branch.

16 Do you see that?

17 A. I see that.

18 Q. What does dredged spoil and organic debris  
19 mean?

20 A. All right, dredged spoil is another way to  
21 say dredged material. And it refers to on-site  
22 material that is moved from one spot to another.

23 And so that's -- we're talking about  
24 primarily soil, Earth.



1                   And organic debris, like charcoal  
2 would be organic debris, roots, limbs, trunks.

3                   That would all be considered woody --  
4 excuse me, organic debris.

5           Q.    And the paragraph references 3,000 cubic  
6 yards.  What is this figure based on?

7           A.    It can be characterized in two ways:

8                   One, it's approximate.  So it's an  
9 approximation of the amount of dredged material and  
10 organic debris we felt was pushed across the site.

11                   And it involves two calculations.

12                   And one calculation is a calculation  
13 of how much of Martin Branch main stem was filled in?

14                   In other words, it's a particular  
15 volume of material that filled in Martin Branch and  
16 these tributaries.

17                   And so these essentially a length  
18 measurement, and an area measurement of a cross  
19 section of the channel.

20                   I think it's about a 5 and a half  
21 square foot -- 5 and a half square feet for a cross  
22 section of the main stem.

23                   And then, you do a little math in  
24 terms of multiplying the length by volume and divide



1 by 27 to get cubic yards.

2 And filling in all linear depressions  
3 and the main stem of the channel, it's calculated to  
4 be about 900 -- a little over 900 cubic yards of  
5 material.

6 The remainder of the acreage up to  
7 2000 is based on the data we saw at on-site in terms  
8 of the amount of fill material, the amount of soil  
9 mixing.

10 And we made a calculation of about  
11 6 inches of material on-site was pushed from high  
12 areas to low areas across the 2.1 acres.

13 And 6 inches over 2.1 acres is a  
14 particular volume.

15 And then you multiply again, divide  
16 that by 27 to get cubic yards, and it's roughly  
17 2,000.

18 And so you add the two numbers  
19 together and you get roughly 3,000.

20 The second calculation, just to  
21 bracket that as far as approximation is, you can do  
22 the same sort of calculation on the new channel.

23 In other words, it's a particular  
24 length of the new channel, the north and south leg.



1                   And I believe the north/south leg is  
2   569 feet.

3                   I think we had an east and west leg at  
4   285 feet long.

5                   If you recall, Ward Lenz had done the  
6   dimensions of the new channel when he was there. I  
7   think it had a 28 foot top width.

8                   The bottom width was 3 to 4 feet. And  
9   then it had obviously side slopes to that.

10                  So if you looked at a cross section,  
11   it would be a trapezoid.

12                  And you can calculate out the square  
13   footage of a particular slice of that channel,  
14   multiply it by the length, and divide by 27, and you  
15   get approximately 1500 cubic yards of material that  
16   came out of the new channel and that we believe was  
17   spread across -- you know, piled, burned and spread  
18   across the site.

19                  Q.   And what do you base that conclusion on?

20                  A.   I'm sorry, what conclusion?

21                  Q.   That the material from the newly  
22   constructed Martin Branch was discharged on the site  
23   of the alleged violation?

24                  A.   Well, we saw evidence of subsoil, brighter





1 colored soils, on the surface of the site over  
2 natural soils.

3 It's based on the soil mixing that we  
4 saw on-site with regard to the charcoal debris.

5 And it's based on the information from  
6 -- the 308 information request response did not  
7 indicate that that material was removed from the  
8 site.

9 We saw that material piled up in the  
10 videotape and in some of the pictures. So all those  
11 factors.

12 Q. Okay, just a couple questions about your  
13 calculation of fill.

14 I think you mentioned that you assumed  
15 a width of 5 and a half feet on the steam channel on  
16 the site of the alleged violation?

17 A. I'm sorry, no. That's not correct.

18 Q. I'm going to ask you:

19 First of all, you can testify what you  
20 assume was on the natural channel on the site as well  
21 as where you got that information from?

22 A. Oh, the natural channel is from I believe  
23 the downstream end -- when Ward Lenz did the  
24 dimensions of the downstream end of the channel,



1 undisturbed by the channel, and used those.

2 And that was more conservative than  
3 the other.

4 MR. SMALL: I'm going to object if he's based  
5 all his testimony on some other witness' --

6 JUDGE MORAN: Sustained.

7 BY MR. MARTIN:

8 Q. So this calculation by Ward Lenz, does this  
9 appear to be the referral that was sent by U.S. EPA?

10 A. Yes, it does.

11 Q. If you'll turn to Exhibit 8?

12 A. (So complied with request.) Okay.

13 Q. I'd like to direct your attention page 112.

14 JUDGE MORAN: Counsel, again, 112?

15 MR. MARTIN: Yes, page 112, Exhibit 8.

16 JUDGE MORAN: Okay.

17 BY MR. MARTIN:

18 Q. Do you recognize this document?

19 A. I do.

20 Q. What is it?

21 A. These are typed notes from Ward Lenz and  
22 Katherine Kelley's February 25, 2000 site inspection.

23 Q. And what calculations appear on this page  
24 112?



1           A.    They list dimensions of the channel, both  
2 up and downstream of the site that's undisturbed.

3                         And they list two separate sections,  
4 the north/south and the east/west leg and what the  
5 new channel dimensions were.

6           Q.    Did you use this information in your  
7 calculation of fill material that was put into the  
8 stream channel that formerly occurred on the site of  
9 the alleged violation?

10          A.    Yes, I did.

11          Q.    And how did you do that?

12          A.    By using the dimensions of the top width,  
13 of the bottom width, the height of the channel slopes  
14 to get area.

15          Q.    Just point out the dimensions from page 112  
16 that you used.

17          A.    Note the one that's listed as Number one at  
18 the top just below the field notes February 15, 2000.

19                         And the top list listed there 13, a  
20 bottom width of 3 with shelves out to 7 feet.

21                         An ordinary high water mark of eight  
22 to ten inches. And then they also add the right  
23 descending bank and the left designed bank at 2.9  
24 feet.



1 Q. And why did you feel it was appropriate to  
2 use these dimensions in your calculation of fill  
3 material at the Martin Branch -- that formerly  
4 existed on the site?

5 A. Because these dimensions are in an  
6 undisturbed channel, very close to the original site  
7 channel.

8 So I believe they are comparable.

9 Q. Okay, you testified that you did the same  
10 thing for the newly constructed channel calculating  
11 the amount of fill that was taken from that channel?

12 A. That's correct.

13 Q. And where do those calculations appear on  
14 page 212?

15 A. Under new channel at the bottom of the  
16 page.

17 JUDGE MORAN: And I believe you said 212. I  
18 think it's -- you said that.

19 But you meant 112; right, Counsel?

20 MR. MARTIN: Yes, your Honor, I apologize.  
21 That is page 112.

22 THE WITNESS: So one and two under new channel.

23 Again, it gives the top width, it  
24 gives the bottom width, gives you the height of the





1 bank slopes.

2                   So from that information you can  
3 construct a trapezoid and break that down and figure  
4 out the area. You multiply the length of the channel  
5 and there you go, you've got volume.

6           MR. MARTIN: Okay, thank you.

7 BY MR. MARTIN:

8           Q. So that's explains where the 2,000 cubic  
9 yard figure comes from in the Administrative Order?

10          A. That's correct.

11          Q. I ask you now to turn to page 212 which is  
12 part of Exhibit 16.

13          A. (So complied with request.) Okay.

14          Q. Do you recognize this document?

15          A. I do.

16          Q. What is it?

17          A. This is Exhibit 1 from the Administrative  
18 Order issued on January 7, 2005.

19          Q. Again, is this a blowup copy of your  
20 wetland analysis that is -- that we previously talked  
21 about which is labeled as Exhibit G?

22          A. I can't tell you what Exhibit G is at the  
23 moment. So, I don't know.

24          Q. Is this a blowup copy of your original



1 analysis of the stereoscope aerial photographs?

2 A. Yes, it is.

3 Q. Along with the overlay?

4 A. Yes, it is.

5 Q. I ask you to turn to page 213 and 214?

6 A. All right.

7 Q. Do you recognize this document?

8 A. I do.

9 Q. What is it?

10 A. Exhibit 2 to the Administrative Order.

11 Q. And could you describe what this document  
12 is?

13 A. These are internal Guidelines produced by  
14 Martin Branch telling alleged violators -- giving  
15 them general Guidelines for producing a Removal and  
16 Restoration Plan to restore wetland areas.

17 Q. In general, what are those guidelines?

18 A. Generally, they give us existing conditions  
19 of the site. And then they give us proposed physical  
20 conditions of the site.

21 Q. When you say "they," are you referring to  
22 recipients of the Administrative Order?

23 A. Yeah, the Respondents of the order.

24 In any case, what we're looking for is



1 under Proposed Physical Conditions on 213, what  
2 actual work will occur on-site in terms of moving  
3 dirt, planting vegetation.

4 On the site as it exists now to bring  
5 it back to what it looked like in pre-disturbance  
6 conditions.

7 And the baseline is of course is what  
8 it exists as today in its disturbed state.

9 So based on that, how do you get it  
10 back its prior condition.

11 And then there are requirements for  
12 producing an as-built plan to --

13 MR. SMALL: Your Honor, if I may --

14 JUDGE MORAN: Yes?

15 MR. SMALL: The Complaint does not ask for  
16 restoration. The Complaint simply asks for a civil  
17 penalty.

18 And the fact that there was notice  
19 sent out for restoration really had nothing to go do  
20 with this case as alleged by the EPA.

21 JUDGE MORAN: I'll hear from EPA about that.

22 Any response to that?

23 MR. MARTIN: Well, this Administrative Order  
24 deals with any violation that is being addressed by



1 the Administrative Penalty Procedure.

2 This is part of the background and  
3 history of the case. I'm merely pointing out the  
4 background.

5 JUDGE MORAN: I think its relevance -- it's  
6 materiality, excuse me, is to -- assuming I find a  
7 violation, then it seems to me it would be somewhat  
8 relevant -- it is relevant to the question of  
9 penalties.

10 So I'm going to allow some discussion.

11 You can argue its limited use in your  
12 brief, but that's my ruling.

13 MR. MARTIN: Thank you.

14 BY MR. MARTIN:

15 Q. Mr. Carlson, I believe you were speaking to  
16 the requirement on page 214 the as-built condition?

17 A. It's just a requirement that once they  
18 finish the approved restoration plan, that they  
19 essentially prove that it was done with an as-built  
20 drawing which requires that a survey crew goes out  
21 and shoots elevation and shoots area to show you that  
22 2.1 acres of wetlands were destroyed and that the  
23 stream channel was put back.

24 Q. It also has under monitoring -- generally,





1 there's a monitoring period after the orders are  
2 approved of from five to ten years where the  
3 Respondents keep a watch on it, and make sure that it  
4 meets performance standards.

5 Performance standards are reference to  
6 measures of success. And what we would be looking  
7 for is that it is a wetland and it is forested, and  
8 that invasive species don't colonize the site.

9 Those are generally the performance  
10 standards that we would apply.

11 And there's a schedule requirement and  
12 they tell us when this work will be done.

13 Q. Okay, Mr. Carlson, referring back to  
14 Complainant's 16, is this a true and accurate and  
15 complete copy of the Administrative Order and the  
16 exhibits that was sent to the Hesper brothers in this  
17 case?

18 A. Yes, it is.

19 Q. Is this document part of the official case  
20 file?

21 A. It is.

22 MR. MARTIN: Your Honor, I move to include  
23 Complainant's Exhibit 16 in the record.

24 JUDGE MORAN: Noting your objection Mr. Small



1 about 16, again, do you have any other objections to  
2 this exhibit?

3 MR. SMALL: No.

4 JUDGE MORAN: Complainant's Exhibit 16 is  
5 admitted.

6 (WHEREUPON, Complainant's  
7 Exhibit Number 16 was  
8 admitted into the  
9 record.)

10 BY MR. MARTIN:

11 Q. Mr. Carlson, in general, what happened, if  
12 anything, after U.S. EPA issued its administrative  
13 order on January 7, 2005 to Respondents?

14 A. Well, generally speaking there's a series  
15 of communications either by telephone or by letter  
16 regarding compliance with the plan over that year  
17 2005 and into 2006, and it was essentially was  
18 unresolved.

19 BY MR. MARTIN:

20 Q. So in general how would you characterize  
21 the Parties' interactions after the issuance of the  
22 Administrative Order?

23 A. I would characterize them as unsuccessful  
24 and -- and ultimately is not in compliance with the



1 Administrative Order.

2 Q. So ultimately, did the Hesper brothers  
3 conduct any restoration work of any kind in response  
4 to the Administrative Order?

5 A. No, they did not.

6 Q. Did the Hesper brothers conduct any  
7 mitigation activities in response to the  
8 Administrative Order?

9 A. They did submit a mitigation plan  
10 initially.

11 MR. SMALL: I'm going to object, your Honor.

12 I don't want to get this into a  
13 position of like a mistrial, you know, when we're  
14 talking about what actions our Clients took.

15 I think that's getting -- part of it  
16 would be that's getting too close to possibly a  
17 mistrial and we don't want that to happen.

18 JUDGE MORAN: How could it be a mistrial,  
19 Mr. Small?

20 A mistrial occurs in the context of a  
21 jury hearing something they can't put out of their  
22 minds, right?

23 I've never heard of a mistrial in  
24 terms of when a judge tries a case.



1           MR. NORTHRUP: I guess my perspective is that  
2           the closer we go down this road, we're going to get  
3           to a point of what are we going to do?

4                         Put Mr. Martin and myself on the stand  
5           and talk about the negotiations that went back and  
6           forth?

7           JUDGE MORAN: No, we're not going to have any  
8           talk about that.

9           MR. NORTHRUP: That's what I understood.

10           MR. SMALL: That's really my concern, too, your  
11           Honor, that we're heading down that path and who said  
12           what.

13           JUDGE MORAN: Okay. But so far at least,  
14           Mr. Carlson is just talking.

15                         And these are really penalty  
16           considerations that the Counsel for EPA is trying to  
17           get at in terms of what efforts were made on the part  
18           of the Respondents in reference to the Administrative  
19           Order.

20                         Now maybe they felt that they didn't  
21           have to do anything or they decided to litigate it.

22                         But I don't see the problem that you  
23           are alluding to.

24                         If you get closer to this line that





1 you're concerned about, I'm certainly not going to  
2 allow that. And we're not going to have anything  
3 about negotiations in there.

4 MR. SMALL: That's fine.

5 JUDGE MORAN: These are penalty-related  
6 questions, are they not?

7 MR. MARTIN: Yes, they are.

8 JUDGE MORAN: Okay. So then, just stick to  
9 that. And then if you have any more objections, tell  
10 me about it Mr. Small and Mr. Northrup.

11 BY MR. MARTIN:

12 Q. The question was:

13 Ultimately, did the Hesper brothers  
14 conduct any mitigation work in response to the  
15 Administrative Order?

16 A. To the extent submitting -- developing and  
17 submitting a mitigation plan that works, they did  
18 that.

19 Q. Did they implement that?

20 A. No.

21 Q. Why not

22 A. EPA did not approve the mitigation plan.  
23 EPA was seeking restoration.

24 Q. Did the Hesper brothers receive a permit



1 from the Corps of Engineers addressing the site of  
2 the violation?

3 A. Not that I'm aware of.

4 Q. Is this still the case today?

5 A. I believe it is.

6 Q. What is EPA's position on the Hesper  
7 brothers compliance status with the Administrative  
8 Order?

9 A. That they are in non-compliance with the  
10 Administrative Order.

11 Q. And where, if at all, is this position of  
12 EPA documented?

13 A. Well, it would be documented in our  
14 correspondence to the Hesper.

15 Q. Any formal enforcement action?

16 A. I guess I would need my recollection  
17 refreshed.

18 It's possibly -- it's in the  
19 administrative penalty order, but I'm not recalling  
20 that at the moment. I'd have to look at that  
21 document.

22 Q. The administrative penalty order is not an  
23 exhibit, but it is a formerly filed document?

24 JUDGE MORAN: What was your question:



1                   Did EPA then bring a Complaint, is  
2 that what you're asking him?

3           MR. MARTIN: I'm just asking where the  
4 compliance status of the Hesper brothers has been  
5 documented by the EPA.

6                   A simple question. Not meant to go  
7 beyond where that determination has been documented.

8           JUDGE MORAN: And you don't remember?

9           THE WITNESS: Well, I testified that there's  
10 been a number of correspondence between us and the  
11 Hesper brothers telling them that they're not in compliance.

12                   But I don't remember it being anywhere  
13 else other than that.

14           MR. MARTIN: Okay, let's move on to your second  
15 inspection on site.

16 BY MR. MARTIN:

17           Q. First of all, when did this second  
18 inspection at the site occur?

19           A. August 30, 2006.

20           Q. Before we turn to this, was there anything  
21 that you did specifically to prepare for your second  
22 inspection of the site?

23           A. Not that I did recall.

24           Q. Please turn to Exhibit 9a in your exhibit



1 book.

2 This document stems from page 152.3 to  
3 168.11?

4 A. All right.

5 Q. Take a look through that exhibit, please.

6 A. Okay.

7 Q. Do you recognize this document?

8 A. I do.

9 Q. What is it?

10 A. This is a series of correspondence that  
11 initiates with EPA asking for Soil and Water  
12 Conservation District files for the William Hesper  
13 site.

14 And then the remainder of the file is  
15 the Soil and Water Conservation District's response  
16 back to us, and that included two separate  
17 conservation practice activities undertaken by  
18 William Hesper.

19 Q. Okay, referring to page 153.1, is this the  
20 letter requesting file of reference?

21 A. It is.

22 Q. Did you write this letter?

23 A. I did.

24 Q. Why did you write this letter?





1           A.    To formally request the Conservation  
2           District's file on the William Hesper site to more  
3           adequately look into the Hesper brothers Complaint  
4           about the upstream work on their uncle's site.

5           Q.    So this is an effort you undertook to look  
6           into the offense raised by the Hesper brothers?

7           A.    That's correct.

8           Q.    Looking as the page 153.2?

9           A.    Okay.

10          Q.    Did you receive this letter?

11          A.    I did.

12          Q.    Who sent it to you?

13          A.    W. Burke Davies of the Soil and Water  
14          conservation District of Marion County.

15          Q.    And what is Mr. Davies title?

16          A.    He has three titles:  Resource  
17          Conservationist, Certified Crop Advisor and Certified  
18          Professional in Erosion and Sediment Control.

19          Q.    What, if any, involvement did Mr. Davies  
20          have in the work done on Mr. William Hesper's  
21          property?

22          A.    For these two projects, he oversaw each of  
23          those from the Soil and Water Conservation District's  
24          end of things.



1 Q. Did you speak with Mr. Davies about this  
2 response in the file that it contained?

3 A. Yes.

4 Q. And in general looking at the file, what  
5 work does Mr. Davies letter included in Exhibit 9a  
6 relate to?

7 A. It relates to two parts of Bill Heser's  
8 property upstream of the site.

9 One part is a hayland/pasture program  
10 for over 80 acres.

11 And the second is what they call  
12 critical area planting or conservation tillage, and  
13 that project relates to the work done on Martin  
14 Branch upstream of the site.

15 Q. Okay. Was this work done under a  
16 Government sponsored program?

17 A. Yes.

18 Q. And what program is that?

19 A. It's called 153.3, the Conservation 2000  
20 Program. It's a state of Illinois program.

21 Q. And in general, what is your understanding  
22 of the purpose of this program?

23 A. Well, it's an environmental program that  
24 seems to conserve soil and protect water quality.



1                   And it essentially gives financial  
2 incentives to cooperating landowners to apply certain  
3 practices that relate to benefitting or preventing  
4 soil erosion and protecting water fowl.

5           Q.    Okay, let's talk to page one of 168.1.

6           A.    All right.

7           Q.    Do you recognize this part of the file?

8           A.    I do.

9           Q.    What is it?

10          A.    Well, it's an application/contract/payment  
11 form and it relates to the applicant as Bill Heser.

12                   And it gives the location of the  
13 project, which is the upstream part of Martin Branch  
14 on Bill Heser's property upstream of the alleged  
15 violation site.

16                   It lists payment information, cost  
17 information, and it also lists the environmental  
18 benefits from it under the soil and loss report.

19                   And the date on it is from 1997.

20          Q.    Okay, is there a date approval at the top  
21 right-hand portion of this document?

22          A.    This is.

23          Q.    What is that date?

24          A.    August 13, 1997.



1           Q.    And there are two signatures at the bottom  
2 of the page.  Are you familiar with those?

3           A.    I'm familiar with one.

4           Q.    Which one is that?

5           A.    Burke Davies, the technician's signature  
6 and title.

7           Q.    Let's talk a little bit about this work,  
8 the critical planting.

9                         What did this project entail?

10          A.    It entailed eliminating rill sheet or rill  
11 erosion in gully and megarill erosion on that part of  
12 Martin Branch upstream of the alleged violation site.

13                         So involved in particular laying back  
14 the banks so that they were less vertical, in other  
15 words more stable and more able to take vegetation on  
16 their slopes.

17                         It filled in gullies, the gully  
18 erosion areas on the bottom of the channel.

19                         So the Earth work was on the channel  
20 bottom and on the channel side slopes, and then this  
21 site was planted and stabilized.

22          Q.    When you say it was planted, what was it  
23 planted with?

24          A.    Largely grasses.





1 Q. Okay. When did this project take place?

2 A. Between August of '97 and here it's listed  
3 as July of 1998.

4 Q. And where did this project take place in  
5 relation to the site of the alleged violation?

6 A. We're upstream of the alleged violation  
7 site and we're outside of the wooded riparian  
8 corridor in a more open area of the Martin Branch  
9 channel.

10 Q. And how large of an area did this project  
11 specify?

12 A. Well, it benefits a 19.1 acre area. But  
13 the actual work appears to have occurred on about two  
14 acres along the stream channel itself.

15 Q. What is your understanding of the purpose  
16 of this project?

17 A. This is to eliminate erosion and protect  
18 water fowl.

19 Q. And what is your understanding of the  
20 success of project?

21 A. That it has been successful in doing that.

22 Q. Is there anything on this page that would  
23 indicate the environmental benefits of this project?

24 A. Yes.



1 Q. Could you describe further?

2 A. Under the section on this page that's  
3 labeled soil loss report, under -- it's rows and  
4 columns.

5 And I'm looking at the two columns to  
6 the right-hand side and the heading on that is sheet  
7 and rill erosion and gully and megarill erosion.

8 And they look at the soil loss before  
9 the project and they look at it after the project,  
10 and they give an estimate of the number of tons saved  
11 of sediment.

12 And total is 100.2 tons of sediment  
13 saved from going into the Martin Branch.

14 Q. Because of this project?

15 A. Correct.

16 Q. To what extent is erosion associated with  
17 water flow?

18 A. Well, it's probably the main source of  
19 sediments moving is by the water. It can be also  
20 done by wind and can be assisted by machinery.

21 Q. So would a reduction and erosion be  
22 associated a production of water foul?

23 A. Yes.

24 Q. If you could turn to page 158?



1 A. All right.

2 Q. Do you recognize this document?

3 A. I do.

4 Q. What is it?

5 A. It's a part of the hayland pasture  
6 conservation project on Bill Hesel's property  
7 upstream of the violation site.

8 And it's a particular process sheet  
9 that deals with the environmental benefits of putting  
10 80 acres in hayland and pasture and putting a filter  
11 strip on the downstream end of that.

12 Q. In general, what did this pasture/hayland  
13 seeding project entail?

14 A. It involved Bill Hesel ending row crop  
15 production on that 80 acres and planting it in  
16 hayland and pasture grasses.

17 Q. And when did this project take place?

18 A. I understood this was in 2004.

19 Q. And where did it take place?

20 A. Oh, it took place on 80 acres.

21 MR. SMALL: You Honor, there's been no  
22 foundation laid. If he's got anything to do with  
23 this project other than he's got some documents that  
24 he's reading from.



1                   We don't think that this is a  
2 proper --

3           JUDGE MORAN: Well, I believe he has the  
4 expertise to be able to interpret the documents.

5                   The document can clearly be admitted  
6 as Government records.

7                   My understanding is that this is part  
8 what was received from Marion County. It's their  
9 file related to this activity by Mr. Bill Hesper.

10                   And we can have Mr. Martin ask more  
11 foundational questions related to his ability to --  
12 for instance, whether he's read over the whole  
13 document, whether he's capable of interpreting some  
14 of the information in it, and the basis for that  
15 before he answers those questions.

16                   But particularly because my  
17 understanding is that this is one of the bases of  
18 defense on the part of Respondent, that Mr. Hesper's  
19 activities somehow relate to Bill Hesper's activities  
20 and how it impacts or I'm not sure exactly what all  
21 the reasons are.

22                   I'm not establishing it. I'm frankly  
23 a little hazy as to that aspect of it. I haven't  
24 focused on that. I will.





1                   So, if you still have an objection,  
2 I'll require Mr. Martin to ask some more foundational  
3 questions if you want that.

4                   In terms of his ability to  
5 interpret -- I mean, this exhibit can come in; that's  
6 A.

7                   B is, is he in a position to be able  
8 to talk about what's in it?

9           MR. SMALL: Correct, your Honor.

10           JUDGE MORAN: Then I'll have Mr. Martin ask  
11 some more foundational questions before he can ask  
12 questions from Mr. Carlson about interpreting those.

13 BY MR. MARTIN:

14           Q. Okay, Mr. Carlson, did you discuss this  
15 particular page with Mr. Davies?

16           JUDGE MORAN: Which page?

17           MR. MARTIN: I'm sorry, page 158.

18           THE WITNESS: Yes.

19 BY MR. MARTIN:

20           Q. To the extent -- strike that.

21                   Do you understand what information is  
22 being imparted on page 158?

23           A. Yes.

24           Q. And to the extent you did not understand



1 it, did Mr. Davies help you understand?

2 A. Correct, that's correct.

3 Q. In general, what information is being  
4 imparted on page 158?

5 A. Well, this is similar to the previous page  
6 that we talked about in terms of the amount of tons  
7 saved.

8 It's a page that estimates the  
9 environmental benefits of the project.

10 Q. Are you familiar with erosion and what  
11 causes erosion?

12 A. Yes.

13 Q. Are you familiar with the term sediment  
14 level?

15 A. Yes.

16 Q. Are you familiar with the term phosphorus  
17 level?

18 A. Yes.

19 Q. Are you familiar with the term nitrogen  
20 level?

21 A. Yes.

22 Q. Have you been to the site of Mr. William  
23 Hesers' upon which this project took place?

24 A. Yes, I have.



1 Q. Have you viewed the area on which this  
2 project took place?

3 A. Yes, I have.

4 Q. Mr. Carlson, do you know what a filter  
5 strip is?

6 A. Yes, I do.

7 Q. And did you discuss the implementations of  
8 this project with Mr. William Hesel?

9 A. Yes.

10 MR. MARTIN: Your Honor, I think he's  
11 qualified.

12 JUDGE MORAN: Yeah, I think actually three  
13 questions earlier he was qualified.

14 And to the extent that Counsel for  
15 Respondent wants to chip away during  
16 cross-examination, he'll have full opportunity to do  
17 that showing some inadequacies in - I mean, if  
18 possible - of Mr. Carlson's understanding of this  
19 information.

20 So proceed, Mr. Martin.

21 MR. MARTIN: Thank you.

22 BY MR. MARTIN:

23 Q. Did this project take place in the Martin  
24 branch watershed?



1           A.    Yes, it did.

2           Q.    Where, in particular, did this project take  
3 place?

4           A.    On 80 acres of Bill Heser's land, upstream  
5 of the site, south of Martin Branch.

6           Q.    Did this project also entail the  
7 construction of a filter strip?

8           A.    Yes, it did.

9           Q.    Are you familiar with that part of this  
10 project?

11          A.    I am.

12          Q.    Have you viewed the filter strip that was  
13 constructed as part of this project?

14          A.    I have.

15          Q.    Okay, let's talk about the filter strip:

16                   Where is that filter strip constructed  
17 as part of this project located?

18          A.    It's at the base of the 80-acre area.

19                   In other words, the filter strip is in  
20 between the Martin Branch channel which is downstream  
21 of the filter strip or down slope of the filter  
22 strip.

23                   Up slope is the -- I guess, I can best  
24 describe it as the contour cropping area we were





1 looking at when Daniel Hesel and Bill Hesel were up  
2 here.

3 It's a highly erodible land unit on  
4 that farm.

5 Q. Are you talking about the filter strip?

6 A. Well, I was giving you the filter strip in  
7 reference to where it's located on the site.

8 Q. Okay, is the filter strip also located next  
9 to Martin Branch?

10 A. In spots it is, not in its entirety.

11 Q. Okay. What is your understanding of the  
12 purpose of installing a filter strip?

13 A. To reduce sediments from moving into  
14 receding water.

15 Q. And how wide is the filter strip  
16 implemented under this program?

17 A. I believe it's about 75 feet wide.

18 Q. And what plants have been seeded in the  
19 filter strip area?

20 A. Native or non-native grasses.

21 Q. Let's talk about native?

22 A. Both: native in one part and non-native in  
23 the other.

24 Q. Okay, what type of native grass?



1 A. I don't know. I don't know.

2 Q. Is who clover part of the filter strip that  
3 was implemented?

4 A. Yes.

5 Q. And why is that significant? .

6 A. Because it's a good ground cover. It's a  
7 nitrogen fixture.

8 Q. Let's talk about the pasture/hayland  
9 seeding project.

10 Where did this project take place?

11 A. Up slope of the filter strip, south side of  
12 the Martin Branch channel, upstream of the site in  
13 the 80-acre area best described I think as the area  
14 of contour cropping alternating light and dark strips  
15 that we saw when Daniel Hesel was up here.

16 Q. Generally, what was your understanding of  
17 how this project was implemented?

18 A. That he discontinued row cropping, planted  
19 hayland and pasture vegetation, which I believe is  
20 primarily grasses.

21 And in addition, they had a fence line  
22 put in to divide the hayland pasture from the filter  
23 strip area.

24 And then I also think a component was



1 the water lines, so the cattle if used there would  
2 have an alternative water source other than stomping  
3 on over to Martin Branch.

4 Q. What is your understanding of the  
5 environmental aspect of the implementation of this  
6 project?

7 A. Well, on 158 the quantitative results of  
8 their process are listed there. And the total  
9 loss -- total estimated load reductions are on the  
10 bottom under sediment, phosphorus and nitrogen in  
11 total which includes the hayland/pasture land and the  
12 filter strip, is 107 tons per year on sediment load,  
13 160 tons per year on the phosphorus load reduction,  
14 and a nitrogen load reduction of 313 tons -- excuse  
15 me, pounds per year.

16 And actually, I'm sorry, the  
17 phosphorous is pounds not tons- 160 pounds per year  
18 for phosphorous load reduction.

19 Q. Mr. Carlson, I'm looking at page 158 where  
20 you just made a reference to 160 pounds.

21 That's under an example column, is  
22 that the correct column you're looking at?

23 A. It's my understanding that the results  
24 under total estimated load reductions are the



1 benefits from the project.

2 Q. And did you testify as to the nitrogen  
3 levels?

4 A. Yeah, I mentioned nitrogen load reduction  
5 was 313.

6 Q. Okay, thank you.

7 Looking at Exhibit 9a, what other  
8 documents are contained in this file that was sent to  
9 you by Mr. Davies?

10 A. I'm sorry. Would you repeat that question?

11 Q. What other documents of significance are  
12 attached to Exhibit 9a?

13 A. Well, there's a Cultural Resource Review,  
14 three pages of that.

15 There are the invoices for planting  
16 costs and earth moving costs that relate to the cost  
17 share on the project between the Soil and Water  
18 Conservation District and what Bill Hesel put into  
19 it.

20 Q. Drawing your attention to page 160, is this  
21 the contoured area that you were referencing  
22 earlier --

23 A. Yes.

24 Q. -- (continuing) as reflected on this aerial





1 photograph?

2 A. Yes, the contour cropping is the  
3 alternating white and dark area just south of the  
4 center of the photograph.

5 Q. Okay, referring back to the exhibit, is  
6 this a true accurate and complete copy of the file  
7 sent to you by Mr. Davies concerning the conservation  
8 project work on Bill Hesers' property?

9 A. Yes, it is.

10 Q. Is this document part of the official case  
11 file?

12 A. It is.

13 MR. MARTIN: Your Honor, I believe this  
14 document was stipulated to at the beginning of this  
15 hearing today.

16 JUDGE MORAN: Today? All right, I do have that  
17 listed, yes, 9a.

18 MR. NORTHRUP: That's correct.

19 JUDGE MORAN: So 9a was already admitted.

20 BY MR. MARTIN:

21 Q. Let's talk about your second inspection to  
22 the site.

23 When did your second inspection of the  
24 site take place?



1           A.    August 30, 2006.

2           Q.    Who else attended on behalf of the  
3 Government?

4           A.    Tony Antonacci and Burke Davies were there  
5 for the U.S.D.A. for Tony and Marion County Soil and  
6 Water Conservation District for Burke Davies.

7                         Later on, yourself, Tom Martin, and  
8 another EPA person named Jim, who was unrelated to  
9 the site, was also there besides myself.

10          Q.    Prior to visiting the site, did you check  
11 the prior weather conditions to help form your  
12 observation?

13          A.    Yes.

14          Q.    How did you do this?

15          A.    My general practice is I talk to the local  
16 people when I get there about the recent weather.

17                         I buy a local paper and check the  
18 weather stuff out.

19                         And then generally later, you can  
20 always get the historical data from the NOAA, that's  
21 the National Oceanic and Atmospheric Administration  
22 that keeps climatic records across the country.

23          Q.    What were the prior weather conditions?

24          A.    Generally dry.  It was a dry time of year,



1 so it was typical.

2 Q. Mr. Carlson, I'm going to ask you to turn  
3 to Complainant's Exhibit 27; that would be page 422.

4 JUDGE MORAN: Twenty-seven at 422?

5 MR. MARTIN: Yes, your Honor.

6 JUDGE MORAN: Okay.

7 MR. MARTIN: It extends from 422 to 465.

8 THE WITNESS: All right.

9 BY MR. MARTIN:

10 Q. And please take a look at this exhibit.

11 A. (So complied with request.) Okay.

12 Q. Do you recognize this document?

13 A. I do.

14 Q. What is it?

15 A. My site inspection report from the  
16 August 30, 2006 inspection.

17 Q. Did you write this report?

18 A. I did

19 Q. When was it written?

20 A. It was finalized on February 16, 2007.

21 Q. Was this report based on field notes that  
22 you took at the time of your inspection?

23 A. Yes.

24 JUDGE MORAN: You know, Counsel, that this



1 exhibit is not admitted yet?

2 MR. MARTIN: Yes.

3 JUDGE MORAN: That's what my notes say.

4 MR. MARTIN: Yes, your Honor. It's the first  
5 time we've talked about it.

6 JUDGE MORAN: Well, not really, but that's  
7 fine.

8 BY MR. MARTIN:

9 Q. Looking at specifically page 422?

10 A. All right.

11 Q. There's a reference to a meeting with  
12 Mr. William Hesel in the observation section.

13 Do you see that?

14 A. I do.

15 Q. There's also a reference to a meeting with  
16 Mr. Davies and Mr. Antonacci?

17 A. Okay.

18 Q. Can you generally describe that meeting?

19 A. Well, we met to discuss the Conservation's  
20 practices program work on Bill Hesel's properties,  
21 particularly the Martin Branch work.

22 Q. Okay, so this is a meeting about Exhibit 9a  
23 that we just discussed?

24 A. Correct.





1 Q. On your August 30, 2006 site visit, did you  
2 observe the site of the alleged violation?

3 A. Yes.

4 Q. Now please turn to page 423.

5 A. All right.

6 Q. And just past the middle of the page,  
7 there's a reference to concentrated flow area in this  
8 inspection report.

9 Do you see that?

10 A. Which paragraph?

11 Q. It's the start of the second full  
12 paragraph?

13 A. Okay.

14 Q. A reference to concentrate flow area.

15 Could you describe this further?

16 A. Well, this is on the far east -- or excuse  
17 me, far west end of the east/west leg of the altered  
18 channel.

19 And all I'm indicating is that this  
20 appeared to be an area where water had flowed from  
21 the field back into the Martin Branch channel.

22 And it was eroded bare ground. And it  
23 led me to believe that this is a point where water  
24 can leave the site and enter the channel.



1           Q.    Well, first of all, please give a  
2 description of what this concentrated whole area  
3 looked like?

4           A.    It's bare ground.  It's eroded in the sense  
5 that it has marks in it differing in terms of micro  
6 topography, it's not particularly, absolutely flat.

7                         It has some debris in it.  Debris is  
8 turned in the direction of where the water flows.  In  
9 that location it would generally be like north and  
10 south.

11                        And this vegetation -- it's not a live  
12 vegetation, it's just debris from the field or leaves  
13 falling off.

14                        And it's eroded in the sense that it's  
15 a little bit - not much.  In other words, it looked  
16 fairly recent - a little bit lower than the ground on  
17 either side of it.

18           Q.    And was this concentrated flow area on the  
19 site of the alleged violation?

20           A.    Yes.  It was at the far east west end of  
21 the east/west leg.

22           Q.    So in other words, this concentrated flow  
23 area was an area of fill from the site of the alleged  
24 violation?



1           A.    It's actually just on the top of it, on the  
2 bank right on the channel edge.

3           Q.    So did this concentrated flow area outlet  
4 into Martin Branch?

5           A.    That was my interpretation, that water was  
6 coming from the field and getting into the channel at  
7 that particular location.

8           Q.    Is that what outlet means?

9           A.    Correct.

10          Q.    What would the effect be of this  
11 concentrated flow area, if any, on Martin Branch  
12 water flow?

13          A.    Well, it's a route where water can leave  
14 the site.

15                         So to the extent that water on the  
16 site is picking up sediment and any associated  
17 contaminants, this is evidence that it can leave the  
18 site.

19          Q.    And what kind of contaminate can be leaving  
20 the site?

21          A.    Well, your basic nutrients, phosphorus,  
22 nitrogen, anything that was in the farm -- whatever  
23 they input to the farm, chemicals may have been if  
24 they spray on herbicides.



1                   If they fertilized to any extent and  
2           it's on the surface it can be picked up by water with  
3           the sediment and that's a chance where it could leave  
4           the site.

5           Q.    So would sedimentation be increased by this  
6           concentrated flow area?

7           A.    No.

8           Q.    No sediments would be carried by water  
9           flowing off site?

10          A.    Yes, but the concentrated flow area didn't  
11          cause that.

12                   It's just an indication of it leaving  
13          the site.

14          Q.    So the distinction you're making is that  
15          this is evidence of erosion?

16          A.    Yes, it's evidence of erosion.  But it's  
17          more evidence of this is a avenue for water to leave  
18          the site and enter Martin Branch.

19          Q.    So is this concentrated flow area that you  
20          witnessed on the site of the alleged violation, was  
21          there any kind of a buffer area or barrier that  
22          affected this concentrated flow area?

23          A.    No, there was not.

24          Q.    And what was the significance of that?









1 JUDGE MORAN: Have we had this before?

2 MR. MARTIN: -- (continuing) a photograph.

3 JUDGE MORAN: But this demonstrative Exhibit D,  
4 we've had it up here earlier?

5 MR. MARTIN: Yes.

6 MS. PELLEGRIN: Yes.

7 JUDGE MORAN: Sorry about that.

8 Is this the one -- he has marked on  
9 this one before?

10 THE WITNESS: I have not.

11 JUDGE MORAN: Okay, all right, go ahead. Just  
12 go ahead and ask your questions.

13 THE WITNESS: Okay, I've marked Exhibit D with  
14 blue ink with a vertical line going north and south,  
15 a very short line.

16 And it's marked on the west end of the  
17 east/west leg of the new channel. And it's denoted  
18 with an arrow. And it's labeled concentrated flow  
19 path.

20 The location is approximate since the  
21 exhibit doesn't show the channel all that well.

22 MR. MARTIN: Okay, thank you, Mr. Carlson.

23 BY MR. MARTIN:

24 Q. Mr. Carlson, I'd like to direct your



1 attention to pages 425 to 465.

2 JUDGE MORAN: Say that again, Mr. Martin.

3 MR. MARTIN: Direct your attention to pages 425  
4 to 465.

5 JUDGE MORAN: Before you ask him about that,  
6 this Exhibit D, are you telling me it has already  
7 been admitted?

8 MR. MARTIN: Yes, your Honor.

9 JUDGE MORAN: Is that your recollection as  
10 well, Counsel?

11 MR. NORTHRUP: I'd have to look. It looks  
12 familiar.

13 JUDGE MORAN: Well, we've seen a few aerial  
14 photos during the course of the hearing.

15 I just don't have a notation for  
16 Exhibit D.

17 MS. PELLEGRIN: It's the same as a smaller one  
18 we have, an exhibit that -- I thought it was included  
19 in another exhibit. It's a smaller exhibit.

20 JUDGE MORAN: So you believe Exhibit B has  
21 already been admitted?

22 MS. PELLEGRIN: Yes, your Honor.

23 JUDGE MORAN: All right.

24 Go ahead, Mr. Martin, we're on page



1 425 right now.

2 BY MR. MARTIN:

3 Q. Have you reviewed pages 425 to 465?

4 A. I have.

5 Q. Do you recognize these documents?

6 A. I do.

7 Q. What are they?

8 A. They are photographs I took during the  
9 August 30, 2006 inspection.

10 Q. So you took these photographs?

11 A. I did.

12 Q. Was there anyone else with you when you  
13 took these photographs?

14 A. Yes.

15 Q. Who was with you?

16 A. In some of them Bill Hesper, Tony Antonacci,  
17 and Burke Davies.

18 In others, yourself, Jim from the RCRA  
19 program. He's an EPA employee and I don't remember  
20 his last name.

21 Terry Lenders for the Hesper brothers  
22 and Charlie Northrup, opposing Counsel.

23 And there are some that are just  
24 myself.





1 Q. Okay, Mr. Carlson, who wrote the  
2 descriptions that appear underneath all these  
3 photographs?

4 A. I did.

5 Q. And based on your review of these  
6 photographs included in this exhibit, are these  
7 descriptions true and accurate?

8 A. Yes, they are.

9 Q. And do the photos accurately depict your  
10 observations at the site on the day they were taken?

11 A. They do.

12 Q. In general, are these photographs in any  
13 kind or order or grouped in any way?

14 A. Yes, they are.

15 Q. Can you generally describe how they're  
16 grouped?

17 A. Well, they're grouped sequentially as I  
18 went through that day.

19 In the first group is from the Bill  
20 Hesper's Conservation Practice Programs area.

21 And then there's a group within the  
22 wooded riparian corridor of Martin Branch downstream  
23 of the Conservation Practice's Program, but upstream  
24 of the alleged violation site.



1                   There is there's a set of photos from  
2 Old Salem Road again.

3                   There's a set of photos from Lake  
4 Centralia.

5                   And a set of photos from the alleged  
6 violation site.

7           Q.    Okay, let's look at a photo on page 425.  
8 This is designated as photo one?

9           A.    All right.

10          Q.    Can you tell us why you took this photo?

11          A.    Well, this illustrates the Conservation  
12 Practices Program work on Bill Hesper's site.

13                   And it demonstrates the vegetative  
14 nature of the Martin Branch channel at this location.

15          Q.    What is significant about the vegetation on  
16 the site?

17          A.    Well, what's significant is its location is  
18 both the channel bottom and all the way up the side  
19 slopes.

20                   And the significance is that  
21 vegetation is an obstruction to flow and it will slow  
22 down flow, retard flow.

23                   And that will allow sediments and  
24 associated contaminants to drop out in this area and



1 be transformed by the vegetation itself as a  
2 nutrient, for instance.

3 Q. And this area is a picture of the critical  
4 planting area that we just discussed when we were  
5 talking about Exhibit 9a?

6 A. That's correct; it's looking downstream.

7 Q. Turning to page 426. The photo is  
8 designated photo three.

9 Is there photo two? Is there anything  
10 missing here?

11 A. There is a photo two. It's not part of the  
12 report.

13 Q. Can you tell us why in general?

14 A. Well, it was either a duplicate photograph  
15 or a photograph that didn't show anything worth  
16 mentioning or it was just a complete mis-hit on the  
17 photo.

18 Q. So photos that were not included in  
19 sequence in this inspection report were not intended  
20 on being included in the inspection report?

21 A. That's correct.

22 Q. Can you tell us why you took this photo?

23 A. This is just -- turning around from the  
24 previous photo and looking upstream.



1                   And it's take for the same reason.  
2 I'm in the bottom of the Martin Branch channel and  
3 I'm looking upstream.

4                   It's a heavily vegetative channel.

5                   So it illustrates a critical area of  
6 planting project and it seems to be working fairly  
7 well.

8           MR. MARTIN: Can we go off the record for a  
9 minute?

10          JUDGE MORAN: Sure.

11   (WHEREUPON, there was then had  
12   an off-the-record discussion.)

13 BY MR. MARTIN:

14          Q. Mr. Carlson, you said these photos were in  
15 groupings.

16                   And I'm going to ask you to approach  
17 Exhibit D and give the location of the last two  
18 photographs, which are marked page 425 and 426.

19          A. I'll use a silver marker to mark.

20          Q. Could you just mark it GC photo group one.

21          JUDGE MORAN: Keep your voice up, Mr. Martin.

22          THE WITNESS: All right, on Exhibit D, I marked  
23 with a dot and two lines to indicate a downstream  
24 look and an upstream look.





1                   And there's a line pointing at it and  
2           it says GC photo group one and group is abbreviated  
3           GRP dot.

4           MR. MARTIN:   Okay, thank you.

5           BY MR. MARTIN:

6           Q.    Turning to the photo at page 427?

7           A.    All right.

8           Q.    First of all, describe the location of the  
9           photo?

10          A.    I've walked downstream from the previous  
11          two photographs and I've entered the wooded riparian  
12          corridor of Martin Branch.

13          Q.    And why did you take this photograph?

14          A.    To illustrate the condition of the Martin  
15          Branch channel at this location.

16          Q.    And could you describe the condition?

17          A.    Well, this particular section is  
18          channelized.

19                    In other words, it appears to be a  
20          man-made straightened channel.

21                    The view is northeast.  In other  
22          words, the bright color in the background is looking  
23          back at where I just was, a Federal planning area.

24                    That's why it's sunnier out there



1 because you don't have the trees in the corridor.

2 But in the foreground of the photo,  
3 you can see the channel; it's dry in this particular  
4 location.

5 The banks are near vertical. And I  
6 also believe it was channelized because on the right  
7 bank, the right top of bank, there's an old spoil  
8 pile with trees growing up on it.

9 And the right bank in the photograph  
10 is on the left side.

11 I know that sounds confusing, but when  
12 you do banks, you face downstream: left is left and  
13 right is right facing downstream.

14 This is facing upstream.

15 Q. You mentioned part of the stream is  
16 channelized. When do you think this stream was  
17 channelized?

18 A. Given the estimated age of the trees, the  
19 estimated age of the trees, I observed on the spoil  
20 pile, I would say decades. Probably before the  
21 mid-'80s.

22 Q. Just in general, would you characterize the  
23 stream in this photo as a pristine stream?

24 A. No, I would not.



1 Q. Turning to the photo at page 428?

2 A. All right.

3 Q. Where is this photo in relation to the  
4 Martin Branch?

5 A. Just downstream from the previous  
6 photograph.

7 Q. And why did you take this photo?

8 A. I'm photographing an indication of water  
9 flow into the channel, in this case out of the  
10 channel.

11 You're looking at in the center of the  
12 photograph a rack line.

13 It's also called a debris line.

14 It's also called a drift line.

15 But what it indicates is that at one  
16 time, water was so high in that channel - and this is  
17 above my head, so it's somewhere around 6 feet or  
18 greater - that water was high enough to float that  
19 rack line up there and deposit it on that tree that  
20 comes out of the center of it.

21 So it's an indication of some  
22 significant flow in the channel.

23 Q. From where were you taking this photograph?

24 A. I'm in the same change channel. I stepped



1 into the riparian corridor a bit downstream from the  
2 previous photograph Number four.

3 Q. So you're in --

4 A. I'm facing downstream.

5 Q. So you're in the channel itself?

6 A. I'm in the channel, taking the picture.

7 Q. Okay, moving to the photo at page 429.

8 A. All right.

9 Q. Where is this photo in relation to the  
10 last?

11 A. Just a little bit downstream, about 25 feet  
12 or so.

13 And I'm coming near the end of the  
14 channel, this channel that I sectioned.

15 The background as you see is Bill  
16 Hesers' land. And the filter strip is the drift on  
17 the top of that bank.

18 And there's a pool of water in the  
19 center of the photograph in the bottom of the  
20 channel.

21 So I documented what water was in the  
22 channel.

23 Q. Okay, anything else significant about this  
24 photograph?





1 A. Not that I recall.

2 Q. All right, turning to page 430?

3 A. Okay.

4 Q. Where is this photo in relation to the  
5 last?

6 A. This is right about at the same location as  
7 the previous photograph, but this is on the right  
8 bank; a debris rack on the right bank.

9 This is outside the channel.

10 So again it's -- somewhere near to 6  
11 to 7 feet high the water had to be flowing up and out  
12 of the channel to leave a debris rack at this  
13 location.

14 Q. And turning to the photo on page 431.

15 Now where is this in relation to the  
16 last?

17 A. I'm actually right in line with the water  
18 seen in photo seven on 429.

19 So this is that remnant water pool in  
20 the bottom of the channel.

21 And, again, there's a debris rack on  
22 the left bank against the tree that's on the far left  
23 side of the photograph.

24 The other interesting element in this



1 photograph is the tree roots you see in sort of the  
2 center of the photograph all spread out along that  
3 bank.

4 JUDGE MORAN: And why is that interesting?

5 THE WITNESS: Well, that's telling me that this  
6 tree is in battle with its bank.

7 In other words, it's doing everything  
8 it can to support itself along that bank.

9 And as the water flows, it's eating  
10 that bank away. That's why you see that mass of  
11 roots spreading out like it is.

12 BY MR. MARTIN:

13 Q. You mentioned that there's a remanent pool  
14 in this photograph. How would you describe remnant  
15 pool?

16 A. Well, it's a lower spot in the channel that  
17 water is retained in for a longer period of time than  
18 other parts of the channel.

19 Q. Could this be similar to the permanent  
20 pools we've heard about in this area?

21 A. Yes, I believe that's what people are  
22 referring to when at the refer to permanent pools.

23 Q. Mr. Carlson, this concludes another group  
24 of photographs. And I would ask you to approach --



1 MR. MARTIN: -- with permission, Exhibit D and  
2 mark the location of these photographs; this time  
3 marking it group two, of course.

4 THE WITNESS: (So complied with request.)

5 Okay, I've marked with silver ink a  
6 silver line down portion of the channel I was walking  
7 and took these pictures in and connected it with a  
8 line to a title that is labeled GC photo group two.

9 BY MR. MARTIN:

10 Q. Moving on to the photo at page 432?

11 A. All right.

12 Q. Where is the location of this photo?

13 A. I'm at the Old Salem Road -- I'm on Old  
14 Salem Road and Martin Branch is going underneath the  
15 road at this location.

16 Q. And where is this in relation to the site  
17 of the alleged violation?

18 A. It's downstream of the site approximately  
19 1600 feet.

20 Q. And why did you take this photo?

21 A. Well, I'm documenting what was the was a  
22 shoulder road repair, and the riprap placed in the  
23 adjacent roadside ditch.

24 And that was recently placed. And by



1 recently, I mean 2005 by the Township Road  
2 Commissioner to address the erosion problems they had  
3 from Martin Branch, and the flooding and crossing  
4 over the road, and being off the road's shoulder on  
5 this west side.

6 This is the west side of the road.  
7 You're looking north.

8 And what I'm pointing out -- the  
9 pebbly looking concrete mass in the center of the  
10 photograph, it's just off the edge of the pavement  
11 which is asphalt, just to the right of the rocks  
12 there by the roadside ditch.

13 Q. And this repair work is indicative of what?

14 A. Well, it's indicative of some significant  
15 flows on Martin Branch enough that causes problems at  
16 this culvert crossing here regarding erosion.

17 Q. Turning to page 433?

18 A. Okay.

19 Q. And why did you take this photograph?

20 A. This is -- I'm just turned around and I'm  
21 looking south, down Old Salem Road just to give you a  
22 closer look at the same features I earlier talked  
23 about,

24 The edge of the road, the concrete





1 poured on the road's shoulder, and the rock placed in  
2 the roadside ditch.

3 Q. All right, turning to page 434, where is  
4 this photograph located?

5 A. This is -- essentially it's a photograph  
6 that replicates what I did in September of '03.

7 You're at the culverted crossing at  
8 Martin Branch on Old Salem Road. You're looking  
9 upstream or east, and it's reflecting a pool of water  
10 in the channel.

11 Q. And, again, this is downstream of the site  
12 of the alleged violation; is that correct?

13 A. Yeah. We're at the same location as the  
14 two previous photographs.

15 Q. Turning to page 435?

16 A. All right.

17 Q. What is the location of this photograph?

18 A. I'm sorry, I didn't hear that.

19 Q. What is the location of this photograph?

20 A. Well, the same location. The culverted  
21 crossing of Old Salem Road of Martin Branch going  
22 downstream of the alleged violation site.

23 Q. What's the significance of this photograph?

24 A. Similar to the previous one. It replicates



1 a photo made September of '03.

2 You're looking downstream on the  
3 Martin Branch channel. You would see the same pool  
4 that you saw in September of '03.

5 Q. Okay. This is the end of another group of  
6 photos, so I would ask you to approach Exhibit D --

7 MR. MARTIN: And, again, with permission - to  
8 mark the location --

9 JUDGE MORAN: Yes.

10 MR. MARTIN: -- (continuing) of group three.

11 THE WITNESS: (So complied with request.)

12 JUDGE MORAN: I know it's a small point and  
13 there's no objection but really, you're not in the  
14 position to say that this is the end of the group.

15 That would be you want to witness to  
16 say that, not you. It sounds find, you know, a few  
17 times but then you're testifying.

18 Go ahead.

19 THE WITNESS: Okay, I marked a cross on the  
20 Exhibit D at the March 10th branch culverted crossing  
21 of Old Salem Road.

22 It's a cross to indicate the picture  
23 is taken north and south along the road and east and  
24 west on the channel of Martin Branch.



1                   It's labeled with an arrow pointing to  
2 the location as GC photo group 3.

3 BY MR. MARTIN:

4           Q.    If you could turn to page 436?

5           A.    All right.

6           Q.    And describe the location of this  
7 photograph.

8           A.    This is immediately downstream from the  
9 alleged violation site, on the downstream end.

10          Q.    So this is located downstream of the  
11 east/west leg of the unchanged channel?

12          A.    That's correct.

13          Q.    And why did you take this photograph?

14          A.    Again, to document indications of water  
15 flow within Martin Branch.

16          Q.    Okay. What is indicative of water flow in  
17 this photo?

18          A.    Well, if you look center right in that  
19 photograph you'll see a rack debris line, a drift  
20 line, all meaning the same thing, that is, hung up on  
21 the branches that's fallen across Martin Branch.

22                   This is the undisturbed section of  
23 Martin Branch immediately downstream of the site.

24          Q.    Okay, turning to page 437, where is this



1 photo?

2 A. This is right at the last bend of the  
3 east/west leg as it bends to the south and reentering  
4 the normal channel of Martin Branch.

5 Q. And why did you take this photo?

6 A. Well, one, because of its location.

7 If you see in the upper right-hand  
8 corner, that's one of those flat pieces of concrete  
9 slab that was placed on the channel bend.

10 And then in the foreground of the  
11 picture, you see a debris line or a rack line on what  
12 would be the top right of bank on the Hesper property.

13 Q. So is this flood rack that you just noted,  
14 is this outside the bank in this photo?

15 A. Yeah, it's resting on top of the bank.

16 Q. And what is that indicative of?

17 A. Well, it's indicative that the flow was up  
18 that high to lay the debris rack at that location.

19 So it's indicating at that location  
20 Martin Branch probably was out of its banks or very  
21 close to it.

22 Q. Okay, moving to page 438.

23 Describe the location of this photo?

24 A. This is in the same location as the





1 previous photograph. It's just a little farther  
2 forward or brought forward.

3 The concrete slab is now in the bottom  
4 right.

5 And what I tried to capture in this  
6 picture is that if you look on the top left corner of  
7 the concrete slab, there's a debris rack line that  
8 moves from there to the left in a fairly straight  
9 line.

10 It's intermixed with denser debris and  
11 vegetation.

12 But, again, that's a debris rack line  
13 that sits up on top of the right bank of the Martin  
14 Branch channel, just off the Hesper brothers' site?

15 Q. And, again, moving to page 439.

16 Where is the location of this photo?

17 A. 439 is -- the location of the photo is just  
18 downstream, just downstream of the altered channel on  
19 its downstream end.

20 I'm in the natural channel, and I'm  
21 just doing a closeup of the debris line that you saw  
22 in the photo on page 436.

23 I've just now got into the channel and  
24 walked up closer to it and took a closeup photo of



1 it.

2 Q. And what does this signify to you?

3 A. Similar to the previous photographs, that  
4 the Martin Branch flow can be fairly significant to  
5 get up this high.

6 MR. MARTIN: And, again, I'm going to note that  
7 this is the end of a group of photographs.

8 JUDGE MORAN: Well, couldn't he utter that?

9 Couldn't you say:

10 Does that mark the end of a group of  
11 photographs, Mr. Carlson? He would probably say yes.

12 That's how you would handle that.

13 BY MR. MARTIN:

14 Q. Mr. Carlson, looking at the next  
15 photograph, does that mark the end of the photographs  
16 in this area of the site?

17 A. Yes, it does.

18 MR. MARTIN: Now I ask you to approach  
19 Exhibit D, with permission, and mark these group of  
20 photographs on Exhibit D.

21 THE WITNESS: (So complied with request.)

22 I've marked on Exhibit D with a silver  
23 marker the location of a group of photos labeled GC  
24 photo group four with a line pointing to the spot



1 where the photos were taken from .

2 BY MR. MARTIN:

3 Q. Okay, moving to 440. First of all,  
4 describe where this photo was taken.

5 A. This photo was taken on the north/south leg  
6 of the altered channel.

7 I'm on Bill Heser's property, so I'm  
8 on the east side of the north/south leg near the top  
9 of the "L" from where it begins.

10 I'm facing south. I'm photographing a  
11 tree that Bill Heser claimed had fallen on the work  
12 of the new channel.

13 Q. And what is the significance of this photo?

14 A. It just documents that Bill Hesers' claim  
15 that trees had fallen over from the work on the  
16 altered channel.

17 Q. Okay. Moving to page 441?

18 A. Okay.

19 Q. Where is this photo taken?

20 A. Probably about 15 feet further north than  
21 the previous photo 23.

22 And I'm looking at the same tree, the  
23 top of the tree, further to the east.

24 Q. And why did you take this photo?



1           A.    The same as the others, just to document  
2 Bill Hesper's claim that trees had fallen from work on  
3 the new channel.

4           Q.    Okay, Mr. Carlson, looking at the next  
5 photo, is the next photo of a different location at  
6 the site?

7           A.    It is.

8           Q.    I'm go to ask you to approach Exhibit D and  
9 mark, with permission, a group of two photographs as  
10 group five.

11          A.    (So complied with request.)

12                    I've marked with a silver pen what  
13 I've labeled GC photo group five with a line pointing  
14 to a silver dot indicating the location of the two  
15 photographs.

16          Q.    Okay, turning to page 442, can you tell us  
17 the location of this photo?

18          A.    This is just upstream from the top of the  
19 "L."

20                    I'm on Bill Hesper's property and this  
21 is the natural channel upstream of the altered  
22 channel.

23          Q.    And why did you take this photograph?

24          A.    To document the conditions of the natural





1 channel, to document the sediment stains on the  
2 vegetation within the channel.

3 Q. And what's the significance of the sediment  
4 stains in the photo?

5 A. Well, they indicate a previous past flow of  
6 about 20 inches in height, where the water was up 20  
7 inches and left those sediment deposits on the  
8 vegetation as the water dropped back down and went  
9 away.

10 Q. So that's indicative of flow?

11 A. It's indicative of flow, yes.

12 Q. Turning to page 423?

13 A. All right.

14 Q. Where is this photo?

15 A. This is immediately upstream of the top of  
16 the "L".

17 I'm facing downstream. I'm on Bill  
18 Hesper's property, but I'm looking back at the  
19 beginning of the altered channel work.

20 You've seen this picture in other  
21 photographs; it's sunnier in the background -- the  
22 lighter is because that's the open field where it's  
23 sunny versus the open shade where I'm at.

24 And it just indicated that that pool



1 water at that location is still there.

2 And it actually looks fairly muddy,  
3 and brown colored.

4 Q. And why did you take this photo?

5 A. To document channel conditions and document  
6 water conditions within the channel.

7 Q. What's the significance of pointing out the  
8 sunny area on the site?

9 A. That's so people understand that the  
10 background is now a soybean field. It's sunny  
11 because the tree canopy is gone.

12 Q. So the view in the background is the site  
13 of the alleged violation?

14 A. That's correct.

15 Q. Moving to page 444?

16 A. All right.

17 Q. Why did you take this photo?

18 A. This just completes what I call a  
19 panoramic. It's just that could be attached to the  
20 previous photographs 26 and 27 if you were to keep  
21 them together or if you would extend the photograph  
22 to the south or the left-hand side.

23 The left-hand side of the photograph  
24 is new. The right-hand side you saw in the previous



1 photograph, at least parts of it.

2 Q. All right, moving to the photo at 445?

3 A. Okay.

4 Q. Where is this located?

5 A. This photograph is upstream of the previous  
6 three.

7 We'll still upstream of the altered  
8 channel on Bill Hesper's property. This is the  
9 natural Martin Branch channel, sort of at what I call  
10 a pivot point.

11 And you see the pool in the  
12 background, that's one of those pools in the channel  
13 bottom.

14 That's about the pivot point.

15 In other words, the point at which the  
16 stream is generally moving from east to west, and now  
17 it's actually moving southwest at that pivot point.

18 It changes direction there.

19 Q. And why did you take this photo?

20 A. To document channel conditions.

21 Q. Again, would you consider this photo  
22 showing a pristine stream?

23 A. No.

24 Q. And why do you say that?



1           A.    Well, because of where it sits in terms of  
2           the geographical setting, in the agricultural  
3           landscape, the muddy water in that pool.

4                        That's about the only two things I see  
5           in this photograph or know about this photograph that  
6           would indicate not pristine conditions.

7           Q.    Then moving on to the photo at page 446?

8           A.    Okay.

9           Q.    Where is this photo?

10          A.    That's that same segment of the upper end  
11         of the altered channel to where the pivot point is.

12                        That's about a 200-foot section I  
13         would estimate.

14                        And this is just a closer up, close-up  
15         photo of the sediment deposits on the channel side of  
16         vegetation.

17                        It's about 20 inches above the channel  
18         bottom, is the height of the sediment deposits.

19          Q.    And why did you take this photo?

20          A.    Documenting channel conditions and channel  
21         flow.

22          Q.    Mr. Carlson, looking at the next photo,  
23         does that indicate to you that we included that in  
24         the previous group of photos?





1 A. Yes.

2 Q. I'm going to ask you to approach Exhibit D  
3 and mark the group we've just discussed as group six.

4 A. (So complied with request.)

5 I've marked Exhibit D with a silver  
6 marker and with a silver line indicating that that  
7 stretch of Martin Branch upstream of the altered  
8 channel where I took a group of photographs and  
9 labeled that line with an arrow at GC photo group  
10 six.

11 Q. Okay, moving to the photo at 447?

12 A. All right.

13 Q. Where is this taken?

14 A. This is in the vicinity of the referenced  
15 site wetland.

16 Q. And that would be EPA's wetland site?

17 A. That's correct, EPA's reference site of  
18 EPA's sample three, S3.

19 Q. Why did you take this photograph?

20 A. Again, this is a photo that illustrates  
21 sediment deposits indicating that there are several  
22 inches of water from this portion of the woods --  
23 flood plane indicating where water stood and left  
24 those sediment deposits as it receded.



1 Q. Is that a positive indicator of hydrology  
2 under the Corps of Engineers manual?

3 A. It's a primary indicator of wetland  
4 hydrology in the '87 Manual.

5 Q. Turn to page 448, where is this photo  
6 taken?

7 A. The same general location as the previous  
8 photograph where the referenced site was located.

9 Q. And why did you take this photo?

10 A. Same reason as the previous photograph,  
11 although the photo quality is not as good, but it  
12 shows the sediment deposit on soft of the leaves that  
13 are several inches above the surface of the ground.

14 Q. Okay, looking at the next photo,  
15 Mr. Carlson, have we concluded this group?

16 A. Yes.

17 Q. Then I'll ask you to approach Exhibit D --

18 MR. MARTIN: -- with permission?

19 JUDGE MORAN: Yes.

20 MR. MARTIN: -- and mark this group as group  
21 seven.

22 THE WITNESS: Okay, I've marked Exhibit D with  
23 silver ink, and marked the spot that we call the  
24 reference site and drew a line from that to a label



1 that says GC photo group seven.

2 BY MR. MARTIN:

3 Q. Okay, turning to the photo at page 449?

4 A. All right.

5 Q. Where is this photo taken?

6 A. As noted in the caption about 700 feet  
7 upstream of the previous group of photos under photo  
8 group six, I'm on upstream of the site, of the  
9 alleged violation site.

10 I'm on Bill Heser's property. And I'm  
11 taking pictures of the channel as I go upstream.

12 Q. And why did you take this photo?

13 A. Document channel conditions.

14 Q. Can you characterize the channel conditions  
15 there?

16 A. There are scattered pools of water. It's  
17 generally moist on the bottom end of the channel  
18 where it's not inundated.

19 The banks -- the height of the banks  
20 either the left or right banks are 2 to 3 feet high.

21 And there is vegetation coming down  
22 the channel sides in sporadic locations, in other  
23 locations where you see dirt on the channel slopes.

24 And I'm looking at a particular



1 location on the sort of the top right corner of the  
2 photo, coming up from that pool in the center, on the  
3 right side or the right bank, which is actually the  
4 left bank if you're looking downstream - this is  
5 looking up.

6 And you see a not quite vertical but a  
7 bare earthen bank that's close to vertical, that's an  
8 indication of the less than pristine nature of this  
9 channel.

10 Q. Moving to the photo at 450?

11 A. This is just a turning around of the  
12 previous photograph and shooting downstream.

13 Q. What's significant about this photo?

14 A. The heavily wooded nature of the riparian  
15 corridor is evident. And the sort of differential  
16 bank condition: some is vegetative, some is more in  
17 support of unsupported vegetation

18 Q. Moving to the photo at 451?

19 A. Okay, this is just downstream of the  
20 previous photo, 37.

21 And I'm looking downstream. And --  
22 just, again, depicting the channel conditions at this  
23 location.

24 There's a pool in sort of the center





1 of the photograph, in the channel.

2 Q. Is this another remnant pool that you've  
3 noted before?

4 A. That's correct.

5 Q. Moving to page 452?

6 A. Yes.

7 Q. Why did you take this photo?

8 A. Again, to document channel conditions.

9 Q. And what is significant about what this  
10 photo shows?

11 A. Well, you see a big log in the lower  
12 left-hand corner, that's an indication of the sort of  
13 organic debris that can become placed in natural  
14 streams.

15 It's a large piece of wood debris.  
16 And just above it, you can see the scour on the left  
17 bank. It's undercutting some roots; you can see the  
18 roots dangling.

19 And that's just an indication that the  
20 flow was significant enough in this channel to scour  
21 out the side slopes to that, almost to the top of the  
22 bank in this picture.

23 Q. Okay, looking at the photo at 453. Where  
24 is this photo taken?



1           A.    Well, now I've gone back upstream, further  
2 upstream still on the William Hesper property.

3                         And I believe I'm looking upstream on  
4 this photo, again, I'm just looking at the channel.

5                         There's a remnant water pool in the  
6 center. The banks here are not very tall, probably  
7 about 2 feet.

8                         It shows a bit more vegetation on the  
9 channel slopes. This channel section was in a little  
10 better condition than others.

11           Q.    And what is the significance of this  
12 picture?

13           A.    The remnant pool and the condition of the  
14 channel slopes and the channel height.

15           Q.    Moving to the photo at 454?

16           A.    All right.

17           Q.    Describe this photo.

18           A.    Yeah, this is the furthest upstream photo,  
19 and I'm looking back downstream.

20                         And there was what we call a debris  
21 dam in the foreground of the photograph. That is,  
22 again, organic debris that can fall in the natural  
23 streams and create havoc and cause dams like this  
24 that can alter the flow of the channel and cause



1 these pools to be scoured out and water comes over  
2 the top of the debris damn.

3 And this again notes this is probably  
4 the biggest pool and I actually measured the depth of  
5 this one as seven inches.

6 There's also evidence of scour on that  
7 left bank where the trees roots are being undercut by  
8 the flow and previous flows.

9 There is indication of vegetation  
10 coming down on the slopes, both on the left bank and  
11 the right bank where it's green in the channel.

12 Q. The vegetation on the banks, what is that  
13 indicative of?

14 A. Well, in those locations the vegetation is  
15 stabilizing the bank slopes.

16 So it's areas of the stream that  
17 probably don't see the force of the water flow than  
18 other sections of the stream are subjected to.

19 Q. And upon what did you estimate your depth  
20 of the pool water in this photographs?

21 A. A measuring tape.

22 Q. All right, looking at the next photo, have  
23 we reached the end of this group?

24 A. I have.



1           MR. MARTIN:  Okay, I'm going to ask you to  
2           approach, with permission, Exhibit D --

3           JUDGE MORAN:  Yes.

4           MR. MARTIN:  -- (continuing) and mark this as  
5           group eight.

6           JUDGE MORAN:  And just to make you aware, we  
7           are approaching 3:45.

8           THE WITNESS:  Okay, I've marked Exhibit D with  
9           a silver marker.  I've marked a long linear line in  
10          an east/west direction.

11                         There's an arrow pointing at it that  
12          leads to a label that says GC photo group eight.

13          MR. MARTIN:  Okay, moving to the photo at --

14          JUDGE MORAN:  What's that number again?

15          MR. MARTIN:  Four fifty-five, moving to 455.

16          JUDGE MORAN:  All right, okay.

17          THE WITNESS:  Okay.

18          BY MR. MARTIN:

19                 Q.    Where was this photo taken?

20                 A.    This is at the public boat ramp to Lake  
21                 Centralia.

22          JUDGE MORAN:  There's only one?

23          THE WITNESS:  I don't know.

24          BY MR. MARTIN:





1 Q. And why did you take this photograph?

2 A. Oh, to document that Lake Centralia is used  
3 for recreational purposes.

4 Q. And what is the significance of that?

5 A. Well, that it's navigable by boats.

6 Q. When you were at Lake Centralia, did you  
7 talk with anyone?

8 A. Yes.

9 Q. And what, if any, information did you  
10 learn?

11 A. Oh, I just talked to a fisherman that  
12 fishes the lake.

13 MR. SMALL: Objection; hearsay.

14 JUDGE MORAN: But heresay's admissible. I  
15 don't think -- you're not challenging that there's a  
16 Lake Centralia and that people fish in it, are you?

17 MR. SMALL: No.

18 JUDGE MORAN: Okay, boats are in Lake  
19 Centralia.

20 BY MR. MARTIN:

21 Q. What if any fishing occurs at Lake  
22 Centralia?

23 A. Well, this gentleman was fishing from the  
24 shore line.



1 Q. Have you observed other fishing?

2 A. In subsequent visits to the site I saw  
3 people in boats fishing.

4 Q. Okay, moving to the photo at 456.

5 A. Okay.

6 Q. Where did you take this photo?

7 A. At same location, at the boat launch.

8 Q. And what's the significance of this photo?

9 A. Well, this was to show the regulated nature  
10 of the boat traffic on the Lake.

11 You require license from Centralia at  
12 the City and a State of Illinois license for your  
13 boat and other such rules.

14 Q. Are you about an aware of whether a license  
15 is needed for fishing on Lake Centralia?

16 A. Yes.

17 Q. And is a license required?

18 A. Yes. You need a Illinois fishing license  
19 to fish in Illinois waters.

20 Q. Looking at the photo at 457. Where did you  
21 take this photo?

22 A. This is the downstream end of Martin Branch  
23 as impounded by Lake Centralia.

24 And this is on the right-hand side of



1 the concrete, sloping concrete structure, is the dam  
2 that impounds Lake Centralia.

3 Lake Centralia is on the left and  
4 downstream would be to the right off the photo.

5 And can you see homes in the  
6 background on the Lake.

7 Q. Are there many homes that are located on or  
8 around Lake Centralia?

9 A. Yes.

10 Q. Moving to the photo at 458.

11 A. Okay.

12 Q. Where is this photo taken?

13 A. This is similar to the location on the  
14 previous photograph. I just turned myself around and  
15 now I'm looking at the spillway for the dam.

16 This is where water can exit Lake  
17 Centralia.

18 In this photograph it's not exiting  
19 Lake Centralia. You can see the water up very near  
20 the lip of the emergency spillway.

21 You can see the algal growth in the  
22 water, in the photograph, in the water above the  
23 spillway.

24 You can see an invasive plant species



1 on the left-hand side. That's called Phragmites  
2 australis Australia's giant reed grass which is an  
3 invasive species and it's indicative of disturbance.

4 Q. What's the significance of the algal growth  
5 in this picture?

6 A. I would think it's an indication of excess  
7 nutrients in the Lake that the algal was using to  
8 grow and create these large mats of algae that float  
9 in the water.

10 Q. Mr. Carlson, have you been at Lake  
11 Centralia when water was over the top?

12 A. Yes.

13 Q. And when was that?

14 A. That was the Sunday before the first round  
15 of the hearings here, March 25th, maybe.

16 Q. When water ever tops the pond, where does  
17 it go?

18 A. There's a series of concrete steps. I  
19 think there are about eight steps that are about 3  
20 feet in height.

21 It cascades down those steps and  
22 enters the channel of Martin Branch at the bottom of  
23 the concrete stair step.

24 Q. And from there, where does the water flow?





1           A.    From there the water flows generally  
2 northwest to where it joins Crooked Creek.

3           Q.    And is Crooked Creek a perennial stream?

4           A.    Crooked Creek is a perennial stream.

5           Q.    Have you observed other downstream parts of  
6 Crooked Creek?

7           A.    I observed Crooked Creek at one location  
8 downstream of this photograph.

9           Q.    Okay, could you just generally describe  
10 that?

11          A.    Well, to give you a rough estimate it  
12 looked to be a -- the width of the water was probably  
13 about 40 feet.

14                    It looked shallow.  It was in a wooded  
15 corridor where I saw it off of a roadway.

16                    There was a lot of downed timber in  
17 it, and it was relatively muddy, cloudy.

18          Q.    Into what water body does Crooked Creek  
19 flow?

20          A.    Crooked Creek flows to the Kaskaskia River.

21          Q.    And is Kaskaskia River a perennial stream?

22          A.    Yes.

23          Q.    Is Kaskaskia a river or a stream?

24          A.    It's labeled a river.



1 Q. Okay, is there a difference between  
2 perennial river and a perennial stream?

3 A. I don't know.

4 Q. Looking at the next photograph, have we  
5 ended this group of photographs?

6 A. We have.

7 Q. Thank you. In that case, I ask you to  
8 approach Exhibit D, with permission, as group Number  
9 nine.

10 A. It can't be marked on that map because Lake  
11 Centralia is not on that map.

12 Q. Then we'll skip that. Lake Centralia is  
13 off of Exhibit D.

14 Let's move on to the photograph at  
15 459.

16 A. Okay.

17 Q. First of all, where are you in the  
18 photograph?

19 A. I'm on the east/west leg of the altered  
20 channel on the alleged violation site and I'm looking  
21 upstream very near the corner of the "L".

22 Q. And who are those people in the photograph?

23 A. The person in the white shirt holding a  
24 tablet is Terry Lenders.



1                   The person to his right is Charlie  
2 Northrup. The person to his right is Jim from the  
3 RCRA program at EPA. And the person to his right is  
4 Tom Martin.

5           Q.    Okay, why did you take this photograph?

6           A.    Oh, to document the channel condition of  
7 the altered channel.

8           Q.    And what is significant about this photo?

9           A.    There are a number of things significant.

10                   One at the bottom of the -- or sort of  
11 off the center of the photograph you see what we call  
12 a sub channel.

13                   In other words this sub channel had  
14 formed since I was last on the site in August of '03,  
15 and it had cut down through the bottom of the channel  
16 about a foot.

17                   It's about a foot and it broadens out  
18 in some places at two feet wide.

19                   So that channel has been cut in there  
20 over time.

21                   And the other factors are you can see  
22 the channel itself outside the water is vegetative.

23                   And there is ragweed on the left-hand  
24 side of the photograph which is for us allergy



1 sufferers a problem.

2                   And in the background not as visible  
3 but is more of that *Phragmites australis*, the giant  
4 reed grass that's an invasive species and is an  
5 indication of disturbance.

6                   This is also a location where I  
7 grabbed what I believe was a little northern water  
8 snake in the water, swimming in that water you see in  
9 the pool.

10           Q.    What is the significance of a sub channel  
11 cutting itself into the channelized stream in this  
12 case?

13           A.    Well, what it tells me is that there's  
14 enough flow in this channel that over a time frame of  
15 about three years it has cut another channel,  
16 embedded itself into the channel.

17                   In other words, cut downwards to form  
18 this sub channel.

19                   So what used to be dirt where that  
20 channel is now washed out of there and the channel is  
21 created.

22                   So the water flow is moving sediments  
23 in the channel still.

24           Q.    Moving to the photo 420.





1           A.    Okay.

2           Q.    Where with a this photo taken?

3           A.    This photograph graphic, as I mentioned in  
4 my earlier testimony, is on the northern portion of  
5 the north/south leg off the right bank of the new  
6 channel, north south lake on the north end.

7                         And this is relatively small  
8 depressional area within the soybean field where  
9 algal mats have formed.

10          Q.    And what's the significance of algal mats  
11 forming in this area?

12          A.    Well, it indicates to me that water still  
13 gets on to this site and ponds up long enough for  
14 that algal mat to grow.

15                         And of course in this picture it's  
16 dried out and then the clods kind of curl up on their  
17 edges.

18          JUDGE MORAN:  What was that last thing you  
19 said?

20          THE WITNESS:  Those algal mats.

21                         They're sort of right in the center of  
22 the photograph in the blackened area, you can peel  
23 that right off the top of that dirt.  And they curl  
24 up when they dry out, or these did, anyway.



1 BY MR. MARTIN:

2 Q. Mr. Carlson, was this photo taken in a  
3 depressional area on the site of the alleged  
4 violation?

5 A. Yes, generally, a fairly small one.

6 Q. Moving to the picture on 461. Where was  
7 this photo taken?

8 A. This photograph -- I'm very near the top of  
9 the "L" on the north/south leg, and I'm looking  
10 straight south down on the right bank of the  
11 north/south bank of the altered channel at the  
12 alleged violation site.

13 JUDGE MORAN: This is going to have to be the  
14 last photo for the day. It's 4:00, and I don't want  
15 to wear out our welcome or wear out us.

16 MR. MARTIN: There's only five left.

17 JUDGE MORAN: So then are you done with this  
18 witness after that?

19 MR. MARTIN: No.

20 JUDGE MORAN: So we'll pick up tomorrow morning  
21 at 9:30 sharp.

22 Thank you, all.

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(WHEREUPON, the hearing in this  
matter is continued to May 1,  
2007 at 9:30 A.M. in Carlyle  
County Courthouse, Carlyle,  
Illinois.)