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**Aug 27 2020**

**S.C. SUPREME COURT**

STATE OF SOUTH CAROLINA  
IN THE SUPREME COURT

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APPEAL FROM THE ADMINISTRATIVE LAW COURT  
Ralph King Anderson, III, Administrative Law Judge

Docket No. 15-ALJ-07-0369-CC  
Appellate Case No. 2019-000074

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South Carolina Coastal Conservation League ..... Appellant,

v.

South Carolina Department of Health and Environmental Control, KDP II, LLC,  
and Kiawah Development Partners, II, ..... Respondents.

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**RECORD ON APPEAL**

**VOLUME IV OF IX**

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1           A   D-A-I-L-E-Y.

2       **COURT REPORTER:**   Raise your right hand, please.

3       **MS. DAILEY:**   (Witness complies.)

4       **COURT REPORTER:**   Do you solemnly swear the testimony  
5           you're about to give in this matter is the  
6           truth, the whole truth, and nothing but the  
7           truth, so help you God?

8       **MS. DAILEY:**   Yes.

9       **COURT REPORTER:**   Thank you.

10      **MS. DAILEY - DIRECT EXAMINATION BY MS. WHITE:**

11     Q:    Good afternoon, Ms. Dailey.   Would you please  
12           tell the Court where you live and what your  
13           occupation is?

14     A:    I live in Charleston, South Carolina.   I live  
15           on Congress Street.   I am self-employed.   I've  
16           been working for a woman named Mary Edna Fraser  
17           since 2008.   She's a fine artist, so I've been  
18           managing her business since then.   I pick up a  
19           little bit of freelance work all over the  
20           place.

21     Q:    And what is your educational background?

22     A:    I went to Virginia Commonwealth University  
23           where I graduated in 2007.   I have a bachelor's  
24           degree in philosophy; I have a fine arts degree  
25           in photography and film making.



1 Q: And are you pursuing any additional education?

2 A: Yes. I'm currently a master's student in  
3 biology at The Citadel. I did also do a native  
4 plant certificate at Clemson. I completed that  
5 last year. And ---

6 Q: What is a native plant certificate?

7 A: It's just a adult learning program at Clemson  
8 where you go and take day-long classes on  
9 native plants. And ---

10 Q: How long was that program?

11 A: It was about a year and a half.

12 Q: And how often -- how many days a week did you  
13 do that?

14 A: They were just day-long classes, so I'd go up  
15 like once a month every other month or so.

16 Q: And you mentioned that you're working for Mary  
17 Edna Frasier, Fraser?

18 A: Yes.

19 Q: Can you tell me more about the work that you do  
20 for her?

21 A: Yeah. I help her with many attributes of her  
22 business. She does a lot of exhibitions at  
23 universities and other galleries. And I don't  
24 know if you're familiar, if anybody here is  
25 familiar with her work, but it's large scale



1 batik on silk, so they're like large paintings  
2 on silk. And she's an aerial photographer.  
3 Her work is derived often from aerial  
4 photographs and her work focuses on the coast  
5 primarily. So my aspects of work with her, I  
6 do her bookkeeping; I deal with all of her  
7 inventory, all of her pricing, any kind of work  
8 that goes into organizing a show I do. So I  
9 track the provenance of every piece, where it's  
10 been. We produce merchandise like prints of  
11 her work, which are all limited edition, so I  
12 keep track of that. I've published articles  
13 about her work; I've photographed her doing her  
14 work. I actually just authored a book called  
15 *The Batik Art of Mary Edna Fraser* that was  
16 published by the University of South Carolina  
17 that will come out in 2019, but it's being  
18 published. Gosh, I do so much for her.

19 Q: Do you do any work with her regarding her  
20 aerial photography?

21 A: I do. She -- I'm in charge of all her data  
22 management and making sure all her data's  
23 backed up. And every time she does an aerial  
24 shoot, she'll bring it back to the studio and  
25 we'll look through it and often we'll tag the



1 names of islands that we see, which is  
2 challenging because what this takes is looking  
3 at Google Earth, looking at maps and charts,  
4 following the path that she's flown, you know,  
5 sometimes in circles, just to capture a good  
6 shot, and so it takes a lot of understanding  
7 three dimensional space and looking at these  
8 shapes and figuring out what happened, yeah.

9 Q: So are you looking at her -- the aerial  
10 photographs that she's taken and helping  
11 identify where on the ground those aerial  
12 photographs are?

13 A: Oftentimes we are. The other aspect that I  
14 help her with is actually creating some of her  
15 designs. In Google Earth we'll kind of move  
16 around Google Earth and find exactly how to  
17 frame things. And so often the designs use --  
18 they use -- they might combine Google Earth  
19 even with -- with an aerial image or stitch  
20 together a few images to make the design that  
21 she envisions and it's really important to her  
22 that we know exactly where these places are  
23 that she's depicting. A lot of people see her  
24 work and they can identify their favorite  
25 island or, you know, their fishing spot or



1           whatever in her work.    So we just -- we've  
2           spent a long time doing this, since -- I've  
3           been working with her since 2008, so.

4       Q:   And you said you help her in creating  
5           depictions of her work, is that how you  
6           characterized it?

7       A:   I would say creating imagery as the basis for  
8           her work.

9       Q:   Can you explain to me what exactly that  
10          entails, what the process is that you utilize?

11      A:   Well, it really varies from piece to piece. It  
12          depends on what aspects we want to emphasize.  
13          Sometimes we may -- well ---

14      Q:   If you want to use an example maybe it would be  
15          ---

16      A:   Yeah.

17      Q:   --- helpful instead of ---

18      A:   Well, this is one of her aerial images actually  
19          (indicating).

20      Q:   You're referring to the oversize ---

21      **(Petitioner's Exhibit Number 1A was introduced into**  
22      **the record at this time.)**

23      A:   Yes.   And so when we look at an image like  
24          this, we may think this is a great image  
25          because it really clearly shows this thin neck





1 area and seeing a backside of the spit is an  
2 important -- is an important view. So this is  
3 -- this is one that we selected as a good image  
4 to show these areas.

5 Q: So you were just referring to the oversized  
6 photograph that's been admitted as Petitioner's  
7 Exhibit 1A.

8 A: Uh-huh.

9 Q: And do you recognize what that's a photograph  
10 of?

11 A: Yes. It's primarily the Kiawah spit and the  
12 surrounding areas. But the process is very  
13 varied, so.

14 Q: And so could you explain to me the process that  
15 you would use in creating something using  
16 Google Earth? You mentioned that you use that  
17 to create visual ---

18 A: Right. A lot of times what we'll do -- there's  
19 various ways of positioning views in Google  
20 Earth and then exporting that image.

21 Q: In addition to your work with Mary Edna Fraser,  
22 are you -- you said you pick up some other  
23 freelance work. What other jobs are you  
24 currently doing?

25 A: Well, working with Mary Edna, I've met a lot of



1 different people. I'm going to answer your  
2 question a little circuitously, but when I  
3 started working with Mary Edna, I was also  
4 introduced to Dr. Orrin Pilkey, who is her  
5 colleague, and she has published two books with  
6 him, the first of which was *A Celebration of*  
7 *the World's Barrier Islands* and a book on  
8 global climate change. And so in meeting him  
9 and working with him, I have learned a lot  
10 about coastal processes. I've read all his  
11 books. And he -- I ended up publishing a  
12 couple articles on a blog called  
13 CoastalCare.org. The first pieces I published  
14 for them were pieces about her and the  
15 relationship with Orrin and Mary Edna and then  
16 through that, they asked me -- actually, I  
17 proposed that I go document some other beaches  
18 and do some beach profile type pieces where I  
19 was able to research the beach processes and  
20 photograph beaches. And so I've done about  
21 twelve pieces with them. And Dr. Orrin Pilkey  
22 has reviewed all of those pieces and so working  
23 with him has been really fun and I've just  
24 gotten to pick his brain about anything and  
25 everything in his text and just questions that



1 I would have about beaches. Let's see, other  
2 types of freelance work I've done -- well, I  
3 met Dr. Richard Porcher a few years ago, 2014.  
4 I met him at the Bull's Bay Nature Festival and  
5 I went on his talk and just started talking to  
6 him afterwards and he realized that I could  
7 help him with all of his computer problems that  
8 he was struggling with and so we started  
9 working together.

10 Q: What is your understanding of why he believed  
11 you could help him or what is your  
12 understanding of what help you could provide  
13 with computer problems?

14 A: You know, sometimes he was struggling with  
15 basic things like just doing a PowerPoint  
16 presentation and having everything look really  
17 good. He wanted to put some video in a  
18 PowerPoint presentation and I was able to  
19 figure out that. I guess he just started  
20 talking to me and realized I had a pretty high  
21 capacity for figuring things out. So once we  
22 started working together, he kept asking me to  
23 do more things that he was having trouble with  
24 and so we've done a lot of neat things  
25 together. One of the things we were working



1 on, he's writing a book about Lake Moultrie  
2 right now and so we were looking at all these  
3 historic plats and piecing them together using  
4 PhotoShop almost like a puzzle over the -- over  
5 the lake. Just based on the historic  
6 information and how we were able to -- how do  
7 I say this? It was just piecing these bits of  
8 information together and looking at these  
9 historic plats, sometimes which were in  
10 conflict with each other and talking about the  
11 lines on these historic plats and what they  
12 meant and how the pieces were coordinated with  
13 each other. So that was a fun project.

14 Q: And in that project, were you trying to create  
15 a representation of what was on the ground in  
16 that area in Lake Moultrie?

17 A: We were trying to show what was there before  
18 the lake was filled and do it in the most  
19 historically accurate way that we were able to.

20 Q: Have you done any additional work with Dr.  
21 Porcher?

22 A: We do a lot of stuff together. We're working  
23 on -- we're working on documenting unique sites  
24 around the Lowcountry right now. Well, where  
25 culture and nature come together to form the



1 landscape. Some of the most -- good ex- -- I  
2 mean, no place is untouched by man now, so I  
3 mean we have a lot of material to work with.  
4 But there's a lot of unique examples like shell  
5 mounds, looking at some old phosphate sites,  
6 that kind of thing.

7 Q: When you say documenting, what does that  
8 entail?

9 A: Photographing the landscape.

10 Q: And do you take any measurements of data on the  
11 ground?

12 A: At this point with the book what we're doing is  
13 more research oriented, so we're looking at --  
14 we're just reading as much as we can about  
15 these things. He's writing from the  
16 information that he has is in his mind and  
17 we're really in the very beginning stages of  
18 that project, so I don't know where it might  
19 take us.

20 Q: I forgot to ask you earlier, you said you were  
21 enrolled as a master's student in biology.

22 A: Yes.

23 Q: Do you have a master's thesis project that  
24 you're working on?

25 A: Yes, I do. I am working on 1,000 acre tract



1       that's on the Black River and I'm doing their  
2       baseline plant survey, which means finding the  
3       unique species, taking the GPS coordinates of  
4       where those species are, taking notes about  
5       whatever aspects of the environment would be  
6       biologically interesting, cataloging all of  
7       that into a database. Each plant has a unique  
8       number. The plants themselves get pressed. I  
9       take them back to the herbarium at The Citadel  
10      where they are processed into their system.

11     Q:   And you said taking GPS points, how do you do  
12          that?

13     A:   We have a handheld GPS unit and I take a point  
14          digitally and handwrite a point -- handwrite  
15          that information for every plant.

16     Q:   Why do you handwrite it in addition to taking  
17          the digital point?

18     A:   We just always take lots of information, that  
19          way we have a back-up. I actually write it  
20          twice for the plants because we have the plants  
21          that are pressed in a sheet of paper and then  
22          I have my notebook that has that information  
23          repeated and then I have it also on the GPS  
24          unit and it's just to make sure that if, you  
25          know, we were out the other day and we had a



1 little bit of a catastrophe with the boat and  
2 it looked like, you know, we could have lost --  
3 those specimens could have all gone under  
4 water, you know, like we just -- or the GPS  
5 unit could have gone under water, so, you know,  
6 we just have all these back-up systems so that  
7 when we're working, we have a lot of data, but  
8 it just makes sure that whatever human error  
9 occurs, we can deal with it.

10 Q: In your experience in this master's research  
11 project, is human error something that you're  
12 typically faced with?

13 A: It happens. I try to do my best to avoid it,  
14 but, for example, there's a guy there who's  
15 processing a lot of my specimens for me and so  
16 what I mean by that is after I take the  
17 specimens and press them and put them in the  
18 dryer, they're then -- they're numbered and he  
19 has a corresponding spreadsheet and I put the  
20 plants over with them and they have some young  
21 students that are gluing these plants to paper  
22 and he told me the other day that some of the  
23 paper got lost, you know, so I have to go back  
24 and figure out what these plants were and  
25 figure out what their number was, but there



1           should be absolutely no problem figuring that  
2           out. But, you know, these are just the kind of  
3           things that happen.

4       Q:   And were you able to figure out what those  
5           plants were?

6       A:   Well, we're going to do that after we get back  
7           from this case because this just cropped up,  
8           so. But, in general, we haven't had any  
9           problems solving any issue. That's really one  
10          of the first major ones that's come up, but ...

11      Q:   Do you feel as though you'll be able to figure  
12          out a way to address it?

13      A:   Yeah.

14      Q:   You mentioned that the oversized aerial next to  
15          you is depicting Captain Sam's Spit. Have you  
16          ever been out to Captain Sam's Spit?

17      A:   Yes. The first time I went to Captain Sam's  
18          Spit was in 2008, which was the year I first  
19          started working with Mary Edna. And so she  
20          introduced me to this issue because she is a  
21          big supporter of the Coastal Conservation  
22          League and because her work depicts the coast  
23          and she is -- she's an environmentalist. She  
24          doesn't want to see these kind of ---

25      **MR. WALKER:** Objection, Your Honor, hearsay.





1 A: Okay.

2 **MS. WHITE:** I understand.

3 **THE COURT:** Do you want to respond?

4 A: I can't say what Mary Edna thinks.

5 Q: Just speak from your own ---

6 A: Got it.

7 Q: --- observations ---

8 A: Sure.

9 Q: --- and personal knowledge.

10 A: Can you repeat the question?

11 Q: I was asking if you had ever been out to  
12 Captain Sam's Spit.

13 A: Yes. So I went out in 2008 for the first time.  
14 She wanted me to do an interview with Dr. Orrin  
15 Pilkey out there and I also interviewed Nancy  
16 Vinson out there, so that was my introduction  
17 to the spit. I took photographs out there at  
18 that time, as well.

19 Q: Where on the spit did you go?

20 A: We were just on the beach.

21 Q: On the front beach?

22 A: On the front beach. We walked from Beachwalker  
23 Park down, down the beach and back. And since  
24 then I've been out many times. In 2016, I went  
25 out several times. I had read in Op Ed by Mr.



1 Patrick Melton in the Post and Courier that  
2 made some statements that I had a lot of  
3 doubts about just based on my experience of  
4 being out there in the past, and so I decided  
5 to go out there and investigate myself. And  
6 when I went, I saw sheered off dunes and I --  
7 there's a path kind of through the middle where  
8 the Town of Kiawah has access to their  
9 migratory bird studies, and that path sort of  
10 takes you into the center of the spit. You  
11 can't see it very well on this particular  
12 picture, but I walked up that path and I walked  
13 into -- I walked past the main front dune  
14 ridges and back into these more vegetated dune  
15 ridges and I walked through areas that were  
16 very low lying and that were wet and muddy and  
17 I thought this looks like wetlands. And I had  
18 looked at a preliminary map of the development  
19 and I thought, gee, this really looks like what  
20 they've called high land on some of these  
21 preliminary plans. And so I was pretty alarmed  
22 by that. And I was also asking myself the  
23 question where could they even ---

24 **MR. WALKER:** Objection. I mean, now she's  
25 testifying to what she's asking herself.



1 That's an out-of-court statement offered for  
2 the truth of the matter. You have to have her  
3 testimony in court, not her conversation with  
4 herself in 2016.

5 **THE COURT:** That's an interesting objection. I  
6 think I'll sustain it just for the heck of it.  
7 How do you respond?

8 Q: Can you just speak to your personal ---

9 A: Sure.

10 Q: --- observations and knowledge as best you  
11 recall and what your concern was?

12 A: I wondered where they were going to build these  
13 houses and I looked around for the sites where  
14 that might be possible and I saw dune ridges  
15 with vegetation and they were not mature  
16 maritime forest vegetation.

17 Q: So ---

18 A: I didn't see one place that I thought was  
19 possible to build a house.

20 Q: So I think you've indicated that you have some  
21 understanding that there's been some  
22 development activity authorized on Captain  
23 Sam's Spit.

24 A: Yes. Can I correct myself here?

25 Q: Sure.



1 A: I said possible to build a house and it's --  
2 there's a lot of things that are possible, so  
3 I would like to say makes any sense at all.

4 Q: What is your understanding of what the permits  
5 authorize on Captain Sam's Spit?

6 A: I believe right now we're talking about sheet  
7 pile revetment. You know, there's been so many  
8 of these -- this has been litigated for so  
9 long, I'd be hard-pressed to tell you more than  
10 that.

11 Q: Have you looked at any drawings depicting the  
12 proposed construction?

13 A: Yes.

14 Q: And what was your understanding based on those  
15 of what the activity was going to be?

16 A: Well, they need a road to be able to access  
17 these houses and there's housing lots.

18 Q: If you grab the notebook that's sitting up  
19 there next to you and flip over to Exhibit,  
20 Joint Exhibit 7.

21 **(Joint Exhibit Number 7 was introduced into the**  
22 **record at this time.)**

23 Q: And flip through those and let me know if  
24 you've seen them or recognize them and what  
25 they are.



1 A: These are plans for different aspects of the  
2 development. Here I can see the parking lot at  
3 Beachwalker Park. Here I can see a proposed  
4 road.

5 Q: Have you seen those drawings before?

6 A: There are so many of these. Some of these,  
7 yes; some of these, no.

8 Q: What is your understanding of the approximate  
9 location of the steel sheet pile wall?

10 A: It's in this neck, in this thin neck area,  
11 which is the most vulnerable to a breach.

12 **MR. WALKER:** Objection, Your Honor.

13 **MR. CHURDAR:** Objection, move to strike.

14 **THE COURT:** I sustain the objection and strike the  
15 answer.

16 Q: Ms. Dailey, I think you were motioning towards  
17 the oversized aerial next to you.

18 A: Yes.

19 Q: Did you figure it as the narrow area?

20 A: The narrowest area there, I call the neck.

21 Q: And is it your understanding that it would be  
22 on the river side or on the ocean side of that  
23 neck?

24 A: Would be on the river side, which is very close  
25 to the ocean.



1 Q: And do you have an understanding of the  
2 approximate location of -- understanding of  
3 where the wall would begin and how far it would  
4 extend along that riverbend?

5 A: I mean, generally, in this area (indicating).

6 Q: This is a page from an exhibit that you were  
7 just looking at, Joint Exhibit 7, the second to  
8 last page, have you seen this before?

9 A: I just saw this exact drawing today for the  
10 first time.

11 Q: Do you have an understanding of what it is?

12 A: Yes, absolutely.

13 Q: What is it?

14 A: This is sheet pile revetment design that  
15 extends from the parking lot at Beachwalker  
16 Park through the narrowest area and then a  
17 little further.

18 Q: And do you have an understanding of the  
19 location of the proposed road?

20 A: Yes.

21 Q: And what is your understanding of where the  
22 road would be located?

23 A: That road crosses through that neck area, close  
24 to the sheet pile revetment.

25 Q: Do you have an understanding of the purpose of



1 the road?

2 A: The purpose of the road is to allow access to  
3 the sites that are proposed to be developed.

4 Q: Do you know how many sites are proposed to be  
5 developed at Captain Sam's Spit?

6 A: It's 50 total and I think phase one is 26.

7 Q: Ms. Dailey, you spoke a little bit about some  
8 of the work that you've done related to the  
9 Captain Sam's Spit. Have you done anything  
10 more recently, specifically in relation to  
11 these permits for the development activity?

12 A: Yes, so after I wrote the article I was talking  
13 about, I had brought Richard Porcher out to  
14 that site. Sorry, I brought him out there when  
15 I was writing the article and have some  
16 quotations from him in that article. I e-  
17 mailed this out to many people that I thought  
18 would be interested in this information that I  
19 assumed was new, I had never really heard  
20 anybody talk about these wetlands in the way  
21 that I had. And so Richard was called to be an  
22 expert witness and then I was helping him  
23 produce some maps from his GPS data he had  
24 collected and then I accompanied him on four  
25 trips where I also collected GPS data digitally



1 while he collected written GPS data and I  
2 collected photographs, as well, with the GPS  
3 points that I took.

4 Q: And were you doing this work at the request of  
5 Dr. Porcher?

6 A: He wanted my help, yes.

7 Q: And do you have an understanding of the reason  
8 that he was asking you to do this work?

9 MR. WALKER: Objection, hearsay.

10 THE COURT: Or speculation, but what's your  
11 position?

12 MS. WHITE: Well, if she has an understanding of the  
13 reason why she was being asked to do the work,  
14 I don't think that would be hearsay. It's  
15 based on her understanding of why she would be  
16 asked to do the work.

17 MR. WALKER: It would have been -- the reason she  
18 understands is he told her and so that's just  
19 another way of saying what did he tell you ---

20 THE COURT: Yeah.

21 MR. WALKER: --- as to his reason.

22 THE COURT: I would sustain that. Unless you can  
23 explain it further.

24 MS. WHITE: I mean ---

25 THE COURT: I get that point.





1 **MS. WHITE:** I think it's based on what her  
2 understanding of her purpose of being ---

3 **THE COURT:** Well, the objection is based on how she  
4 acquired that understanding. If I was to take  
5 that approach, we could pretty well get around  
6 the hearsay rule I think. You could just tell  
7 anybody you want anything and then they could  
8 just say their understanding afterwards. I'm  
9 giving you a chance to respond.

10 **MS. WHITE:** I realize that, Your Honor.

11 **THE COURT:** Okay.

12 **MS. WHITE:** I'm thinking.

13 **THE COURT:** Oh. Well, I'll sustain the objection  
14 and we can move on.

15 Q: When was the first time that you went out to  
16 Captain Sam's Spit with Dr. Porcher?

17 A: That would have been February the 13th, 2016.

18 Q: And what did you do on that day?

19 A: On that day, we walked the beach. We walked up  
20 that path I described and took photographs. We  
21 also walked around the whole spit. We walked  
22 all the way to where they had the inlet cut and  
23 took a bunch of photographs. So that was in --  
24 while doing research for the article that I  
25 wrote for Coastal Care.



1 Q: And did you go back out to the spit with Dr.  
2 Porcher after February 2016?

3 A: Yes. We went out on October 10th, 2016.

4 Q: What did you do on October 10th and where did  
5 you go?

6 A: That day we walked the beach. I had the GPS  
7 unit, he was taking notes on the GPS  
8 coordinates and we were photographing the beach  
9 looking at the sheered off dunes after  
10 Hurricane Matthew. We also were making  
11 observations about where the dunes were  
12 previously located based on roots of dune  
13 plants that were on the ground and we did a few  
14 measurements of where the dunes had been  
15 breached and how far they had been breached and  
16 how much dune loss there was.

17 **(Petitioner's Exhibit Numbers 21A and 21B were**  
18 **introduced into the record at this time.)**

19 Q: I am going to hand you what's marked as  
20 Petitioner's Exhibit 21. Can you identify what  
21 Exhibit 21 is for me?

22 A: 21A?

23 Q: Yes.

24 A: Is a map that was produced in Google Earth from  
25 the GPS points that Richard had noted. And 21B



1 is a photograph that corresponds with point  
2 number five.

3 Q: I'm going to put 1A on the projector.

4 A: Okay.

5 Q: There's a little bit of a glare, but when were  
6 these -- you said that there were GPS points?

7 A: Yes.

8 Q: Okay. Is this -- do these GPS points  
9 correspond to what you were describing as when  
10 you went out to the spit on October 10th with  
11 Dr. Porcher?

12 A: Yes.

13 Q: What did you do with the data that you  
14 collected on that day?

15 A: I went home with a series of images and on this  
16 particular day I was taking photographs, as  
17 well as Dr. Porcher. And I went home with his  
18 photographs and I labeled the GPS points that  
19 corresponded to each photograph.

20 Q: Are these numbers that are indicated on the map  
21 that's Petitioner's Exhibit 21A, are those  
22 numbers that you put on this map?

23 A: We -- as we walked and collected the data, he  
24 noted points one through ten in his notes, and  
25 I took GPS readings digitally and I have GPS



1 readings that coordinate with these -- with the  
2 information that he took. So my digital  
3 information backs up his handwritten notes.

4 Q: So is it your -- you took GPS points walking  
5 along the beach ---

6 A: Yes.

7 Q: --- on October 10th?

8 A: Yes.

9 Q: And are those GPS points reflected in the  
10 numbers on the exhibit that's labeled 21A?

11 A: I took more points than are shown here.

12 Q: What are the points that are shown here?

13 A: We have points, his points one through ten. I  
14 took additional points, but they were just not  
15 needed to produce this map. I collected more  
16 data than was necessary, but on this particular  
17 -- on this walk, these points one through ten  
18 are points that he wrote down that I also have  
19 a digital point and we have these ten  
20 photographs. Sorry if I'm not being clear. It  
21 just seems so simple, but ...

22 Q: So you took a photograph at each of the points  
23 that you also took a GPS reading?

24 A: I took a bunch of photographs on my camera. He  
25 took some on his camera. The next time we went



1           on a walk, we simplified this process because  
2           we just realized that it was too much. And so  
3           what you see represented here is just -- is his  
4           data. It's just -- it's simplified from  
5           actually all the data that was collected, but  
6           it's just a ...

7       Q:    What is this aerial?

8       A:    This is from Google Earth.

9       Q:    And did you put the GPS data onto this Google  
10           Earth aerial?

11      A:    Yes.

12      Q:    How did you do that?

13      A:    I downloaded all of my GPS data. It will  
14           automatically come into Google Earth. And then  
15           I went through all of his points and manually  
16           entered them and so I was able to check to make  
17           sure all of his data was correct and -- so you  
18           don't -- you don't see in this particular case  
19           what came off of the GPS unit, but that was my  
20           process. So sorry to, you know, try to -- I  
21           know it's a little confusing.

22      Q:    How do you ---

23      A:    I'm trying to be clear here.

24      Q:    How do you know that the points that are  
25           represented on this Google Earth aerial are the



1 same as the GPS measurements that you recorded?

2 A: Well ---

3 **OBJECTIONS:**

4 **MR. CHURDAR:** Your Honor, I object. That requires  
5 expertise to offer that opinion.

6 **MR. WALKER:** I join in that objection.

7 **THE COURT:** Any response?

8 **MS. WHITE:** I think that the witness testified to  
9 her experience in working with aerials and maps  
10 and GPS recordings and I believe that the  
11 witness just entered GPS data onto this Google  
12 Earth aerial and I don't believe that that  
13 would require expertise to be able to explain  
14 how she did that. I don't believe that Google  
15 Earth is a tool that requires a level of  
16 expertise to be able to utilize.

17 **MR. WALKER:** We also object. She said she took  
18 Richard Porcher's data and uploaded it. These  
19 are Richard's points, so she's taking  
20 essentially hearsay and uploading it.

21 **THE COURT:** All right ---

22 **MS. WHITE:** I don't think that was what she  
23 testified to. I believe she testified she took  
24 a digital reading and Richard took handwritten  
25 notes, but she took the digital reading, and



1           that these numbers correspond.

2   **MR. WALKER:**   Well, my apology.

3   **RULING OF THE COURT:**

4   **THE COURT:**   I sustain the objection.

5   **MR. WALKER:**   Thank you.

6   A:     That is correct.

7   Q:     Ms. Dailey, did you take GPS readings that  
8           correspond to the numbers, number one through  
9           ten, on this Google Earth aerial?

10   A:    Yes.

11   Q:    And did you upload those GPS readings that you  
12          took onto this Google Earth ---

13   A:    Yes.

14   Q:    --- aerial?   Is the input of GPS data into  
15          Google Earth something that you've done before?

16   A:    I've done it for Richard before.

17   Q:    And in what capacity?

18   A:    Before this date, he went on a couple walks  
19          himself and took the data, handwritten data,  
20          and we sat on the computer together and entered  
21          it in Google Earth.

22   Q:    Is entering the GPS data a task that is user  
23          friendly or ---

24   A:    It's very straightforward.

25   Q:    Why did you take the GPS recordings at points



1           one through ten?

2       A:     Why did I take the digital GPS points? Just to  
3           have back-up data and I took a lot of  
4           photographs and so I was taking GPS points for  
5           every photograph I took, too.

6       Q:     What were you trying to photograph?

7       A:     Just the sheered off dunes after the hurricane.

8       Q:     And this is 21B, do you recognize this  
9           photograph?

10      A:     That's -- yeah, that's Richard's photograph.

11      Q:     And there's a -- there's some information at  
12           the bottom of the page, can you explain what  
13           that information is?

14      A:     Yes, the date is on the left, number five  
15           corresponds to number five on the map. And  
16           that GPS coordinate corresponds to a GPS  
17           coordinate that was taken digitally, as well as  
18           one that was handwritten in Richard's notes.

19      **OBJECTIONS:**

20      **MR. CHURDAR:** Your Honor, I would object. I mean, I  
21           believe to be able to identify the five with  
22           the five that's on the map does require -- I  
23           mean, she said it's very straightforward, but  
24           it certainly I would say Rule 702 talks about  
25           scientific technical or other specialized





1 knowledge. I don't think this is just layman's  
2 knowledge or everyday kind of knowledge. I do  
3 believe this is the kind of technical or  
4 scientific knowledge that would be captured by  
5 Rule 702.

6 **THE COURT:** Well, my struggle is that you also have  
7 to depend on Google Earth's accuracy and I  
8 don't have any testimony about Google Earth.

9 **MR. WALKER:** I echo that, Your Honor. It's one  
10 thing for an engineer or surveyor who's trained  
11 in these different methods who can tell us what  
12 the standard procedures are and what the use,  
13 such as we heard about AutoCAD this morning and  
14 Mr. Wood said this is the standard in the  
15 industry, AutoCAD. And here we have no  
16 industry standard. We have somebody who goes  
17 into Google Earth and has a handheld GPS and  
18 then enters the coordinates and there's no  
19 testimony that that is -- how accurate that is.  
20 It's just the program doing its thing. We have  
21 no objection to the photograph. If she  
22 identifies it as the condition of the location,  
23 she identifies it, it comes in. What we  
24 object to is this, 21A that is simply her  
25 running points through Google Earth and saying



1           this is exactly where it occurred, and there's  
2           no proof of the accuracy of Google Earth or  
3           that it's a standard. She may be a very  
4           talented photographer and videographer, but  
5           this is something quite different.

6   **THE COURT:** So the objection was -- I've already  
7           lost track. She stated what? That it ---

8   **MR. CHURDAR:** Well, originally, what I -- my  
9           objection was that she was testifying ---

10   **THE COURT:** Oh, to number five?

11   **MR. CHURDAR:** Correct.

12   **THE COURT:** On the corresponding map.

13   **MS. WHITE:** I believe -- do you want specifically on  
14           the number five being on this photo? Do you  
15           want me to respond to that independently or ---

16   **THE COURT:** Well, that ---

17   **MS. WHITE:** --- what Mr. Walker said?

18   **THE COURT:** --- was his objection, yeah.

19   **MS. WHITE:** Well, I can lay some more foundation to  
20           get the witness to identify her personal  
21           knowledge of the photograph.

22   **THE COURT:** Well, I think what they're objecting to  
23           is -- well, I guess it's probably preliminary  
24           because that says number five. Your objection  
25           would be more pertinent if she offers the other



1 exhibit into evidence, would it not?

2 MR. WALKER: Yes.

3 MR. CHURDAR: Yes.

4 MR. WALKER: Ours would be, Your Honor.

5 RULING OF THE COURT:

6 THE COURT: All right. So we haven't got there yet.

7 So I'm just going to say at this point in time,  
8 I'll overrule your objection.

9 MS. WHITE: Thank you, Your Honor.

10 Q: Ms. Dailey, have you utilized Google Earth  
11 before?

12 A: Yes. And I just want to say that I'm using the  
13 methodology that Richard taught me. This is  
14 how he does it, this is what he showed me how  
15 to do. I'm his student.

16 Q: Okay. Have you -- I believe you've said that  
17 you have uploaded GPS information into Google  
18 Earth before, is that accurate?

19 A: The first time I uploaded GPS data would have  
20 been on 10/10/16.

21 Q: And when you're collecting the GPS data, is  
22 there a device that you're using?

23 A: It's a hand-held GPS device.

24 Q: And do you have an understanding of -- have you  
25 ever used that device before?



1 A: The first time I used this device was in the  
2 summer of 2016 before we went on the 10/10/16  
3 walk. Richard handed it to me that summer and  
4 I was going around Cape Romain with my friend  
5 in a boat and we were just checking out the  
6 islands and how they've changed and GPSing our  
7 points where we are. We're out there on the  
8 cape looking at the fishing charts, seeing how  
9 different the fishing charts were from the  
10 islands and doing it in a really fun way, but  
11 similarly looking at changes in the beach.

12 Q: Would it be accurate to say that you sort of  
13 taught yourself how to use the GPS unit?

14 A: Well, I read the manual and then used it. So,  
15 yes.

16 Q: Is it an extensive manual?

17 A: Not really. So -- it was probably about fifty  
18 pages.

19 Q: Is there a manual for how to use Google Earth?

20 A: Not that I'm aware of.

21 Q: And were you present -- do you recognize this  
22 photograph?

23 A: Yes.

24 Q: Are you able to identify its approximate  
25 location on the aerial that's -- the oversized



1           aerial.

2       A:     It's about halfway up the beach.

3       Q:     And did you create this document that has the  
4           date and the number five and the GPS units at  
5           the bottom of it?

6       A:     I did.

7       Q:     Does the point that's marked number five  
8           correspond to the photograph 21B?

9       **OBJECTIONS:**

10      **MR. CHURDAR:**   Your Honor, that -- I would object.  
11           That, I believe, is connecting this specialized  
12           knowledge I was talking about with ---

13      **MR. WALKER:**   I join in the objection.

14      **THE COURT:**   Respond?

15      **MS. WHITE:**    I just -- I understand Mr. Walker's  
16           explanation of methodologies and expertise as  
17           Mr. Wood explained in pretty good detail this  
18           morning about ArcGIS and engineering standards  
19           and the computer programs that they utilize and  
20           I don't believe that Google Earth and using a  
21           handheld GPS unit rises to that level. I don't  
22           believe that it requires expertise to be able  
23           to testify to the creation of this kind of  
24           material. I believe that it is what it is and  
25           the witness can answer questions about how she



1 created it, but I don't believe ---

2 **RULING OF THE COURT:**

3 **THE COURT:** Well, it is -- it is what it is, I agree  
4 with that. But it becomes that way via a  
5 software program of which I have no evidence in  
6 this Court or an expert to tell me it's  
7 accuracy, so I have -- she can testify to what  
8 she saw, I think, and probably accomplish the  
9 same goal, but not with this exhibit, at least  
10 the numbering on this exhibit. I sustain the  
11 objection.

12 **MS. WHITE:** Okay. Could we take a quick five  
13 minutes?

14 **THE COURT:** Any ---

15 **MR. WALKER:** Certainly, Your Honor.

16 (A break was taken from 4:08 p.m. until 4:17 p.m.)

17 **COURT REPORTER:** All rise.

18 **THE COURT:** Y'all be seated.

19 (Off the Record)

20 **THE COURT:** Can someone tell Ms. Armstrong I'm back  
21 in or Ms. White?

22 **MS. WHITE:** Thank you, Your Honor.

23 **THE COURT:** I'm ready.

24 Q: Ms. Dailey, when you input the GPS data into  
25 Google Earth, are you able to verify that that



1 data is where it is on the ground as reflected  
2 on Google Earth?

3 A: When you enter these coordinates on Google  
4 Earth, Google Earth puts that point on the  
5 satellite image.

6 Q: Are you able to verify that where Google Earth  
7 puts that point on the satellite image that it  
8 is, in fact, where it represents the location  
9 on the ground?

10 **OBJECTIONS:**

11 **MR. CHURDAR:** Your Honor, I would object. I believe  
12 that is the kind of -- requiring the kind of  
13 technical expertise that I was talking about  
14 under Rule 702 before.

15 **MR. WALKER:** And she's shown no expertise in knowing  
16 the inner-workings of Google Earth and how  
17 accurate it is.

18 **THE COURT:** I sustain that. We can ---

19 **MS. WHITE:** I understand.

20 **THE COURT:** I imagine she can testify to what she's  
21 observed, but we don't -- do we have to go  
22 through Google Earth to do it?

23 **MS. WHITE:** Well, Your Honor, and counsel has  
24 indicated that they don't necessarily -- they  
25 believe that there is a specialized expertise



1 is required in Google Earth and so I'm trying  
2 to lay some foundation with the witness to see  
3 if she has that expertise.

4 **RULING OF THE COURT:**

5 **THE COURT:** I sustain their objection at this point.

6 **MS. WHITE:** So I guess I'm a little confused about  
7 Your Honor's ruling. I believe that as Mr.  
8 Wood was testifying to his expertise in types  
9 of programs, like AutoCAD and ArcGIS, his  
10 expertise wasn't in how the actual software  
11 itself inputted the data and did what it did,  
12 it was just how to use it.

13 **THE COURT:** Well, if y'all -- if you had objected, I  
14 would have certainly asked for a foundation to  
15 be laid as to his understanding of all that.  
16 That never was an issue brought out. It's  
17 being brought out now.

18 **MS. WHITE:** So am I correct in understanding that in  
19 order to testify about a Google Earth aerial,  
20 one has to understand the metrics -- the  
21 underlying metrics that Google uses, is that --  
22 -

23 **THE COURT:** I have to have something in the record  
24 that reflects how the evidence is reliable.

25 **MS. WHITE:** I think I was -- that's what I was





1           trying to elicit from the witness.

2       **THE COURT:**   Well ---

3       **MS. WHITE:**   When the objection was sustained.

4       **THE COURT:**   I don't know if you were doing it  
5           through the proper approach.  You can continue  
6           your examination.

7       **MS. WHITE:**   Thank you, Your Honor.

8       **Q:**       Ms. Dailey, you were talking about using the  
9           GPS unit in Cape Romain.

10      **A:**       Yes.

11      **Q:**       When you were taking GPS units, were there  
12           landmarks on the ground that you observed?

13      **A:**       Yes.

14      **Q:**       And when you uploaded those GPS points into  
15           Google Earth, were you able to verify that  
16           those landmarks were represented on Google  
17           Earth?

18      **A:**       I instantly knew when the GPS point showed on  
19           Google Earth that it corresponded with reality  
20           because I had been out there in the boat.  You  
21           know, I had looked at the shapes of the  
22           islands, just as I would, in looking at one of  
23           these maps.  I've looked at the tree line,  
24           I've looked at the shapes of dunes, and looking  
25           at the corresponding photographs, I would say



1 generally verifies those points. I mean, I  
2 have to trust that Google Earth works correctly  
3 and the GPS unit works correctly.

4 Q: So are you able to verify the accuracy of the  
5 location of GPS points on a Google Earth image?

6 A: I would say based on the artifacts that I would  
7 see on the ground, they correspond to reality.

8 **MOTION TO QUALIFY AS EXPERT:**

9 **MS. WHITE:** At this time, the petitioners would move  
10 to qualify Ms. Dailey as an expert with  
11 specialized knowledge in importing data into  
12 Google Earth to create visual representations.

13 **MR. WALKER:** We object. I don't think there's been  
14 any foundation laid that she is any type of  
15 expert. She's a user. And all she did is say  
16 she went out one time and she input coordinates  
17 and they seemed to show up on Google Earth in  
18 the same place she was. We haven't had ---

19 **RULING OF THE COURT:**

20 **THE COURT:** I sustain that objection.

21 **MR. WALKER:** All right. Thank you.

22 **MS. WHITE:** Your Honor, we'd like to move forward  
23 and proffer Ms. Dailey's testimony in ---

24 **THE COURT:** As an expert?

25 **MS. WHITE:** --- in that capacity.



1     **THE COURT:**   Proceed.

2     **MS. WHITE:**   Yes.

3     **THE COURT:**   Well, I sustained it at this time.  You  
4                   can proffer -- I don't know if proffer's  
5                   needed, you can continue to examine your  
6                   witness.

7     **MS. WHITE:**   We proffer her testimony in the expert  
8                   qualification ---

9     **THE COURT:**   If you want to further qualify her, you  
10                  can continue to do that if you wish to do so.

11    **MR. CHURDAR:**   Your Honor, just for clarification, is  
12                  this going forward as an offer of proof?  Is  
13                  that what we're doing?

14    **THE COURT:**   Well, what I was telling her is I've  
15                  sustained the objection at this point.  I mean,  
16                  if she wants to lay a foundation that this  
17                  person is an expert in the workings of Google  
18                  Earth, then I'm not prohibiting her from doing  
19                  so.  She doesn't have to do a proffer, she can  
20                  just ---

21    **MR. CHURDAR:**   Understood.

22    **THE COURT:**   --- prove to me that she's an expert.

23    Q:     Ms. Dailey, how many times have you -- would  
24            you estimate you've used a GPS unit?

25    A:     By using a GPS unit, like taking a GPS point?



1 I've taken hundreds of GPS points.

2 Q: And how many times have you uploaded GPS points  
3 onto Google Earth?

4 A: At least five batches.

5 Q: And how many of those GPS points did you upload  
6 onto Google Earth?

7 A: All the GPS points that I've taken I've  
8 uploaded to Google Earth.

9 Q: Have you uploaded other types of data onto  
10 Google Earth?

11 A: I have brought in imagery using an overlay  
12 function in Google Earth.

13 Q: Can you explain the process that you use in  
14 doing that?

15 A: Sure. There's a tool called an overlay tool  
16 and it allows you to bring in an image and  
17 because I want the satellite imagery to show  
18 through, I took an image -- I took a black and  
19 white image that was a PDF of a proposed -- one  
20 of these propose development maps. I inverted  
21 the colors in PhotoShop, I dropped out the  
22 black background, I saved it as a file type  
23 that would support transparency, so then I was  
24 able to bring it in using the overlay tool and  
25 position it on the satellite image.



1 Q: And you mentioned PhotoShop, how do you know  
2 how to use -- what is PhotoShop?

3 A: PhotoShop is a program that lets you do image  
4 alterations of many kinds and I've been using  
5 PhotoShop for 20 years. PhotoShop is a much  
6 more complex program than Google Earth.

7 Q: Have you utilized PhotoShop in your work for  
8 Mary Edna Fraser?

9 A: Oh, all the time.

10 Q: And have you utilized PhotoShop in your work  
11 for Dr. Porcher?

12 A: Often.

13 Q: Do you understand how the GPS unit collects  
14 data?

15 A: I know that there is a satellite that it gets  
16 information from and you can -- you store these  
17 GPS points with a button. There's a way to  
18 navigate back to the points that you've stored.  
19 There's a lot of different interesting  
20 functions on the unit.

21 Q: And do you understand how Google Earth imports  
22 GPS data?

23 A: You plug it in and you import it with the  
24 import dialog and that's about it.

25 Q: And you mentioned that there's an overlay



1 function on Google Earth.

2 A: Yes.

3 Q: How many times have you utilized the overlay  
4 function?

5 A: In the course of the walks that I've done  
6 regarding the Kiawah spit, at least 20 times  
7 with different kinds of imagery, just to be  
8 able to compare.

9 Q: What were you trying to compare?

10 A: Well, looking at this particular map, 21A, you  
11 can see the development map is overlaid on the  
12 satellite imagery and in order to do this, I  
13 used the baseline and setback lines that I had  
14 gotten from the OCRM website, so I had that  
15 image that I overlaid on here and that image I  
16 compared it to this development map so I could  
17 figure out where it needed to be in  
18 coordination with the beach.

19 Q: So when you use the overlay tool on Google  
20 Earth, are you simply importing data or are you  
21 able to manipulate that data once it's in  
22 Google Earth?

23 A: I'm able to manipulate it and you need to know  
24 a couple of very important things when you do  
25 this. You don't want to change the aspect



1 ratio of the imagery you're working with.

2 Q: What is aspect ratio?

3 A: Aspect ratio is the proportion vertical to  
4 horizontal, because, obviously, that would skew  
5 the information that you're trying to work  
6 with.

7 Q: Why is that important?

8 A: You want to maintain the drawing in the  
9 proportions that is given so that it  
10 corresponds with reality. And the other  
11 important aspect is that you need it to be the  
12 correct scale. Google Earth has a scale. It  
13 also has a measuring tool. And so I was able  
14 to measure the scale on the drawing itself so  
15 that I know that it is scaled exactly with the  
16 scale in Google Earth.

17 Q: Are those two things that you've mentioned, the  
18 scale and the aspect ratio, are those controls  
19 that you used to verify the accuracy of the  
20 data?

21 A: Yes.

22 Q: Have you worked with those types of controls in  
23 aerial imagery before?

24 A: This was the first time that I had used those  
25 tools, but in reading -- in reading maps, I



1 mean, if you understand what a scale is, it's  
2 just really understanding the definition of  
3 what a scale is. And so I've looked at lots of  
4 architectural drawings and had to make  
5 assumptions about spaces based on a scale. In  
6 regards to the work I do with Mary Edna,  
7 installing large art shows, the institutions  
8 always send us these kind of architectural  
9 drawings to look at to plan the shows.

10 Q: The GPS data or the GPS unit, when it's  
11 collecting data, what form is that data in?

12 A: It's in -- it's a decimal system of GPS  
13 representation.

14 Q: And you said that it is corresponding to a  
15 satellite?

16 A: It collects information from a satellite or  
17 satellites.

18 Q: And is that data conveyed in a particular  
19 format?

20 A: You have a north or south reading and an east  
21 or west reading and it's always a pair.

22 Q: And when you say it's a pair, is that the same  
23 thing as coordinates?

24 A: Yes.

25 Q: And does Google Earth have coordinates?





1 A: Yes, you can manually enter this data or you  
2 can automatically import it from the unit, and  
3 both would be using GPS coordinates in a  
4 decimal system.

5 Q: And is another way to describe that data in  
6 terms of latitude and longitude, or is that  
7 separate?

8 A: I'm not really sure how to answer that  
9 question.

10 Q: Is the data with coordinates that's collected  
11 on the GPS unit the same as the data with  
12 coordinates that is in Google Earth?

13 A: Can you say that again?

14 Q: Is the coordinate data that is collected by the  
15 GPS unit, when that's collected in a GPS unit,  
16 you also mentioned that you could manually  
17 enter in addition to importing, is the manual  
18 entering of coordinate data into Google Earth  
19 the same as collecting coordinate data on the  
20 GPS unit?

21 A: Yeah, there's no difference if you have the  
22 coordinates.

23 Q: And when you are -- in addition to the aspect  
24 of ratio and scale, when you are doing overlay,  
25 when you're using overlays in Google Earth, the



1 overlay tool, is there anything else that you  
2 are looking at to help you?

3 A: Well, I'm looking at the satellite image itself  
4 and the shapes of land forms and ---

5 Q: Why is the shape of land forms important?

6 A: Well, on this particular map, I was looking at  
7 the critical line because the critical line  
8 corresponds with some of the geographic aspects  
9 on the map, and so that was one thing that I  
10 used to make sure the overlay was in the  
11 correct position.

12 **SECOND MOTION TO QUALIFY AS EXPERT:**

13 **MS. WHITE:** Your Honor, we would move again to  
14 qualify Ms. Dailey as an expert in specialized  
15 knowledge of using Google Earth to create --  
16 importing data into Google Earth to create  
17 visual representations.

18 **MR. WALKER:** Objection. She said this is the first  
19 time she's ever done that.

20 **THE COURT:** I know.

21 **MR. WALKER:** She said she just followed the  
22 directions, like baking a cake, doesn't make  
23 you an expert. She has not had any training in  
24 geo-referencing; she's not referred to any  
25 standard in the industry; she hasn't told us



1       about the calibration of the device or its  
2       range of error where you heard this morning  
3       about a GPS that had a decimeter. We haven't  
4       heard about the accuracy of Google Earth from  
5       any expert in the industry who says I rely on  
6       it and this is an acceptable method. In fact,  
7       in her deposition, she said she doesn't know of  
8       any publication that says is an acceptable  
9       method. So -- and we could go on and on, but  
10      she's not qualified to give opinion testimony,  
11      nor would we say to lay a sufficient foundation  
12      for the accuracy that's necessary to introduce  
13      this larger image into evidence.

14   **MR. CHURDAR:**     Mr. Walker pretty much covered  
15      everything ---

16   **THE COURT:**    Okay.

17   **MR. CHURDAR:**    --- so I don't have anything else to  
18      add substantively.

19   **MS. WHITE:**     I guess I'm not sure ---

20   **THE COURT:**    Can you give me ---

21   **MS. WHITE:**     --- whether there is a ---

22   **THE COURT:**    Can you give me any case out there where  
23      any court ever held that a lay individual can  
24      submit something like this into evidence?

25   **MS. WHITE:**     Not off the top of my head, but I mean,



1 I could certainly look. I don't know ---

2 **THE COURT:** Well, it's your responsibility to  
3 establish it.

4 **MS. WHITE:** Well, I was going to ---

5 **THE COURT:** Go ahead.

6 **MS. WHITE:** --- introduce her as a lay witness and  
7 when her ability to use Google Earth was  
8 questioned, that's why we ---

9 **THE COURT:** Well, you're right, we're on the expert  
10 testimony.

11 **MS. WHITE:** --- went down that path.

12 **THE COURT:** We're on the expert testimony. So, can  
13 you -- anything else to respond to her being an  
14 expert? This is the first time she's ever done  
15 it? More's even come out now about how this is  
16 an overlay of which you ---

17 **MS. WHITE:** I don't think she's -- I don't think she  
18 said this was the first time she's done it.

19 **THE COURT:** Yes.

20 Q: Did you say this was the first time that you  
21 created ---

22 A: This is the first time that I've created a map,  
23 but I -- like that was exported as an image,  
24 but I've worked with a GPS unit the summer  
25 before, putting units onto Google Earth to see



1           where they -- how the whole system worked.

2       **THE COURT:** This is an overlay of where she took her  
3           GPS coordinates, overlaid it into this  
4           particular picture, which she even said you  
5           have to adjust it to the scale and aspect  
6           ratios and which can alter the implications of  
7           where the data goes.

8       **MS. WHITE:** I believe those are the things ---

9       **THE COURT:** This is just simply -- she's just not an  
10          expert. I sustain the objection.

11       **MS. WHITE:** I believe the scale and the aspect ratio  
12          were to do the opposite, to ensure that there  
13          were not changes.

14       **RULING OF THE COURT:**

15       **THE COURT:** Well, but if you mess up with that, you  
16          -- you'll produce error, so. The bottom line  
17          is I just sustain the objection.

18       **MS. WHITE:** Okay.

19       **Q:** Ms. Dailey, you were speaking a little bit more  
20          about this map, 21A, and you mentioned that you  
21          utilized an overlay. Are you able to -- and  
22          you can point on the screen that's in front of  
23          you, are you able to point out where the  
24          overlay is on this drawing?

25       **A:** Yeah, you can see this is the overlay.



1 Q: And what is that overlay?

2 A: It's a development plan. It was the newest  
3 plan that I was given by y'all.

4 Q: It seems to have a number down in the bottom  
5 corner. Do you see that?

6 A: Yeah.

7 Q: If you look in Exhibit 7 in the notebook in  
8 front of you, do you see a drawing with the  
9 same number?

10 A: Yeah.

11 Q: Is that the drawing that you overlaid into  
12 Google Earth?

13 A: Sorry, something just doesn't seem quite right  
14 about this. I mean, this is the same number.  
15 Can we -- it doesn't look the same.

16 Q: Are you looking at the -- you can look at the  
17 exhibit, the original that's in front of you.  
18 The projector screen's hard to read.

19 A: You see all the kind of back on this C1.5 that  
20 I'm looking at, there's a lot of kind of  
21 topographical information on here that is not  
22 on the one that I used.

23 Q: Okay.

24 A: See, it doesn't look -- it doesn't look the  
25 same. It looks close, but, you know, I'm just



1           trying to be very careful here.

2       Q:     But you used what you believed to be a drawing  
3           of the proposed development on Captain Sam's  
4           Spit in the creation of 21A?

5       A:     Yeah.

6       Q:     And in 21B, were you present in the area  
7           depicted in this photograph?

8       A:     Yes.

9       Q:     Did you observe this area on October 10, 2016?

10      A:     Yes.

11      Q:     And to your recollection, does what was  
12           depicted in the photograph in 21B correlate to  
13           what's marked as number five on 21A?

14      A:     Yes.

15      **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBERS 21A and**  
16      **21B:**

17      **MS. WHITE:** Petitioners would move Exhibit 21A and B  
18           into evidence.

19      **MR. WALKER:** No objection to 21B. Same objection to  
20           21A. It represents ---

21      **THE COURT:** Well, she said this time -- I said that,  
22           I don't know, 30 minutes ago, this is how this  
23           could be accomplished. But she testified to  
24           what she saw on five as being what she saw out  
25           there in the same area, so what -- I mean,



1           number five now doesn't represent Google Earth,  
2           it represents what she saw -- where she says  
3           she saw it.

4   **MR. WALKER:**   They're not -- I understand that.  
5           Maybe for five, but there are nine other  
6           markings and an overlay that I ---

7   **THE COURT:**   Well, right now they're meaningless  
8           because they're not coming in for anything  
9           regarding Google Earth. She can testify to  
10          what she saw at each one of those locations,  
11          could she not?

12   **MR. WALKER:**   Oh, she can do that, but this image --  
13          as long as this image is not understood to be  
14          a scientific rendition ---

15   **THE COURT:**   Okay.

16   **MR. WALKER:**   --- of the locations and as long as  
17          it's understood that this overlay that she  
18          moved in is not understood to be accurate.

19   **RULING OF THE COURT:**

20   **THE COURT:**   Well, she's even said now that's  
21          inaccurate, so it's -- I'll admit the photo  
22          only for the purpose, at this point in time, of  
23          reflecting that she took a photograph at what  
24          is marked number five that reflects in the  
25          photo, other photo which she took at that





1 location.

2 (Petitioner's Exhibit Number 21B was admitted into  
3 evidence.)

4 **THE COURT:** Any objection to that?

5 **MR. WALKER:** No. Only for the purpose of location  
6 five.

7 **MR. CHURDAR:** Okay. And I don't want to beat a dead  
8 horse, Your Honor, but I mean, the overlay is  
9 -- that is on this photo, your ruling is as  
10 though it's not there essentially?

11 **THE COURT:** Well, it's ---

12 **MS. WHITE:** I believe the witness testified that it  
13 was her understanding of the development map  
14 and she utilized it and placed it where she  
15 believed it ---

16 **THE COURT:** Well, I'm not letting it in for the  
17 accuracy of that in the least at this point in  
18 time.

19 **MR. WALKER:** Well, I hate to back up just a little  
20 bit on what I just said. The only reason she  
21 thinks it's at five is not -- because if we  
22 stripped those numbers off, I doubt she could  
23 say where this photo was. She's saying it's at  
24 five because she uploaded it with Google Earth,  
25 I think. I don't think she's going to say I



1 know from looking at this aerial photograph,  
2 that that's the place. I don't see how she  
3 could say that. So I do think that she is  
4 using -- this is bootstrapping in this location  
5 through the use of Google Earth as opposed to  
6 her recollection, just looking at the  
7 photograph without all the prompts that are ---

8 **THE COURT:** Well, I'll let you cross-examine her on  
9 that.

10 **MR. WALKER:** Okay. Thank you.

11 **MS. WHITE:** Thank you, Your Honor.

12 Q: Ms. Dailey, do you recall what you observed in  
13 the general area that's depicted by point  
14 number one on Exhibit 21A?

15 A: Saw sheered off dunes.

16 Q: And what about in point number two, what did  
17 you observe?

18 A: I saw much of the same up and down the beach.  
19 Sheered off dunes. I mean, every one of these  
20 shots is a little bit different and each one  
21 has a different kind of tree line and I took a  
22 whole series and so I can ... You know, we  
23 don't -- we don't have all these images here  
24 today, but because I took this series of images  
25 and because I've walked this beach over and



1 over again, and looked at every dune, I can  
2 generally say where these images are.

3 Q: Is it your testimony that you would be able to  
4 generally identify the location of these points  
5 without reference to the numbers based on your  
6 observations on the ground?

7 A: I would want to reference all of my images to  
8 be very, very exact. But generally, yes.

9 Q: Ms. Dailey, I'm going to hand you what's marked  
10 Petitioner's Exhibit 22, if you could tell me  
11 if you recognize this map.

12 **(Petitioner's Exhibit Number 22 was introduced into**  
13 **the record at this time.)**

14 A: Yes, this is another Google Earth image.

15 Q: And I am putting Petitioner's Exhibit 22 on the  
16 projector screen here.

17 A: This is the same day, same walk, the satellite  
18 image has been changed to 2015. Google Earth  
19 has a tool that allows you to go back in time,  
20 flip between different satellite imagery that  
21 they have stored and so this is the same walk,  
22 identical GPS points, with a different  
23 satellite image.

24 Q: So you changed the date in Google Earth?

25 A: Yes.



1 Q: And are the GPS -- is the GPS data that you  
2 uploaded the same?

3 A: It stays the same.

4 Q: And so this was that data from October 10th,  
5 2016?

6 A: Yes.

7 Q: And in the previous map we were looking at,  
8 21A, when was -- what was the satellite aerial  
9 imagery date?

10 A: That would be from this year, 2017.

11 Q: From 2017?

12 A: Yes.

13 Q: And did you create both the 21A and Exhibit 22?

14 A: Yes.

15 Q: What is Exhibit 22? Why did you create Exhibit  
16 22?

17 A: This shows the beach before Hurricane Matthew.

18 Q: And what is the difference?

19 A: You can visually see that the beach has changed  
20 and you can see as indicated by the darker gray  
21 color that some of the vegetation that has been  
22 crushed and -- by the Hurricane.

23 Q: So in Exhibit 21A, you testified that you  
24 walked along the beach along the points  
25 numbered one through ten?



1 A: Yes, we generally walked along the new dune  
2 line.

3 Q: And how did you describe that dune line?

4 A: It was sheered off, roots hanging out, that  
5 kind of thing.

6 Q: And did you -- you said you went to the spit in  
7 2008, I believe?

8 A: Yes.

9 Q: Did you go to the spit in 2015?

10 A: I don't recall.

11 Q: What did you observe on the front beach on the  
12 spit in 2008?

13 A: Oh, in 2008, there was a beach community.  
14 There were beach plants between the beach and  
15 the dune community and the dunes looked very  
16 different. They did not look sheered off.

17 Q: I'm going to come back to this, Petitioner's  
18 Exhibit 22. Did you go back to Captain Sam's  
19 Spit after October 10th?

20 A: Yes.

21 Q: When was that?

22 A: I went on the 17th of October, 2016.

23 Q: Did you go by yourself?

24 A: I went with Richard Porcher.

25 Q: And what did you do?



1 A: We walked around much of the spit, not the  
2 beach this time, but in the more vegetated dune  
3 ridges. He ---

4 Q: And ---

5 A: Sorry. He also took readings of water depth at  
6 the high tide at that time.

7 Q: Did you collect any GPS unit data?

8 A: I did. I took photographs and collected GPS  
9 data again.

10 Q: At what points did you collect GPS unit data?

11 A: I collected probably about 35 GPS points.

12 Q: Why did you select those points?

13 A: Well, we started walking along the high water  
14 line and wherever it looked like there were  
15 interesting things to photograph, I did. I  
16 would take a GPS point and photograph and then  
17 every -- every few points or so when Richard  
18 decided that it was a good place to measure  
19 water depth, he did, and I also took a  
20 photograph at all of those points and GPS  
21 reading.

22 Q: And did you upload those GPS coordinates in  
23 Google Earth?

24 A: Yes, I uploaded all of that GPS data.

25 Q: I hand you Petitioner's Exhibit 23 and ask if



1           you can identify what that is.

2           **(Petitioner's Exhibit Numbers 23A through 23H were**  
3           **introduced into the record at this time.)**

4           A:     Yes.

5           Q:     Would you describe what it is?

6           A:     This shows the four -- the yellow points are  
7                   the four points where Richard recorded GPS data  
8                   and I also recorded GPS data and photographed.  
9                   And then you will notice three red points which  
10                  are points where I recorded GPS data and took  
11                  photographs, but he did not record any  
12                  information.

13          Q:     It's kind of hard to see on the projector  
14                  screen there. Is this the GPS data that you  
15                  were just discussing that you collected on  
16                  October 17, 2016?

17          A:     Yes.

18          Q:     And did you create this map?

19          A:     I did.

20          Q:     Is there other items behind this map in the  
21                  exhibit?

22          A:     Yes, you see the same overlay. It's identical  
23                  to what we saw on this overlay.

24          Q:     So you utilized the overlay function in Google  
25                  Earth again?



1 A: Once you overlay the map, you can turn on and  
2 off different data points. All the information  
3 is stored, so once you have your overlay map  
4 set, there's no need to redo anything in order  
5 to create these maps. So this is -- this  
6 overlay is identical to this overlay. It's  
7 just a more zoomed in view, so that we can see  
8 closer these, the GPS points.

9 Q: So are you able to set the overlay in place?

10 A: It sets in place, yes, and does not move.

11 Q: And you took GPS data for all of the points  
12 that are marked on this exhibit?

13 A: Yes.

14 Q: And if you flip to the next page in the  
15 exhibit, do you recognize that?

16 A: Yes.

17 Q: What is it?

18 A: This says point number one, which corresponds  
19 to point number one on the map. And you can  
20 see -- I just know visually this is what we've  
21 been calling the slough, it's an area of  
22 continuous water that we walked through. And  
23 ---

24 Q: Did you take that photograph?

25 A: I did take this photograph.





1 Q: And does it correspond to what you observed on  
2 the ground in the point that is marked number  
3 one?

4 A: Yes.

5 Q: So this photograph ---

6 **MR. WALKER:** Your Honor, we have an objection. I  
7 think she's now going to start asking about,  
8 and she did just ask, does this correspond to  
9 what's on the ground. And it's impossible from  
10 the way the question is worded to determine  
11 whether she's saying that because of her map  
12 with Google Earth or if we stripped all this  
13 out she could identify that location. So we'd  
14 ask for there to be some clarity as to -- when  
15 she asks these questions, to say, are you  
16 depending on Google Earth or are you  
17 identifying this photo based on your read of  
18 this area.

19 **MS. WHITE:** Sure.

20 **THE COURT:** I sustain the objection. I'll strike  
21 her testimony ---

22 **MR. WALKER:** Thank you, Your Honor.

23 **THE COURT:** --- and I'll let you start over.

24 Q: Ms. Dailey, you took this photograph?

25 A: Yes, I did.



1 Q: It's Petitioner's 23B. And is what is  
2 represented in this photograph what you recall  
3 observing at the point that's marked number one  
4 ---

5 A: So let me just say ---

6 MR. WALKER: Same objection. Leading question and  
7 she -- she is just directing her to the ---

8 THE COURT: Well, I sustain that ---

9 MR. WALKER: --- pins.

10 THE COURT: --- to the leading. To the leading.

11 MS. WHITE: I'm trying to remember how I asked her  
12 the question on the previous map. Forgive me.

13 Q: Ms. Dailey, do you feel competent in your  
14 understanding of where this photograph was  
15 taken?

16 A: Maybe I can refer to this ---

17 Q: Sure if you want to refer to the ---

18 A: --- aerial image.

19 Q: --- aerial that's Petitioner's Number 1.

20 (Petitioner's Exhibit Number 1A was introduced into  
21 the record at this time.)

22 Q: And if you could ---

23 MR. WALKER: We're fine with you putting it on the  
24 screen for her to look at.

25 Q: I have this one available if ... Are you able



1 to identify the point on the map?

2 A: Yes. We've been talking about an area called  
3 the slough and generally what we mean in the  
4 area that we walked is through here. And so  
5 all of these images are going to be taken in  
6 this area right here (indicating).

7 Q: So on October 17th, 2016, you physically walked  
8 along what you've referenced as the slough and  
9 it's in the middle of Captain Sam's Spit?

10 A: Yes. And there is a small path that I also  
11 referred to which cuts from the beach through  
12 the dunes, sort of into this -- this -- the  
13 path that goes from the beach through the dunes  
14 is in the general vicinity of some of the  
15 highest points. Or -- sorry, how do I say  
16 this? The slough inundates up into this area  
17 (indicating).

18 **THE COURT:** Are you calling it a slough, S-L ---

19 A: I'm calling it a slough.

20 **THE COURT:** S-L-E-W?

21 A: S-L-O-U-G-H, I don't know.

22 **THE COURT:** Oh, S-L-O-U-G-H.

23 A: He had spelled it S-L-E-W, so I ...

24 **THE COURT:** Well, I was just trying to get the  
25 pronunciation of it.



1 A: We can spell it either way. It would be a low  
2 area where water flows into and so generally  
3 that path is going to be -- this thing is hard  
4 to see. I mean, obviously, I don't see the  
5 path I would normally see it in a satellite  
6 image, but it's going to be in this area  
7 (indicating).

8 Q: The path that accesses ---

9 A: The path that accesses that kind of center area  
10 where all of this -- where this water  
11 inundates.

12 Q: And is that how you accessed the inner area on  
13 October 17?

14 A: On this particular walk, we did. We walked up  
15 that path. We walked -- we walked up the path,  
16 we walked this way, then we walked back this  
17 way up to the point where it was just a few  
18 inches of water (indicating).

19 Q: And looking back at Petitioner's Exhibit 23B,  
20 are you able to identify where that photograph  
21 was taken on this map here generally?

22 A: It's going to generally be in this area  
23 (indicating).

24 Q: And does the photograph that's depicted in 23B  
25 which you took correspond to point number one



1 on Petitioner's Exhibit 23A?

2 A: Yes.

3 **MR. CHURDAR:** I would object to that question for  
4 the same reason that Mr. Walker has previously.  
5 It's relying on data that's -- there's not been  
6 a sufficient showing of expertise.

7 **MS. WHITE:** I believe -- well, I believe Mr.  
8 Walker's objection was that he wasn't certain  
9 of her ability to identify the area that's  
10 depicted ---

11 **THE COURT:** Wait a second. He's standing now.

12 **MS. WHITE:** Oh, okay.

13 **THE COURT:** So, I've got a feeling we're going to  
14 hear ---

15 **MR. WALKER:** Well, she identified it and she did in  
16 generally this area. She didn't identify it at  
17 one, she just identified it in this area  
18 (indicating).

19 **THE COURT:** I think it'd be kind of difficult ---

20 **MR. WALKER:** And so she's using Google Earth to try  
21 to pinpoint it, but just from the aerial, it's  
22 a general vicinity.

23 **MS. WHITE:** I think she was doing the general about  
24 where she went that entire day, but we can go  
25 through it again. She did mark it both the



1           general area she walked and where that one  
2           point is. But I can ask her again.

3   **MR. WALKER:** Well, that's right, and the second time  
4           she did it, she did a bigger one when she  
5           showed the walk and she did a smaller one to  
6           show where this one was.

7   **MS. WHITE:** Based on her understanding of being on  
8           the ground.

9   **THE COURT:** I sustain the objection at this point  
10          looking at that exhibit.

11   **MS. WHITE:** So is the basis of the objection that  
12          she doesn't have -- that it's not about  
13          establishing that she has an independent  
14          understanding of where the photo was taken, am  
15          I correct? It's that she doesn't have the  
16          expertise, is that Mr. Churdar's objection?

17   **THE COURT:** Are you able to clarify?

18   **MR. CHURDAR:** My -- I mean, my objection is  
19          essentially the same as Trenholm's and that is  
20          without -- without having the number one there,  
21          she's not able to identify on an aerial image  
22          where number one is. I mean, that's relying on  
23          data that we've -- I believe The Court has  
24          ruled requires expertise.

25   **THE COURT:** I think we used to deal with this all



1 the time, people put up exhibits and the  
2 objection would be you can't put the exhibit up  
3 if it's already got the markings there before  
4 because they suggest the answers.

5 **MS. WHITE:** Well, I mean, it ---

6 **THE COURT:** So ---

7 **MS. WHITE:** --- it's a little different when the  
8 witness is the one who took the GPS data that  
9 is what's being reflected by those numbers.

10 **THE COURT:** Well, I've sustained the objections on  
11 the GPS data, so that just makes it -- that  
12 takes us right back to where we are as  
13 suggesting the answer.

14 **MS. ARMSTRONG:** Can you give us just a minute?

15 **THE COURT:** Yes.

16 (Off the record discussion.)

17 **THE COURT:** All right, we're going back on the  
18 record.

19 **Q:** Ms. Dailey, when you take a GPS reading and you  
20 get those numbers, are you able to put those  
21 numbers in Google Earth and create a point  
22 based on those numbers?

23 **A:** Yes.

24 **Q:** And did you do that in this case?

25 **A:** Yes.



1 Q: Did you enter in the GPS coordinates that were  
2 on your unit into Google Earth at the points  
3 that are marked on this exhibit?

4 A: I downloaded them from the machine, but I also  
5 had Richard's notes and they matched perfectly.

6 Q: Is there a way that you could enter in the GPS  
7 data directly without importing it in Google  
8 Earth?

9 A: Oh, absolutely.

10 Q: And would ---

11 A: I could look at the machine and I could enter  
12 the data.

13 Q: And if you entered the data that way, would you  
14 be creating a point marking that location on  
15 the Google Earth aerial satellite imagery?

16 A: Yes.

17 Q: And when you took these GPS data -- this GPS  
18 data on 10/17/2016, did you create points to  
19 represent the locations where you were taking  
20 the GPS reading?

21 A: If I understand your question correctly, yes.

22 Q: So is the point that's marked number one, did  
23 you add that number one?

24 A: I wrote that number one to identify that as  
25 point number one, corresponding to Richard's





1 notes, which corresponds to an image.

2 Q: And does it correspond to where you were  
3 physically standing?

4 A: I was physically there, yes, so was Richard.

5 Q: After you took that GPS reading at point number  
6 one, did you take a photograph?

7 A: Yes.

8 Q: Is Petitioner's 23B the photograph that you  
9 took?

10 A: Yes.

11 Q: Looking at point number two, did you take GPS  
12 data for point number two?

13 A: Yeah, I did.

14 Q: And did you enter information into Google Earth  
15 regarding point number two?

16 A: Yes, I labeled it point number two.

17 Q: And does the point that's marked number two,  
18 were you physically standing in that point ---

19 A: I was.

20 Q: --- on 10/17 ----

21 **MR. CHURDAR:** Your Honor, I object. I mean, this is  
22 -- this is -- it is relying on what has already  
23 been deemed to be within the purview of an  
24 expertise. Just to couch it in terms of what  
25 ---



1     **THE COURT:**     Well, I mean, there's been various  
2                    rulings I've made, so -- well, there's maybe --  
3                    there's one of them about expertise, but this  
4                    is relying upon the accuracy of Google Earth  
5                    and pinpointing it down into one little spot as  
6                    to where she took it and the accuracy of that  
7                    upon this photograph. It's a combination. And  
8                    I just don't have any evidence -- I mean, the  
9                    only way I think you can get to where you're  
10                   going is if I take judicial notice of the  
11                   accuracy of Google Earth and my question is can  
12                   I take judicial notice of that because I -- and  
13                   I -- because otherwise, I've got to have  
14                   scientific data to support it. I mean, Google  
15                   Earth may be accepted by people throughout --  
16                   or commonly by people taking their photographs,  
17                   but I've got to as a Court take judicial notice  
18                   of the accuracy where it pinpoints it on a map,  
19                   and I'm -- so ---

20    **MS. ARMSTRONG:**   I mean, I think ...

21    **THE COURT:**     --- I sustain the objection.

22    **MS. ARMSTRONG:**   I certainly think The Court could  
23                    take judicial notice of Google Earth. I mean,  
24                    the frequency with which it's utilized, I mean,  
25                    it's got -- it's a coordinate system. I mean,



1           it is a coordinate system. And it uses aerial  
2           photographs that are placed on top of a  
3           coordinate system. I mean, they are known.  
4           There are places that you can go out and find  
5           on the planet if you know what the coordinates  
6           are. And that's ---

7   **THE COURT:** I don't know the -- what I'm getting at  
8           is I get the generality. She's already  
9           testified to the general area. I have no  
10          evidence before me as to how accurate Google  
11          Earth is and how much the Court could depend on  
12          pinpointing it on a map. I don't know ... So  
13          there's my struggle.

14   **MS. ARMSTRONG:** So the accuracy question comes in  
15          with the system that you're using to collect  
16          the data to pinpoint the place that you're at  
17          on Google Earth, because Google Earth -- I  
18          mean, it's just -- if you've got, you know ---

19   **THE COURT:** I understand how Google Earth ---

20   **MS. ARMSTRONG:** --- 63.122 by, you know, 79.333,  
21          that's where -- that's -- Google Earth has  
22          that. So the accuracy question comes in I  
23          think with something like a GPS unit where Mr.  
24          Wood testified those may be a couple feet off  
25          if you've got just a regular unit.



1     **THE COURT:**   Well, that was with what he was using.  
2                   See, I had testimony from him as to how that  
3                   system works and not only that, an expert can  
4                   utilize out-of-court data if it's common relied  
5                   upon.   So if this was an expert, this would  
6                   have been easy.   But this is a lay witness.  
7                   Mr. Churdar?

8     **MR. CHURDAR:**   And if I could just respond to that.  
9                   Something else that's not even been brought up  
10                  at this point is, I mean, we are assuming that  
11                  the dates and years that are provided by Google  
12                  Earth when we say that's a 19 -- that's a 2016  
13                  image is true.   I mean, we don't know how it's  
14                  true or not.   We don't know how to prove it's  
15                  true or not.   I mean, or excuse me, I'm sure  
16                  somebody could, but we don't have that here and  
17                  I think that's just to Ms. Armstrong's comment  
18                  about the reliability, I think that's a  
19                  problem.

20    **THE COURT:**   Well, at this point in time, I sustain  
21                  the objection.

22    **MS. WHITE:**   One second, Your Honor.

23                               **(Off the record discussion)**

24    **Q:**       Thank you for your patience, Ms. Dailey.   Can  
25                  you go back briefly to Petitioner's Exhibit ---



1 COURT REPORTER: I'm sorry, I can't hear you. I  
2 just couldn't hear you.

3 (Petitioner's Exhibit Number 22 was introduced into  
4 the record at this time.)

5 Q: I'm looking at Exhibit 22, Petitioner's Exhibit  
6 22. We looked at this briefly before. Did you  
7 create this map?

8 A: Yes.

9 MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBER 22:

10 MS. WHITE: The petitioners would move Exhibit 22  
11 into evidence.

12 MR. WALKER: Objection. She just said she created  
13 it. That doesn't make it admissible. It's  
14 entirely created by the system we just talked  
15 about where she has a hand-held unit and she  
16 uploads it to something Google tells her is a  
17 2015 map. These -- I don't know what these --  
18 these are locations she supposedly GPS'd in  
19 2016 against a map a year earlier. There's no  
20 way in the world she can say I know that  
21 location's the same. First, we don't know the  
22 true date of this image or its accuracy or how  
23 she would know a photograph taken a year later  
24 after a hurricane would have been in that  
25 location in the middle of the dunes because the



1 topography's changed. It's impossible for a  
2 lay person to say that's where it would have  
3 been. This is, again, bootstrapping locations  
4 -- well, I don't even -- there are no  
5 photographs with it. All she did was transpose  
6 the coordinates to a map of the year before.  
7 So it's not to get a photograph in, it's to say  
8 these are the locations the year before and  
9 that depends on the process that is unvalidated  
10 and would be an expert process.

11 **MR. CHURDAR:** And I would just add to that my  
12 objection based on the overlay from Joint  
13 Exhibit Number 7, assuming that is being  
14 offered for the truth of the accuracy of the  
15 matter asserted. I don't believe there has  
16 been a foundation laid for that, as well.

17 **MS. WHITE:** And, Your Honor, we are moving to admit  
18 it at this time just to be used as Ms. Dailey  
19 created this document and ask the Court to  
20 allow us the opportunity to link up with  
21 evidence to the accuracy of Google Earth -- the  
22 Google Earth data with other witnesses.

23 **THE COURT:** Well, then I'll address it at that point  
24 in time then, because you're just saying all it  
25 is is a -- in other words, you want me to admit



1 the document, but with ---

2 **MS. WHITE:** With the understanding that we have the  
3 burden of linking it up and if we fail to prove  
4 the accuracy of it and if Your Honor agrees ---

5 **THE COURT:** Well, there's actually a rule on that.  
6 So any objection to that?

7 **MR. WALKER:** We do object because we think it's not  
8 like a fact that's going to be linked up. This  
9 is something that's created through an expert,  
10 basically an expert diagram, plus as Mr.  
11 Churdar said, there's an overlay on it that she  
12 herself admits is inaccurate and she can't even  
13 place.

14 **THE COURT:** Yeah, I agree with the overlay.

15 **MR. WALKER:** And I -- I don't know what it's being  
16 offered for. She said it's being offered for  
17 the purpose that she created it. That doesn't  
18 tend to prove or disprove any fact in evidence  
19 that she created this. So, yes, we do object  
20 to entering it subject to hooking it up. We  
21 think that she should lay the foundation, if  
22 she could. She can't. They could have hired  
23 a surveyor, they didn't do it. They gave this  
24 exercise to a person who tried very hard and  
25 she may have entered it accurately, but that



1 doesn't meet the level of proof that's required  
2 to have a constructed exhibit like this.

3 **THE COURT:** So what would I be letting it in for at  
4 this point in time? Just that it's a photo?

5 **MS. WHITE:** That Ms. Dailey took the GPS -- took GPS  
6 data and imported it into Google Earth and  
7 overlaid a drawing, a construction drawing and  
8 ---

9 **RULING OF THE COURT:**

10 **THE COURT:** Hold on one moment. Let me look up the  
11 rule. I sustain the objection. You can offer  
12 it later when you have someone who can -- who  
13 can establish the foundation.

14 **MS. WHITE:** If we move to admit it just to prove  
15 that she took these data points ...

16 **THE COURT:** Well, that's in the record. So, you  
17 really don't need ---

18 **MS. WHITE:** The data points, okay.

19 **THE COURT:** --- you don't need the evidence -- the  
20 photo to establish that, she's testified and  
21 what she's testified to is already in the  
22 record.

23 **MS. WHITE:** Her data points on this particular  
24 satellite image, though, is not in the record,  
25 I don't believe, is what we're -- that's





1 different than 21A.

2 **THE COURT:** Okay.

3 **MS. WHITE:** This is 2017 satellite imagery.

4 **THE COURT:** Oh, this is the one where you're trying  
5 to go back another year?

6 **MS. WHITE:** This was 2015.

7 **THE COURT:** Okay.

8 **MS. WHITE:** And Ms. Dailey testified that you can  
9 change the satellite imagery in Google Earth  
10 and that's what she did and kept the exact same  
11 data points that she ---

12 **THE COURT:** Hold on. I sustained the objection on  
13 that exhibit. I agree with that.

14 **REQUEST TO PROFFER EXHIBIT:**

15 **MS. WHITE:** Well, if we could proffer the exhibit.

16 **THE COURT:** I think when you offer it, it's  
17 proffered. I mean, it's marked, right?

18 **MS. WHITE:** Yes.

19 **THE COURT:** Okay.

20 Q: Ms. Dailey, there are several -- you were  
21 testifying about going out to Captain Sam's  
22 Spit on October 17th ---

23 A: Yes.

24 Q: --- 2016, and that you took GPS data readings  
25 on that date?



1 A: Yes.

2 Q: And that you took photographs on that date?

3 A: Yes.

4 Q: And did you upload the GPS or import the GPS  
5 data into Google Earth?

6 A: Yes.

7 Q: And did you identify those GPS points on Google  
8 Earth?

9 A: Yes, I numbered them.

10 Q: What did you number them?

11 A: I numbered them one through four, the ones that  
12 correspond with Richard's data, and I have some  
13 that are labeled C26, C25, C -- let me look --  
14 C11.

15 Q: Did you take GPS data for all of those points?

16 A: I did.

17 Q: And you also utilized the overlay tool in  
18 including an overlay of the proposed  
19 development on this aerial?

20 A: Yes.

21 Q: When is this aerial imagery dated?

22 A: It would be the newest imagery, 2017.

23 **MR. CHURDAR:** Your Honor, I would object for the  
24 reason that I had mentioned earlier. She is  
25 relying on the -- well, it's really hearsay.



1 Relying on the out-of-court statement of Google  
2 saying this is a 2017 image. We don't know  
3 when these images were taken really.

4 **MS. WHITE:** I think the witness can testify to her  
5 personal knowledge of what the Google Earth  
6 satellite image was when she was the creator of  
7 this.

8 **THE COURT:** She wasn't the creator of this image,  
9 was she?

10 **MS. WHITE:** Of the ---

11 **THE COURT:** I mean, this is a Google Earth image.  
12 She's not the creator of it.

13 **MS. WHITE:** Sure, the creator of this -- of the data  
14 on an image. She put the -- she took the data  
15 on the ground; she imported it onto Google  
16 Earth; and she could set the date on Google  
17 Earth and I think she can testify to her  
18 personal knowledge of what the date was set on  
19 in Google Earth.

20 **THE COURT:** She can do that, but his objection is to  
21 whether the -- you know, there's nothing to say  
22 -- to establish in the record when this photo  
23 was taken other than the hearsay reliance upon  
24 what was listed on Google Earth. Is that ---

25 **MR. CHURDAR:** That's accurate, Your Honor. That's



1           what I'm ---

2       **THE COURT:** I sustain the objection at this time.

3       Q: Ms. Dailey, does Exhibit 23A represent data  
4           that you collected on October 17, 2016?

5       **MR. WALKER:** Objection. Could we have a  
6           clarification as to what she's talking about  
7           because there is a lot of writing and imagery  
8           and I don't know what she's referring to.

9       Q: Does it represent GPS coordinate data you  
10          collected?

11      A: Yes.

12      **MR. WALKER:** Are you referring to the overlay  
13          diagram or the pins, or what are you referring  
14          to? Our objection is -- I should be speaking  
15          to you, Your Honor, but there's so much  
16          information, the question is not sufficiently  
17          specific to get an accurate response.

18      **THE COURT:** Well, I sustain it for that if you'd  
19          just make your question more specific.

20      Q: Ms. Dailey, what are -- if you could just  
21          explain what these different pinpoints are,  
22          what is the information that's on this map?

23      A: Each one of these pins corresponds to a GPS  
24          point. There may ---

25      **MR. WALKER:** Objection. That's -- she has to go



1 through Google Earth to make that conclusion  
2 and that would be an expert opinion. All she  
3 can say is she can upload it, it came out like  
4 that.

5 **THE COURT:** Hold on one moment. I still sustain the  
6 objection.

7 Q: Ms. Dailey, did you write -- did you manually  
8 enter any GPS coordinates into Google Earth?

9 A: I manually entered GPS coordinates that were  
10 written down in the field by Richard and these  
11 -- so, for example, on these numbers one  
12 through four, all of those correspond to his  
13 written notes, as well as GPS coordinates that  
14 were taken by the GPS unit.

15 Q: And did you write the number sign and the  
16 corresponding number as depicted on each of  
17 those points?

18 A: Yes.

19 Q: Did you insert the icon that appears to --  
20 looks like a thumbtack?

21 A: Yes.

22 Q: How did you enter that thumbtack?

23 A: On the yellow thumbtacks, which are the ones  
24 that were manually entered, that correspond  
25 with the digital GPS coordinate, with those I



1 entered -- for example, on these images, I'm  
2 looking at 23D, we see north 32 34.932 west 080  
3 08.371. That would be information that anybody  
4 could manually enter and come up with the same  
5 thing that I did.

6 **MOTION TO EXCLUDE PETITIONER'S EXHIBIT NUMBER 23A:**

7 **MR. WALKER:** Your Honor ---

8 **THE COURT:** Uh-huh.

9 **MR. WALKER:** --- we're spending a lot of time on  
10 this exhibit.

11 **THE COURT:** I know.

12 **MR. WALKER:** And the Court has already sustained the  
13 objection that the image itself, the base  
14 image, is hearsay because it comes from what  
15 Google Earth said with no expert testimony or  
16 direct testimony about its accuracy. All of  
17 this depends on that image and we move to  
18 exclude this because the underlying image  
19 itself is hearsay and for the reasons The Court  
20 has already ruled that it all depends on the  
21 accuracy of the handheld GPS, the accuracy of  
22 the translation of Google Earth. There's been  
23 no expert testimony as to either of those and  
24 because of that, we would ask that the Court  
25 exclude this exhibit so that we don't have to



1 spend another hour in efforts to admit it.

2 **RULING OF THE COURT:**

3 **THE COURT:** Well, I'll deny its admission at this  
4 point in time. I think -- it should be kind of  
5 apparent where I'm going on my rulings, but I'm  
6 going to deny that, so you can continue.

7 **(Petitioner's Exhibit Number 23B was introduced into**  
8 **the record at this time.)**

9 Q: Ms. Dailey, looking at Exhibit 23B, did you  
10 take this photograph?

11 A: Yes.

12 **CLARIFICATION REQUEST ON RULING OF THE COURT RE:**  
13 **PETITIONER'S EXHIBIT 23A:**

14 **MS. WHITE:** Your Honor, I -- can I have one bit of  
15 clarification.

16 **THE COURT:** Okay.

17 **MS. WHITE:** We -- has Your Honor ruled on the  
18 admissibility of the underlying GPS data  
19 points? Is the objection to the aerial imagery  
20 and the development overlay?

21 **THE COURT:** I -- I've only ruled as to -- you have  
22 continued to seek to verify the accuracy of the  
23 pinpoints and that is the only area where I  
24 continue to sustain objections and I've been  
25 doing research and I'm pretty confident in my



1 ruling right now.

2 **MS. WHITE:** So the accuracy of the data on the  
3 Google imagery?

4 **THE COURT:** Yeah, because it's a photo that you're  
5 depending upon Google Earth with no independent  
6 evidence.

7 **MS. WHITE:** I'm just trying to make sure I  
8 understand your ruling.

9 **THE COURT:** Yeah, I'm explaining it to you.

10 **MS. WHITE:** Okay.

11 **THE COURT:** It's a Google Earth photo with no  
12 independent evidence to establish its accuracy.

13 **MS. WHITE:** And the underlying, the GPS data, I  
14 believe the witness testified to taking the  
15 underlying GPS data personally. Is that -- and  
16 I believe that Your Honor admitted 21A and 21B,  
17 which have some of that GPS data.

18 **THE COURT:** Well it had the pinpoints, but I didn't  
19 admit it for the accuracy of the pinpoints,  
20 except for number five because she testified to  
21 that.

22 **MS. WHITE:** Right, but that she took the GPS data I  
23 think is a separate thing than its accuracy as  
24 reflected on Google Earth. That's my -- maybe  
25 I'm misunderstanding but that was my ---





1     **THE COURT:**   What's the purpose of taking the GPS --  
2                   I mean, I don't think he objected to the fact  
3                   that she took GPS data, do you?

4     **MR. CHURDAR:**   No, I mean, the whole -- I mean, it's  
5                   all premised on the reliability of the data.  
6                   I mean, that was the underlying objection is  
7                   that without expertise, it's not reliable.

8     **THE COURT:**   Or without independent verification.

9     **MR. CHURDAR:**   Right.

10    **MS. WHITE:**    Because what I was trying to do ---

11    **THE COURT:**   Wait a second.   Hold on a second.

12    **MS. WHITE:**    I'm sorry.

13    Q:     Ms. Dailey, were you ---

14    **THE COURT:**   Hold on a second.

15    **MS. WHITE:**    I'm sorry.

16    **THE COURT:**   I'm checking on something.   All right.  
17                   I'll tell y'all, I found -- I found a case that  
18                   says basically it doesn't come in -- it only  
19                   comes in if there's independent evidence to  
20                   support it.   Then there's also a case out of  
21                   Ohio that held that it may come in.   I found  
22                   one case that supports your theory and it's the  
23                   only case in all -- I mean, there's no cases  
24                   that even reference it.

25    **MS. ARMSTRONG:**   We've got some legal support then.



1     **THE COURT:** You've got legal support, but this judge  
2             -- this judge disagrees with its reasoning.  
3             Hold on a second. All right, I've found cases  
4             where it was -- it allowed it when there was  
5             independent verification, such as measurements  
6             taken to verify its accuracy, and then I've got  
7             -- there's one case out there in the whole that  
8             it's some technology that should be utilized.  
9             I have -- South Carolina hasn't dealt with the  
10            Google Earth period in any thing. Here again,  
11            another one, and I found another, here no  
12            objective tests, verification of the accuracy  
13            of the Google Earth images that were  
14            administered and no evidence was induced to  
15            show that Cooper was qualified to use Google  
16            Earth, Historical -- now, I'm starting to find  
17            things against you.

18    **MS. ARMSTRONG:** Your Honor, we are ---

19    **RULING OF THE COURT:**

20    **THE COURT:** I'm -- I will tell you -- this is the  
21            ruling I'm going with, from what I'm finding in  
22            my research, and that is I'm not going to allow  
23            at this point in time without the Courts above  
24            instructing me otherwise for Google Earth to be  
25            a verification of the accuracy of data points



1 unless there's independent evidence to show --  
2 to verify that what -- that the data points  
3 were accurate. All right, do y'all understand  
4 that? Okay. I think I'm ---

5 **MS. WHITE:** Well ---

6 **THE COURT:** --- in good ground on that now.

7 **MS. WHITE:** We'd like to at least move forward with  
8 these photographs that I believe Ms. Dailey  
9 took herself.

10 A: Yes.

11 Q: Ms. Dailey ---

12 **THE COURT:** Well, I can be clear. Ms. Dailey will  
13 have to testify that this, you know, where  
14 she's got a pinpoint, that she took some type  
15 of measurements to verify that what Google  
16 Earth says was accurate.

17 **MS. WHITE:** Independent of the GPS reading?

18 **THE COURT:** Yes, ma'am.

19 **MS. WHITE:** Okay. I think we're going to set aside  
20 the maps for now ---

21 **THE COURT:** Okay.

22 **MS. WHITE:** --- and I think we're going to try to  
23 link -- or utilize some expert testimony ---

24 **THE COURT:** She can also -- she's also testified  
25 generally, you know, this is where it was ---



1     **MS. WHITE:**    Sure.

2     **THE COURT:**   --- when I took it.   I'm not precluding  
3                   her from doing any of that.

4     **MS. WHITE:**    Sure, sure.

5     **(Petitioner's Exhibit Number 23B was introduced into**  
6     **the record at this time.)**

7     **Q:**       Ms. Dailey, did you take the photograph that is  
8                   indicated as Petitioner's Exhibit 23B?

9     **A:**       Yes.

10    **Q:**       And were you on the ground on Captain Sam's  
11               Spit on October 17th, 2016, when you took this  
12               photograph?

13    **A:**       Yes.

14    **Q:**       Did you use a GPS device to record your  
15               location?

16    **A:**       I did.   I used a GPS device, which took a date  
17               stamp, a time stamp.   I took a photograph,  
18               which was time stamped, and Richard wrote down  
19               a GPS coordinate, and he took a measurement, as  
20               well.

21    **Q:**       Did you record that -- those data points?

22    **A:**       Yes.

23    **Q:**       Did you put information on this -- what's  
24               marked as Exhibit 23B to help you identify the  
25               location of this photograph?



1 A: Yes.

2 Q: Did you put any other information on this  
3 photograph?

4 A: I did. I labeled it number one and then I put  
5 the measurement that Richard had taken from his  
6 notes.

7 Q: And what was that measurement?

8 **MR. WALKER:** Objection, hearsay. She said she wrote  
9 down what somebody else told her is the  
10 measurement.

11 **THE COURT:** Well, I sustain the objection.

12 **(Petitioner's Exhibit Number 23C was introduced into**  
13 **the record at this time.)**

14 Q: Ms. Dailey, looking at the next photograph,  
15 Exhibit 23C, did you take this photograph?

16 A: Yes.

17 Q: Were you on the ground of Captain Sam's Spit on  
18 10/17/16 when you took this photograph?

19 A: Yes.

20 Q: Did you use GPS to mark your location?

21 A: I did.

22 Q: And did you record data points for that  
23 location?

24 A: I did, yes.

25 Q: Did you put any information on this photograph



1 to help you identify this location?

2 A: Yes.

3 Q: And did you put any other information on this  
4 photograph?

5 A: I put all the information you see on there on  
6 that photograph.

7 Q: Could you describe for me what that information  
8 is?

9 A: There's a date, number two, the measurement of  
10 water, and the GPS points.

11 **(Petitioner's Exhibit Number 23D was introduced into**  
12 **the record at this time.)**

13 Q: And looking at Exhibit 23D, did you take this  
14 photograph?

15 A: I did.

16 Q: And were you on the ground on Captain Sam's  
17 Spit on October 17, 2016, when you took it?

18 A: Yes, I was. Yes.

19 Q: Did you use GPS device to measure or to record  
20 your location?

21 A: Yes.

22 Q: Did you record the data points?

23 A: Yes.

24 Q: And did you put information on this photograph  
25 to help you identify its location?



1 A: Yes, I put the date; I put the number; I put  
2 the water measurement and the GPS points.

3 Q: Did you observe the measurement of water?

4 A: Yes.

5 Q: At 23D?

6 A: Yes.

7 Q: And did you observe the measurement of water at  
8 23C?

9 A: Yes.

10 Q: And did you observe the measurement of water at  
11 23B?

12 A: Yes.

13 **(Petitioner's Exhibit Number 23E was introduced into**  
14 **the record at this time.)**

15 Q: Did you take the photograph labeled 23E?

16 A: I did.

17 Q: And were you on the ground at Captain Sam's  
18 Spit on October 17, 2016, when you took that  
19 photograph?

20 A: Yes.

21 Q: And did you use GPS to mark your location?

22 A: Yes.

23 Q: And did you record the data points?

24 A: Yes.

25 Q: Did you put information on the photograph to



1 help you identify its location?

2 A: Yes.

3 Q: And did you put other data on the photograph?

4 A: I put the date, put number four, a measurement  
5 of water, and GPS points.

6 Q: And did you observe the measurement of water?

7 A: I did.

8 **(Petitioner's Exhibit Number 23F was introduced into**  
9 **the record at this time.)**

10 Q: 23E (sic), did you take this photograph?

11 A: I did.

12 Q: And was it taken on the ground on October 17,  
13 2016 ---

14 A: Yes.

15 Q: --- at Captain Sam's Spit?

16 **MR. GRESSETTE:** Is that 23F?

17 **MS. WHITE:** E. E. Or F, I'm -- yes. 23F, thank  
18 you.

19 Q: Did you GPS -- did you take a GPS measurement  
20 to mark your location?

21 A: Yes.

22 Q: And did you report that data point?

23 A: Yes.

24 Q: And did you put information on this photo to  
25 help you identify its location?





1 A: Yes. I put the date; I put number C11; and I  
2 put the GPS point.

3 Q: And would you tell me what you observed in this  
4 -- what you observed when you were taking this  
5 photograph?

6 A: There was a lot of water.

7 Q: And was there anything else about this location  
8 that you recall?

9 A: All right. Yeah, in this particular  
10 photograph, you can see Richard on the left  
11 walking through the water, and then it's hard  
12 -- it's very hard to see in that image, but  
13 there's a kind of netting in front of him,  
14 which is the bird netting that they are using  
15 for the migratory bird study, the Town of  
16 Kiawah.

17 **(Petitioner's Exhibit Number 23G was introduced into**  
18 **the record at this time.)**

19 Q: And now looking at 23G, did you take this  
20 photograph?

21 A: Yes, I did.

22 Q: And were you on the ground on October 17, 2016  
23 ---

24 A: Yes.

25 Q: --- when you took this photograph?



1 A: Yes.

2 Q: Did you use GPS to mark your location?

3 A: I did.

4 Q: And did you report those data points?

5 A: I did.

6 Q: Did you put information on the photograph to  
7 help you identify its location?

8 A: I did. I put the date; I put number C-25; and  
9 the GPS points.

10 Q: And what is being reflected in this photograph?

11 A: Well, these are pine trees, which are flooded.  
12 Pine trees.

13 **(Petitioner's Exhibit Number 23H was introduced into**  
14 **the record at this time.)**

15 Q: 23H, did you take this photograph?

16 A: Yes.

17 Q: Were you on the ground on Captain Sam's on  
18 October 17, 2016, when you took this  
19 photograph?

20 A: Yes.

21 Q: Did you use GPS to mark your location?

22 A: I did.

23 Q: Did you record the data points?

24 A: I did.

25 Q: Did you put information on this photograph to



1 help you identify its location?

2 A: I did. The dates, number C-26, and the GPS  
3 points.

4 Q: And what did you observe when you took this  
5 photograph?

6 A: This -- this photograph was taken shortly after  
7 Richard's number four point, after he -- while  
8 he was still at that point number four, I moved  
9 back away from him so you can actually see him  
10 in the top left corner there (indicating).  
11 Yes. And so this was taken -- this picture was  
12 taken directly after he had taken that point  
13 number four.

14 Q: In addition to Richard in the background, what  
15 else did you observe when you took this  
16 photograph?

17 A: A lot of water.

18 **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBERS 23B**  
19 **THROUGH 23H:**

20 **MS. WHITE:** Petitioners would move Exhibits 23B  
21 through H into evidence.

22 **THE COURT:** Any objection?

23 **MR. WALKER:** Object to the coordinates, which are  
24 hearsay. We don't believe they should come in  
25 and they should be stricken off the exhibit.



1 In many instances, she said she observed the  
2 measurement of water. She didn't say that she  
3 observed what the reading was. She just  
4 watched him measure the water.

5 **THE COURT:** Well ---

6 **MR. WALKER:** And so to the extent that I think there  
7 were two exhibits where she said she watched  
8 the reading, the first two, via ---

9 **THE COURT:** She's just offering the photos, not --  
10 the photos don't reflect the depth of the  
11 water.

12 **MR. WALKER:** But they have handwriting on them.  
13 Every one of them has coordinates and hand --  
14 excuse me, every one or most of them have a  
15 water depth and coordinates on ---

16 **THE COURT:** Okay.

17 **MR. WALKER:** --- the photographs. If it's just the  
18 photographs with a date ---

19 **MS. WHITE:** I can ask a follow-up.

20 **MR. WALKER:** --- no objection. But the coordinates  
21 are hearsay, she took it off the machine. And  
22 the water depth in some instances may be  
23 hearsay. We'd like that removed, too.

24 **THE COURT:** Well, the coordinates are what she  
25 observed from the machine, I recognize that.



1 But ...

2 **MS. WHITE:** If I could ask the witness a follow-up  
3 question on the measurement.

4 **RULING OF THE COURT:**

5 **THE COURT:** Well, on the coordinates. We're not --  
6 they're not -- the issue is not whether they're  
7 accurate; it's just she took -- she took the  
8 photos and after she put the coordinates that  
9 the machine told her, so to me, that -- that's  
10 her own personal observation. She's just  
11 putting what the machine said. We -- then we  
12 can get into the accuracy later on, but I  
13 disagree with that. As to the depth of the  
14 water, I'll agree with you on that, she hasn't  
15 testified to that. Now ...

16 **MR. CHURDAR:** Your Honor, I would -- well,  
17 concurring after your ruling may be a moot  
18 point ---

19 **THE COURT:** Yeah.

20 **MR. CHURDAR:** --- but to the extent that it's not  
21 relevant -- it's not relevant if it's -- if the  
22 coordinates are just she pushes a button and  
23 out comes information if it's not being used  
24 for any purpose. The second -- my second  
25 objections as to the coordinates remaining on



1 the pictures is that there has been no  
2 testimony as to how a GPS can be used in any  
3 way that is reliable. I mean, you know, I am  
4 not, certainly not an expert in GPS, but I am  
5 sure just like a -- you know, it may not be the  
6 same thing, but like a radar gun, you'd have to  
7 do certain things to ensure that what comes out  
8 of the machine when a police officer's telling  
9 speeds is reliable. And there's been no  
10 testimony to that end. So, I mean, that just  
11 goes back to my original point that the data --  
12 just putting data in there is not relevant if  
13 it's not reliable.

14 **THE COURT:** Well, I'm going to allow the -- the  
15 coordinates to remain on the exhibit. I'll  
16 deal with the accuracy apparently down the road  
17 continuously, but the -- as far as the depth,  
18 I'll sustain ---

19 **MS. WHITE:** Could I ask the witness a follow-up  
20 question, Your Honor?

21 **THE COURT:** Yes.

22 **Q:** MS. Dailey, you said you observed Dr. Porcher  
23 taking a water measurement. Did you observe  
24 what that measurement was?

25 **A:** Oh, yeah, every time he took a measurement, we



1           said out loud what that measurement was.

2       Q:     Did you look at the measuring tool?

3       A:     I was -- yes, yes.

4       Q:     Are you able to confirm that you observed eight  
5           inches of water at the location where you took  
6           this photograph?

7       A:     Yes.

8       Q:     Did you witness the measurement of water in  
9           Exhibit 23C?

10      A:     Yes.

11      Q:     Are you able to independently verify that you  
12           observed ten inches of water at this location?

13      A:     Yes.

14      Q:     Did you witness the measurement of water at  
15           Exhibit 23D?

16      A:     Yes.

17      Q:     Are you able to independently verify that you  
18           observed twelve inches of water at this  
19           location?

20      A:     Yes.

21      Q:     Did you witness the measurement of water at  
22           23E?

23      A:     Yes.

24      Q:     Are you able to independently verify that you  
25           observed five inches of water at this location?



1 A: Yes.

2 **MS. WHITE:** And I don't have the measurements of  
3 those, so at this time I think I'd like to  
4 renew my ---

5 **MR. CHURDAR:** Your Honor, I think you've already  
6 ruled on my objections earlier.

7 **THE COURT:** Okay. All right. I'll allow the  
8 exhibit in. They're admitted, the photos.

9 **(Petitioner's Exhibit Numbers 23B through 23H were**  
10 **admitted into evidence.)**

11 **MR. WALKER:** That's 23B, as in boy, through H?

12 **MS. WHITE:** That is correct.

13 **MR. WALKER:** Thank you.

14 **(Petitioner's Exhibit Numbers 24B through 24Q with**  
15 **the exception of N were introduced into the record at**  
16 **this time.)**

17 Q: Ms. Dailey, I just handed you what's marked  
18 Petitioner's Exhibit 24. If you could look at  
19 B through Q.

20 **THE COURT:** How much longer are you going to be on  
21 this witness?

22 **MS. WHITE:** I don't know, Your Honor. I'm going as  
23 quickly now as I can, but if I'm able to ---

24 **THE COURT:** I'm going to -- I think I'm going to  
25 break for the day if it's going to be much





1 longer.

2 **MS. WHITE:** I do have a handful of photographs. I  
3 can go through them as quickly as I went  
4 through the others, notwithstanding any  
5 objections, but I'm happy to do whatever the  
6 Court wants to do.

7 **THE COURT:** Well, when you say quickly as the others  
8 ---

9 **MS. WHITE:** Well, I mean, just these photographs.

10 **THE COURT:** Oh, those, oh, okay.

11 **MS. WHITE:** We're not going to go into the map.

12 **THE COURT:** Okay.

13 **MS. WHITE:** So it's your preference.

14 **THE COURT:** Go ahead.

15 Q: Ms. Dailey, looking at Exhibit 24B.

16 A: Yes.

17 Q: Did you take this photograph?

18 A: Yes.

19 Q: And when did you take this photograph?

20 A: I took it on November 15, 2016.

21 Q: And did you -- were you on the ground on  
22 Captain Sam's Spit on November 15, 2016?

23 A: Yes, if you call that ground.

24 Q: Did you use GPS to mark your location?

25 A: I did.



1 Q: Did you record the data points?

2 A: Yes.

3 Q: And did you put information on the photograph  
4 to help you identify its location?

5 A: I did, I put the date; I put number four, the  
6 water measurement and the GPS coordinates.

7 Q: Did you observe the measurement of water?

8 A: I did.

9 Q: And so are you able to independently verify  
10 that you observed four inches of water at this  
11 location?

12 A: Yes.

13 Q: Now, I'm looking at 24C, did you take this  
14 photograph?

15 A: I did.

16 Q: And were you on the ground on Captain Sam's  
17 Spit on November 15, 2016, when you took this  
18 photograph?

19 A: Yes.

20 Q: And did you take GPS recording to mark your  
21 location?

22 A: Yes.

23 Q: And did you record the data points?

24 A: I did.

25 Q: Did you put information on the photo to help



1           you identify the location?

2       A:     I did.

3       Q:     And did you put other information on the  
4           photograph?

5       A:     Yes, I put the date and number four and four  
6           inches of water.

7       Q:     Did you observe the measurement of water?

8       A:     I did.

9       Q:     Are you able to independently verify that you  
10          observed four inches of water at this location?

11      A:     Yes.

12      Q:     24D, did you take this photograph?

13      A:     Yes.

14      Q:     And were you on the ground at Captain Sam's  
15          Spit on November 15, 016, when you took this  
16          photograph?

17      A:     Yes.

18      Q:     Did you take a GPS recording ---

19      A:     Yes.

20      Q:     --- to mark your location?

21      A:     Yes, I did.

22      Q:     And did you record the data points?

23      A:     Yes.

24      Q:     And did you put information on this photograph  
25          to help you identify the location?



1 A: Yes.

2 Q: And is there other information that you put on  
3 this photograph?

4 A: Yes, I put the date and number five and six  
5 inches of water.

6 Q: Did you independently observe the measurement  
7 of six inches of water ---

8 A: Yes.

9 Q: --- at this location?

10 A: Yes.

11 Q: And 24E, did you take this photograph?

12 A: Yes.

13 Q: Were you on the ground on Captain Sam's Spit on  
14 November 15th ---

15 A: Yes.

16 Q: --- 2016, when you took this photograph?

17 A: Yes.

18 Q: And did you use GPS to mark your location?

19 A: Yes.

20 Q: And did you record those data points?

21 A: Yes.

22 Q: Did you put information on this photograph to  
23 help you identify its location?

24 A: Yes, I put the date, number six, and eight  
25 inches of water.



1 Q: Did you independently observe eight inches of  
2 water ---

3 A: Yes.

4 Q: --- at this location?

5 A: Yes, I did.

6 Q: This is 24F, did you take this photograph?

7 A: Yes, I did.

8 Q: And were you on Captain Sam's Spit on November  
9 15, 2016, when you took this photograph?

10 A: Yes.

11 Q: Did you -- did you take GPS recording to mark  
12 your location?

13 A: Yes.

14 Q: And did you record the data points?

15 A: Yes.

16 Q: Did you put the information -- did you put any  
17 information on this photograph to help you  
18 identify its location?

19 A: Yes, I put the GPS.

20 Q: And did you put other information on this  
21 photograph?

22 A: Yes, I put the date, number nine, and nine  
23 inches of water.

24 Q: Did you independently observe nine inches of  
25 water at this location?



1 A: Yes.

2 Q: Did you take the photograph numbered 24G?

3 A: Yes.

4 Q: And were you on the ground on November 15,  
5 2016, when you took that photo?

6 A: Yes.

7 Q: Did you take a GPS to mark your location?

8 A: Yes.

9 Q: Did you record the data points?

10 A: Yes.

11 Q: Did you put information on this photograph to  
12 help you identify the location?

13 A: Yes.

14 Q: And did you put other information on the photo?

15 A: Yes, put the date, number ten, and ten inches  
16 of water.

17 Q: And did you personally observe ten inches of  
18 water at this location?

19 A: Yes.

20 Q: I mean, the measurement of water, ten inches of  
21 water ---

22 A: Yes.

23 Q: --- at this location?

24 A: Yes, that's correct.

25 **THE COURT:** I'm looking at the water where he's



1 standing and how far it comes up his boots, so  
2 you're testifying that he is standing in ten  
3 inches of water?

4 A: Yes, those are tall boots.

5 Q: This is 24H, did you take this photograph?

6 A: Yes.

7 Q: And were you on the ground on November 15,  
8 2016, when you took it?

9 A: Yes.

10 Q: Did you take a GPS recording to mark your  
11 location?

12 A: Yes.

13 Q: Did you record the data points?

14 A: Yes.

15 Q: And did you put information on the photograph  
16 to help you identify the location?

17 A: Yes.

18 Q: And did you put other information on this  
19 photograph?

20 A: Yes, I put the date and number ten and ten  
21 inches of water.

22 Q: Did you observe the measurement of ten inches  
23 of water?

24 A: Yes, I did.

25 Q: You personally observed ten inches of water at



1           this location?

2       A:     Yes.

3       Q:     Did you take the photograph labeled -- marked  
4           24I?

5       A:     Yes.

6       Q:     Were you on the ground on Captain Sam's Spit on  
7           November 15, 2016, when you took this  
8           photograph?

9       A:     Yes.

10      Q:     Did you take a GPS recording to mark your  
11           location?

12      A:     Yes.

13      Q:     Did you record the data points?

14      A:     Yes.

15      Q:     And did you put information on this photograph  
16           to help you identify the location?

17      A:     Yes, I did.

18      Q:     And did you put other data on this photograph?

19      A:     Yes.

20      Q:     What was that?

21      A:     I put the date and number ten and ten inches of  
22           water.

23      Q:     Did you observe the measurement of water at  
24           this location?

25      A:     I did.





1 Q: Did you personally observe ten inches of water  
2 at this location?

3 A: Yes, I did.

4 Q: 24J, did you take this photograph?

5 A: Yes.

6 Q: Were you on the ground on Captain Sam's Spit on  
7 November 15, 2016, when you took this  
8 photograph?

9 A: Yes.

10 Q: Did you take a GPS recording to mark your  
11 location?

12 A: Yes, I did.

13 Q: Did you record the data points?

14 A: Yes.

15 Q: And did you put information on this photograph  
16 to help you identify the location?

17 A: Yes, I did.

18 Q: And did you put other information on this  
19 photograph?

20 A: Yes, I put the date, number eleven, and seven  
21 inches of water.

22 Q: Did you observe the measurement of water at  
23 this location?

24 A: Yes, I did.

25 Q: Did you personally observe seven inches of



1 water at this location?

2 A: Yes, I did.

3 Q: This is K, did you take this photograph?

4 A: Yes, I did.

5 Q: Were you on the ground on Captain Sam's Spit on  
6 November 15, 2016, when you took this  
7 photograph?

8 A: Yes.

9 Q: And did you use GPS to mark your location?

10 A: Yes, I did.

11 Q: And did you record the data points?

12 A: Yes, I did.

13 Q: And did you put information on this photograph  
14 to help you identify its location?

15 A: I did.

16 Q: An did you put additional information on this  
17 photograph?

18 A: Yes, I put the date, number twelve, and six  
19 inches of water.

20 Q: Did you observe the measurement of six inches  
21 of water?

22 A: I did.

23 Q: L, 24L, did you take this photograph?

24 A: Yes.

25 Q: Were you on the ground of Captain Sam's Spit on



1 November 15, 2016, when you took this  
2 photograph?

3 A: Yes.

4 Q: Did you take a GPS recording to mark your  
5 location?

6 A: Yes.

7 Q: Did you record the data points?

8 A: Yes.

9 Q: And did you put information on this photograph  
10 to help you identify the location?

11 A: Yes.

12 Q: Did you put additional information on this  
13 photograph?

14 A: Yes, yes, I did. I put the date, number 13,  
15 and six inches of water.

16 Q: Did you observe the measurement of six inches  
17 of water?

18 A: I did.

19 Q: And the presence of six inches of water, as  
20 well?

21 A: Yes.

22 Q: Did you take what's marked as 24M, the  
23 photograph marked 24M?

24 A: Yes.

25 Q: Were you on the ground on Captain Sam's Spit on



1 November 15, 2016, when you took this photo?

2 A: Yes.

3 Q: Did you use GPS to mark your location?

4 A: Yes.

5 Q: Did you record the data points?

6 A: Yes.

7 Q: And did you put information on this photograph  
8 to help you identify the location?

9 A: I did.

10 Q: What other -- did you put other information on  
11 this photograph?

12 A: I did, I put the date, number 14, and five  
13 inches of water.

14 Q: Did you observe the measurement of five inches  
15 of water?

16 A: I did.

17 Q: I'm skipping one, N. And 240, did you take  
18 this photograph?

19 A: Yes.

20 Q: Were you on the ground on Captain Sam's Spit on  
21 November 15, 2016 ---

22 A: Yes.

23 Q: --- when you took this photograph?

24 A: I was.

25 Q: And did you use GPS to mark your location?



1 A: I did.

2 Q: Did you record the data points?

3 A: Yes, I did.

4 Q: And did you put information on this photo to  
5 help you identify the location?

6 A: I did.

7 Q: And did you put additional information on this  
8 photo?

9 A: Yes, I put the date, number 15, and three  
10 inches of water.

11 Q: Did you observe the measurement of three inches  
12 of water?

13 A: Yes.

14 Q: P, did you take this photograph?

15 A: I did.

16 Q: Were you on the ground on Captain Sam's Spit on  
17 November 15, 2016, when you took this  
18 photograph?

19 A: Yes.

20 Q: And did you record your GPS -- did you take a  
21 GPS recording to mark your location?

22 A: Yes.

23 Q: And did you record the data points?

24 A: Yes.

25 Q: And did you put information on this photograph



1 to help you identify the location?

2 A: I did, I put number -- I put November 15th, the  
3 date, number C-31, and GPS points.

4 Q: Did you personally observe water at this  
5 location?

6 A: Yes, I did.

7 Q: This is 24Q, did you take this photograph?

8 A: I did.

9 Q: Were you on the ground on Captain Sam's Spit on  
10 November 15, 2016, when you took this photo?

11 A: I was.

12 Q: Did you use GPS to mark your location?

13 A: I did.

14 Q: Did you record the data points?

15 A: I did.

16 Q: And did you put information on this photo to  
17 help you identify the location?

18 A: Yes.

19 Q: And did you observe water at this location?

20 A: I did.

21 **MOTION TO ADMIT PETITIONER'S EXHIBITS 24B THROUGH 24Q**

22 **WITH THE EXCEPTION OF N:**

23 **MS. WHITE:** Petitioners would move Exhibits 24B  
24 through Q, and I pulled out N, but ...

25 **MR. CHURDAR:** Your Honor, I would just renew my



1 objection regarding the hearsay and relevancy  
2 nature of the GPS data points in the far right-  
3 hand side of each photograph.

4 **THE COURT:** My ruling on the data points is going to  
5 be the same as the last and that is I'm not  
6 letting it in for the truth of the matter  
7 asserted, but she stated that that's what the  
8 GPS unit stated that she looked at and that's  
9 what she put on the photo, so I'm allowing it  
10 to reflect that which -- which she observed  
11 from her GPS unit.

12 **MR. WALKER:** I'm making the same objection as Mr.  
13 Churdar and understand your ruling the same.

14 **RULING OF THE COURT:**

15 **THE COURT:** Okay. So they're admitted with the  
16 understanding of what the data points mean.

17 **(Petitioner's Exhibit Numbers 24B through 24Q with**  
18 **the except of N were admitted into evidence.)**

19 **MR. CHURDAR:** And, Your Honor, you specifically  
20 mentioned the hearsay nature, but did you --  
21 what was your ruling on the relevance of it?  
22 I mean, if it's not for the accuracy of truth  
23 of it, what's the point of having it, I guess,  
24 is kind of where I was going with that?

25 **THE COURT:** Well, I think they told me they were



1 going to link it up later on, but if they  
2 don't, I'll entertain an objection to striking  
3 that out.

4 **MR. CHURDAR:** Okay.

5 **THE COURT:** How much longer ---

6 **MS. WHITE:** I have two more photographs and then I'm  
7 done.

8 **THE COURT:** Oh, okay.

9 Q: Okay. Ms. Dailey, I'm handing you Exhibit 25  
10 and we're just going to look at B and C.

11 **(Petitioner's Exhibit Numbers 25B and 25C were**  
12 **introduced into the record at this time.)**

13 A: Okay.

14 Q: 25B, did you take this photograph?

15 A: Yes, I did.

16 Q: And were you on the ground on Captain Sam's  
17 Spit on July 25th, 2017, when you took this  
18 photograph?

19 A: Yes.

20 Q: And did you use GPS to mark your location?

21 A: I did.

22 Q: And did you record the data points?

23 A: Yes.

24 Q: Did you put information on the photograph to  
25 help you identify the location?





1 A: Yes.

2 Q: Did you put other information on the  
3 photograph?

4 A: I did. Put the date and number four.

5 Q: 25C, did you take this photograph?

6 A: I did.

7 Q: Were you on the ground on Captain Sam's Spit on  
8 July 25th, 2017, when you took this?

9 A: Yes, I was.

10 Q: And did you use GPS to mark your location?

11 A: Yes.

12 Q: And did you record the data points?

13 A: Yes.

14 Q: And did you put information on this photograph  
15 to help you identify its location?

16 A: Yes.

17 Q: Did you put other information on this  
18 photograph?

19 A: I did; I put the date and number six.

20 **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBERS 25B and**  
21 **25C:**

22 **MS. WHITE:** Petitioners would move Exhibit 25B and C  
23 into evidence.

24 **THE COURT:** Same objections?

25 **MR. WALKER:** Same objections.



1 MR. CHURDAR: Yes, sir.

2 RULING OF THE COURT:

3 THE COURT: Same admission with the same caveat as  
4 stated earlier.

5 (Petitioner's Exhibit Numbers 25B and 25C were  
6 admitted into evidence.)

7 MS. WHITE: I am done with this witness. Thank you  
8 for your patience.

9 THE COURT: I have -- I'm going to take a break, but  
10 I do have -- want to ask one question. Did you  
11 look in the terms and conditions of Google or  
12 anywhere to determine if even Google asserts  
13 that its photos and coordinate determinations  
14 are accurate?

15 A: I didn't. I was relying on Dr. Porcher. This  
16 is what he does with his data and so I'm his  
17 student and this is normally what we do in  
18 botany to go say -- document a plant and then  
19 go find it later.

20 THE COURT: Well, then if Google said that they  
21 don't verify its accuracy, would you ...

22 A: I didn't look into the issue.

23 THE COURT: Okay.

24 A: Yeah.

25 THE COURT: Well, we're going to break for today and



1 I guess start back at 9:00, 9:30?

2 **MR. WALKER:** Your Honor, and we understand that the  
3 witness is not to talk to counsel or other  
4 people about her testimony, is that ---

5 **THE COURT:** Yeah, I'll instruct you, you're not to  
6 discuss your testimony now or future testimony  
7 tomorrow with any other person.

8 A: Okay.

9 **THE COURT:** Okay. Thank you. All right, we're  
10 adjourned for the day. Oh, 9:00 or 9:30? 9:00  
11 it is.

12 (DAY THREE of the hearing adjourned at 6:26 p.m.)

13 (DAY FOUR - THURSDAY AUGUST 24, 2017. The hearing  
14 reconvened at 9:09 a.m.)

15 **COURT REPORTER:** All rise.

16 **THE COURT:** Y'all be seated. Are y'all ready? You  
17 ready?

18 **MS. ARMSTRONG:** We're ready, yes.

19 **PRELIMINARY MATTERS:**

20 **THE COURT:** All right. Before we get started, I  
21 wanted to back up -- some of this is for the  
22 benefit of the lawyers, some of it's for the  
23 benefit of everyone in the courtroom. I  
24 recognize -- I'll start with the bigger  
25 picture. I recognize this is -- the difficulty



1 of this case, and we're -- you know, you look  
2 at all the decisions of the Supreme Court and  
3 how much trouble they had. This case involves  
4 matching property rights up against  
5 environmental issues, but then when you move  
6 into the coastal area, you get the property  
7 rights where they're about -- you literally about  
8 the citizens' rights to public property and  
9 their use thereof, you know. But then  
10 yesterday we were dealing with the evidentiary  
11 issues and I want to say I think lawyers  
12 should, but especially judges should, we look  
13 at evidentiary issues not specifically from the  
14 nuances of this case, but we have to look at it  
15 from the larger perspective of the very reason  
16 that the evidentiary rules exist. And that is  
17 to create fair trials. And in making my  
18 rulings yesterday, I have to take in account  
19 not just the implications of this case, but  
20 whether my decisions, how they affect the  
21 overall structure of the application of the  
22 evidentiary laws. But then I think about  
23 yesterday when I was leaving, and this is where  
24 I'm not -- we're going to speak to the lawyers,  
25 I saw the witnesses -- and I don't even



1 remember her name, that was on the witness  
2 stand, standing in the hall with her face in  
3 her hands, and I just -- it made me think, you  
4 know, I make rulings regarding the evidence.  
5 And I want the people in this courtroom to  
6 understand that when I make rulings regarding  
7 the evidence, I'm taking into account the  
8 greater structure of the system and what's  
9 going on in this case. But when I -- for  
10 instance, when we rule that someone is not an  
11 expert, you're not telling the person -- you're  
12 not making a judgment about the person, you're  
13 making a judgment of the evidentiary laws that  
14 exist and what is an expert within the context  
15 of those laws. And when y'all were presenting  
16 her as an expert, you know, I think about the  
17 rules of experts. If we take it down a path to  
18 an expert is someone who just uses things and  
19 propose familiarity, they're familiar with it,  
20 from an evidence standpoint, not from a  
21 judgmental standpoint, we cannot declare the  
22 individuals experts because we're at a certain  
23 point where everybody in the world's going to  
24 be an expert. You just need to read a manual  
25 and familiarize with someone and you're expert,



1 and the laws don't allow that. So, now, moving  
2 into -- I had insomnia last night, so this is  
3 why y'all are having to listen to this  
4 diatribe. And there's another reason why you  
5 should have to listen to it is because y'all  
6 have been putting me through all this and I'm  
7 going to make you listen to me for a little  
8 bit. But I laid in bed thinking about Google  
9 Earth and looking at it from the standpoint of  
10 this case and also the other cases I read is my  
11 struggle with Google Earth is -- and I had this  
12 thought about last night, so maybe I should  
13 have wrote it down while I was laying in bed,  
14 but looking at it from even just the wider  
15 perspective of taking judicial notice, if we're  
16 going to look at -- number one, I don't utilize  
17 Google Earth; my wife doesn't. I imagine  
18 there's a fair amount of people who don't even  
19 utilize it, so when it comes to commonly  
20 accepted in the community, I certainly don't  
21 know how we could get there and even then we  
22 would be looking at it but someone may think  
23 that it's accurate within 1,000 feet, some 100,  
24 some ten. So there isn't a commonly accepted  
25 view for us. So then we have to go with how do



1       you determine its accuracy in a court system.  
2       And I made the comment about what does the  
3       terms and conditions of Google Earth, I don't  
4       even know what they are and what they even say  
5       about what they are on accuracy, so even that  
6       would be hearsay because whoever makes the  
7       determination of its accuracy is not here in  
8       the courtroom subject to cross-examination.  
9       And I thought about the photos that were put  
10      into evidence with the coordinates that were  
11      listed. I don't know -- not one word has been  
12      said about the GPS unit, the reliability of  
13      that GPS unit. GPS depends on satellite, as I  
14      -- this is just based on my understanding in  
15      the past, but GPS depends on satellite  
16      triangulation and there are -- I recognize that  
17      there are certain levels of accuracy that come  
18      into that, and I don't -- so at this point in  
19      time, I have no knowledge of the accuracy of  
20      the units that are being offered, so we have to  
21      depend upon some -- some equipment that gave us  
22      a configuration, but then even there, from a  
23      evidentiary standpoint, you have these  
24      coordinates. How is The Court to determine  
25      what the coordinates mean -- I mean, I



1 understand longitude and latitude, but how that  
2 translates into accuracy? Now, I say all that  
3 to say that I think it's pretty clear -- I  
4 really don't know how I can see, but -- maybe  
5 that was well thought out, because when you  
6 take into consideration all that I just said,  
7 I can just vouch for the accuracy of anything  
8 that you don't even know the background on how  
9 it works, but I still think that there's a  
10 certain point for this evidence if -- if it was  
11 offered to just say this is the general area,  
12 within 100 feet or within -- you know, that we  
13 could reach an accommodation in this case and  
14 move on. But -- so because I think there's a  
15 certain point of where we can say okay, we  
16 could all accept the accuracy of Google Earth  
17 maybe at a certain point, I don't know what  
18 that is. I just throw that out because -- but  
19 with all that said, that's my diatribe for  
20 today and young lady, if you could take the  
21 stand, all right. And your name again?

22 **MS. DAILEY:** Cecelia Dailey.

23 **THE COURT:** Ms. Dailey. You're still under oath.

24 **MS. DAILEY:** Yes, sir.

25 **THE COURT:** And don't let us bother you.





1     **MS. DAILEY:**   Thank you.

2     **THE COURT:**   All right.    So you're up.    You were  
3                    through last night?

4     **MS. WHITE:**   Yes, I did have one question I couldn't  
5                    recall with all the -- the objections and  
6                    rulings whether I had proffered one of the  
7                    exhibits.  I think that I tried to move Number  
8                    22 ...

9     **THE COURT:**   Yeah, by moving it into evidence, you  
10                   accomplished that properly.

11    **MS. WHITE:**   I just wanted to confirm that I actually  
12                    did move it.

13    **THE COURT:**   Well, I can't confirm that.  I don't ---

14    **MS. WHITE:**   I don't ---

15    **THE COURT:**   I don't remember ---

16    **MR. WALKER:**   We made a note she confirmed it and you  
17                    did not admit it, so it was proffered ---

18    **THE COURT:**   Okay.

19    **MR. WALKER:**   --- in the request for admission.

20    **THE COURT:**   All right.  And away we go.

21    **MR. WALKER:**   Thank you.  Wait one second.  Give me  
22                    just 30 more seconds.  I'm ready, but I'm not  
23                    quite plugged up on Westlaw yet, so y'all can't  
24                    argue about the law for at least another two or  
25                    three minutes.  Go ahead.



**MS. DAILEY - CROSS-EXAMINATION BY MR. WALKER:**

Q: Ms. Dailey, good morning.

A: Good morning.

Q: Can you give us the make and model number of the handheld GPS device you were using?

A: It's a Garmin 76.

Q: Thank you. That's it.

**MR. CHURDAR:** I have no cross.

**THE COURT:** Okay. Wow. I don't think you can ask a lot of questions.

**MS. ARMSTRONG:** Oh, we don't have -- obviously we don't have any.

**THE COURT:** Well, you can step down.

**MS. DAILEY:** Thank you.

**(The witness was excused.)**

**MS. ARMSTRONG:** Your Honor, the Coastal Conservation League -- before we call our next witness, actually, I want to just note that there's some OCRM -- some Coastal Conservation League staff in the courtroom with us today. In addition to Merrill McGregor who's been here all week, Emily Cedzo's in the courtroom with us, who's the project manager in the League's Charleston Office. And Alan Hancock, who's with the League in the Communications Department.



1     **THE COURT:** All right.

2     **MS. ARMSTRONG:** And with that, the petitioner calls  
3         Rob Young to the witness stand.

4     **DR. YOUNG:** Good morning, Your Honor.

5     **COURT REPORTER:** You are Robert S. Young?

6     **DR. YOUNG:** Yes, ma'am.

7     **COURT REPORTER:** Raise your right hand, please.

8     **DR. YOUNG:** (Witness complies.)

9     **COURT REPORTER:** Do you solemnly swear the testimony  
10         you're about to give in this matter is the  
11         truth, the whole truth, and nothing but the  
12         truth, so help you God?

13     **DR. YOUNG:** I do.

14     **COURT REPORTER:** Thank you.

15     **THE COURT:** Mr. Young, you've certainly have been  
16         the subject of conversation before you got  
17         here.

18     **DR. YOUNG:** That makes me nervous, Your Honor.

19     **THE COURT:** Oh, just legal stuff.

20     **DR. YOUNG - DIRECT EXAMINATION BY MS. ARMSTRONG:**

21     **Q:** Dr. Young, can you please describe your  
22         education for the Court?

23     **A:** I have a bachelor's degree in geology from the  
24         College of William and Mary in Virginia; I have  
25         a master's degree -- master of science in



1 geology, quaternary studies from the University  
2 of Maine; and a Ph.D. in coastal geology from  
3 Duke University.

4 Q: Okay. And what was your -- the topic -- your  
5 dissertation topic for your Ph.D.?

6 A: My dissertation was an examination of coastal  
7 and wetland dynamics in eastern North Carolina  
8 in response to storms and rising sea level.

9 Q: And what year did you obtain your Ph.D.?

10 A: 1995.

11 Q: And what have you done -- can you walk through  
12 your employment history since you received your  
13 Ph.D.?

14 A: I was an assistant professor of geology at the  
15 University of Vermont for two years.

16 Q: In what department?

17 A: In the geology department. It was too cold, so  
18 I moved back down south. I have been at  
19 Western Carolina University in the geosciences  
20 department for the last 20 years, started as an  
21 assistant professor. I'm now a full professor  
22 in geology. For the last ten years, I've been  
23 the director of the program for the study of  
24 developed shorelines, which is a joint Western  
25 Carolina University/Duke University center



1 operating on the campus of Western Carolina  
2 University.

3 Q: And what is the purpose of the program for the  
4 study of developed shoreline?

5 A: We do both basic scientific research on the  
6 coast and coastal processes, coastal erosion,  
7 storms, with funding from agencies like the  
8 National Science Foundation, and as a part of  
9 our mission, we attempt to communicate that  
10 science to policy makers and managers --  
11 coastal managers at all levels, from individual  
12 property owners, property owners' associations,  
13 municipalities, state and federal government.

14 Q: And where has that research been conducted?

15 A: All over the world. But significant amounts  
16 have been in the Carolinas, North Carolina and  
17 South Carolina.

18 Q: So is that -- in addition to the scientific  
19 research aspects, what's the other part of the  
20 program?

21 A: It's management and policy basically, and  
22 trying to work with a variety of different  
23 entities, public and private, to bring science  
24 to good decision making at the coast in a wide  
25 variety of different ways.



1 Q: And can you describe some of those ways that  
2 you -- the Center is involved in the decision  
3 making ---

4 A: Sure.

5 Q: --- recommendations?

6 A: So we are frequently engaged by individual  
7 property owners and property owners  
8 associations to evaluate engineering plans, for  
9 example, for coastal protection. Like a beach  
10 nourishment project or a new seawall or groin  
11 of something like that. We're frequently asked  
12 to evaluate United States Army Corps of  
13 Engineers coastal protection projects. We are  
14 often engaged by state legislatures to provide  
15 comment to legislation and as a part of that  
16 role I had the pleasure to serve on South  
17 Carolina's Blue Ribbon Committee for Shoreline  
18 Change a few years ago. We are often asked to  
19 testify before the United States Congress on  
20 issues like the Coastal Barrier Resources Act,  
21 hurricane impacts and federal funding of  
22 hurricane post-storm damage assessments. We  
23 have been engaged by the National Park Service  
24 and are currently engaged by the National Park  
25 Service to do vulnerability mapping of every



1 single asset the National Park Service owns in  
2 the United States of America. So we have  
3 developed a tool that the Park Service uses to  
4 decide how vulnerable a stretch of a road is or  
5 a building to coastal hazards like storms and  
6 then the Park Service is required to  
7 incorporate that vulnerability assessment into  
8 their short and long term planning. So, to me,  
9 that's sort of the quintessential kind of  
10 project that we do because the tool that's  
11 developed to assess the vulnerability is very  
12 science-based, but then it has a very practical  
13 application. And so, you know, we have -- are  
14 responsible for assessing the vulnerability of  
15 everything from the Statute of Liberty to an  
16 outhouse in the Everglades right now, including  
17 Fort Sumter, for example.

18 Q: And is there an established methodology that  
19 you use to do that vulnerability assessment?

20 A: Yes, and it's a methodology that we developed.

21 Q: Can you describe that methodology?

22 A: Well, in essence, we are gathering a wide  
23 variety of well vetted national data tools,  
24 like Federal Emergency Management Agency flood  
25 mapping, LIDAR data which gives you the



1 perspective on the topography near a shore,  
2 United States geological survey coastal erosion  
3 rates. Things like that, vetted national data  
4 sets, that allow us to create maps that show  
5 the individual exposure to hazards at any one  
6 location for any one known building or  
7 structure. And then we also do a sensitivity  
8 analysis which looks at whether or not that  
9 structure has been hurricane engineered or  
10 whether it's elevated, what condition it's in.  
11 And add all that together and you get an  
12 overall vulnerability score for everyone one of  
13 those assets, and the parks can rank them and  
14 can use them to decide what to put back after  
15 a storm, can use them to understand which of  
16 their most important assets are in trouble and  
17 might need some action, or which assets they  
18 can decommission, for example, because they're  
19 not important, but they're expensive to  
20 maintain.

21 Q: And within that context, are you asked for your  
22 opinions with respect to vulnerability of  
23 different coastal resources?

24 A: So in this case, the resources that we're  
25 assessing are the build or the built





1 environment, not natural resources, for this  
2 Park Service project.

3 Q: And just backing up a little bit, what are the  
4 classes that you -- are you teaching any  
5 classes?

6 A: I am. This semester, I'm teaching a coastal  
7 geology field trip course, which will bring us  
8 to South Carolina in October with 15 geology  
9 students from Western Carolina University. I  
10 also teach and have taught sedimentology, which  
11 is ---

12 **THE COURT:** Taught what?

13 A: Sedimentology.

14 **THE COURT:** Oh, sedimentology.

15 A: Yes, sir. So, you know, basically how  
16 sediments move around on the coast.  
17 Geomorphology, which is, you know, the study of  
18 land forms like dunes and beaches,  
19 oceanography, wetlands, historical geology, and  
20 our basic introductory environmental geology at  
21 Western Carolina University.

22 Q: Okay. And you've mentioned that some of the  
23 policy and management work of the Center lead  
24 you to serving on the Blue Ribbon Committee in  
25 South Carolina. I want to talk a little bit



1 more about that. How did you become a member  
2 of that Blue Ribbon Committee?

3 A: I received a letter of invitation from the DHEC  
4 Board.

5 Q: And what was your role on that committee?

6 A: Well, I imagine the same as everyone's role,  
7 which was to examine the existing Beachfront  
8 Management Act and roughly 25 years of coastal  
9 management within the State of South Carolina  
10 and to make recommendations based on sort of  
11 where we are today for how one might improve  
12 the Beachfront Management Act, you know, what's  
13 been working and what hasn't been working and  
14 ---

15 Q: So do you have a working knowledge of the  
16 Beachfront Management Act?

17 A: I do.

18 Q: Did you have that before you were on the Blue  
19 Ribbon Committee?

20 A: To a degree, but not to the same degree that I  
21 have now.

22 Q: And so the Committee made recommendations.  
23 What were some of the key recommendations that  
24 came out of that Committee?

25 A: Well, I guess the one that's gotten the most



1 attention was the recommendation from the  
2 Committee that the baseline not be moved  
3 further seaward, which the Legislature decided  
4 to act on I guess last year. You know, there  
5 were a number of other recommendations that  
6 have yet to move forward relating to setbacks  
7 from the baseline and whether you should put  
8 golf courses near inlets and establishing a  
9 committee to study the use groins, internal  
10 groins within the State of South Carolina, some  
11 things like that.

12 Q: Have you authored any publications?

13 A: Yes.

14 Q: Approximately how many?

15 A: Just basic peer-reviewed publications, not  
16 unpeer-reviewed reports. In scientific  
17 literature, I guess close to 30.

18 Q: And how many publications that are not peer-  
19 reviewed?

20 A: I don't know, 100 and -- hundreds.

21 Q: And what would be the purpose of those?

22 A: Well, many of them are vulnerability assessment  
23 reports that are published with, you know,  
24 published, but not reviewed, within the  
25 National Park Service, for example. We have



1       lots of National Park Service reports that I  
2       don't even bother to list on my CV because, you  
3       know, they're not peer-reviewed reports, but  
4       they're used by the National Park Service for  
5       coastal management, things like that.

6       Q:   And have you received any awards or  
7       recognitions related to your profession?

8       A:   Yes. I'm -- I'm a fellow of the Geological  
9       Society of America, which is an honor reserved  
10      for a small percentage of the membership that  
11      reach a certain professional stature, I guess.  
12      I've been a U.S. Fulbright Senior Scholar  
13      working on the Black Sea coast of Bulgaria, of  
14      all places, trying to help the sort of post-  
15      communist Bulgarians develop a set of coastal  
16      management concepts for their shoreline. Our  
17      Center has been recognized by groups like the  
18      North Carolina Coastal Federation for  
19      contributions to science and management on the  
20      North Carolina coast.

21      Q:   And at the University, are you a chair?

22      A:   So, I've won the University's Scholar Award and  
23      I'm a full professor, but no, I don't have a  
24      chair professorship.

25      Q:   I was thinking there was a James B. Duke ---



1 A: Oh, well, that was while I was a graduate  
2 student at Duke. I was a James B. Duke Fellow  
3 at Duke University.

4 Q: And do you hold any professional licenses?

5 A: I'm a licensed professional geologist in the  
6 State of South Carolina, as well as the States  
7 of North Carolina and Florida.

8 Q: Have you ever been qualified as an expert  
9 witness in a court proceeding?

10 A: I have.

11 Q: How many times?

12 A: Maybe a dozen.

13 Q: And have you been qualified in the State of  
14 South Carolina?

15 A: I have.

16 Q: Do you recall what area of expertise you were  
17 qualified in?

18 A: I believe it was the sort of general area of  
19 coastal geology and coastal management and  
20 policy.

21 **MOTION TO OFFER AS EXPERT:**

22 **MS. ARMSTRONG:** Your Honor, at this point, I'd like  
23 to offer Dr. Young as an expert in coastal  
24 geology and coastal zone management policy.

25 **MR. WALKER:** We have no objection to coastal



1 geology. When it comes to coastal zone  
2 management and policy, those are matters that  
3 are established in this state by the Coastal  
4 Zone Management Act and the CZMP, those  
5 establish the policy and those are the guiding  
6 principles, and so we object to the  
7 qualification as a policy expert when, in this  
8 case, that is a question of law and will be  
9 applied by The Court.

10 **THE COURT:** I'll get to you, but can you respond to  
11 that?

12 **MS. ARMSTRONG:** Oh, well, I mean, aside from the  
13 fact that Your Honor qualified him as an  
14 expert in that in 2009, I think Dr. Young has  
15 pretty well explained the policy work that he  
16 does and the management work that he does  
17 through the Center of the Study for Developed  
18 Shorelines. They make assessments and make  
19 recommendations to legislatures, to Congress.  
20 He's testified before. He's asked for coastal  
21 management opinions and recommendations by a  
22 variety of sources. They also do policy work  
23 in advising what one of his recent comments was  
24 about -- or his testimony was about how he's  
25 helping Bulgaria develop policies to manage



1           their coastal resources. I mean, that's a very  
2           -- that's about half of the work that he does.

3   **THE COURT:** Well, when -- if his -- even if I was to  
4           qualify him as an expert in that area, I just  
5           want to be clear, he can't necessarily testify  
6           as to what he believes the policies should be  
7           if that policy in any way contradicts the legal  
8           policy that we already have, right?

9   **MS. ARMSTRONG:** Absolutely. I agree. He's not  
10          intending to give opinions on the law either.

11   **THE COURT:** Okay.

12   **MS. ARMSTRONG:** He is going to talk about his  
13          knowledge of ---

14   **THE COURT:** Well, with that said, with that caveat,  
15          do you still object to his qualifications as  
16          long as ---

17   **MR. WALKER:** If he does not intend to give opinions  
18          on policies that are contrary to our policies?

19   **RULING OF THE COURT:**

20   **THE COURT:** Yeah, well, I'll qualify him as an  
21          expert in both those areas, after hearing from  
22          Mr. Churdar, so with the caveat that he can  
23          talk about the general policies, but not  
24          anything that -- we can just address that over  
25          your objections.



1     **MR. WALKER:**   Yeah, I think if he wants to apply the  
2                   South Carolina policies to these facts ---

3     **THE COURT:**   Yeah.

4     **MR. WALKER:**   --- he's totally capable of doing that.

5     **THE COURT:**   Okay.   There we go.

6     **MR. CHURDAR:**   Your Honor, with those follow-ups, I  
7                   have no objections.

8     **THE COURT:**   All right.   He's so qualified.

9     **Q:**     Dr. Young, you obviously have a familiarity  
10            with Kiawah Island and Captain Sam's Spit  
11            because I think you indicated that you take  
12            your class there.   Why do you take your class  
13            to Captain Sam's Spit?

14    **A:**     Well, it's beautiful and the beach access is  
15            relatively easy and straightforward for a group  
16            of students.   It's also a unique coastal  
17            setting to be able to get to a completely  
18            undeveloped stretch of shoreline without having  
19            to get in a boat.   And because it is -- Kiawah  
20            itself is unique along the east coast because  
21            it has been growing rather than shrinking  
22            dramatically over time, so it's a chance to see  
23            a barrier island that has been accreting rather  
24            than eroding and we could walk to the tip of  
25            the spit and talk about what's going on at





1 inlets and there's been a little coastal  
2 engineering that's gone on down there at the  
3 end of the spit, so we get to talk about  
4 coastal engineering projects and inlet  
5 relocation projects and how they're supposed to  
6 work, and. So there's a wide variety of  
7 reasons why Captain Sam's Spit is a great stop  
8 on a field trip.

9 Q: And what do you know about the history of  
10 Captain Sam's Spit?

11 A: It's probably the same basic information that  
12 everyone else in this court has already  
13 understood, that the spit is at the end of the  
14 longshore sediment transport system for the  
15 Island of Kiawah, so it has a history of growth  
16 to the south and ---

17 **THE COURT:** It's at the end of the long ---

18 A: Longshore sediment transport system for the  
19 Kiawah Island, because it's at the south end of  
20 the island. And so it has a history of growth  
21 and in the past has also -- as is the case in  
22 many barrier islands where you have these long  
23 southern spits, the spit has been snipped off  
24 by a breach with sand moving in south towards  
25 Seabrook, so I mean, that's the general



1 evolutionary process at Captain Sam's Spit.

2 Q: I want to talk a little bit more about that.  
3 Do you know when the last time there was a  
4 breach at Captain Sam's Spit?

5 A: It's been a while, the '40s.

6 Q: And are you -- do you know who Miles Hayes is?

7 A: I do.

8 Q: Who is he?

9 A: Miles Hayes is a South Carolina  
10 geomorphologist. To many of us, he's sort of  
11 the father of barrier island coastal geology.  
12 Some of his early work was probably the most  
13 important work that's been done on long term  
14 shoreline evolution on inlets and how inlets  
15 control neighboring processes on barrier  
16 islands. So, yeah, I mean, Miles has been the  
17 mentor to many, including, you know, to some  
18 degree myself, even though I never had him as  
19 a professor, and certainly to people like Tim  
20 Kana, so he's, you know, a very important  
21 coastal geologist.

22 Q: And why would he be important to Tim Kana?

23 A: He was -- Tim was a student of Miles.

24 **(Petitioner's Exhibit Number 6 was introduced into**  
25 **the record at this time.)**



1 Q: I'm going to hand you what's marked as Exhibit  
2 Number 6 and ask you if you're familiar with  
3 that document.

4 A: Yes, this appears to be the environmental  
5 inventory that Miles' group did for Kiawah  
6 Island.

7 Q: Have you reviewed this document in the past?

8 A: I have. It's been a little while. I haven't  
9 looked at it recently, but I certainly have in  
10 the past, yes.

11 Q: If you wouldn't mind turning with me to the  
12 page marked G-59. This says G-59, this -- I  
13 represent that this is a copy of what you're  
14 looking at. Can you identify that in this  
15 exhibit?

16 A: Yes, that's what I have in front of me, yes.

17 Q: And is this something that you -- are you  
18 familiar with this diagram?

19 A: Yes, I've seen this figure before.

20 Q: Can you explain what this figure -- what's  
21 happening in this figure or what it represents?

22 A: This is a historical reconstruction that's been  
23 done I assume largely from -- the earlier part,  
24 largely from nautical charts and early maps,  
25 showing, you know, the cycle of extension and



1 breaching and break-up of Captain Sam's Spit.

2 Q: And that's from 1661 to 1938. Does it indicate  
3 on this image that the spit had been completely  
4 eroded at any point?

5 A: That's certainly what it seems to indicate in  
6 the 1922 image.

7 Q: And looking at the next page, or two pages over  
8 at G-61, what does this represent? What is  
9 this showing?

10 A: This is a more recent history of Captain Sam's  
11 Spit and it shows the 1949 or slightly earlier  
12 breach of the spit.

13 Q: Is that the one that you were referring to just  
14 a few minutes ago?

15 A: Yes.

16 Q: And would you rely on these images reflecting  
17 Dr. Hayes' research with respect to historic  
18 breaches at Captain Sam's Spit?

19 A: Dr. Hayes' work is of incredibly high  
20 standards, so I would certainly rely on his  
21 scholarly work for formulating research  
22 projects and questions, understanding processes  
23 for anything like that, sure. I mean, it's  
24 sort of like asking Newton about gravity to ask  
25 Miles Hayes about coastal processes.



1 Q: And did you have occasion to speak with Miles  
2 Hayes about Captain Sam's Spit?

3 A: I have spoken with him a couple times about it,  
4 not recently.

5 Q: About how long ago was that?

6 A: Well, he attended the dedication of our Center  
7 when it moved to Western Carolina University  
8 nine years ago or so. That was probably the  
9 first time I spoke with him about it and I was  
10 with him at a meeting a couple of years ago and  
11 we talked about it a little bit then, a well.

12 Q: And did you arrive at any -- did you form any  
13 conclusions after speaking with Dr. Hayes?

14 **MR. WALKER:** Objection to the extent he's going to  
15 parrot what Dr. Hayes told him. If he has an  
16 opinion -- if she's asking him -- I think it  
17 would be the proper sequence to ask does he  
18 have opinions and what he's relying on, but  
19 this seems to be just a backdoor way of trying  
20 to get in what Miles Hayes told him.

21 **THE COURT:** Well, he can rely upon -- as an expert,  
22 he can rely upon that which is commonly relied  
23 upon by experts in his field, facts and data.  
24 So, what was your comment?

25 **MR. WALKER:** Well, if he has a separate opinion



1           based on what he was told, that's right.

2       **THE COURT:**   Yeah.

3       **MS. ARMSTRONG:**   And my question was about his  
4           opinions. He did testify that he would rely on  
5           -- that he has looked at and reviewed and  
6           relied on and would rely on facts that Dr. Kana  
7           has -- I mean Dr. Hayes has.

8       **THE COURT:**   Well, my response is that I'm going to  
9           treat that as his opinion and not that of  
10          anyone else's, so he can answer the question.

11      A:   Can you restate the question, please?

12      Q:   Sure. Did you -- after those conversations,  
13          did you form any opinions or draw any  
14          conclusions about Captain Sam's Spit?

15      A:   So to be clear, I, you know, I don't think that  
16          I needed to hear an opinion from Dr. Hayes to  
17          formulate any of my opinions that I'll be  
18          expressing in this case here today. I think  
19          that it's important to say that my conversation  
20          with Dr. Hayes did not contradict any of the  
21          professional scientific opinions that I had  
22          formed about coastal processes on Captain Sam's  
23          Spit.

24      Q:   And are you familiar -- do you know what Dr.  
25          Kana's opinions are? I'm not asking you to say



1           what they are, but do you know what they are  
2           with respect to Captain Sam's Spit?

3       A:     Dr. Kana?

4       Q:     I mean, Dr. Hayes.

5       A:     Kana was Hayes' student ---

6       A:     Yes.

7       Q:     --- and we've got several experts and I'm  
8           trying ---

9       A:     I'm just trying to make sure I'm answering the  
10          correct question.

11      Q:     Yes.

12      A:     Do I know what his opinions are regarding the  
13          development of the spit?

14      Q:     Yes.

15      A:     I do.

16      Q:     Okay. And would your opinions be consistent  
17          with your understanding of what his opinions  
18          are?

19      A:     I think that's probably true although we may  
20          come at it from different places because I'm a  
21          little bit more of a policy and management walk  
22          than he is.

23      Q:     Okay. All right. How many times have you been  
24          to Captain Sam's Spit?

25      A:     Many times, you know, 15, 20 times.



1 Q: And when was the last time that you were there?

2 A: Last fall.

3 Q: What did you do while you were there?

4 A: Made some observations about the impact of  
5 Hurricane Matthew on the spit.

6 Q: And what did you observe?

7 A: That there had been erosion of the spit, both  
8 on the oceanfront and on the Kiawah River side.

9 Q: And how were you able to indicate that there  
10 had been erosion on both the oceanfront and the  
11 river side?

12 A: Erosional indicators in the field are pretty  
13 clear. In fact, one of my peer reviewed  
14 published papers is something called  
15 Geoindicators of Coastal Erosion. It's sort of  
16 a systematic way of looking at the evidence  
17 when you're standing on the beach so that you  
18 can try to determine whether or not the  
19 shoreline has been eroding recently or growing.  
20 So things like, you know, unvegetated scarps on  
21 the beach, rack lines back in the dunes. There  
22 are many very clear indicators that can tell  
23 you that there's been either a recent erosional  
24 event or that there's long term erosion going  
25 on along that coastline. So I wasn't making





1 detailed measurements; I was simply wanted to  
2 get some sort of a picture for the degree to  
3 which the spit had eroded during the storm.

4 Q: And what was your assessment of the degree to  
5 which the spit had eroded based on your site  
6 visit?

7 A: So I had been to Kiawah, you know, less than a  
8 year prior and certainly, the oceanfront had  
9 eroded for the most part past the first line of  
10 dunes and into the second row of dunes in some  
11 places. And there were some -- it had been a  
12 little bit of overwash down near the inlet and  
13 there were some erosional scarps on the Kiawah  
14 River side. Although, you know, there often  
15 are erosional scarps on the Kiawah River side,  
16 so it was difficult to attribute those directly  
17 to the storm. On the oceanfront, the erosion  
18 was clearly unusual on a barrier island that  
19 has been typically accreting over the long  
20 term.

21 **(Petitioner's Exhibit Number 21B was introduced into**  
22 **the record at this time.)**

23 Q: Dr. Young, I'm going to put on the screen  
24 what's been admitted as Petitioner's Exhibit  
25 Number 21B. You have a copy of it, but since



1 we're all -- we're looking at it all together,  
2 if we can just put it on the screen. And I  
3 represent a previous witness testified that  
4 this image was taken on Captain Sam's Spit. Do  
5 you see the date that that image was taken?

6 A: October 10th, 2016.

7 Q: And would that have been before or after  
8 Hurricane Matthew?

9 A: After.

10 Q: And can you describe what you see in this  
11 picture and what conclusion, if any, it leads  
12 you to?

13 A: Well, this is the typical erosional scarp cut  
14 into the dunes. You can see the -- out here,  
15 this is sort of a very flattened beach profile,  
16 very typical post-storm erosional response on  
17 a shoreline that's lost a significant amount of  
18 beach and dune. Can somebody remind me how I  
19 clear this?

20 **THE COURT:** I'll do it. Here, I'll show you so  
21 you'll know.

22 **MS. ARMSTRONG:** On the top right-hand corner,  
23 there's a little arrow.

24 **THE COURT:** Well, you've got to open it. There it  
25 is, see that arrow?



1 A: Okay.

2 **THE COURT:** Hit clear. There you go.

3 A: Thank you.

4 **THE COURT:** You've got to hit the blank screen first

5 ---

6 A: Okay.

7 **THE COURT:** --- to get the arrow.

8 A: Okay.

9 Q: And did you -- after -- to assess what happened  
10 to Captain Sam's Spit shoreline, did you look  
11 at any other information to try and understand  
12 what was happening after the storm?

13 A: Well, as we do with any storm of the magnitude  
14 of Matthew, we typically download NOAA, the  
15 National Oceanographic Atmospheric  
16 Administration, flies extremely high resolution  
17 post-storm imagery after every hurricane now  
18 that you can -- it's publicly available to  
19 download to look at impacts in detail. And I  
20 also visited the Town of Kiawah's website where  
21 they had themselves done some post-storm  
22 surveying and reported erosion rates for the  
23 Island of Kiawah.

24 Q: Now, would you -- is the information provided  
25 by the Town of Kiawah something you would



1 normally rely on in making an assessment and a  
2 determination about the extent of erosion?

3 A: So they did describe their methodology on the  
4 website and as long as, you know, that  
5 methodology was carried out as they described  
6 it, then I have no reason to doubt the erosion  
7 rates that they reported. So, yes, they used  
8 a fairly standard approach to doing some simple  
9 shoreline -- before and after shoreline change  
10 determinations and -- that would be  
11 professionally acceptable.

12 **(Petitioner's Exhibit Number 32 was introduced into**  
13 **the record at this time.)**

14 Q: I'm handing you Exhibit Number 32, what's  
15 marked as Petitioner's Exhibit 32. Are you  
16 able to identify this document?

17 A: Yes, this appears to be the erosion rate  
18 determinations that I looked at on the Kiawah  
19 website following Hurricane Matthew. I believe  
20 it's still up there right now.

21 Q: I'm going to put the second page of this  
22 exhibit onto ---

23 **MR. WALKER:** Objection, Your Honor. He said he  
24 relied on it, that doesn't make it admissible  
25 into evidence. He can rely on it for his



1 opinions. At this point, they're trying to  
2 publish it to The Court directly and maybe even  
3 seek its admission simply because he relied on  
4 it. He can rely on it, it's hearsay.

5 **THE COURT:** I understand, under the Rules of  
6 Evidence.

7 Q: Dr. Young, looking at Petitioner's Exhibit  
8 Number 32, did you arrive at any conclusions  
9 about the nature and extent of erosion that  
10 occurred post-Hurricane Matthew?

11 A: Yes.

12 Q: And what was that conclusion?

13 A: The primary thing of interest is that the  
14 erosion rates that they calculated were  
15 significantly higher at both inlets than in the  
16 center of Kiawah.

17 Q: And by significantly higher, do you recall  
18 approximately how high?

19 A: Two to three -- two to three times higher. So  
20 in the central part of the island, the erosion  
21 rates were, you know, 30 to 40 feet, and out by  
22 Captain Sam's it was 120 feet of erosion and I  
23 think you have a similar pattern of shoreline  
24 change as you move to the inlet to the north,  
25 as well.



1 MR. WALKER: Based on that, we'll withdraw our  
2 objection to the exhibit. If she wants to  
3 admit it, we'd just as soon admit it.

4 THE COURT: All right.

5 MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBER 32:

6 MS. ARMSTRONG: The petitioner moves to admit  
7 Exhibit Number 32 into evidence.

8 THE COURT: Mr. Churdar?

9 MR. WALKER: No objection.

10 MR. CHURDAR: None.

11 RULING OF THE COURT:

12 THE COURT: It's admitted.

13 (Plaintiff's Exhibit Number 32 was admitted into  
14 evidence).

15 Q: Let me just back up a little bit and make sure  
16 that we've got your opinion characterizing the  
17 spit as a coastal geologist. Can you tell us  
18 how you would characterize the spit in your  
19 professional opinion?

20 A: Well, so the spit itself is a land form, a  
21 geomorphological land form. It is -- spits --  
22 down drift spits like this form commonly off of  
23 barrier islands like Kiawah, where the  
24 longshore sediment transport is pushing sand to  
25 the south and building what scientists have



1 called a prograding or a growing land form .  
2 This is -- there's some very nice recurved sand  
3 bars that are visible in Captain Sam's Spit  
4 that show that it has been growing to the  
5 southwest. And these spits like this in areas  
6 close to inlets tend to be where a lot of the  
7 action is when you're talking about coastal  
8 processes in an area like South Carolina.

9 Q: And ---

10 **THE COURT:** What do you mean where the action is?

11 A: True, that is a very unclear word, wasn't it,  
12 Your Honor?

13 **THE COURT:** Well, it calls for a little more.

14 A: I apologize. That's from a sediment processes  
15 perspective. So there tends to be a lot more  
16 rapid movement and a rapid change in these  
17 areas than in the very central part of the  
18 barrier island.

19 Q: And why is that?

20 A: Well, what the Lord giveth, the Lord taketh  
21 away. And so when you get close to an inlet,  
22 you have regular rapid tidal currents coming in  
23 and out of the inlet. You have sand bodies in  
24 the inlet that can change waves and wave  
25 patterns and it can happen fairly quickly.



1 Storm processes tend to be more intense during  
2 inlets because stormwater gets pushed back  
3 behind the barrier islands and then after the  
4 storm has gone, all that water has to get out  
5 and it's trying to get out through the inlet.  
6 So, that's often how breaches form and often  
7 why inlets are so dynamic during storms. And  
8 this is certainly borne out by the fact that if  
9 you look at where many of the coastal erosion  
10 problem areas are in the State of South  
11 Carolina, it's near inlets. And it's also why  
12 many states, including the State of South  
13 Carolina, have special development restrictions  
14 near inlets because everyone acknowledges that  
15 these can be very dynamic areas and they can be  
16 growing during one period of time and then they  
17 can very rapidly retreat during another period  
18 of time.

19 Q: And what conclusions have you drawn with  
20 respect to those different forces that are  
21 acting on the spit? How would you compare it  
22 to the middle part of Kiawah Island that's not  
23 at the end on the inlet?

24 A: So there's absolutely no disputing the fact  
25 that from a perspective of exposure to coastal





1 hazards, that Captain Sam's Spit is far more  
2 exposed to multiple coastal hazards than the  
3 central part of Kiawah Island is.

4 Q: So those results that you saw from post-  
5 Matthew, that data and information, how does  
6 that comport with your opinions about the -- I  
7 don't want to put words in your mouth, the  
8 stability of the spit?

9 A: Well, I mean, Matthew wasn't, you know, a  
10 terribly big storm. It didn't come ashore. It  
11 wasn't shore perpendicular, but was going sort  
12 of up the coast, but the results that were  
13 reported on the Kiawah website indicating that  
14 there was a higher rate of shoreline erosion at  
15 the ends of the island rather than in the  
16 center is exactly what you would expect.

17 Q: And do you have an opinion to a reasonable  
18 degree of scientific certainty as to whether  
19 this Captain Sam's Spit is a safe place for a  
20 residential development?

21 MR. WALKER: Object. That is not a geomorphological  
22 question. Safety's entirely subjective.

23 THE COURT: Well, at this point ---

24 MR. WALKER: She's talked about the risk, which I  
25 think is appropriate.



1 **THE COURT:** At this point in time, I'll sustain your  
2 objection for what I've heard. You could lay  
3 further foundation if you wish.

4 **MS. ARMSTRONG:** He's -- he gave -- he testified  
5 already that he's done vulnerability mapping;  
6 he's made -- he's -- for the National Park  
7 Services, told them where places are -- that  
8 are vulnerable for structures. That's the  
9 whole purpose of what he did the vulnerability  
10 mapping for the site.

11 **THE COURT:** Well, I haven't heard about whether he's  
12 an expert in the vulnerability of establishing  
13 residency. When you say structures, I don't  
14 know what type structures we're speaking of.

15 **Q:** What kind of structures were involved with the  
16 vulnerability mapping that you conducted for  
17 the National Park Service?

18 **A:** Anything that you can imagine. We assess the  
19 exposure and, in this case, exposure means it's  
20 irrespective of the structure; it's how exposed  
21 is any one parcel to the variety of different  
22 coastal hazards. Storm surge, erosion, that's  
23 exposure. Sensitivity is an analysis of the  
24 structure itself and whether it's built to  
25 hurricane standards or something like that.



1 The two together make vulnerability. And we  
2 are responsible for assessing the exposure, the  
3 sensitivity and the vulnerability of anything  
4 from what might be a stick built single  
5 residence to large historical buildings, the  
6 Civil War Fort, like Fort Sumter, visitor use  
7 facilities, roads, trails, everything.

8 Q: And are you able to take your -- utilize your  
9 experience and expertise in vulnerability  
10 mapping and drawing conclusions about the  
11 vulnerability of Captain Sam's Spit?

12 A: So, pardon me if I'm -- you know, if I'm a  
13 little bit of a stickler for terminology here,  
14 because we -- we sort of have to be when you're  
15 doing this kind of work. So we couldn't assess  
16 the vulnerability because there are no  
17 structures or roads out there yet, and I'd have  
18 to make assumptions as to what was going to be  
19 built to assess the vulnerability, because  
20 that's the sensitivity part is evaluating the  
21 structure. What I can give perspective on is  
22 the exposure of the spit that you would be  
23 placing the structures on that is a part of  
24 that vulnerability score, if that makes sense.  
25 And from that perspective, it's very clear that



1 Captain Sam's Spit is going to be highly  
2 exposed to coastal hazards because of its  
3 geomorphology, because of the processes,  
4 because it's close to an inlet, especially  
5 compared to the central part of Kiawah, which  
6 would do relatively well because of, you know,  
7 a wide variety of other reasons.

8 Q: And do you have experience studying  
9 developments, and when I talk about  
10 developments, where there are residential  
11 structures or commercial structures, like  
12 hotels or condominiums or apartments, in inlet  
13 erosion zones, like similar to Captain Sam's  
14 Spit?

15 A: Yes, both.

16 Q: And what have you observed?

17 **MR. WALKER:** Objection. And there is -- as the  
18 witness just said, he doesn't know what  
19 structures are going to be there. He doesn't  
20 know the standards to which they're going to be  
21 built. I think she's trying to ask him a  
22 question to ---

23 **THE COURT:** Other areas.

24 **MR. WALKER:** --- about other areas and there's no  
25 proof that what's there is substantially



1 similar in terms of the dynamics, the history  
2 of the inlet like this, the structures that  
3 might be built there. The witness has very  
4 candidly recognized that the sensitivity part  
5 he cannot speak to. He can well speak to  
6 exposure, but not -- and now we're going  
7 somewhere to try to get an opinion, well,  
8 here's what happened over here. That's not  
9 relevant without showing the substantial  
10 similarity which cannot be done because he does  
11 not know the structures that are going to be  
12 built on Captain Sam's and how they would  
13 compare.

14 **THE COURT:** Those are salient points that are the  
15 subject of cross-examination. Thank you.

16 Q: And I may try and just narrow that question a  
17 little bit, but it might help us a little bit  
18 for purposes of this -- your testimony. Have  
19 you had any experience studying development  
20 that is built to hurricane standards and in an  
21 inlet erosion zone at the tip of a barrier  
22 island?

23 A: Yes. I mean, I think the important thing for  
24 The Court to appreciate is that no matter what  
25 kind of structure that you put in a place that



1 has the tidal exposed to hazards, there are  
2 going to be problems. I mean, many of the  
3 biggest coastal management headaches that we  
4 have in the State of South Carolina are near  
5 inlets and some of those inlets have 18 holes  
6 of golf courses and large condominiums; some of  
7 them have single family homes. It is why so  
8 many states have different regulatory standards  
9 for development near inlets. It's not to  
10 protect the environment. It's in recognition  
11 that when you build near areas that are  
12 incredibly dynamic, exposed to strong coastal  
13 hazards, it's a problem.

14 Q: Is there a way, in your opinion, to build  
15 structure that would be able to survive  
16 extreme exposure?

17 A: Sure. It's -- that's not the issue. I mean,  
18 I have no doubt that if you wanted to super-  
19 engineer some homes that you could build them so  
20 that they would, you know, survive all but the  
21 strongest of hurricanes. The problem is that  
22 the land underneath you is moving and that's  
23 the tricky part, you know. We do a much better  
24 job in sealing the envelope in homes today from  
25 wind and building structures that are strong



1 and resilient. The trick is that, you know,  
2 once you build all the structures, you have to  
3 hold the barrier island in place, and the power  
4 grid, and the utilities, and the way you get  
5 out there. So, you know, focusing on the  
6 structures to me is to some degree beside the  
7 point. You know, it's post-Sandy in New  
8 Jersey, there were a lot of new homes that made  
9 it through Hurricane Sandy just fine and some  
10 of the older ones fell apart. Well, those new  
11 homes were sitting out on the beach and so it  
12 cost -- it's costing the federal government,  
13 you know, about a billion and a half dollars to  
14 put the beach back around the homes. That's  
15 the real issue here to me. Because you're  
16 right, I don't know the degree of hurricane  
17 engineering that might be employed in the homes  
18 that are going to go into the new development.

19 Q: And I think you explained this when you were  
20 talking about the exposure and from that  
21 perspective, in your opinion, is it a good  
22 coastal management decision to build in a inlet  
23 erosion zone like Captain Sam's Spit?

24 MR. WALKER: Objection to the extent that he's not  
25 applying this -- well, I don't think he -- it



1 has to be under the CZMP, which is our  
2 governing document, and was not qualified that  
3 way. The policy of South Carolina is expressed  
4 in the Act in the CZMP, which allows  
5 development of barrier islands.

6 **THE COURT:** I see your point. Any response?

7 **MS. ARMSTRONG:** We could start -- well, we'll just  
8 launch into discussing Beachfront Management  
9 Act policies, I think that's -- I'll withdraw  
10 the question and get there.

11 **THE COURT:** Okay.

12 **Q:** And, Dr. Young, let's move to a discussion  
13 about the Beachfront Management Act and its  
14 policies. Are you knowledgeable of policies  
15 contained in the Beachfront Management Act?

16 **A:** I am.

17 **Q:** And are there any policies contained in the Act  
18 that would be applicable to the proposed  
19 development on Captain Sam's Spit?

20 **A:** One of the things that I like about the  
21 Beachfront Management Act, and I use it  
22 nationally as an example of some very  
23 thoughtful and wise coastal management that the  
24 State of South Carolina decided to adopt more  
25 than 25 years ago. I was recently asked by the





1 California Coastal Commission, which is their  
2 governing body for coastal rule, to help them  
3 understand why the State of California might  
4 want to ban seawalls. And one of the first  
5 things I did was send them the South Carolina  
6 Beachfront Management Act. And if you look --  
7 particularly, if you look at the legislative  
8 findings in the Beachfront Management Act in  
9 the preamble, it makes very clear the  
10 legislative findings that the reason we need  
11 the Beachfront Management Act is because most  
12 of our coastal erosion problems and issues in  
13 the State have been a result of unwise  
14 development. That's the word used in the Act,  
15 unwise development, in too close proximity to  
16 the beach dune system. And the Beachfront  
17 Management Act also embraces at least an idea  
18 that the state of South Carolina should be  
19 considering a long term plan for moving back  
20 from some sections of the coast. Now, that was  
21 not intended to be ordering everybody off the  
22 beach. The goal is to first to do no harm. So  
23 in places of known vulnerability, there was a  
24 recognition that the State should not be  
25 facilitating putting any more property in



places that is, again to use that word, unwise. And, you know, I think that that was also recognized at Captain Sam's Spit by the federal government when Captain Sam's Spit received a Coastal Barrier Resources Act designation and was included in the Coastal Barrier Resources System. So we have sort of a recognition in the Beachfront Management Act that the goals of the Act are to not cause any more problems by allowing development to occur in places where we know there are going to be problems in the future. And once again, you know, I think that, you know, from our discussions on the Blue Ribbon Committee, which included a large number of state legislators. The primary goal for all of this wasn't environmental protection. Was not designed to be an Act that's protecting the bugs and bunnies, although they are mentioned in the Beachfront Management Act. It's primarily designed to be fiscally conservative and thoughtful in the way that we approach hopeful development.

Q: And you talked about unwise development. In your opinion as a coastal management policy expert, what does -- when it says unwise



1 development, what is it referring to?

2 A: It's referring to placing development in an  
3 area where there are going to be coastal  
4 management problems, both for the locality and  
5 for the State, sooner rather than later.

6 Q: So unwise development in your opinion is  
7 related to the siting or location questions,  
8 not the actual nature of the kind of  
9 developments?

10 A: Well, and that's -- to a degree, you know, I  
11 think that from a flexibility of coastal  
12 management question, it's -- you have a lot  
13 more flexibility to respond to long term  
14 coastal erosion if you're building single  
15 family homes than if you were to go into a  
16 place and build, you know, a 50-story  
17 condominium. So, you know, the structures do  
18 matter and building single family homes is less  
19 problematic than going in and building a giant  
20 condo complex. But that doesn't solve the  
21 problem of, you know, the instability of, you  
22 know, near inlet areas to coastal processes.

23 Q: And is Captain Sam's Spit, in your opinion, a  
24 place that would be too close to the coastal  
25 processes?



1 A: I guess I would look at it this way. So, you  
2 know, you have an area that is close to an  
3 inlet, has been dynamic in the past, will be  
4 dynamic in the future. We can see that other  
5 inlet areas within the State of South Carolina  
6 are problematic. You know, I understand the  
7 need for property owners to be able to develop  
8 their property. Believe me, I'm not anti-  
9 development. I love to go to the beach. I  
10 bring my family to the beach in South Carolina.  
11 When we come, we often stay in an ocean-front  
12 home. I'm glad that there are ocean-front  
13 homes. I think what you have to balance is,  
14 you know, we're not just adding another couple  
15 of new houses in the middle of North Myrtle  
16 Beach or something like that on the oceanfront,  
17 on a place that's already built out. You have  
18 an area right now that's not causing anybody  
19 any problems. It's not requiring any local  
20 resources post-storm for upgrading or repairing  
21 utilities or evacuation or emergency management  
22 personnel or anything like that. And so to me,  
23 from a coastal management perspective, and the  
24 fact that the federal government has recognized  
25 that there should be no federal funds going to



1       this particular area, it is an example of the  
2       kind of place that I believe the Beachfront  
3       Management Act was trying to suggest that DHEC  
4       should be discouraging development in locations  
5       like that.       That's potentially unwise  
6       development as elucidated by the South Carolina  
7       Legislature when enacting the Beachfront  
8       Management Act.

9       Q:   And what kind -- when you talk about problems,  
10       what kind of problems concern you with the  
11       development in locations that are subject to  
12       exposure like barrier island ...

13       **COURT REPORTER:**   I'm sorry.  Barrier island what?

14       **MS. ARMSTRONG:**   Spits.

15       **COURT REPORTER:**   Thank you.

16       A:   Well, you know, again, so during storms, you  
17       can expect to see greater shoreline erosion and  
18       shoreline movement in an area like that.  
19       There's no question that a spit is more  
20       susceptible to overwash and high energy on both  
21       sides, both on the Kiawah River side and on the  
22       oceanfront side.  You know, you have an island  
23       like Kiawah where the central part has been  
24       fairly wisely developed, it's been fairly  
25       stable, and you know, if I were a part of that



1 community, I would be very concerned that  
2 they're going to be responsible for the  
3 development that's occurring at the end of the  
4 island.

5 **MR. WALKER:** Objection to that. Move to strike. He  
6 doesn't know what they're thinking. There's no  
7 basis for the conclusion or suggestion that  
8 these people are going to have to do anything  
9 about what happens at Captain Sam's.

10 **THE COURT:** He can give his opinion, but not speak  
11 of other peoples' thought process. I'll  
12 sustain the objection, strike the answer.

13 Q: If you can just speak in terms of your own ---

14 A: Okay. I did say if I were a part of that  
15 community, I did not intend, sir, to say that  
16 that community is feeling the following. That  
17 was, I believe, what I said.

18 Q: And if you were there, what opinion would you  
19 have?

20 A: Again, so let me try and restate it then. My  
21 concern is that a development in a place like  
22 this is going to place an increased financial  
23 and emergency management burden on the  
24 locality, the county, and the state.

25 Q: And have you observed that happening in other



1 places in South Carolina?

2 A: There's no question. The areas near inlets are  
3 constant management headaches for many  
4 communities, not just in South Carolina, but  
5 around the country.

6 Q: And in South Carolina, what kind of management  
7 headaches are you specifically referring to?

8 A: Well, you know, if you look at the recent  
9 controversy over the need for the experimental  
10 seawall that has received a lot of press, that  
11 that device was deployed in inlet areas  
12 largely. You know, Wild Dunes has been  
13 struggling with their -- the eighteenth hole of  
14 their golf course along Dewees Inlet and the  
15 large condominium complex, I can't remember the  
16 name of the building, had the sea underneath it  
17 a couple of times. And so both the property  
18 owners and Wild Dunes have had to pay  
19 assessments to deal with an inlet hazard  
20 problem that should never -- could have been  
21 avoided if that one building wasn't sited so  
22 close to the beach dune system and to that  
23 particular inlet. You also -- and it's not  
24 just on one side of the inlet. If you look at  
25 Inlet Harbour, which is north of Murrells



1 Inlet, they have one of the highest erosion  
2 rates along that stretch of beach, and, you  
3 know, there has been quite a bit of work for  
4 the proposed beach nourishment project up there  
5 that's needed to solve the erosional problem  
6 there. The spit on Pawley's Island breached  
7 during Hurricane Hugo. And most of the homes  
8 on the Pawley's Island spit were either  
9 completely destroyed or move back into the  
10 marsh. These are all, you know, inlet proximal  
11 areas that just have, you know, stronger,  
12 greater storm processes, more dynamic shoreline  
13 movement than the central parts of the island.

14 Q: And do you -- is it your understanding that the  
15 policies of the Beachfront Management Act  
16 recognize those kinds of problems?

17 A: Yes. And DHEC has different standards for  
18 setting the baseline in inlet areas than it  
19 does in the central part of the island, in  
20 recognition of that dynamism.

21 Q: Dr. Young, have you seen the development plans  
22 for the proposed development at Captain Sam's  
23 Spit in connection with the permits that are at  
24 issue in this case?

25 A: I have seen some version, yes.





1 Q: Do you remember what version that was?

2 A: I mean, I've seen a couple of different  
3 renderings, but I honestly can't tell you  
4 exactly what -- how to describe what I saw.

5 Q: I'm putting on the screen Respondent's Exhibit  
6 Number 35. Are you able to identify what's  
7 depicted in this image?

8 A: Well, this is Captain Sam's Spit and it appears  
9 to show a number of parcels. That seems, at  
10 least to me, to be consistent with what I've  
11 seen for the development plan.

12 Q: And are you able to draw any conclusions from  
13 looking at this image?

14 **(Respondent's Exhibit Number 35 was introduced into**  
15 **the record at this time.)**

16 A: Yes, I mean, I guess that in my opinion I would  
17 say that this is an example of what I would  
18 consider to be an unwise development proposal.

19 Q: And why is that?

20 A: Well, first of all, it's the proximity to the  
21 inlet, the proximity to the oceanfront of some  
22 of these homes in an area where we saw fairly  
23 substantial shoreline retreat during Hurricane  
24 Matthew. This area back here immediately on  
25 the Kiawah River is also going to be



1 particularly exposed to storm processes and,  
 2 you know, I still find it incredibly  
 3 problematic that you're going to have to  
 4 maintain access to all of that through this  
 5 very narrow access way in the spit. Putting a  
 6 road through there is trying to -- kind of like  
 7 trying to shove a hippo through a mouse hole.  
 8 And, you know, again it's -- what I worry about  
 9 is not whether or not you can hurricane  
 10 engineer some of these individual structures,  
 11 it's, you know, what is the real life span of  
 12 this sand and this geomorphology that you're  
 13 trying to place everything on here.

14 **MOTION TO ADMIT RESPONDENT'S EXHIBIT 35:**

15 **MS. ARMSTRONG:** Your Honor, I'd like to move  
 16 Respondent KDP's Exhibit Number 35 into  
 17 evidence.

18 **MR. WALKER:** No objection.

19 **THE COURT:** I didn't think you would.

20 **MR. CHURDAR:** No objection, Your Honor.

21 **RULING OF THE COURT:**

22 **THE COURT:** It's admitted.

23 **(Respondent's Exhibit Number 35 admitted into**  
 24 **evidence).**

25 **Q:** Dr. Young, I want to talk now a little bit more



1 specifically about this proposed project. Have  
2 you reviewed the permits that have been  
3 authorized for the development at Captain Sam's  
4 Spit?

5 A: Yes.

6 Q: And what is your understanding of what they  
7 authorize?

8 A: For the -- well, I have to admit that I didn't  
9 really formulate any -- I didn't pay too much  
10 attention to some of the stormwater things, you  
11 know, I was mostly focused on the sheet pile  
12 structure, roughly 2,300-plus foot sheet pile  
13 structure that was authorized as a part of the  
14 permit.

15 Q: And so the sheet pile wall is part of the  
16 permit and do you have an understanding of  
17 anything else that was part of it that was  
18 permitted or authorized by the agency  
19 decisions?

20 A: I'm sorry, you might have to help me with that.  
21 I'm having trouble remembering exactly what the  
22 extent of ---

23 **(Joint Exhibit Number 6 was introduced into the**  
24 **record at this time.)**

25 Q: Sure. Actually, that notebook right in front



1 of you, I believe if you turn to Exhibit Number  
2 6 should have a copy of the ---

3 A: Let's see, this says ---

4 Q: Just flip through that and see if that looks  
5 familiar.

6 A: Wastewater Construction Permit, Bureau of  
7 Water.

8 Q: Oh, I need ---

9 A: So I'm looking at the NDPES General Permit  
10 Coverage for Stormwater Discharges for  
11 Construction Activity?

12 Q: Uh-huh.

13 A: Is that what you want me to be looking at?

14 Q: I was looking at the fourth from the last page,  
15 but if that -- if that's helpful for you to  
16 describe your understanding of ...

17 A: The Coastal Zone Consistency Certification?

18 Q: Yes.

19 A: Okay.

20 Q: Is that a document that you've reviewed?

21 A: Yes, it's one of them.

22 Q: And in looking in that document, can you  
23 refresh your recollection of what all is  
24 authorized by this consistency certification?

25 A: Okay.



1 Q: And so what structures are authorized under  
2 this certification?

3 A: 26 lots, single family residential development,  
4 includes a roadway, stormwater management  
5 system, an water and sewer utility lines.

6 Q: And I think you referenced a wall in there?

7 A: And a 2,300 linear foot sheet pile wall.

8 Q: And is there any indication about -- in  
9 reference to design plans or plans in that  
10 certification?

11 A: The wall must be constructed in accordance with  
12 and per the phasing detailed in the  
13 construction drawings last revised April 10,  
14 2015.

15 **(Joint Exhibit Number 7 was introduced into the**  
16 **record at this time.)**

17 Q: And if you would now turn to Exhibit Number 7,  
18 do these plans look familiar to you? Have you  
19 seen these plans before?

20 A: Yes, I believe so.

21 Q: And what is your understanding of what these  
22 plans represent?

23 A: The details for the development, the placement  
24 of the road, and the sheet pile wall.

25 Q: And on the second to last page, I'm going to



1 put this image up on the screen. Have you  
2 seen this before?

3 A: Yes.

4 Q: And what does this image represent? You have  
5 it upside down, sorry.

6 **THE COURT:** It's upside down, yeah.

7 A: This is the neck of the spit with the road  
8 passing through and also shows the location of  
9 the wall.

10 Q: You also have an exhibit, it's Exhibit Number  
11 14, in front of you -- actually, you know what  
12 I'm going to do, I'm going to ---

13 **(Petitioner's Exhibit Number 14 was introduced into**  
14 **the record at this time.)**

15 Q: This has been introduced as Petitioner's  
16 Exhibit Number 14 and I want to put it up. Dr.  
17 Young, you've seen the drawings. Have you  
18 looked any erosion data or information to the  
19 neck of the banks of the Kiawah River along  
20 Captain Sam's Spit?

21 A: I have in the past, yes. The erosion rate  
22 estimates are from, you know, from two to four  
23 feet a year up to eight feet a year, depending  
24 upon the data that you're looking at.

25 Q: Okay. And do you have any opinions about



1           whether the permitted wall could be constructed  
2           as shown in the permit drawings?

3       **MR. WALKER:** Objection. He has not testified to his  
4           familiarity with construction procedures and  
5           what procedures are going to be used. I don't  
6           know whether the question is can it be  
7           constructed or can it be constructed in that  
8           location. He hasn't shown an expertise in  
9           construction.

10       **MS. ARMSTRONG:** I'm talking about -- well, let me re  
11           -- I'll withdraw that question and rephrase it.

12       **THE COURT:** All right.

13       Q: From a coastal processing permit -- coastal  
14           geologist's perspective and where the land is,  
15           would it be possible in your opinion for a  
16           structure to be built as shown where it is on  
17           the current drawings on the ground at Captain  
18           Sam's Spit?

19       A: So I think what you're asking is it's been a  
20           couple of years since the permit drawings and  
21           that it certainly looks to me like portions of  
22           that sheet pile bulkhead would -- that there  
23           isn't the land to drive it through any longer  
24           along portions of that shoreline as it was  
25           indicated in the 2015 drawing. Hurricane



1 Matthew and the erosion of the shoreline along  
2 the Kiawah River has changed the ground  
3 literally.

4 Q: And looking at Petitioner's Exhibit Number 14,  
5 which is on that overhead ---

6 MR. WALKER: Only to point out that our 14 is  
7 different from yours. I thought it was 13. Do  
8 you have 14? In our notebook, we have a  
9 different 14? You're talking about Mr. Woods'  
10 overlay?

11 MS. ARMSTRONG: Yeah, I am, and I apologize.

12 MR. WALKER: Just for -- I apologize for  
13 interrupting.

14 MS. ARMSTRONG: No, no, no. Huh-uh. No, no, it's  
15 important that you know what exhibit we're  
16 referencing.

17 MR. GRESSETTE: And I also may have ---

18 MS. ARMSTRONG: So I -- it's Exhibit marked as  
19 Exhibit 14, so if it's 15 in your notebook,  
20 then ---

21 MR. GRESSETTE: I may have pulled our copy out to  
22 use with a witness.

23 MS. ARMSTRONG: You did pull a couple copies out and  
24 I think you left them over on our table ---

25 MR. GRESSETTE: Well, my apologies for the





1 interruption. Are they still there?

2 **MS. ARMSTRONG:** They're still there. I just -- I  
3 was going to give them to you.

4 **MR. GRESSETTE:** So that is 14?

5 **MS. ARMSTRONG:** Correct.

6 **MR. WALKER:** Thank you.

7 **MR. GRESSETTE:** All right. These are all three of  
8 them. I apologize.

9 **THE COURT:** Are we on the same page?

10 **MR. GRESSETTE:** Yes, Your Honor. Thank you, my  
11 fault.

12 Q: So, Dr. Kana, looking at Exhibit Number 14 ---

13 **THE COURT:** You called him Kana. I've also since  
14 found out there's two Dr. Youngs, so ---

15 Q: I apologize for that, Dr. Young.

16 A: I've been called worse.

17 **THE COURT:** You ought to be a judge.

18 **MS. ARMSTRONG:** It's day four. They've been kind of  
19 long days, can I use that as an excuse?

20 Q: Dr. Young, looking at this image, Exhibit  
21 Number 14, if you look on the bottom, can you  
22 see what those -- the lines indicate? There's  
23 a red line and a blue line.

24 A: Right, so the red line is the May 2016 critical  
25 line, and the blue line is an estimated March



1           2017 critical line.

2       Q:     And from a coastal geology perspective of  
3           what's actually on the land, could a wall be  
4           built in the location it's shown and not be in  
5           a coastal water or area?

6       A:     Not based on what's shown in the 2015 drawings.

7       Q:     Now, let's make an assumption that the wall  
8           could be built outside of the critical area,  
9           that it could be built in the sand dunes as  
10          originally shown in the permitted plans. In  
11          your opinion to a reasonable degree of  
12          scientific certainty, would that sheet pile  
13          wall remain buried in the dunes?

14      A:     No.

15      Q:     What would happen?

16      A:     Eventually and probably very quickly, the wall  
17          is going to become a part of the Kiawah River  
18          shoreline and, in fact, if the wall were not  
19          going to become a part of the Kiawah River  
20          shoreline, you would probably never build it  
21          because if the wall was just going to remain  
22          buried in the interior of the island forever,  
23          there would be not much point in having the  
24          wall.     So, certainly, there has to be an  
25          expectation that you build a structure like



1           that to prevent the Kiawah River shoreline from  
2           eroding the island.

3       Q:     And can you describe what are the processes  
4           that would cause that to happen?

5       A:     Long-term erosion on the Kiawah River  
6           shoreline, exacerbated by more intense erosion  
7           during storm events.

8       Q:     And in your opinion, what impacts will that  
9           have on the coastal system if the wall becomes  
10          exposed?

11      A:     The same impact that any seawall bulkhead rock  
12           revetment would have if it becomes a part of  
13           the active shoreline, whether it's on the  
14           oceanfront or on the backside of the barrier  
15           island or up in an estuary. If the structure  
16           is interacting with water and the river, then  
17           the structure doesn't stop the fact that  
18           processes are trying to cause that shoreline to  
19           shift, so that shoreline will shift until the  
20           river is right up against the structure and the  
21           beach and the sand and all those physical  
22           environments along the structure are going to  
23           disappear, so it'll be just sheet pile bulkhead  
24           and the river.

25      Q:     And so I'm going to show you just so we can



1 talk a little bit more specifically about what  
2 that might look like.

3 **(Petitioner's Exhibit Number 3A was introduced into**  
4 **the record at this time.)**

5 Q: Have you seen what's been admitted into  
6 evidence as Petitioner's 3A? Are you able to  
7 identify what that picture is depicting?

8 A: It looks like a photo of the Kiawah River  
9 shoreline of the spit taken somewhere from the  
10 park, near the parking lot somewhere.

11 Q: And you're able to -- you've looked at the  
12 drawings, are you able to determine where the  
13 location of the sheet pile wall would be  
14 constructed?

15 A: Yes, it's along -- it's along most of this.

16 **(Petitioner's Exhibit Number 3B was introduced into**  
17 **the record at this time.)**

18 Q: Petitioner's Exhibit 3-B, look at that image.  
19 Are you able to identify the location of this  
20 image?

21 A: Yeah, we're looking a little bit further down  
22 the Kiawah River shoreline, along the neck of  
23 the spit.

24 **(Petitioner's Exhibit Number 3F was introduced into**  
25 **the record at this time.)**



1 Q: I also want to show you Exhibit Number 3F. Are  
2 you able to identify that area well, as well?

3 A: Again, that looks like it's even a little bit  
4 further to the south down the neck of the spit.  
5 That picture appears to be taken from a boat or  
6 something like that.

7 Q: And when you said that it would be just the  
8 wall and water, what would happen to the beach  
9 that we're seeing -- that we see in Exhibit 3F  
10 and that we saw in Exhibits 3A and 3B?

11 A: The beach is going to disappear.

12 Q: Would there be any sandy beach at low tide?

13 A: Ultimately, no. I mean, it's not going to  
14 happen instantaneously and it's not going to  
15 happen along the entire length of the wall all  
16 at once, but this is an eroding shoreline on  
17 the Kiawah River. It's not like the oceanfront  
18 shoreline that had a history of accretion.  
19 This is an eroding shoreline. So if you put a  
20 hard structure there, the beach is going to  
21 disappear.

22 Q: But there's a beach there now. How is that  
23 beach still there even though there's a -- we  
24 know that there's erosion going on at the spit?

25 A: Yeah, well, that's the great thing about



1 erosion is that it is a natural process and the  
2 -- you know, the Beachfront Management Act  
3 recognizes the need for natural processes.  
4 Erosion is, in fact, how these systems maintain  
5 themselves. You know, erosion of sand may move  
6 the shoreline in one place, but it doesn't  
7 destroy the beach. If there is no structure in  
8 the way of that movement, the beach just simply  
9 moves along with the scarp, so it's a very  
10 natural process. In fact, you know, the  
11 erosion is needed. If we sealed off every  
12 eroding shoreline, then the beaches of the  
13 state would disappear. That erosion is a way  
14 to add sand to the system and to maintain down  
15 drift beaches and dunes and the sand that  
16 provides both habitat, but also property damage  
17 reduction and all the services that we get from  
18 an in tact beach dune system.

19 Q: And, in your opinion to a reasonable degree of  
20 scientific certainty, if this 2,380 feet of  
21 steel sheet pile wall is constructed in this  
22 location, what will -- will those impacts that  
23 you just discussed -- maybe you can restate  
24 them specific to Captain Sam's Spit, what will  
25 occur?



1 A: The intertidal zone and beach that we've seen  
2 in these previous three photographs will be  
3 gone. And to me, it's an indisputable fact.  
4 You know, this is why the State of South  
5 Carolina more than 25 years ago decided to ban  
6 bulkheads. Now, I know that this -- the ban is  
7 for the oceanfront and this isn't on the  
8 oceanfront, but the results are going to be  
9 basically the same. So you are sacrificing  
10 this area here for the potential and hoped  
11 protection of that transportation corridor.  
12 And you will also be removing -- all of the  
13 sand that this erosion is providing to the  
14 system will be -- will no longer be available,  
15 so there will be impacts beyond the structure,  
16 as well. The amount of sand that's available  
17 in that near shore system will be reduced.

18 MS. ARMSTRONG: Your Honor, if I could just have  
19 about a minute to gather up exhibits and  
20 consult with co-counsel. I believe I'm pretty  
21 close to being done with this witness.

22 (Off the Record)

23 MS. ARMSTRONG: I don't have any other questions for  
24 this witness, Your Honor.

25 THE COURT: Okay. We'll take about a five minute



1 break, all right.

2 **MS. ARMSTRONG:** That sounds all right with me.

3 **MR. WALKER:** Thank you.

4 **THE COURT:** All right. Thank you very much. Y'all  
5 be at ease.

6 (A break was taken from 10:54 a.m. until 11:07 a.m.)

7 **COURT REPORTER:** All rise.

8 **THE COURT:** Y'all be seated.

9 **MS. ARMSTRONG:** Your Honor.

10 **THE COURT:** Are you telling me to shut up?

11 **MS. ARMSTRONG:** No, I was going to ask for just a  
12 moment ---

13 **THE COURT:** Of silence?

14 **MS. ARMSTRONG:** That would be great. No, but I just  
15 wanted to -- I see that Kate Schaefer with the  
16 Coastal Conservation League's Beaufort Office  
17 has come in at some point and I just wanted to  
18 note for the record that she's in the audience.  
19 That's it.

20 **THE COURT:** Welcome to the neighborhood.

21 **MS. SCHAEFER:** Thank you.

22 **DR. YOUNG - CROSS-EXAMINATION BY MR. WALKER:**

23 Q: Dr. Young, what I'd like to do is start off  
24 with just some basic facts about Captain Sam's.  
25 You would agree, would you not, and for this





1 series of questions I'm gonna ask you to put  
2 Hurricane Matthew aside. We'll come back to  
3 Hurricane Matthew. Up until Hurricane Matthew  
4 on October 8, 2016, Captain Sam's had a  
5 continuous history of accretion since 1949, for  
6 the most part.

7 A: You mean the growth of the spit to the south?

8 Q: And the beach itself, yes.

9 A: Other than the Kiawah River shoreline.

10 Q: Yeah, and I'm only talking about the  
11 oceanfront, to clarify, and we'll come back to  
12 the river shoreline.

13 A: Yes, that's -- that's my understanding.

14 Q: And the last time that we were here was in 2009  
15 and I have a couple of images that I've shown  
16 Ms. Armstrong that show what we're talking  
17 about, so I'd ask Dave, can you put those  
18 images up. The first one ---

19 **THE COURT:** Give it a second.

20 Q: All right. This is from early 2009, does that  
21 look like an accurate depiction of the western  
22 end of the island and Captain Sam's Spit?

23 A: Yes, I believe so.

24 Q: Does it show the clear definition of the dune  
25 ridges that have been created over time?



1 A: Yes.

2 Q: Does it show near the tip of the spit even more  
3 dune ridges in creation?

4 A: I mean, I guess you're referring to this  
5 feature here (indicating)?

6 Q: Yeah. We'll have a picture of that in a  
7 second.

8 A: Okay. Yes.

9 Q: And you would, would you not, consider that a  
10 picture of a healthy shoreline?

11 A: Yes.

12 Q: All right. Now, if we could go to the next one  
13 because we're looking at the tip. All right,  
14 this is the end of Captain Sam's Spit, same  
15 series, same day, before the, obviously, the  
16 2015 relocation project. Does that also show  
17 the progress of dune creation, the vegetative  
18 layers that grow over time working their way  
19 back?

20 A: Yes.

21 Q: Different communities?

22 A: Yes, it shows, you know, this is very typical  
23 of how any spit progrades or grows to the south  
24 with these extending ridges.

25 **MS. ARMSTRONG:** I'm sorry, what exhibit number is



1           this?

2       **MR. WALKER:** Well, I haven't -- I'm just using them  
3           for illustration, but I can enter them. I can  
4           put numbers on them at the end. I haven't done  
5           that yet.

6       **MS. ARMSTRONG:** Okay.

7       Q: If we could go back to the prior photograph,  
8           please. Now, in this photograph, you see, as  
9           we just saw in the other one, that the river  
10          side of Captain Sam's on the area closest to  
11          Seabrook has a very healthy marsh system behind  
12          it, does it not, an established marsh system?

13      A: Are you referring to this area over here  
14          (indicating)?

15      Q: No, no, I'm talking about on the back side of  
16          Captain Sam's Spit.

17      A: Here (indicating)?

18      Q: Yes, yes.

19      A: Yes, there's salt marsh on -- on the back and  
20          on the interior in the swales between the  
21          ridges.

22      Q: Very good. And if we could go back, please.  
23          And talking about the accretion, the accretion  
24          for the island in general, not counting Captain  
25          Sam's, but the island in general has been



1 accreting for at least 100 years, correct?

2 A: For Kiawah?

3 Q: Yes.

4 A: Yes, I believe that's correct.

5 Q: All right. And the process that you talked  
6 about, the onshore transport benefits this  
7 growing into Captain Sam's because of what's  
8 known as the ebb tidal delta that captures some  
9 of that sand or at least slows it down and  
10 allows it to excel on the tip of Captain Sam's,  
11 correct? That's not a very geologically termed  
12 question, but the process -- is there an ebb  
13 tidal delta at the inlet that we're seeing?

14 A: Yes, of course.

15 Q: And would that ebb tidal delta basically act  
16 like a natural groin to some extent for the  
17 beach along Captain Sam's?

18 A: I mean, I -- I don't know if I would describe  
19 it that way. Clearly, some of the sand from  
20 Captain Sam's also enters the inlet and then  
21 feeds the inlet shoals ---

22 Q: Sure.

23 A: --- you know, but I don't think -- I don't  
24 think you need to describe the ebb tidal delta  
25 as blocking the sands to make it very clear



1           that the sediment in the long shore transport  
2           system moves along the beach and a certain  
3           amount of it just sort of stays and welds onto  
4           the island. And ---

5       Q:     That -- go ahead.

6       A:     I mean, I'm just -- I'm not clear about the  
7           degree to which the ebb shoal is blocking the  
8           sand.

9       Q:     That's fine. What's to the benefit of Captain  
10           Sam's is that it's on the southern end, which  
11           generally hasn't had advantage sometimes over  
12           northern ends of islands because of the long  
13           shore transport direction.

14      A:     So the southern ends of the islands just  
15           because on the entire coast, the sand is moving  
16           on average from north to south, tends to be  
17           where the spit extension occurs. You know,  
18           that's what's happening at Pawley's of course,  
19           as well. You know, so yes, I mean, I agree  
20           that the southern end of islands tends to be  
21           where the spits are growing, but that doesn't  
22           necessarily address the overall vulnerability.

23      Q:     And in this instance, it's been growing to the  
24           extent towards Seabrook over time that there  
25           has been a manmade, engineered relocation of



1 the inlet three times, are you familiar with  
2 that?

3 A: I am.

4 Q: And when that occurs, would you expect it to  
5 take a bit of time for the new channel to  
6 settle in to equilibrium?

7 A: Yeah, I would. That's reasonable.

8 Q: And while it's doing that, there may be some  
9 scarping in the place where it was cut on the  
10 northeast side, wouldn't you expect that as it  
11 settled in and began to move southwest towards  
12 Seabrook?

13 A: You know, I don't know that I would have any  
14 expectations for exactly how a manmade channel  
15 is going to readjust ---

16 Q: All right.

17 A: --- especially once it gets modified by a storm  
18 event, but ...

19 Q: And back to some of the basics, you described  
20 Kiawah Island as unique because of its  
21 consistent accretional history, correct?

22 A: Correct.

23 Q: And in prior testimony, you've actually  
24 described the dune ridges and sand accumulation  
25 on the spit as being robust, correct?



1 A: Yes, yes.

2 Q: Do you still feel that way? It's still robust,  
3 is it not?

4 A: Yeah, I mean, there was significant  
5 modification from the storm, from Matthew, but,  
6 you know, I think that there certainly are  
7 still large sections of the barrier island that  
8 have significant sand volume.

9 Q: And you would also agree, and I think you've  
10 used the term before, that these dune ridges --  
11 if you'd go back to the prior -- that the dune  
12 ridges that we're seeing down there on Captain  
13 Sam's Spit between the green land mass and the  
14 beach, that they have substantial elevation?

15 A: Yes. Again, we're still looking at before  
16 Matthew, right? This is ---

17 Q: Yes, this is both pre Matthew.

18 A: Okay.

19 Q: And just to clarify what I heard you to say  
20 Matthew did is that Matthew took out the first  
21 row of dunes and in some places undermined  
22 portions of the second row of dunes.

23 A: No, I think in some places it took out all of  
24 the second row of dunes, but not along the  
25 entire length of the second row.



1 Q: Right. But it did not take out the third row  
2 or the fourth row or the fifth row?

3 A: There were some places where the overwash had  
4 penetrated into that row, but there wasn't an  
5 erosional scarp that I saw on that row.

6 Q: Right. And to get to the sand accumulation on  
7 the neck since the neck is the focus, in your  
8 experience, you have never seen a shoreline of  
9 that width, with that accumulation of sand, in  
10 that elevation breach, have you?

11 A: On this particular image or ---

12 Q: Yes, on that particular image.

13 A: Okay. I think that I would say during my  
14 career that's probably true.

15 Q: And I think you mentioned that you did go on  
16 the river side after Hurricane Matthew?

17 A: Yes.

18 Q: And while there was some erosion, there was no  
19 indication, was there, geological indication,  
20 or what you might call a geoindicator, that  
21 there was some rush of water trying to get back  
22 to the ocean from the river side at the bend,  
23 was there?

24 A: No, Matthew was not the kind of hurricane that  
25 would have generated a return flow or a storm





1           surge along that stretch of the shoreline  
2           because it was going along the shore and not  
3           perpendicular.

4       Q:   All right.

5       A:   So one wouldn't have expected that.

6       Q:   In looking at your testimony and considering  
7           things that you've written, particularly about  
8           geoindicators, one of the indicators that you  
9           had pointed to is that established vegetation  
10          is a sign of stability, correct?

11      A:   Yes.

12      Q:   All right. And in this instance, when you look  
13          at this picture of Captain Sam's, we see a  
14          significant amount of established vegetation  
15          to the north of the dune ridges, correct, on  
16          the river side above the neck or below the  
17          neck?

18      A:   To the north of the dune ridges, so you mean  
19          you're talking about this in here (indicating)?

20      Q:   Yeah. And I should say to the northwest of the  
21          dune ridges giving the way things are.

22      A:   Yes.

23      Q:   And I've brought with me some photographs over  
24          time, aerial photographs over time, that were  
25          part of the Department's file and if could go



1 to them, please. And this is one of the  
2 Department's file that's listed as 1964 and  
3 there is growth, vegetative growth there which  
4 is a sign of stability in 1964, correct?

5 A: I'm sorry, so this is ---

6 Q: This is an aerial image from 1964.

7 A: That's an aerial image from 1964.

8 Q: Ignore the lining on it, okay.

9 A: Because it looks like the line is showing a  
10 Kiawah shoreline 1964. It confuses me. It  
11 appears that the line is representing what the  
12 1964 shoreline position was.

13 Q: Well, let me just ask you this, on this, you  
14 can see the same defined backside of the island  
15 with the marsh in place, correct?

16 A: I mean, yes, I see these similar ridges in here  
17 and I see a marsh.

18 Q: And I'll foreshorten the questioning. Over the  
19 last 50 years, there has not been much change  
20 to the back side of spit while -- and I'm not  
21 talking about -- let's not talk about the neck  
22 right now. I'm talking about the area where  
23 the marsh has grown over time, the trees are  
24 here. There has not been much change to this  
25 what I'll call this green teardrop, has there



1           been?

2       A:     You know, I guess that's probably true, yes.

3       Q:     And that's a sign of stability, too, isn't it,  
4           on the back side?

5       A:     Or you could say that you're due for a new  
6           breach. I mean, you know, I mean, it certainly  
7           -- it's a sign that there has been recent  
8           stability over the last few decades on the  
9           island, that doesn't mean that you're going to  
10          have another 50 years.

11      Q:     That was not my question.

12      A:     Sorry.

13      Q:     I was not asking you that question.

14      A:     Sorry.

15      Q:     I asked you if that is a sign of stability.

16      A:     It is an indicator that the area has been  
17          stable, yes.

18      Q:     You mentioned that some states have particular  
19          regulations that govern construction in inlet  
20          zones?

21      A:     Yes, sir.

22      Q:     North Carolina, your now home state, would have  
23          one of those?

24      A:     Yes.

25      Q:     And the last time we were here, you said that



1 the restriction was that houses could not be  
2 built over 5,000 square feet in an inlet zone,  
3 that was the restriction?

4 A: Yes.

5 Q: Is that still the restriction?

6 A: I believe so.

7 Q: All right. Do you know if any houses in  
8 Captain Sam's that, if this goes through,  
9 there'll be any house over 5,000 square feet?

10 A: No, sir, I do not.

11 Q: Now, let's talk about the river side. When you  
12 were testifying, I think you stated that the  
13 rate of erosion is not uniform throughout the  
14 riverbend, is it?

15 A: No, I don't believe so.

16 Q: And, in fact, you gave testimony about varying  
17 rates over time.

18 A: Yes.

19 Q: Is that correct? So when the wall, if it  
20 becomes exposed, it will become exposed at  
21 different -- if it becomes exposed, at  
22 different locations at different times most  
23 likely?

24 A: Yes.

25 Q: And just looking at the neck as a whole,



1           because there's been a lot of discussion about  
2           the width of the neck, would you agree, putting  
3           Matthew aside, that from the time that this  
4           erosional trend began on the river side, to the  
5           day before Matthew, that the beach had been  
6           accreting at a greater rate per year than the  
7           erosion on the river side or at least the  
8           accretion was keeping up so that the relative  
9           width was either staying the same or getting  
10          greater?

11        A:    Before Matthew, that is my understanding, yes.

12        Q:    All right.    Now, when were looking at those  
13           pictures from Matthew of dunes that had been  
14           scarped, that I think you described as a  
15           typical beach view after a hurricane of the  
16           scarped dunes?

17        A:    Yes.

18        Q:    If we went up and down Kiawah Island, you would  
19           expect and I don't know if you went beyond the  
20           spit when you went there last fall, but one  
21           would expect to see similar scarping of dunes,  
22           correct?

23        A:    One would expect to see similar scarping of  
24           dunes, not necessarily the same amount of  
25           shoreline retreat of that raw beach, but see --



1           one would expect to see scarps, yes.

2       Q:     Right.     And there was shoreline retreat the  
3           whole way?

4       A:     There was.

5       Q:     I mean, there's no place on the coast that was  
6           unarmored that didn't sustain some shoreline  
7           retreat during Matthew on South Carolina?

8       A:     I think that's probably true.

9       Q:     So that's just a fact of life of hurricanes,  
10          right?

11      A:     Yeah.

12      Q:     And the job of these dunes is to protect an  
13          area from storm surges and other water  
14          intrusion from storms like this? I mean, one  
15          of the positive functions of those dunes.

16      **THE COURT:**   Yeah. I think it's more function than  
17          job.

18      **MR. WALKER:**   Yeah, that's right. We don't give them  
19          jobs. They're functions, sorry. I didn't mean  
20          to ---

21      A:     That is the function of sand dunes.

22      **MR. WALKER:**   --- anthropomorphize the dunes. We do  
23          in animals, but I'm not going to do the dunes.

24      A:     That is certainly one of the benefits of having  
25          sand dunes.



1 Q: All right. You mentioned the Beachfront  
2 Management Act a good bit and I think you made  
3 this clarification, but the policy of the  
4 Beachfront Management Act that you were talking  
5 about with hard erosion control structures was  
6 with respect to the hard erosion control  
7 structures on the front beach, correct?

8 A: The policy is, that's correct.

9 Q: Right. And you're also aware that there is a  
10 statute in South Carolina, 48-39-120, that  
11 allows under some circumstances the  
12 construction of erosion control devices and  
13 that also the Department's regulations allows  
14 those erosion control devices or structures not  
15 on the front beach under some circumstances?

16 A: I am aware of that.

17 Q: And you're aware there are bulkheads on the  
18 non-oceanfront, but on tidal waterways and even  
19 non-tidal waterways all throughout South  
20 Carolina?

21 A: Of course.

22 Q: That is an accepted structure and way to  
23 control erosion, correct?

24 A: Well, I guess it depends, accepted by who? I  
25 mean, my testimony was about the impacts, but



1 I was not denying that folks don't build these  
2 structures in the estuary, true.

3 Q: And they're permitted when they're in the  
4 coastal critical area, correct? They have to  
5 be permitted, is that your understanding?

6 A: They have to be permitted?

7 Q: All right. One, if one's following the law and  
8 one has constructed an erosion control device  
9 in a critical area since 1979, one would have  
10 had to have had a permit to do that, correct?

11 A: Yes.

12 Q: And you mentioned other statutory policies.  
13 You were very ranging about that. But isn't it  
14 important that the legislature when it adopted  
15 the Beachfront Management Act, it specifically  
16 adopted as a policy a 40-year retreat policy?  
17 The lookback was going to be 40 years?

18 A: Is it important and from pers- -- in what  
19 respect?

20 Q: Well, I'm just asking you about policies.  
21 You're very familiar with the Beachfront  
22 Management Act, right?

23 A: Yes.

24 Q: You've gone to California and said hey, South  
25 Carolina's got a nice way of -- not nice,





1       excuse me, South Carolina has in your  
2       estimation an effective approach and a sound  
3       approach to armoring the front beach. What I'm  
4       asking is didn't they also -- didn't the  
5       legislature, when it adopted the statutes, say  
6       that they were adopting a 40-year retreat  
7       policy?

8       A: They did.

9       Q: All right. And, in fact, to implement that 40-  
10      year retreat policy, the legislature talked  
11      about inlet zones as a place where, and you  
12      said this, the baseline and setback line were  
13      going to be determined differently from what  
14      was determined by the Department to be the  
15      normal beach, the standard zone, not the inlet  
16      zone?

17     A: Yes.

18     Q: And in that, they said that the baseline would  
19      be determined by the most landward point of  
20      erosion over the last 40 years, correct?

21     A: Yes.

22     Q: All right. So that's a policy of the state,  
23      isn't it, as you know it?

24     A: Yes.

25     Q: And a policy of the state or at least the



1 implementation of that through the statutes and  
2 the authority of the Department in 1999 was to  
3 create a baseline on Captain Sam's Spit that  
4 ran from approximately the location of  
5 Beachwalker Park, 3,900 feet along the beach to  
6 the southwest, correct?

7 A: Yes.

8 Q: And with that, there was also established a  
9 setback line, 20 feet behind that, correct?

10 A: Correct.

11 Q: And knowing the regulations of the policy, the  
12 setback line, I ask you, is a place where  
13 people can build behind that, but can't build  
14 over that generally speaking, correct?

15 A: Without a variance.

16 Q: Right, right. So in effect, we can look at  
17 that as also an implementation of the policy of  
18 the state that some development can occur on  
19 Captain Sam's, correct, otherwise there would  
20 have been no need to extend the baseline and  
21 the setback line?

22 A: Um ...

23 Q: Correct?

24 A: I -- yeah, I guess.

25 Q: All right.



1 A: I mean, I'm not sure that this particular  
2 situation was envisioned to, you know, the way  
3 this has played out in the Beachfront  
4 Management Act or by the legislature in  
5 developing their legislative intent, but that's  
6 certainly the way it played out.

7 Q: That's the way it played out.

8 A: That's the way it played out.

9 Q: And it was in strict accordance with the law?

10 A: Yes.

11 Q: And we're talking about this piece of property  
12 where we see all this green, which, as you  
13 said, is the sign of stability and also this  
14 defined marsh back here, which is also a sign  
15 of stability, right?

16 A: But it's not a sign of stability to me when you  
17 have to build a seawall before you even  
18 construct the development.

19 Q: I wasn't asking about that area.

20 A: Okay.

21 Q: Did I ask you about -- I said where this marsh  
22 was back here. I was not pointing to the neck.

23 A: Okay. I'm sorry, I didn't -- wasn't clearly  
24 looking at where you were pointing.

25 Q: So other policies are with the municipal



1 governments, right?

2 A: Yes.

3 Q: And have you taken into account that the Town  
4 of Kiawah Island has zoned Captain Sam's to  
5 allow some limited residential development?

6 A: I have not.

7 Q: That's an expression of the municipality's  
8 policy, isn't it?

9 A: I imagine so.

10 Q: Are you aware the municipality not only  
11 expressed that, but entered a development  
12 agreement that gave the applicant the vested  
13 right to do that? Are you aware of that?

14 A: I assume that would have happened, yes.

15 Q: Yeah. So when you say you're all in favor of  
16 property rights, you're in favor of them, but  
17 not in this instance where my client has a  
18 vested right?

19 A: I don't believe that it was ever my position  
20 that -- I took no position on whether this  
21 should be stopped or not.

22 Q: All right.

23 A: I said it might be unwise, but unwise things  
24 happen all the time. I don't think I testified  
25 that it is my position or my role to say that



1 none of that should happen. I don't think that  
2 was my testimony.

3 Q: When you were asked about problems in inlet  
4 zones, you remarked on three locations. You  
5 remarked on the north end of the Isle of Palms  
6 where they had the experimental erosion control  
7 device that was highly controversial, correct?

8 A: Yes.

9 Q: And the north end of the Isle of Palms does not  
10 have a 70 year -- before Matthew, 70 year  
11 continuous history of accretion, does it?

12 A: No.

13 Q: It didn't have four to six or seven dune ridges  
14 in front of it, did it?

15 A: No.

16 Q: And let's talk about the other one you pulled  
17 up, Inlet Harbour, that's the same way. You  
18 said it has one of the highest erosion rates  
19 along the coast. Now, I think we know that  
20 Captain Sam's has one of the highest --  
21 beachfront accretion rates along the coast,  
22 right?

23 A: Yes.

24 Q: So that's not comparable either, is it?

25 A: I think you're comparing apples and oranges.



1 Q: Likewise, we can say Pawley's Island, which  
2 breached during Hurricane Hugo, that's not in  
3 any way comparable to Captain Sam's Spit, is  
4 it?

5 A: I disagree.

6 Q: Well, didn't you testify in the first hearing  
7 that it was not comparable?

8 A: Well, you just said in any way comparable.

9 Q: Well, I meant in terms of the vulnerability --  
10 not vulnerability -- well, I'm not even going  
11 to go into that. In terms of the substantially  
12 similar conditions of erosional and accretional  
13 trends and sand build-up.

14 A: The erosion rate are certainly different.

15 Q: And I think -- and I'll ask you this, did you  
16 not state in the prior hearing that one cannot  
17 compare the neck of the spit to the section of  
18 Pawley's Island or the Outer Banks that were  
19 breached in hurricanes because of the sand  
20 that's accreted at the neck?

21 A: At the time, there was certainly a much greater  
22 volume of sand there than there was at Pawley's  
23 when it breached, yes.

24 **MR. WALKER:** One second. That's all we have right  
25 now, Your Honor.



1     **THE COURT:**   Mr. Churdar?

2     **DR. YOUNG - CROSS-EXAMINATION BY MR. CHURDAR:**

3     Q:     Dr. Young, I just have a couple of questions.  
4             You are not offering any opinions about the  
5             stormwater permit, the water supply permit, or  
6             the wastewater permit?

7     A:     No, sir.

8     Q:     Okay.   And you would agree that the Beachfront  
9             Management Act is not applicable to the Coastal  
10            Zone Consistency Certification decision in this  
11            case?

12    A:     Yes, that's my understanding.

13    Q:     Okay.   And I mean, in fact, the South Carolina  
14             Coastal Zone Management Plan is what applies to  
15             the CZC certification decision?

16    A:     To that decision, yes.

17    Q:     Okay.   All right.   That's all I have.

18    **THE COURT:**   Any re-direct on new matter raised?

19    **MS. ARMSTRONG:**   Yes, Your Honor.

20    **DR. YOUNG - RE-DIRECT EXAMINATION BY MS. ARMSTRONG:**

21    Q:     Dr. Young, Mr. Walker was asking you about the  
22             nature of the salt marsh, I think he  
23             characterized it as the nature of the salt  
24             marsh, on the backside of the spit along the  
25             Kiawah River.   And you I think talked -- could



1           you just point to the Court on the Exhibit  
2           Number 1A, which is a large reproduction of it  
3           is right behind you, can you kind of point to  
4           where -- how far back in that salt marsh goes  
5           between the dune ridges?

6           **(Petitioner's Exhibit Number 1A was introduced into**  
7           **the record at this time.)**

8       A:     Well, I'm estimating, of course, but, I mean,  
9           that's just typical with any prograding spit  
10          where you have these recurved spit ridges, the  
11          marsh is also in the swales between the --  
12          between the ridges.

13      Q:     So do the ridges -- do they run parallel to the  
14          shoreline?

15      A:     Well, they're parallel to the shoreline here to  
16          some extent, but then they re-curve where the  
17          previous end of the spit was.

18      Q:     And what's your understanding of what the  
19          topography is like in the areas between the  
20          ridges?

21      A:     It's low. I mean, this is this way on any  
22          prograded barrier island because when the sand  
23          comes ashore to form these ridges, you know, it  
24          doesn't completely close in, so you have those  
25          -- it's a ridge and swale topography with low





1 spots separating the high spots. And the low  
2 spots tend to be wet.

3 Q: And why are the low spots wet?

4 A: Well, because they're almost at sea level.

5 **(Respondent's Exhibit Number 35 was introduced into**  
6 **the record at this time.)**

7 Q: And looking at Petitioner's Exhibit -- or  
8 Respondent's Exhibit Number 35, can you draw on  
9 there where you're talking about where the dips  
10 are between the ridges where you would expect  
11 water?

12 A: It's these low spots in here (indicating).

13 Q: And Mr. Walker also asked you about your  
14 expectation about how either the inlet or the  
15 spit would readjust after an inlet relocation  
16 and you said you wouldn't have an expectation  
17 about how it would readjust. Why is that?

18 A: Because these are very complex systems and, you  
19 know, when you have -- and a human perturbation  
20 like that understanding exactly how that  
21 channel's going to realign is -- as it  
22 reequilibrates is difficult, if not impossible.  
23 You can get a general prediction, but ...

24 Q: Mr. Walker was also asking you about some  
25 drawings that depict the Captain Sam's Spit and



1 the dune system from a 2009 aerial image. Do  
2 you remember discussing that?

3 A: Yes.

4 Q: You and he were talking about -- he asked you  
5 about inlet relocation at Captain Sam's Spit.  
6 Are yo familiar with those inlet relocations?

7 A: I am.

8 Q: Do you know when the last inlet relocation  
9 occurred?

10 A: Couple years ago.

11 Q: Have you seen aerial imagery of Captain Sam's  
12 Spit since the inlet relocation occurred?

13 A: I did view some imagery of the inlet relocation  
14 in process and recently.

15 **(Respondent's Exhibit Number 26 was introduced into**  
16 **the record at this time.)**

17 Q: And looking at this image that's been marked as  
18 Respondent's Exhibit Number 26, are you able to  
19 determine whether that is the inlet relocation  
20 project at Captain Sam's Spit?

21 A: It appears to be.

22 Q: And in looking at this image, are you able to  
23 tell what happened, if anything, to those dune  
24 ridges that we were looking at and Mr. Walker  
25 was asking you about?



1 A: Um ...

2 Q: And maybe I can -- they're kind of dark  
3 exhibits. I'm going to hand this -- I'm going  
4 to hand you these two exhibits. And if you'd  
5 hand them to The Court afterwards.

6 A: My recollection is that they were left alone  
7 intentionally. Yeah, they're undisturbed in  
8 this image.

9 Q: What happened to the ---

10 **(Respondent's Exhibit Number 27 was introduced into**  
11 **the record at this time.)**

12 A: It's difficult to see on 27, but it's a little  
13 easier on 26.

14 Q: What happened to the western most portion of  
15 Captain Sam's Spit as a result of the inlet  
16 relocation?

17 A: The southwestern most portion ---

18 Q: Yeah, maybe I can put this ---

19 A: It was separated from the island.

20 Q: And can you roughly show where that separation  
21 would have occurred looking at this image?

22 A: I'm afraid it's a little bit difficult for me  
23 to say from this particular image, but, you  
24 know, I guess it's in here.

25 Q: I'm sorry; go ahead. I put it back up.



1 A: I would be guessing.

2 Q: Okay.

3 A: I think it's difficult to tell the difference  
4 between the vegetation and these ridges, but I  
5 think, you know, I think it's in here roughly  
6 (indicating).

7 Q: And did you -- have you been to the site on the  
8 ground since the inlet relocation occurred?

9 A: Yes.

10 Q: Have you been to this area of the spit, this  
11 southwestern most area of the spit, since the  
12 inlet relocation occurred?

13 A: I have.

14 Q: And what did you observe?

15 A: I mean, that the shoreline is basically where  
16 it was following the relocation.

17 Q: What did the -- was there any vegetation there?

18 A: I don't recall.

19 Q: Mr. Walker was asking you about -- he showed  
20 you an image, an aerial image, showing the 1964  
21 approximation of the shore, Kiawah River  
22 shoreline in 1964, and he was asking you  
23 questions about how much that river shoreline  
24 had migrated. He also handed you this drawing  
25 that's, at the top, says it's Kiawah shoreline



1 change from 1985 until 2006. Do you see the  
2 legend on this image?

3 A: Yes.

4 Q: And what does it show?

5 A: It shows growth of the ocean shoreline and  
6 erosion of the Kiawah River shoreline.

7 Q: And are you able to make any assessments about  
8 the type or the nature of the change between  
9 1985 and 2006 at the spit?

10 A: Well, there's -- it's the position effectively  
11 has shifted seaward. If you take the boundary  
12 here and here and then the boundary here and  
13 here, you know, effectively you've moved the  
14 spit from here to here (indicating). And seven  
15 feet a year erosion on the Kiawah River side is  
16 a pretty high erosion rate.

17 **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBER 38:**

18 **MS. ARMSTRONG:** Your Honor, I'd like to move the  
19 image that we were just looking at into  
20 evidence.

21 **MR. WALKER:** No objection.

22 **MS. ARMSTRONG:** I don't know if you've got it  
23 marked. I was going to have it marked  
24 Petitioner's 38 unless you've already got it  
25 marked.



1 **MS. ARMSTRONG:** No, I'm fine with it.

2 **MS. ARMSTRONG:** Okay.

3 **MR. CHURDAR:** No objection from the Department.

4 A: May I -- may I make one more additional comment  
5 on that figure?

6 Q: On the ---

7 **THE COURT:** Hold up, both of you. The court  
8 reporter's marking an exhibit.

9 **(Petitioner's Exhibit Number 38 was marked for**  
10 **identification purposes.)**

11 **RULING OF THE COURT:**

12 **THE COURT:** Petitioner's 38 is admitted.

13 **(Petitioner's Exhibit Number 38 was admitted into**  
14 **evidence.)**

15 Q: So, Dr. Young, looking at Petitioner's Exhibit  
16 Number 38, and the difference between the 1985  
17 and 2006 location of the neck at Captain Sam's  
18 Spit, do you have any opinions to a reasonable  
19 degree of scientific certainty from a coastal  
20 geologist's perspective whether this is a  
21 stable area?

22 A: So clearly the position the has shifted in  
23 space, right, so yes, the ocean oceanfront is  
24 accreting, the backside is moving, so the  
25 island is moving seaward at that location.



1 And, you know, in addition, we have to remember  
2 that we did lose about 100 feet of the  
3 oceanfront during Hurricane Matthew, which was  
4 not a substantial storm for that stretch of  
5 shoreline. I mean, it wasn't like Hurricane  
6 Hugo. It didn't come on shore perpendicularly  
7 and storms matter in the coastal zone. I mean,  
8 they are the big drivers of change. So, you  
9 know, you can have a few decades of stability  
10 and extremely good fortunate where you haven't  
11 had a significant storm and then you can have  
12 ten years of two or three storms that can  
13 change things dramatically. I mean, my father  
14 had 62 great years of health until cancer  
15 killed him when he was 64. It's the storms and  
16 the events matter. And so I think that, you  
17 know, you can't just look at a system like this  
18 and understand your exposure based on the good  
19 weather days.

20 **MS. ARMSTRONG:** I don't have any other questions.

21 **THE COURT:** Re-cross on new matter?

22 **MR. WALKER:** Have none, Your Honor.

23 **MR. CHURDAR:** No, sir.

24 **THE COURT:** You may step down.

25 **DR. YOUNG:** Thank you, sir.



1 (The witness was excused.)

2 MS. WHITE: The petitioners call Dr. Richard  
3 Porcher.

4 COURT REPORTER: P-O-R-S ---

5 DR. PORCHER: P-O-R-C-H-E-R.

6 COURT REPORTER: Raise your right hand, please, sir.

7 DR. PORCHER: I'll affirm.

8 COURT REPORTER: Okay. That's fine. Raise your  
9 right hand.

10 DR. PORCHER: Okay.

11 COURT REPORTER: Do you affirm that the following  
12 testimony you're about to give in this matter  
13 is the truth, the whole truth, and nothing but  
14 the truth?

15 DR. PORCHER: I do.

16 COURT REPORTER: Thank you.

17 MS. WHITE: And, Your Honor, the witness is hard of  
18 hearing and has requested that I stand close --  
19 -

20 THE COURT: Okay.

21 MS. WHITE: --- especially since I'm already soft  
22 spoken and I warned opposing counsel that my  
23 back to them wasn't meant to be insulting.

24 MR. PORCHER - DIRECT EXAMINATION BY MS. WHITE:

25 Q: Good morning, Dr. Porcher.





1 A: Good morning.

2 Q: Could you tell the Court where you live?

3 A: I live in Mount Pleasant, South Carolina.

4 Q: And where did you grow up?

5 A: Pinopolis, South Carolina.

6 Q: And is that where your family's from?

7 A: Yes.

8 Q: How long have you lived in Mount Pleasant?

9 A: I guess 1970 when I moved to the campus of The  
10 Citadel and back to Mount Pleasant, so when I  
11 first lived in Mount Pleasant in 1970.

12 Q: And what is your educational background?

13 A: I have a B.S. from the College of Charleston,  
14 M.S. and Ph.D. from the University of South  
15 Carolina in field botany.

16 Q: And what did you do after receiving your  
17 degrees?

18 A: Well, I was -- I began teaching at Vorhees  
19 College in 1967 while I was working on my  
20 degree. And then I moved to The Citadel  
21 teaching there in 1970, still working on my  
22 degree. So I began teaching at The Citadel in  
23 1970 and actually received my degree I think  
24 1974.

25 Q: And what have you been teaching?



1 A: Environmental science, general biology, botany,  
2 field course in botany, man and the  
3 environment, courses such as that.

4 Q: What is man and the environment?

5 A: How the environment and man interact, like this  
6 is a good example of man and the environment  
7 today, how we're interacting with the coastal  
8 processes.

9 Q: Have you taught any other subjects over the  
10 course of your educational career?

11 A: Well, when I was at Vorhees, I taught  
12 comparative anatomy, embryology, histology,  
13 courses such as that, but they have no  
14 relationship to my career really.

15 Q: What about at The Citadel?

16 A: I taught marine botany at the College of  
17 Charleston.

18 Q: Okay.

19 A: So most of my courses that are pertinent to  
20 today were taught at The Citadel.

21 Q: Are you still teaching at The Citadel?

22 A: No, I retired in 2003.

23 Q: Have you taught any classes in ecology?

24 A: Yeah, I taught, I'm sorry, ecology, right.  
25 Taught ecology for 30-something years.



1 Q: And what is ecology?

2 A: It's how man -- it's how living organisms and  
3 the environment interact, that's an overall  
4 course how organisms interact with the  
5 environment.

6 Q: And you said you got your Ph.D. in biology?

7 A: No, I got my Ph.D. in field botany.

8 Q: Okay.

9 A: Field botany.

10 Q: And your undergraduate degree in biology?

11 A: Yeah, biology.

12 Q: How does biology relate to ecology?

13 A: Ecology's just simply a branch of -- biology is  
14 the study of life and ecology's just one  
15 example of different fields of biology.

16 Q: And how does botany relate to those fields?

17 A: Well, most people break up biology into zoology  
18 and botany. Zoology's the study of animals;  
19 botany's the study of plants. So botany can  
20 encompass a lot of area. Plant anatomy would  
21 fit under botany. My field course in botany  
22 would fit under botany. Because there are many  
23 different areas under botany that you can teach  
24 or study.

25 Q: So what specifically is field botany?



1 A: You go out in the field and study plants.

2 Q: Is that ---

3 A: Out in the swamp. Last week I -- we were out  
4 in the swamp in a boat collecting plants. You  
5 do most of your work out in the field.

6 Q: Okay.

7 A: I don't like inside. I don't like to be  
8 inside.

9 Q: Very well. And, Dr. Porcher, I'm going to ask  
10 you about some of your publications, but first,  
11 have you authored any books?

12 A: I've done six books.

13 Q: What were those books?

14 A: I did a field guide to a plantation, and I was  
15 a third author on one of Tom Blagden's books.  
16 Natural -- the natural -- *Natural Lowcountry*.  
17 Then I did my first book on my own, *Wildflowers*  
18 *of the Carolina Lowcountry*. Then I did a --  
19 senior author of a book on wildflowers of South  
20 Carolina. Then I shifted gears and went into  
21 agricultural history and did a book on the  
22 story of Sea Island cotton. Then after that I  
23 went and did a book on the history of rice  
24 culture. So since I've retired, I've become  
25 more broader and done agricultural history



1 books since I retired.

2 Q: And have you authored any articles that were  
3 published in scientific journals?

4 A: Yeah, I've written ten articles published in  
5 scientific journals.

6 Q: And were those peer-reviewed articles?

7 A: Yeah, those are all peer-reviewed.

8 Q: Are those articles and books that you were just  
9 describing listed on your CV?

10 A: The ten publications, they're on my CV, yes.

11 Q: And the books that you've authored, as well?

12 A: Yeah, all those are on my CV.

13 Q: I'm handing you what's marked as Petitioner's  
14 Exhibit 27. Could you identify that?

15 **(Petitioner's Exhibit Number 27 was introduced into**  
16 **the record at this time.)**

17 A: That's my CV.

18 Q: Does it appear to be an accurate copy?

19 A: That's the one I gave you.

20 **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBER 27:**

21 **MS. WHITE:** Petitioners would move Exhibit 27 into  
22 evidence.

23 **MR. GRESSETTE:** No objection, Your Honor.

24 **MR. CHURDAR:** No objection.

25 **RULING OF THE COURT:**



1     **THE COURT:**   It's admitted.

2     **(Petitioner's Exhibit Number 27 was admitted into**  
3     **evidence.)**

4     Q:     Dr. Porcher, have you ever been asked to review  
5             anyone else's scientific articles?

6     A:     I've done here -- I've done a books for the  
7             University of South Carolina Press, and  
8             articles for Castanea, which is a botanical  
9             journal. I've also had a lot of people send me  
10            their material to review, too. I haven't done  
11            a lot of that, thank goodness, but that's not  
12            -- that's not any fun. What I have done -- I  
13            know the process; I've done it.

14    Q:     And for the articles that you've written and  
15             were published, what were the subject areas?

16    A:     Field botany. New plant records, things such  
17             as that.

18    Q:     Are you a member of any professional  
19             organizations?

20    A:     Oh, I've been a member of so many of them, I  
21             was a member of 40 organizations at one time,  
22             but I sort of cut down on a good bit, but I'm  
23             still -- I think most of the ones now I belong  
24             to are historical organizations. I sort of  
25             moved -- dropped some of the botanical -- or



1 the scientific ones because I just couldn't  
2 keep track of 40 different organizations. But  
3 most of the ones I was a member of before, The  
4 Citadel gets all the journals and I am still  
5 involved with The Citadel, so I still get all  
6 the material. I just couldn't afford to keep  
7 up with 40 different organizations.

8 Q: In what way are you still involved with The  
9 Citadel?

10 A: The -- my reputation with Dr. Joel Gramling,  
11 who is a brilliant field botanist, which I  
12 helped train, and he and I are doing the book  
13 on wildflowers together. He and I just do a  
14 lot of projects together. We've got a couple  
15 of scientific papers we're working on. I'm  
16 really now going back again to doing a lot of  
17 field botany. I did my two agricultural books,  
18 but now I've gotten into field botany again.  
19 And I've also got a project with Ms. Dailey  
20 over there, we're doing a baseline study of a  
21 plantation, so The Citadel's involved in it  
22 too. So I'm very involved with The Citadel.

23 Q: And in addition to the work that you just  
24 described, are you still conducting any other  
25 research?



1 A: Well, I'm doing four books, I guess, is that  
2 what you mean?

3 Q: Is that all?

4 A: That's all for right now. I think I've got a  
5 fifth I'm working on. I'm talking to Dr.  
6 McMillan, might start another one.

7 Q: And what are the subjects of those upcoming  
8 books?

9 A: I'm doing a cultural history of a plantation  
10 system that was flooded by the Santee Cooper  
11 Lake in 1942. It's the Porcher Ravenel land,  
12 so I'm doing a -- that's -- I've done that.  
13 It's being reviewed now. Then I'm working on,  
14 with Dr. Gramling, a new wildflower book. When  
15 we did the -- when I did the state book, they  
16 took my Lowcountry book out of print, so we're  
17 redoing that. And then the day after the  
18 election I woke up and said I've got to do  
19 something in my part to make people know what's  
20 going on with the environment in Washington, so  
21 I started a book with Ms. Dailey called  
22 *Rediscovering Carolina Landscape and Lowcountry*  
23 *Landscape in the Footsteps of our Forebearers*.  
24 Everything in the Lowcountry is man and nature  
25 work together to create the Lowcountry. And I





1 have an ancestor, Dr. Francis Peyre Porcher,  
2 who was a noted botany physician in the Civil  
3 War and with another graduate student, we've  
4 started to put together his history. So those  
5 are the -- I guess the four main projects I'm  
6 working on.

7 Q: Okay. And that last one that you mentioned,  
8 does that have an ecological focus to it?

9 A: No, no, that's strictly his biography, I'm  
10 sorry. Dr. Porcher, it's strictly his  
11 biography.

12 Q: The one that you're working on with Ms. Dailey  
13 ---

14 A: Well, that one, as far as right now would  
15 definitely have an ecological focus. You know,  
16 we talk about barrier islands, how man and  
17 nature shape them to some degree, oh, yeah,  
18 that is strictly environmental.

19 Q: And is that similar to what you described the  
20 man and environment course?

21 A: It would be. Yeah, that's a course in man and  
22 environment. That's -- it's a man and  
23 environment, right. It's sort of a catch  
24 phrase and make people realize that -- how man  
25 and nature over the years have created the



1 Lowcountry environment.

2 Q: And have you ever received any honors or awards  
3 or recognitions in your professional career?

4 A: I guess I got the highest award the State  
5 offers, an environmental award, in 19 -- I've  
6 forgotten when it was. The State gives an  
7 award every year to an environmentalist and I  
8 was awarded that. I've forgot what it was now.  
9 And the Charleston Horticultural Society gave  
10 me their 1831 award; The Citadel gave me an  
11 award a couple of years ago, it was an  
12 outstanding contributor to the school, so those  
13 are the main ones.

14 Q: And what in particular were those awards in  
15 relation to in the work that you've been doing?

16 A: Well, the first one for the State, that was an  
17 environmental award for all the work I've done  
18 environmentally. That was the award that  
19 people nominate you on, like the people I work  
20 with put up the nominations and I was awarded  
21 it.

22 Q: So your work over your entire career?

23 A: Up to that time, yeah.

24 Q: Have you ever been asked to offer your  
25 expertise in a professional setting, such as a



1 conference or a committee?

2 A: I've given -- countless times I've been  
3 requested to give lectures and seminars.  
4 They're all on the vitae sheets, on the vitae  
5 sheet.

6 Q: Okay.

7 A: I mean I could, you know, spend an hour going  
8 over it if you want me to, but that just  
9 happens all the time.

10 Q: And what about have you ever testified as an  
11 expert witness in a court proceeding?

12 A: Counting today, eight times. Do you want to  
13 count -- well, I've been asked to be an expert  
14 witness eight times. Six of them went to  
15 trial, counting today, okay.

16 Q: Okay.

17 A: Eight times I've been asked to be an expert  
18 witness. Two times it never actually went to  
19 trial, so I didn't have to testify. Six times,  
20 counting today, I went to trial and I had to do  
21 what I'm doing now.

22 Q: And in what court were those?

23 A: One was Hilton Head.

24 Q: What court?

25 A: Oh, I don't know about ---



1 Q: Was it in the Administrative Law Court like  
2 we're in today?

3 A: I have no idea, ma'am.

4 Q: Okay.

5 A: There was a judge there and other lawyers there  
6 and somebody over there. I don't remember what  
7 they were. I'm sorry.

8 Q: Sure.

9 A: It didn't occur to me. I don't even know what  
10 we have today, to be honest with you.

11 Q: In what areas of expertise were you being  
12 offered as a witness?

13 A: Mostly field botany. And one, I guess, the one  
14 at DeBordieu, I did have to talk about inlets  
15 and so forth, so it was literally coastal  
16 processes in the DeBordieu one. But mostly to  
17 do with field botany, ecology, stuff like that.

18 Q: When you say field bot- -- field botany ---

19 A: Botany.

20 Q: --- and ecology and stuff like that, what do  
21 you mean?

22 A: I don't know. Forget the stuff like that.  
23 That's just -- field botany. If you want a  
24 good example of field botany, the Forest  
25 Service, for example, will call me and say we



1           need a survey of the Forest Service for  
2           endangered plants. So they'll pay me to go out  
3           and do a survey for endangered plants so  
4           they'll know they're there. That's a typical  
5           type of field botany that I do. I'm not an  
6           experimental botanist, but mostly descriptive.  
7           That's just as good example as you can come up  
8           with.

9       Q:     Sure.       And, Dr. Porcher, what kinds of  
10           information or what things do you typically  
11           rely on when you're forming your opinions?

12      A:     Articles, friends, I'll call them, many people  
13           that I've -- you know, fellow botanists. I'll  
14           call Pat McMillan at Clemson for a question.  
15           Any kind of technical work, I'll -- I have tons  
16           of people I can call upon.       Journals,  
17           magazines, articles, go to meetings all the  
18           time.     So I'm not a -- I'm a person that  
19           realizes that I'm just one little small bit of  
20           knowledge and I always reach out as much as I  
21           can and that's why I really enjoy doing books,  
22           but I like to have a co-author with me because  
23           he always brings in material that I just don't  
24           know about.   That's why I asked Ms. Dailey to  
25           help me in a book because she has some



1 expertise in philosophy, which I don't have.  
2 So I'm always trying to seek out different  
3 people to bring together as a team to do a  
4 project.

5 Q: And do you rely on others' expertise in forming  
6 your own opinions?

7 A: Certainly.

8 Q: Do you rely on information and observations  
9 that you collect yourself?

10 A: Certainly.

11 Q: Do you rely on observations for information  
12 collected by others and reported to you?

13 A: Certainly.

14 Q: Do you rely on photographs or aerial imagery?

15 A: All the time.

16 Q: And do you utilize any technological devices?

17 A: Well, when I -- I am -- I use my GPS system all  
18 the time. And I use Google Earth all the time.  
19 Let me say one thing, my chance. There were  
20 some questions about these instruments -- can  
21 I expand on this or not?

22 Q: I -- we can go there. We were going to go  
23 there later.

24 A: I don't know if I'm -- I don't know if I'm  
25 allowed to go there or not, that's why I'm



1 asking you.

2 Q: Well, it's hard for me to answer when I don't  
3 know exactly what you're going to say.

4 A: Can I go and they can stop me if they want to?

5 **MR. GRESSETTE:** Your Honor, I think our objection or  
6 insight would be to the extent he's going to  
7 testify as to some expertise in the ---

8 **THE COURT:** Well, I just -- I prefer it not to be a  
9 narrative anyway, so let's just do a Q and A.

10 **MR. GRESSETTE:** Yes.

11 Q: Well, we'll come back to the GPS.

12 A: Okay.

13 Q: How would you characterize your expertise?

14 A: Primarily, a field botanist.

15 Q: Okay.

16 A: Primarily, a field botanist, but I do have a  
17 lot of knowledge in agricultural history. I've  
18 studied a lot on coastal processes and ecology.  
19 But I'm primarily a field botanist. That's  
20 just simply the way it is. And I'm here today  
21 because of my observations as a field botanist.

22 Q: Okay.

23 **MOTION TO QUALIFY AS EXPERT:**

24 **MS. WHITE:** At this time we'd like to move to  
25 qualify Dr. Porcher in field botany and



1 ecology.

2 **MR. GRESSETTE:** Objection, Your Honor. The witness  
3 just said he was here to testify as a field  
4 botanist.

5 **RULING OF THE COURT:**

6 **THE COURT:** Field botany, yeah. I'll qualify him in  
7 field botany.

8 **MR. GRESSETTE:** Thank you, Your Honor.

9 A: What was that? I didn't hear it.

10 **THE COURT:** Mr. ---

11 **MR. CHURDAR:** No, I concur with the limitation that  
12 Mr. Gressette has mentioned.

13 **THE COURT:** You're qualified in the area of field  
14 botany.

15 A: Thanks.

16 Q: All right. Dr. Porcher, in your field of field  
17 botany, do you utilize a GPS device?

18 A: Very much so.

19 Q: Do you own a GPS device?

20 A: Yes, I do.

21 Q: What ---

22 A: A Garmin 64S.

23 Q: A Garmin ---

24 A: Garmin 64S.

25 Q: 64S?





1 A: That's the name of it, 64S is the model of the  
2 system.

3 Q: Okay. And when did you buy that GPS?

4 A: I bought that one a month ago. My old one, I  
5 think the -- finally broke, so I got rid of  
6 that and I bought the Garmin 64S. I had a  
7 Garmin 70 before that.

8 Q: Okay. And when did you first purchase a GPS  
9 device?

10 A: Oh, I started that back in -- I was using it  
11 when the Lake Moultrie went down 19 -- in 2007,  
12 2008, the lake level dropped, and we did  
13 extensive GPS work, then working on a book.  
14 How long before that, I just can't remember.  
15 I really extensively used the GPS on the  
16 downside of the lake in 2008, 2007.

17 Q: And why did you purchase that GPS unit?

18 A: Well, as a field botanist, much of my work goes  
19 out in locating plants and -- I'm a botanist.  
20 And we go out looking for rare plants, unusual  
21 plants, documenting, you know, mapping out  
22 plant communities, and when you find a plant,  
23 you simply take the coordinates down and then  
24 you take the plant and it's processed at a  
25 herbarium where it's dried and labeled and



1 everything and put into a barium that somebody  
2 can come along 50 years from now and look at  
3 those coordinates and go right to the very spot  
4 that you found it. That's the main reason we  
5 use the GPS today. That's botanically to  
6 document the sites that we have -- that we talk  
7 about or publish articles on, so people in the  
8 future can go back to the very site.

9 Q: Have you ever gone and pulled a plant species  
10 and used the coordinates that were listed to  
11 locate a plant on the ground?

12 A: That somebody else did?

13 Q: Have you ever done that?

14 A: Say it again, please.

15 Q: Have you ever taken one of the plant specimens  
16 and located it on the ground using the  
17 coordinates as you just described?

18 A: Well, certainly. Somebody else will have a --  
19 have listed a plant that I want to go find and  
20 he has his coordinates, what I do is I download  
21 those coordinates in Google Earth and Google  
22 Earth goes right to the spot where it is and I  
23 publish that map or I can publish the map on  
24 Google Earth. Then I can take the map and go  
25 out and find a plant.



1 Q: And are you successful in locating that plant  
2 using that system?

3 A: Oh, yes, you can -- well, you might not find  
4 the plant. It may not be there. But, you can  
5 always go to where it was. I do it all the  
6 time. So I'm using somebody else's coordinates  
7 all the time. I just download them on Google  
8 Earth and you can pull it up and print the page  
9 and I've got a map to the exact spot where that  
10 -- somebody found that plant, and I can go to  
11 the site. Same way somebody can take my  
12 coordinates and locate my sites.

13 Q: Do you feel comfortable with the accuracy of  
14 those coordinates?

15 A: Very much so.

16 Q: How?

17 A: The system now within a few feet, you can get  
18 right to where it was located.

19 Q: Within a few feet?

20 A: Certainly.

21 Q: Is that ---

22 A: I can go in my back yard and stand here with my  
23 GPS system and take the coordinates, go back in  
24 my house, load it into Google Earth, pull up  
25 the map and there is me standing -- or there's



1           where I was standing in the back yard within a  
2           few feet. That's how accurate they are these  
3           days.

4       Q:   And have you used a GPS to take coordinates on  
5           the ground and record them and use them later?

6       A:   Certainly.

7       Q:   What purposes do you use those coordinates for  
8           later?

9       A:   Well, sometimes I'll identify a plant that's  
10          way out in the woods somewhere and there's no  
11          other landmark, so I'll take my GPS. I'll take  
12          the coordinates and maybe I want to go back a  
13          year from now, so I'll download those  
14          coordinates. You can actually take the GPS  
15          system and follow it to the same very site.

16      Q:   Is it -- do others in the field of field botany  
17           typically rely on GPS devices?

18      A:   Certainly. Today they do, certainly. They're  
19          -- there's a survey that Chapel Hill has been  
20          doing for 30 years, they sample tens of  
21          thousands of spots throughout the Southeastern  
22          United States. Every site they document, the  
23          permanently mark it with pipe and then they  
24          also permanently download it and take the  
25          coordinates, so we can go back and find those



1 sites any time we want to. Even though the  
2 land may have changed; they may have timbered  
3 it, we can always still go back to that very  
4 site within a few feet and locate it again.  
5 This is just common practice now.

6 Q: How do you know it's the same site?

7 A: Well, the -- if we're doing the -- we've marked  
8 little pipes all around to identify, too, so we  
9 can always find one of those pipes. Now, if  
10 the site is totally destroyed, all the pipes  
11 and there's nothing but a -- they cut all the  
12 trees down, then that may be difficult. But  
13 normally, we have -- we mark these sites with  
14 conduit pipes so we'll know where that line of  
15 a sample plot is. We can always go back and  
16 find that.

17 Q: Okay. So ---

18 A: Unless it's been highly disturbed.

19 Q: So do you use information that's on the ground  
20 to assist in ensuring the accuracy of the  
21 location?

22 A: Well, certainly. Well, I'll give an example.  
23 All right if I do so?

24 Q: Yes.

25 A: One of my students, Johnny Townsend, located a



1 rare plant in Williamsburg County, 1992. And  
2 he put it in his thesis and he put the  
3 coordinates, okay. I wanted to go back last  
4 year and find the site. So I took his  
5 coordinate and I knew -- I knew it was on  
6 Scotswood Plantation, so I took the  
7 coordinates, downloaded it on Google, pull up  
8 the map and here I have a map, a color  
9 photograph, and it shows exactly at Scotswood  
10 Plantation where he found the plant. So I  
11 could simply go to the same spot and actually  
12 I got -- I couldn't find the plant. I looked  
13 and looked and looked, so I just wanted to make  
14 sure I was in the right spot, so I did my GPS  
15 system right there and when the same one  
16 virtually the same one that he did. But you  
17 can go right beside -- you can go right to the  
18 spot almost if you have the correct  
19 coordinates.

20 Q: Okay.

21 A: And so that was one example. I was out in a  
22 boat the other day going down the Black River,  
23 another way we can use it. And the Black River  
24 has a lot of channels that branch off and I was  
25 trying to find the main channel. So we get to



1 a point where there's a branch and I don't know  
2 if this is the main channel or not, so we do a  
3 GPS right there. Then we pull up Google Earth  
4 on our little cell phone and then we can back-  
5 up and sort of see the whole river system and  
6 we can see right where we are. Uh-uh, this is  
7 a side channel, we've got to go this way. So  
8 we can know where we are throughout the trip to  
9 make sure we don't take any -- any side  
10 channels. Just as simple as anything. Even I  
11 can work it.

12 Q: And do you find that that process of utilizing  
13 GPS coordinates and Google Earth to be  
14 accurate?

15 A: Yes. Now, it's not like -- Okay. I can't --  
16 I can't bring that up. Sorry.

17 Q: And do you rely on it to identify an accurate  
18 location?

19 A: Certainly.

20 Q: Do others in the field ---

21 A: All -- all field botanists do this now. If  
22 you're a field botanist, you've got a GPS  
23 system, that's how you document where the  
24 things are you found so people in the future  
25 can go back and re-find them. Part of founded



1 inquiry is that if you do an experiment,  
2 somebody should come along afterwards and be  
3 able to do the same experiment, get the same  
4 results, or they should be able -- it's not  
5 valid. If I document a plant in a certain  
6 site, somebody should be able to go back and  
7 find the very spot, close as you can, to where  
8 it was to document that yes, he did find a  
9 plant in this particular habitat. Because it's  
10 important. The habitat is important.

11 Q: And in order to ensure that, you utilize the  
12 GPS unit?

13 A: Certainly.

14 Q: And you utilize Google Earth?

15 A: Well, I -- I use GPS and Google Earth. But  
16 some other people might not use Google Earth,  
17 but I do.

18 Q: And why in particular do you use the Google  
19 Earth?

20 A: Because I can download the coordinates of a  
21 site and then it pulls up a map of the area,  
22 then I can take that map and go out and locate  
23 the site. And if the map has a road here, a  
24 town here, a bridge here, so I know where I am  
25 and I can go find the site.





1 Q: So does the Google Earth data provide you with  
2 clues that are physically located on the  
3 ground?

4 A: Certainly, you can -- it's an aerial color  
5 photograph. It shows bridges, roads,  
6 everything, so you can use that to locate the  
7 site you're looking for.

8 Q: In your experience, have you found Google Earth  
9 to be accurate in doing that work?

10 A: It is accurate within a few feet, I've always  
11 found it. I've never found a situation -- I  
12 found one -- I did a survey for the State at  
13 Bonneau Ferry and I got a call and said, Dr.  
14 Porcher, you've got this orchid growing out in  
15 the middle of the Cooper River. I said  
16 something's wrong. Evidently, I put the wrong  
17 coordinates down and had the orchid growing out  
18 in the river. But I've never had any problems,  
19 any stuff -- studies I've done with somebody  
20 having a problem with my GPS locations. Never  
21 happened.

22 Q: And are you aware of whether other field  
23 botanists use a combination of GPS and ---

24 A: Oh, most certainly, some do. But I can't say  
25 all do, but all the botanists I know, they do



1           it.     Dr. Gramling, Dr. Everett, Dr. Pat  
2           McMillan at Clemson. They all use GPS and  
3           Google Earth.

4       Q:     So is it your understanding that other experts  
5           in the field ---

6       A:     Oh, certainly.

7       Q:     --- of field botany utilize both GPS and Google  
8           Earth?

9       A:     Every field botanist I know of, I work with,  
10          uses GPS and Google Earth at one time or  
11          another, put it that way.

12      Q:     Okay. Dr. Porcher, are you familiar with  
13          Kiawah Island and Captain Sam's Spit in  
14          particular?

15      A:     I am. I lead the crusade in 1975 to save the  
16          island. Didn't work.

17      Q:     Could you tell me what you know about Kiawah  
18          Island and Captain Sam's Spit, in particular?

19      A:     Well, I've been to Kiawah Island and I know the  
20          area and everything, it's a -- but I -- you  
21          want me to -- I've known about Captain Sam's  
22          Spit. I've been there in the past, but not to  
23          study. Just, I don't know, for whatever  
24          reason, photographing and so forth, so I've  
25          known about Captain Sam's Spit for years. You



1 don't live on the coastline and do surveys all  
2 up and down the coastline and not know about  
3 Captain Sam's Spit and Kiawah, so I --  
4 Seabrook. I've done studies on Seabrook on  
5 sweetgrass. I think I did survey Captain Sam's  
6 Spit years ago for sweetgrass, I think. I also  
7 had my student there, I believe, if I can  
8 remember correctly. So I've known about these  
9 sites all -- you know, since I moved here.

10 Q: Why do you say that you don't live on the coast  
11 and do that kind of work without knowing  
12 Captain Sam's Spit?

13 A: Well, I live in Mount Pleasant, that's the  
14 coast. I know every island from Savannah to  
15 North Carolina. I can go and name you every  
16 island right in a row, you know, what I've done  
17 there. I know the entire coastline. There's  
18 not an island I don't believe on the coastline  
19 that I haven't been to for one reason -- when  
20 I did my Sea Island cotton book, Sea Island  
21 cotton grows on the island, so I went to  
22 virtually every island on the coastline  
23 studying the Sea Island cotton.

24 Q: And do you recall when the first time you may  
25 have gone to Kiawah Island was?



1 A: Oh, that was 1970-something when the  
2 development began, all the sales were there  
3 after Kiawah covenant, which some of us tried  
4 to protect -- you know, stop the development of  
5 it.

6 Q: As a field botanist, how would you describe  
7 Captain Sam's Spit?

8 A: Well, I think it's what you call a recurved  
9 spit. We've already seen the photographs of  
10 that. The upland dunes -- the dunes are I  
11 guess you could -- a very sterile type of  
12 habitat, but they do have a -- what we might  
13 call an incipient maritime forest that's not  
14 really well developed. It's so sandy and  
15 nutrient poor, but there's an incipient  
16 maritime forest there. You've got a lot of  
17 sloughs and the wetland areas that contain a  
18 variety of wetland habitats. You did have a  
19 very broad dune system, but we'll talk about  
20 that later on. That's mostly been eliminated.  
21 It's just a typical recurved spit, but it's --  
22 and, you know, it's developing, but a hurricane  
23 will set it back a good bit.

24 Q: What is a slough?

25 A: S-L-O-U-G-H. That's what I call it. You want



1 me to show it. This would be a slough  
2 (indicating).

3 Q: And you're looking at Petitioner's Exhibit 1A,  
4 the oversized aerial.

5 **(Petitioner's Exhibit Number 1A was introduced into**  
6 **the record at this time.)**

7 A: Right. This is sort of a low wind area that  
8 just sort of goes all the way back, all the way  
9 back, all the way back, all the way back in  
10 here. That's what I call a slough, okay  
11 (indicating).

12 Q: Is that a scientific term?

13 A: I don't know. I can't tell you that.

14 Q: Have you used that term in your experience as  
15 a professional?

16 A: Oh, certainly. That's my term to describe  
17 something like this. Maybe one back in here.  
18 It's a low area that sort of permeates or goes  
19 into the highland area (indicating).

20 Q: Okay.

21 A: That's what I call the slough.

22 Q: And are you aware of others in field botany  
23 referring to an area like that as a slough?

24 A: I -- I can't cite an example, but I feel  
25 certain. That's just a term we use.



1     **THE COURT:**   It's a word.

2     Q:     Is it a word that you understand is used in the  
3             field of field botany?

4     A:     I'm not going to say I've seen it in a text  
5             book.   I just never thought about where the  
6             term came from.   I really don't know.

7     Q:     What about in terms of speaking with other  
8             professionals in the field?

9     A:     Oh, I think we've used it before, certainly.

10    Q:     Are you aware that there has been some  
11            development activity that's permitted for  
12            Captain Sam's Spit?

13    A:     Yeah, they permitted a wall, a road, a water  
14            treatment plant, something else.   I forgot what  
15            the other one was.   No, there have been permits  
16            issued and that's why we're here today.

17    Q:     Okay.

18    A:     I think there are four permits and I may have  
19            forgotten -- I guess house sites maybe.

20    Q:     Okay.   Do you know how many sites are proposed?

21    A:     26, I believe, in Phase 1.

22    Q:     Okay.   And do you have an understanding of the  
23            location of the proposed wall?

24    A:     The wall?   Yeah, the wall is supposed to be  
25            over here (indicating).



1 Q: So you're marking along the river?

2 A: Yeah, I have no expertise on the wall, really.  
3 It's be like here (indicating).

4 Q: Are you able to describe what area you're  
5 marking in terms of the physical area?

6 A: Well, it's this little narrow neck, is that  
7 what you mean? The inland area of the narrow  
8 -- on the Kiawah River of the neck, right along  
9 here. That's where the -- I understand the  
10 wall is going.

11 Q: And do you have an understanding of where the  
12 proposed road would be located?

13 A: Yeah.

14 Q: Are you able to describe where that would go?

15 A: I think it comes down here (indicating).

16 Q: So it comes across the neck?

17 A: Yeah, it comes across the neck and somewhere  
18 along here it branches off, it crosses the  
19 slough right along here somewhere and one branch  
20 goes there, and I think one branch goes down  
21 here, but this is the slough I talk about right  
22 here, and the road -- roughly the bridge -- I  
23 mean, the road right along here will cross the  
24 slough in that general area. I can't -- it's a  
25 very poor map to look at, but it's just right



1           along there in that area (indicating).

2       **THE COURT:**   Describe again how you define a slough.

3           How do you define ---

4       Q:   How do you define a slough?

5       A:   Well,   it's   this   low   area   along here  
6           (indicating), it's -- it's ---

7       Q:   What is that?   Are you able to describe it in  
8           terms of vegetation?

9       A:   Well, it's marsh area all along here.   There's  
10       a marsh system here.   Then as you move further  
11       up the slough, you get little woody plants and  
12       so forth that changes the vegetation somewhat,  
13       but it's a very low area.   Right along here is  
14       all spartina marsh, but as you move up the  
15       slough, you get a little further removed from  
16       the tide system, you get more freshwater coming  
17       down, so you get a mix of plants.   Freshwater  
18       plants, saltwater plants, brackish plants.   But  
19       it's a low area that goes all through up into  
20       the middle of the island.

21       Q:   And is that an area that's typical on a barrier  
22           island?

23       A:   Oh, certainly.   All these -- that's how they  
24       form.   They form by ridges.   As the ocean  
25       recedes, the ridges are left behind.   Why is it





1 a creek, the ridges are left behind. And  
2 between the ridges are the slough. That's just  
3 -- that's a normal process. Up and down, up and  
4 down, up and down. That's the way it works.

5 Q: Have you reviewed the plans for the proposed  
6 development?

7 A: I've seen the plans. I don't know if I -- I  
8 didn't read them, but I've seen the basic plan  
9 for development, yes.

10 Q: If you flip in this notebook that's in front of  
11 you to Joint Exhibit Number 7.

12 **(Joint Exhibit Number 7 was introduced into the**  
13 **record at this time.)**

14 A: Okay.

15 Q: If you could flip through there and tell me if  
16 you recognize those documents.

17 A: Yeah, these are all part of a large set of maps  
18 that I looked at.

19 Q: Okay.

20 A: Yeah.

21 Q: So you've looked at those development plans  
22 before?

23 A: Say it again, I'm sorry.

24 Q: You've reviewed those development plans?

25 A: I didn't read it.



1 Q: Reviewed. You've looked at them?

2 A: Yeah, yeah, I've looked at those early on when  
3 we first met when I decided to offer my  
4 expertise, I had looked at those, yeah. Not in  
5 a lot of detail, you understand that, that's  
6 material that I -- I was concerned about the  
7 road and stuff like that because I had been in  
8 the slough.

9 Q: When did you -- when did those concerns -- when  
10 did you develop those concerns that you just  
11 described?

12 A: About the -- about the beach and the slough or  
13 what?

14 Q: Yes. Did you develop concerns related to the  
15 proposed development on Captain Sam's Spit?

16 A: Well, they'll have -- let's get this out the  
17 way. I want to refer to these notes to make  
18 sure because I've been there so many times that  
19 I might get a little confused on the dates, so  
20 let's just ...

21 Q: And ---

22 A: All right. The first day I went ---

23 **MS. WHITE:** For the record, the witness is referring  
24 to his notes, his journal entry notes, which  
25 counsel received in discovery previously.



1 **MR. GRESSETTE:** Pursuant to the rules, shortly I'll  
2 ask to look at the materials, but for now ---

3 **THE COURT:** You have a right to them.

4 A: Go ahead?

5 Q: You can go ahead.

6 A: The first ---

7 Q: Go ahead.

8 A: The first day I went was February the 13th with  
9 Ms. Dailey, who' already testified. She was  
10 doing a blog and wanted me to help her identify  
11 the plant life on Captain Sam's Spit. I was in  
12 the process of redoing my photographs for my  
13 wildflower book and I do my wildflower book,  
14 that's the one that Dr. Gramling and I are  
15 doing, and we do it by plant community. And I  
16 said well, it's a good time for me to go out and  
17 photograph the dune community and the beach  
18 community together when I'm out there, because  
19 that's a community or set of communities I  
20 wanted to include in the book, the beach and the  
21 dune community, so I went with Ms. Dailey. Soon  
22 as we got to the beach, we looked down the beach  
23 and I was totally shocked that there was -- all  
24 the dunes were sheered off straight like this.  
25 There was no beach community and the erosion --



1 erosion up and down the entire beach.

2 Q: What ---

3 A: And I guess I got to that point and said I  
4 always thought the -- everybody said the beach  
5 was -- the spit was accreting or prograding.  
6 And what I see here is just the opposite, so I  
7 ask myself do I have something here that no one  
8 else has mentioned or noticed?

9 **MR. GRESSETTE:** Well, objection, Your Honor.

10 Q: Try to speak just to your observations and not  
11 your internal communications with yourself, with  
12 your thought process.

13 A: Okay. Well, the dune line was a sheered dune  
14 line. Obviously, it had been washed away by  
15 water. If you have a typical prograding island,  
16 you've got the beach -- a strand of beach, then  
17 you've got what's called a beach community.  
18 That community is just far enough from the wave  
19 action so that you can get a couple of plants we  
20 call Carolina thistle and sea rocket. They can  
21 tolerate that salt spray, high salt content that  
22 can reach them over the beach from the salt  
23 spray. So you have that beach community, all  
24 right. Behind that is the dune community,  
25 that's a little further removed from the effects



1 of salt spray, so we have what's called a beach  
2 -- the dune community, sea oats, plants such as  
3 that. They can still tolerate some salt spray,  
4 but not as much as the beach community. And so  
5 as a barrier island progrades or accretes, these  
6 communities move in lock-step. Where the beach  
7 community is one day, the dunes will be very  
8 soon. So these communities move in lock-step.  
9 As land -- as sand is added to the beach and the  
10 beach moves, these two communities move in lock-  
11 step and then, of course, behind a little  
12 further, the maritime forest takes over the dune  
13 community. So that's the typical profile of a  
14 prograding barrier island. When I got to the  
15 barrier island, to the spit, there was no beach  
16 community, nothing at all, and a sheer zone of  
17 dunes. So, obviously, it wasn't prograding; it  
18 was retrograding based on my knowledge.

19 Q: And did that cause you concern?

20 A: Oh, surely.

21 Q: And when was that?

22 A: That first observation was February the 13th,  
23 2016.

24 Q: 2016, so that was before Hurricane Matthew?

25 A: Oh, certainly, a long time before -- yeah,



1           Matthew came in October -- yeah, I think October  
2           or either September, I forgot when it hit.

3       Q:   And what did you do after you went out to the  
4           spit and observed the eroded dunes and lack of  
5           beach community on Captain Sam's Spit?

6       A:   Well, like I said, I thought I had something  
7           here that nobody had noticed, that this island  
8           was not prograding, but retrograding and I said  
9           I need to see what -- if the data I have and my  
10          observations could be valuable to Dana Beach  
11          because I know that Dana's group was trying to  
12          prevent the development of Captain Sam's Spit.  
13          So I offered my services to I guess Amy and said  
14          I have some material here that may be valuable  
15          to y'all. People have said this island has been  
16          prograding and what I see, it's retrograding. So  
17          I think this data could be useful for y'all.

18       Q:   And what data was that that you're referring to?

19       A:   That the dunes were sheered off and there was no  
20          beach community. Obviously, wave action had  
21          been eroding the dunes.

22       Q:   So was it your observations is the data that  
23          you're referring to?

24       A:   Yes, my observations.

25       Q:   Okay.



1 A: What I saw when I went out there that first day.

2 Q: Okay. And did you go back out to Captain Sam's  
3 Spit after that?

4 A: Next trip was -- by the time July the 6th came  
5 along, drove to Captain Sam's to prepare for the  
6 deposition. So by that time, I had contacted  
7 Amy and she agreed that I could help out in the  
8 case.

9 Q: It's your understanding that you were listed as  
10 a witness in the case?

11 A: By that time, yes.

12 Q: Okay. And when was the next time you went to  
13 Captain Sam's Spit after February 2016?

14 A: February -- August the 3rd, 2016, met with Amy  
15 Armstrong at her office in Georgetown. Okay.  
16 Went over -- oh, that was just I met her in the  
17 office, okay. August 3rd, 2-16, I met her in  
18 the office to go over the case. Next time I  
19 went out, Friday, August the 19th. Amy and  
20 Jessie, I spelled your name wrong, I'm sorry,  
21 this is from my journal by the way.

22 Q: Can you tell the Court what -- when you refer to  
23 your journal, what is that?

24 A: Well, I keep a daily journal. I've done it for  
25 50 years. Everyday I record what I do. That



1 day I was -- sometimes I may have to do it two  
2 days later, but I keep a daily journal. And so  
3 I pulled out from my daily journal the days I  
4 was involved or did something with the case and  
5 that's been supplied to the -- Tom has it. So  
6 I'm reading from -- reading from my daily  
7 journal.

8 Q: And why do you keep a daily journal?

9 A: Somebody might want to do my biography one day,  
10 with all the creative things I've done. Anyway.

11 Q: And ---

12 A: But it's mainly as a record so I can go back and  
13 see when I planted some corn at the farm or  
14 where I found a particular plant, just sort of  
15 a record of -- a biological record -- a record,  
16 but I do include things such as this. I've got  
17 this material right now, so it's giving me a  
18 wonderful chance to be able to go back and  
19 recreate what I've done with y'all.

20 Q: So August 19, 2016, was the next time you went  
21 out to the spit?

22 A: Right.

23 Q: And what did you do on that day?

24 A: Well, you and I left Amy and she went with some  
25 other people down to the end to observe the





1 erosion on the end. And you and I walked across  
2 the dunes into what I call the swale.

3 Q: What's the swale?

4 A: The slough or swale. Slough.

5 Q: Are ---

6 A: They're the same thing.

7 Q: A swale and a slough are interchangeable?

8 A: They're terms I use interchangeably. I'm sorry.  
9 Slough, swale, same thing.

10 Q: Are they used interchangeably?

11 A: I don't know. I use them -- I'm from Berkeley  
12 County, okay. Hell Hole Swamp. And you've got  
13 to give me some leeway on some of my  
14 definitions. When I say slough or swale, I'm  
15 talking about this place right here. Tom, you  
16 know what I'm talking about. That's it right  
17 there (indicating).

18 Q: So as a field botanist, when you use the term  
19 slough or swale ---

20 A: Or slough.

21 Q: --- are you referring to a particular area  
22 that's marked by certain vegetation?

23 A: It is. In this case, we've already talked about  
24 it.

25 Q: Okay.



1 A: All right. So you and I -- I had seen the swale  
2 or the slough when Celie and I went out the  
3 first time. We walked all the way around the  
4 island the first time we went out and I noticed  
5 this slough. So I took you into it. I wanted  
6 you to see it because I said this thing probably  
7 goes all the way up into the island where the  
8 home sites are going to be and roads and  
9 everything. How can you build on it when you've  
10 got this water -- wetland habitat going all the  
11 way to the middle of the island. So I wanted to  
12 make sure you saw it so you could determine  
13 whether or not it was something that I needed to  
14 explore.

15 Q: Did you have any objectives in collecting data  
16 on that day ---

17 A: Yeah, we collected ---

18 Q: --- on August 19 ---

19 A: --- we collected -- we did GPS on four sites.  
20 You and I did GPS on four. We walked up the  
21 slough a certain distance. You weren't fully  
22 prepared to go through the thick part if I  
23 remember correctly. You weren't even prepared  
24 to go into the low parts. So I took four  
25 readings. We can't use those? That map, we



1           can't use that? That's not in ---

2       Q:   Well, why don't you just tell me about what you  
3           did?

4       A:   Well, I wanted to see if you -- I wanted to make  
5           sure you knew what I was talking about if I got  
6           back into the -- with Amy, that this slough goes  
7           all the way up as far as you can see and it's  
8           tidal and so I didn't know if this would be of  
9           some interest to y'all in the case. What I was  
10          trying to do is take my knowledge of the land  
11          and see if it had any use with y'all in the  
12          case.

13       **MR. GRESSETTE:** Your Honor, I think the term tidal is  
14           a statutorily defined term and I'm not sure that  
15           he is qualified as an expert to testify about  
16           what is and is not tidal.

17       **THE COURT:** Well, he said already ---

18       **MR. GRESSETTE:** If that was his intent.

19       **THE COURT:** Well, he's already said that he uses  
20           terms not as terms of art, so I'll just -- from  
21           now on through the rest of his testimony, unless  
22           something's identified ---

23       **MR. GRESSETTE:** Yes, sir.

24       **THE COURT:** --- as a term of art, I'm going to assume  
25           it's not.



1     **MR. GRESSETTE:** Yes, sir. Thank you.

2     **THE COURT:** Is that ---

3     A: You'll have to ---

4     Q: Doctor ---

5     A: --- explain what they said.

6     **COURT REPORTER:** I'm sorry, I didn't hear you.

7     A: Ma'am.

8     **COURT REPORTER:** I just didn't hear what you said.

9     **MS. WHITE:** He asked me to explain.

10    **COURT REPORTER:** Thank you.

11    Q: So, Dr. Porcher, in your area of expertise as a  
12       field botanist, do you have an understanding of  
13       different plants that are tolerable to salt?

14    A: Certainly, that's what we do. I teach -- teach  
15       at college. We go and sample -- I taught marine  
16       botany. That's what we do. What plants survive  
17       in the marine environment. That's a course I  
18       taught. Took my students right into a salt  
19       marsh, tidal salt marsh.

20    Q: And in teaching that class and your opinion as  
21       a field botanist and your expertise as a field  
22       botanist, do you have an understanding of how a  
23       marsh functions?

24    A: Certainly.

25    Q: Okay.



1 A: Good heavens. *Spartina alterniflora*, it lives  
2 in a very salty environment. It has to exclude  
3 salt from its root system so it can take in  
4 water. You know, we talk about the osmotic  
5 situation with salt plants, that's just basic  
6 botany.

7 Q: Okay. And does that understanding include other  
8 coastal processes and their interaction with  
9 vegetation?

10 A: Certainly. If you -- we have to know -- a dune  
11 system, let's take a dune system. How can  
12 *spartina* plant, how can sea oats, survive on a  
13 dune system when the dunes keep building up and  
14 building up. It seems like they would cover up  
15 the sea oats, wouldn't it? What can sea oats  
16 do? It has a very rapid growth, so it can grow,  
17 grow, grow, grow faster than the dune system can  
18 develop. So it actually may have its roots way  
19 down at the base of the dune. This is just  
20 basic ecology. We study all the time how plants  
21 survive in a salt environment or desert  
22 environment.

23 Q: Do you study water as a field botanist?

24 A: Certainly.

25 Q: Can you explain how water is part of your study



1 of field botany?

2 A: We're talking about the various communities. I  
3 did my wildflower book based on plant  
4 communities. I grouped all of the wildflowers  
5 on the plant communities. There's a community  
6 called the floating aquatics, floating aquatics.  
7 How do these plants -- how they've been adaptive  
8 to living in water. Well, they have what's  
9 called a aerenchyma tissue that holds a lot of  
10 oxygen so these plants can actually float on the  
11 surface. And that's just -- you know, I do that  
12 all time. Every plant has a story. Every plant  
13 has a story. And I could take you into any  
14 community, sand dunes, pine forests, salt marsh,  
15 and take virtually every plant and tell you  
16 something about how it's adapted to live in that  
17 environment. Or I could at one time, I guess  
18 I've forgotten a lot.

19 Q: And when you talked about the marsh in looking  
20 at aerial -- this aerial image here, which is  
21 Petitioner's 1A, what vegetation were you  
22 talking about?

23 A: Right here? *Spartina alterniflora*. This is  
24 basically *spartina alterniflora* right here.

25 Q: And you just said that vegetation has a story.



1 Is there other understanding that you have  
2 related to spartina and the environment that it  
3 grows in?

4 A: All right, spartina can actually grow in  
5 freshwater. But it can't compete with other  
6 plants. The only place it can grow is in the  
7 salt marsh because there's no other plants that  
8 adapted to live there. So, spartina has its own  
9 habitat with no other competition. But it can  
10 grow in freshwater, but it can't compete with  
11 other plants in freshwater. So it -- that's  
12 where it is. I take every plant you want to and  
13 I can give you some story about it.

14 Q: When you talk about those -- the vegetation in  
15 a salt marsh, would you have any other  
16 terminology that you would use in your field to  
17 describe that ecosystem?

18 A: I -- to me, that's -- spartina salt marsh, I  
19 don't think that -- I've never used any other  
20 term.

21 Q: And ---

22 A: It's a tidal salt marsh, populated by spartina.

23 Q: Is tidal salt marsh a term of art that's used in  
24 field botany?

25 A: Certainly.



1 Q: Okay. So ---

2 A: I've got my book listed in the community of  
3 tidal salt marsh, I believe.

4 Q: And is tidal salt marsh a term that's used by  
5 others in your profession?

6 A: Oh, everybody uses it. It's just a common term.  
7 They may just say salt marsh and the people know  
8 it's tidal. If it's a salt marsh, it's going to  
9 be tidal. So some people may drop off the tidal  
10 part.

11 Q: All right. I want to talk more specifically  
12 about what you did and what you observed on  
13 August 19th.

14 A: All right. You and I -- I'll give you ---

15 Q: Again, the witness is using ---

16 A: --- you and I walked down the beach. There's a  
17 trail that goes through here. I don't see it  
18 right here. A little trail that the Town of  
19 Kiawah is doing studies on birds back here,  
20 banding birds, but they've got a trail that goes  
21 right through here. So you and I can follow  
22 that trail back into the slough, all right. And  
23 I simply showed you, said, look, Jessie, this  
24 slough I think goes way back up here and at a  
25 high tide, it'll carry water way back up in





1 here. How can you build a road and stuff like  
2 that. I thought it was a protected habitat. I  
3 thought salt marsh was protected. So what I did  
4 with you is I took four readings, four GPS  
5 readings.

6 Q: So you had your GPS unit with you?

7 A: Yeah, yeah. I took one, two, three, four. You  
8 know, that's as close as I can do. And we  
9 measured the water. I believe the depth and did  
10 the GPS and I put them all -- Ms. Dailey put  
11 them on a map. She pulled up Google when I got  
12 home and she created a map with those four sites  
13 on it. And that's what I -- I was trying to  
14 explain to you, is this something that y'all can  
15 also use? If so, then I'll explore it in more  
16 detail.

17 Q: So you collected GPS data ---

18 A: Well, yeah, four sites.

19 Q: Okay.

20 **MS. WHITE:** Your Honor, I'm not a -- yeah, I do have  
21 a good bit more to do with this witness and I'm  
22 at kind of a natural breaking point if we want  
23 to break for lunch.

24 **THE COURT:** Well, I'm not really ready. Well, it's  
25 12:48, okay.



1 **MR. GRESSETTE:** If it suits the Court, we'd be glad  
2 to move through this witness quickly. I don't  
3 think I'll have much cross. However The Court  
4 wants to proceed.

5 **MS. WHITE:** I do. I just ---

6 **THE COURT:** Well, I have one request. We can break,  
7 but I listen to your questions and there's a  
8 fair amount, well not -- there's just some asked  
9 and answered. If we could, after the break,  
10 just keep the -- not be as repetitive, that  
11 would be helpful for all of our time. But let's  
12 just take a break and we'll be back at 2:00.  
13 Will that be good?

14 **MR. GRESSETTE:** Thank you, Your Honor.

15 **MS. WHITE:** Thank you.

16 **THE COURT:** Thank you.

17 (A lunch break was taken from 12:51 p.m. until 1:57  
18 p.m.)

19 **THE COURT:** All right.

20 **MS. WHITE:** Thank you.

21 Q: All right. Dr. Porcher, we're going to talk  
22 about some photographs.

23 **THE COURT:** Oh, y'all are going to double-team him.

24 **MS. ARMSTRONG:** If that's okay, Your Honor.

25 **THE COURT:** No, that's good.



1 MS. ARMSTRONG: I'm just helping ---

2 MS. WHITE: Yeah.

3 MS. ARMSTRONG: --- so Ms. White and Dr. Porcher --  
4 Dr. Porcher can hear her.

5 THE COURT: Efficiency.

6 MS. WHITE: Thank you.

7 THE COURT: I'm all in favor of that.

8 MS. WHITE: Thank you.

9 THE COURT: Just for curiosity, zoom in. Keep on  
10 going. I just want to see where ... That's  
11 fine, there. Okay. Thank you.

12 (Petitioner's Exhibit Numbers 20B through 20I were  
13 introduced into the record at this time.)

14 Q: All right. Dr. Porcher, I'm going to hand you  
15 what's marked as Petitioner's Exhibit 20B  
16 through 20I and ask if you recognize those  
17 documents.

18 A: They're dated August 19, let me make sure.  
19 Yeah, I do.

20 Q: What are those photographs of?

21 A: They are photographs when you and I went down  
22 into the swale August 19th.

23 Q: Did you take those photographs?

24 A: I did.

25 Q: If you could start by looking at 20B and I



1 believe ---

2 A: I need to line up my map because I can't  
3 remember where one was. There were four  
4 photographs.

5 Q: Hold on one second.

6 A: Well, this is -- I got it.

7 **MR. GRESSETTE:** Your Honor, I think the witness has  
8 a copy of the map that has the four yellow  
9 pinpoints on it.

10 A: Yeah, uh-huh.

11 **MR. GRESSETTE:** I would ask that he not be able to  
12 refer to it.

13 **THE COURT:** All right.

14 Q: Let's -- Richard, let's just talk about the  
15 photos themselves first.

16 A: These are four photographs of ---

17 **MS. WHITE:** It's right here.

18 A: --- taken in ---

19 **MS. WHITE:** You can stand ---

20 **MR. GRESSETTE:** That's fine. That's fine.

21 **MS. WHITE:** --- if you want to observe what the  
22 witness is looking at.

23 A: Okay.

24 Q: Let's just talk about the photographs. If you  
25 could just walk me through first with 20B, what



1 is -- what do you observe in that photograph?

2 A: This is the swale that we walked into. This is  
3 the furthest we walked up the swale or the  
4 slough, okay. Slough. The furthest we walked  
5 up. Okay. And that is a mixture of maritime  
6 shrubs or salt shrubs, this baccharis, sea iva,  
7 but this is the furthest that you and I moved up  
8 the swale when we went in that day. That is the  
9 slough.

10 Q: And that was on August 19th, 2016?

11 A: Yeah, August 19, 2016.

12 Q: And are you able to look at that -- that image  
13 and identify roughly on this aerial,  
14 Petitioner's 1A, where that location is?

15 A: Probably right along here (indicating).

16 Q: So the witness is indicating on the oversized  
17 aerial of 1A what I believe he testified to  
18 earlier about in the slough, is that correct?

19 A: Right along there somewhere (indicating).

20 Q: Okay. And where is that in relation to the  
21 access point on the beach that you referenced?

22 A: I can't -- I cannot see the access point on  
23 here.

24 Q: From the angle on the photograph?

25 A: Yeah, it just doesn't show up. The trail



1 through there does not show up.

2 Q: Do you recall how far down Captain Sam's Spit  
3 that trail was?

4 A: It was right along here somewhere if I remember  
5 correctly. It's in the general area. I think  
6 we actually -- it's probably be this on a map.  
7 I think we entered it roughly where the trail  
8 was and took the first reading.

9 Q: Okay.

10 A: And then for the trail, we walked down here for  
11 the next three readings.

12 Q: Okay.

13 A: The best I can do it without my map.

14 Q: Okay. Thank you. And if you look at the next  
15 image.

16 A: That's the same point, but facing the other  
17 direction.

18 Q: Okay. So the first -- for 20B, what direction  
19 is that facing?

20 A: Oh, facing this way (indicating).

21 Q: Towards the end of the inlet?

22 A: Right, towards the end.

23 Q: Okay.

24 A: Or towards the beginning of the slough.

25 Q: In looking at 20C, what is that photograph?



1 A: Which one again?

2 Q: 20C. Just flip. What is that? What do you  
3 observe in that photograph?

4 **THE COURT:** Is this 20C, what we're looking at now or  
5 20B?

6 **MS. WHITE:** Yes, that's 20C.

7 **THE COURT:** Okay.

8 A: This might be the first I've looked at it.  
9 Something is not in order here. Where is A?

10 Q: We are just looking at the photographs right  
11 now. I have A over here, but we're not going to  
12 look at that yet.

13 A: Okay. Then I've got to sort of try to figure  
14 where I am based on ---

15 Q: I think you testified previously that the second  
16 photograph was in a different direction.

17 A: Yeah, it would be right -- this looks like it's  
18 right along here. The first one was right along  
19 there probably. The second one was right along  
20 here (indicating).

21 Q: Are they at different points?

22 A: Yes.

23 Q: Okay. And did you ---

24 A: We were moving in this direction (indicating).

25 Q: Okay.



1 A: We took a point here, here, here, and here, I  
2 believe. We were moving in this direction.  
3 Four points.

4 Q: And when you say points, what are you ---

5 A: GPS sites.

6 Q: You took a GPS reading?

7 A: Yes.

8 Q: Okay. And if you look at the next photograph,  
9 are you able to describe what you are taking --  
10 what that photograph is?

11 A: Well, it's some -- some shrubs, salt shrubs,  
12 borrichia. Oh, I got it labeled right here.  
13 Fimbristylis, iva frutescens, borrichia, I got  
14 it labeled right here, the plants.

15 Q: Did you take that photograph?

16 A: Yeah.

17 Q: And did you write information on that  
18 photograph?

19 A: Yeah, it's right at the bottom.

20 Q: And do you recall when you wrote those notes?

21 A: I wrote the name of the plants.

22 Q: Do you recall when you wrote that information on  
23 that photograph?

24 A: Oh, when I got back home and ran the -- well, I  
25 probably recorded it in my field book, but then





1           when I got back in and ran these off, copied  
2           them, then I wrote on it.

3       Q:   And where is that photograph taken on the  
4           aerial?

5       A:   I guess if the first one was here, it was right  
6           along here probably somewhere (indicating).

7       Q:   So, where in relationship -- are you able to  
8           describe physically where it is in relation to  
9           the first reading?

10      A:   Well, the first reading was probably up here  
11           somewhere; the second reading was right along  
12           here. Best I can recall looking at a map like  
13           this.

14      Q:   So were you moving in a direction towards ---

15      A:   Yeah, I'm going this way, towards the wide part,  
16           towards the -- towards the estuary.

17      Q:   Okay. And if you look at 20D, did you take that  
18           photograph?

19      A:   Yes.

20      Q:   What is being depicted in that photograph?

21      A:   Borrichia, fimbristylis, iva frutescens.

22      Q:   Okay. Are you able to identify the vegetation  
23           that's in that photograph by looking at it?

24      A:   I can tell this is borrichia right here. This  
25           is probably iva. The fimbristylis is the little



1 grass that's down here, or sedge down here  
2 (indicating).

3 Q: Okay. And did you take a GPS reading at the  
4 point in ---

5 A: I did.

6 Q: --- Exhibit 20E?

7 A: I did.

8 **MS. ARMSTRONG:** Are you on D or E?

9 **MS. WHITE:** E.

10 **MR. GRESSETTE:** Have we moved on to E, as in Edward?

11 **MS. WHITE:** Yes.

12 **THE COURT:** Just now when you were identifying the  
13 plants, was that on 20E or 20D?

14 **MS. WHITE:** This is 20E.

15 **THE COURT:** Okay.

16 A: This is very confusing because my map, I had it  
17 all mapped out and everything with the points,  
18 so I'm -- since we can't use my map, it's a  
19 little confusing for me.

20 **THE COURT:** Yes, sir.

21 Q: If you could just try to do your best to  
22 identify what plants you observe in the  
23 photographs.

24 A: I -- *fibristylis spathacea* ---

25 **MS. WHITE:** And right now the witness is looking at



1 Exhibit 20D.

2 **MS. ARMSTRONG:** D.

3 A: Fimbristylis spathacea, iva frutescens, and  
4 borrichia.

5 Q: Okay. And what about on Exhibit 20E, the next  
6 photograph, what are the ---

7 A: Same plants. What all I've got in here.  
8 Borrichia, fimbristylis, iva frutescens, same  
9 plants.

10 Q: And what kind of plants are those?

11 A: They are marsh shrub plants or plants that  
12 probably thrive in a brackish environment.  
13 Brackish -- I guess you'd call them brackish  
14 plants.

15 Q: Okay. And what is brackish?

16 A: That's a mixture of salt and freshwater. You  
17 have saltwater, brackish, and fresh.  
18 Freshwater, brackish, salt. Brackish is a  
19 mixture of saltwater and freshwater.

20 Q: Okay. And if you'd flip to the next photograph,  
21 20F, did you take that photograph?

22 A: I did.

23 Q: And what do you observe in that photograph?

24 A: Same plants, iva frutescens, borrichia, there's  
25 some baccharis in there, distichlis. We're



1 moving now in this direction (indicating).

2 Q: So is that moving towards the end of the spit?

3 A: Towards the river.

4 Q: Towards the river?

5 A: Well, towards the end. This direction here  
6 (indicating).

7 Q: So were you following a curve?

8 A: We were just walking a straight line probably,  
9 if I remember correctly.

10 Q: Okay. And did you take a GPS reading at the  
11 point on ---

12 A: I took a GPS reading ---

13 Q: --- 20F?

14 A: Yeah, I did.

15 Q: Did you record that point?

16 A: I did.

17 Q: And if you look at Exhibit 20G, did you take  
18 that photograph?

19 A: I did.

20 Q: What is being depicted in that photograph?

21 A: Iva frutescens, baccharis halimifolia,  
22 borrichia, and distichilis.

23 Q: And what kind of plants are those?

24 A: They're generally -- probably I'd call them  
25 brackish plants. They can't tolerate the full



1 salt, put it that way, so they are brackish  
2 plants. I don't think any of those could really  
3 tolerate growing in totally inundated saltwater.

4 Q: Okay. And did you take a GPS reading at that  
5 point?

6 A: I did.

7 Q: And did you record ---

8 A: I did.

9 Q: --- that data?

10 A: I did.

11 Q: And are you able to generally identify where  
12 that photograph was taken on the aerial?

13 A: I think that's still the third point right along  
14 here somewhere (indicating).

15 Q: Okay. And if you look at 20H ---

16 A: And 20I, okay.

17 Q: Did you take 20H?

18 A: I did.

19 Q: What ---

20 A: These two at the same point, I believe.

21 Q: 20H and 20I are at the same point?

22 A: Yeah, I took two photographs at each point.

23 Q: Okay.

24 A: Two photographs at each point.

25 Q: Okay.



1 A: Looked up an down the swale.

2 Q: Okay. And so is 20H looking up or down the  
3 swale?

4 A: That's up, probably right along here looking  
5 this direction (indicating).

6 Q: So by looking up, you mean looking towards the  
7 neck of the spit?

8 A: Yeah, yeah, towards that direction (indicating).

9 Q: And what direction is 20I taken?

10 A: That was probably still right here, looking up  
11 into those logs. You can see the spartina right  
12 back here. The spartina starts right along here  
13 somewhere. That's spartina marsh (indicating).

14 Q: Okay. Do you observe any other vegetation in  
15 20I?

16 A: Just fimbristylis and borrichia, that's the only  
17 two I see right there.

18 Q: And you observed spartina and I believe you  
19 identified it on the top of the image?

20 **MR. GRESSETTE:** Objection, leading.

21 A: Well, I don't think -- yeah. I didn't ---

22 Q: All right. Are you able to ---

23 **THE COURT:** Do you want to -- if y'all could stop  
24 just for a second.

25 A: This is the spartina.



1     **THE COURT:** Do you want her to rephrase it?

2     Q: One second. One second, Richard.

3     A: I'm sorry.

4     **MR. GRESSETTE:** Yeah, I'd be happy if she would  
5         rephrase it and just not lead.

6     **MS. WHITE:** Sure.

7     Q: Richard, if you could -- you can touch the  
8         computer screen. If you could identify what you  
9         reference as spartina.

10    A: That's your spartina (indicating).

11    Q: Okay, thank you. And did you take all of these  
12       photographs?

13    A: I did.

14    Q: And you took how many GPS readings?

15    A: The day you and I went there, I took four GPS  
16       readings and two photographs at each reading.

17    Q: Okay. And do you understand that the GPS  
18       readings were placed on an aerial image?

19    A: Yes.

20    Q: Have you seen that aerial image?

21    A: Have I seen it? Certainly, I've got it in my  
22       book right here (indicating).

23    **MR. GRESSETTE:** Your Honor, I'd object to the witness  
24       viewing what's about to be presented to him,  
25       which is the aerial photograph prepared by Ms.



1 Celie with the four points on it. Not only is  
2 it unreliable for all the reasons we've  
3 discussed before, the hearsay, it's also  
4 leading.

5 **THE COURT:** Well, if she's seeking to have him  
6 identify the exhibit in order to make a motion  
7 to have it admitted, I think she would have to  
8 show it to him at some point, would she not?

9 **MR. GRESSETTE:** Well, frankly, Your Honor -- okay.

10 Q: Richard, I'm going to hand you what's marked as  
11 Petitioner's Exhibit 20A.

12 A: All right.

13 Q: And ask if you've seen this before?

14 A: This is a -- mine. This is the one -- this is  
15 -- let me make sure of the date. What is the  
16 date on this? Can I refer to my notes and make  
17 sure I'm identifying it correctly, sir?

18 **THE COURT:** You may. You have the right to look at  
19 them.

20 Q: If you're able to identify it by looking at it  
21 first ---

22 A: Yeah, this is the one -- this is -- I'm almost  
23 certain it's the same one, the photographs there  
24 I just identified, referred to. This is the  
25 trip that you and I made one, two, three, four.





1 Q: And how do you -- how are you making that  
2 determination? How do you know that those are  
3 the points from August 19th?

4 MR. GRESSETTE: Objection. He didn't say  
5 definitively, he said he was almost certain.

6 THE COURT: All right.

7 A: I didn't ---

8 THE COURT: Rephrase your question.

9 Q: Is there anything about that map that indicates  
10 to you when you -- when the -- what information  
11 is contained on that map?

12 A: Well, you and I walked down this trail right  
13 here (indicating).

14 Q: If you could locate ---

15 A: Oh, I'm sorry.

16 Q: --- it on the map.

17 A: Okay.

18 MS. WHITE: Can you zoom out?

19 MS. ARMSTRONG: I've zoomed out as far as I can go.

20 MS. WHITE: Or scoot it ---

21 A: I can't find -- oh, here. This is the trail  
22 that we always take coming from the beach side,  
23 right -- see this trail here (indicating).

24 Q: You can actually touch the screen.

25 A: Oh, I'm sorry. That's the trail you and I took.



1 That's the one we always take when we go into  
2 the swale I guess. And so we went into here and  
3 we made our first reading here, here, here, and  
4 here. Those are the four places we made those  
5 readings. That's where I took four GPS points  
6 (indicating).

7 Q: And are you able to verify that the points that  
8 are marked on Exhibit 20A are the points  
9 represented in the photographs 20B through I?

10 **OBJECTIONS REGARDING GPS POINTS AND OVERLAY ON**  
11 **EXHIBITS:**

12 **MR. GRESSETTE:** Objection, Your Honor. In order to  
13 verify those points, he'd have to be a land  
14 surveyor. A land surveyor is the only person  
15 under South Carolina law that can verify points  
16 on a plat. Cites 44 -- 40-22-30 defines a land  
17 surveyor. 40-22-30 makes it unlawful for anyone  
18 to engage in the activities reserved for a land  
19 surveyor, which include identifying marks on a  
20 map referenced from geotechnical material. It  
21 says a land saver -- land surveyor conducts  
22 geodetic surveying which includes surveying for  
23 determination of geographic position in an  
24 international three dimensional coordinate  
25 system where the curvature of the earth must be



1 taken into account when determining directions  
 2 and distances; geodetic surveying includes the  
 3 use of terrestrial measurements of angles and  
 4 distances, as well as measured ranges to  
 5 artificial satellites. A land surveyor  
 6 determines by the use of principles of land  
 7 surveying the position for any survey monument,  
 8 reference point, set, re-set, reference and  
 9 determines the typographic configuration of  
 10 contours of the earth's surface. They locate  
 11 and establish, re-trace property lines and  
 12 boundaries of any tract or road or right-of-way,  
 13 easement, alignment, or elevation, any of these  
 14 things are embraced within the practice of land  
 15 surveying. That's not a quote. Embraced within  
 16 the practice of land surveying or makes any  
 17 survey for the subdivision of land. I mean, I  
 18 think the point is we've had questions about the  
 19 reliability of this information when it comes to  
 20 a court. We have discussed preservation of the  
 21 Court's gate keeping function and the  
 22 reliability of all evidence. We now have a  
 23 South Carolina statute, if I am reading the  
 24 statute correctly, that identifies the kind of  
 25 behavior that these witnesses are attempting to



1 engage in, reserves it only for certified land  
2 surveyors, professional land surveyors, and  
3 makes it illegal for other people to do it. The  
4 reason for that, as in the statute, is to  
5 protect the public because they are not reliable  
6 if they are not engaged by someone who's  
7 professionally trained to do that. Finally, the  
8 witness is only able to guess probably around  
9 here, I think right along here, probably right  
10 along there, about right here, maybe that's the  
11 trail, I guess, I'm almost certain. Those were  
12 all quotes he used when pointing to the large  
13 map. But when presented with this drawing with  
14 the four points on it, he immediately said oh,  
15 yes, these are they.

16 **THE COURT:** Well, actually, I think ---

17 **MR. GRESSETTE:** So the only point of reference he has  
18 is the pins.

19 **THE COURT:** The line that he drew right here I  
20 thought was the path he said he took  
21 (indicating).

22 **MS. WHITE:** It was, Your Honor.

23 **THE COURT:** Well, isn't that the wrong path?

24 **MS. WHITE:** That's the path he said he took from the  
25 beach to access the point.



1     **THE COURT:** Oh, oh, okay. I missed that part, okay.  
2             Well, let him get through. I'm sorry, I cut you  
3             off.

4     **MR. GRESSETTE:** It's all right, Judge. I just  
5             believe it's clear that without this map in  
6             front of him to lead him to the answer, he  
7             cannot provide the information they want to get  
8             into the record, which is on this map these are  
9             the points that correspond with the GPS. He  
10            can't do it.

11    **MS. WHITE:** I was asking the witness to generally  
12            approximate on this aerial, which is -- as the  
13            witness indicated not the right -- not the best  
14            angle to be able to identify and I was asking  
15            him to do that in order to establish that the  
16            witness does have some general familiarity and  
17            understanding of where those points were on the  
18            ground before providing him this map and  
19            Petitioner's Exhibit 20A. And in order to  
20            establish that he has an independent  
21            understanding of where those points are that he  
22            took with his GPS unit as he testified that he  
23            does regularly and others do regularly in his  
24            field of expertise. He is not a land surveyor  
25            and this is not land surveying activity. This



1 is not a plat. He's not attempting to draw a  
2 development plat. He's not attempting to draw  
3 a line that requires a property line to be  
4 closed. There's no -- these are GPS coordinates  
5 that are being imported into Google Earth and  
6 the points on the map are simply reflecting the  
7 points that he reported on the ground. And the  
8 witness is testifying to the fact that he took  
9 the units on the ground; he took the  
10 photographs; and he's able to confirm that the  
11 points on the map are where he took those GPS  
12 readings.

13 **THE COURT:** Mr. Gressette, what did he say concerning  
14 the testimony he's already given about the fact  
15 that he commonly uses Google Earth and his  
16 expertise in locating?

17 **MR. GRESSETTE:** I think the witness has testified  
18 that using a GPS device is something that  
19 professionals in his field use. So I think that  
20 he can rely on that to some extent, but in the  
21 same way that when you rely on an article, the  
22 article doesn't come in and you get to look at  
23 it and say oh, yes, it said this, right. That  
24 document doesn't need to come in particularly  
25 because of, again, handed it to Ms. Dailey, she



1           uploaded it in the system. We don't know how it  
2           works, we don't know the accuracy. There's been  
3           no testimony about range, no knowledge of  
4           specific range other than anecdotal if I go in  
5           my back yard, I can see it. It's just not  
6           scientific reliable evidence.

7   **MS. WHITE:** I just want to point out that the witness  
8           did testify that the readings are accurate to  
9           within a foot or a couple feet, I believe he  
10          said.

11   **THE COURT:** To what area? The case law that I read  
12          was where the -- they would have -- they would  
13          use the Google map, then they had independent  
14          evidence to verify measurements. Just to  
15          reflect that in this particular photograph,  
16          there was -- there was accuracy.

17   **MS. WHITE:** If Your Honor would permit co-counsel to  
18          address some of the case law on this, we were  
19          able to uncover if Your Honor would like to hear  
20          it.

21   **THE COURT:** Any objection to that?

22   **MR. GRESSETTE:** No, Your Honor.

23   **THE COURT:** All right.

24   **MS. ARMSTRONG:** Sure. You know, I think maybe even  
25          starting -- backing up a little bit. What the



1 courts have said and I'm going to give you a  
2 whole list of cites ---

3 **THE COURT:** I don't want a list of cites. I'd rather  
4 ---

5 **MS. ARMSTRONG:** I've got them available if you just  
6 want me to tell you what we've uncovered.

7 **THE COURT:** If you uncovered just a few specific  
8 cases, because I've already done my own research  
9 on this, so.

10 **MS. ARMSTRONG:** Okay. So what we found is generally  
11 that Google Earth is not hearsay and the reason  
12 it's not hearsay is because it's not a  
13 statement. A statement needs to be made by a  
14 person, not a computer software program. And  
15 what the case law has also said is that there  
16 are two ways that you can ---

17 **THE COURT:** I found all that.

18 **MS. ARMSTRONG:** Right. And I'm moving on to those  
19 data points now, or tacks as they are referred  
20 to in the case law that we've uncovered. And  
21 the tacks also -- they can be hearsay and they  
22 can be hearsay if they are manually entered by  
23 the user and because that's like marking an X  
24 and so that would be a statement made by a  
25 witness. The case law also says that a lay





1 witness can testify as to entry of those data  
2 points into Google Earth. A tack identified on  
3 Google Earth, the law also says, with respect to  
4 those data points that are generated because a  
5 user uploads the information and Google Earth  
6 generates that point, which is what Ms. Dailey  
7 testified to, that also -- that is not hearsay  
8 because it's Google Earth saying that that point  
9 is where the coordinates are. Not a person.  
10 The courts have also said that Google Earth is  
11 reliable enough to be admitted because it's  
12 reasonably likely to be what it says that it is.  
13 That Google Earth and those tacks that have been  
14 uploaded and generated by Google Earth are --  
15 have been admissible in -- authenticated and  
16 admissible in numerous other courts.

17 **THE COURT:** What case is that?

18 **MS. ARMSTRONG:** Okay. Well, so ---

19 **THE COURT:** I might ---

20 **MS. ARMSTRONG:** 680 F.3d ---

21 **THE COURT:** Let me see that one.

22 **MS. ARMSTRONG:** --- 70. 680 F.3d 70. Now, this ---

23 **THE COURT:** That's Puerto Rico?

24 **MS. ARMSTRONG:** It's the First Circuit.

25 **THE COURT:** Oh, okay.



1 MS. ARMSTRONG: First Circuit, 2012. I think ---

2 THE COURT: And it says it's been numerous courts?

3 MS. ARMSTRONG: Yeah, I mean, I can give you a list  
4 of other ---

5 THE COURT: No, where this court said that it's been  
6 admissible in numerous courts.

7 MS. ARMSTRONG: Oh, I said it's been admissible in  
8 numerous courts and I cited to one of the -- a  
9 quote from one of the courts and then I've got  
10 a lot of other cites. First Circuit cases, a  
11 Maryland case.

12 THE COURT: Well, let me see this ---

13 MS. ARMSTRONG: A Mississippi case.

14 THE COURT: I'll just go with this one. If this is  
15 an example.

16 MS. ARMSTRONG: And I feel compelled to direct the  
17 Court to just another case which I think is ---

18 THE COURT: Well, I want to explore this one, you  
19 cited this one.

20 MS. ARMSTRONG: Okay.

21 MR. CHURDAR: Amy, what page on that case are you  
22 talking about?

23 THE COURT: Yeah, that's what I'm ...

24 COURT REPORTER: I'm sorry, I didn't see who said  
25 that.



1 MR. CHURDAR: That was me.

2 COURT REPORTER: Thank you, Mr. Churdar.

3 THE COURT: I don't even see Google mentioned in that  
4 case. Maybe I got the wrong one. I got 680  
5 F.3d 70.

6 MS. ARMSTRONG: 70.

7 THE COURT: 7-0?

8 MS. ARMSTRONG: 7-0.

9 THE COURT: I just did a word search for Google and  
10 that -- Google's not even -- not even mentioned  
11 in that case at all.

12 MS. ARMSTRONG: It's 680 F.3d 70, page 79, so long as  
13 the evidence is sufficient to allow a reasonable  
14 person to believe the evidence is what it  
15 purports to be, it's left to the fact finder to  
16 determine the weight it deserves.

17 THE COURT: Is that talking about video clips?

18 MS. ARMSTRONG: I don't think that's what that case  
19 is talking about, but ---

20 THE COURT: Yeah, it's so long.

21 MS. ARMSTRONG: How about -- can I direct The Court  
22 -- let's get on 496 F. Appendix 201.

23 THE COURT: Well, it does concern me that that case  
24 doesn't say it at all, but okay what's -- 490  
25 what?



1     **MS. ARMSTRONG:**   496 ---

2     **THE COURT:**    Okay.

3     **MS. ARMSTRONG:**   --- Federal Appendix 201.   And at  
4         page 204, the Third Circuit said given the  
5         omnipresent nature of computer mapping software  
6         in today's society, websites such as MapQuest  
7         and Google Earth come to mind, the agent's  
8         testimony about his use of the mapping software  
9         was not expert testimony and it was not error  
10        for district court to properly admit it as fact.

11    **THE COURT:**    Well, I'm not there yet.   Hold on.   I  
12        typed in the wrong thing.   How do you abbreviate  
13        appendix?

14    **MS. ARMSTRONG:**   A-P-P.

15    **THE COURT:**    That's what I did.

16    **MS. ARMSTRONG:**   Apostrophe X.

17    **THE COURT:**    Oh, they do have that?

18    **MS. ARMSTRONG:**   Uh-huh.

19    **THE COURT:**    State v. Baker?

20    **MS. ARMSTRONG:**   Yes.

21    **THE COURT:**    What page was that on?

22    **MS. ARMSTRONG:**   204.

23    **THE COURT:**    Now, see, the finding in that case is  
24        based on the question and the answer and the  
25        answer is not -- it's very -- he's giving



1        general locations, not down to precise  
2        measurements. And because the research I've  
3        done was on -- I forgot the phrase I used, but  
4        basically I was trying to ascertain their  
5        analysis of the accuracy of -- The Court's view  
6        of the accuracy. And I'll state in the record,  
7        the question that The Court analyzed was, "And  
8        how do you create exhibit 200? Answer: I went  
9        to specific calls and certain dates, went to the  
10       call detail records and found out what cell  
11       tower, the location of the cell tower was, and  
12       then imported the locations of the cell tower  
13       with commercially available software program and  
14       then plotted the locations of the towers and  
15       then matched the calls to that." I don't -- I  
16       don't really get the import of how accurate  
17       that's reflecting it has to be.

18       **MR. GRESSETTE:** Yes, Your Honor, my reading of the  
19       use of the commercially available software in  
20       that case was to generally indicate that calls  
21       were bounced off of a tower, which means that  
22       generally a mobile phone was close enough that  
23       that was the closest tower. I believe that's  
24       what it was. Additionally, the trial lawyer  
25       didn't even object. And then I just don't think



1           it's the same thing.

2   **MS. ARMSTRONG:**    I mean, I would disagree and the  
3           District Court overruled an objection to a  
4           Google Earth image in *U.S. v. Lizarraga*, it's a  
5           789 F.3d 1107.       The Court talked pretty  
6           extensively about how Google Earth operates.

7   **THE COURT:**   That's another case?

8   **MS. ARMSTRONG:**    Yeah.   789 F.3d 1107.

9   **THE COURT:**   *United States v. Lizarraga*, I guess.

10   **MS. ARMSTRONG:**   Yeah, and ---

11   **THE COURT:**   What page?

12   **MS. ARMSTRONG:**   --- The Court on page 1109 gets into  
13           some detail about how the Court made the  
14           determination that Google Earth is reliable and,  
15           thus, admissible.

16   **THE COURT:**   See, I agree with that entirely.   Let me  
17           get to the tack importance.

18   **MS. ARMSTRONG:**    Yeah.

19   **THE COURT:**   Unless I agree with what it says about  
20           the image itself, but then ---

21   **MS. ARMSTRONG:**    And *Garcia* ---

22   **THE COURT:**   Hold on, let me finish reading that.

23   **MR. CHURDAR:**    Is that last case *Northrup Drummond*  
24           *Computing v. United States*?

25   **MS. ARMSTRONG:**    No.



1 MR. CHURDAR: 110 -- 709 F.3d 1107?

2 MR. WALKER: 789.

3 MS. ARMSTRONG: No, you're totally on the wrong case.

4 THE COURT: It's 97 F.3d 1107 is what we're looking  
5 at now.

6 MR. CHURDAR: The first number?

7 THE COURT: 97.

8 MR. CHURDAR: 97, okay.

9 MR. GRESSETTE: Lizarrago?

10 THE COURT: Yeah.

11 MR. GRESSETTE: 789 F.3d 1107.

12 THE COURT: Oh, I'm sorry, I was looking at the ---

13 MR. GRESSETTE: Yeah, the 97's the second ---

14 THE COURT: Yeah. Federal Rules of Evidence. It  
15 goes on to say, this is interesting, "that is  
16 not to say that the machine statements do not  
17 present evidentiary concern."

18 MS. ARMSTRONG: And that's exactly what I was talking  
19 to ---

20 THE COURT: Well, let me finish reading it. "A  
21 machine might malfunction, produce inconsistent  
22 results, might have been tampered with, but such  
23 concerns are addressed by the rules of  
24 authentication, not hearsay." Then skipping  
25 down a little bit, "A proponent must show that



1 the machine is reliable and correctly calibrated  
2 and that the data put in the machine," here the  
3 GPS coordinates, "is accurate." That burden  
4 could be met, for example, with testimony from  
5 a Google Earth programmer or a witness who  
6 frequently works with and relies on the program,  
7 of which we have that here. He said he relies  
8 on it. All right. So what's your response?

9 **MR. GRESSETTE:** To that case, Your Honor?

10 **THE COURT:** Yeah, the reasoning of it, that's Ninth  
11 Circuit.

12 **MR. GRESSETTE:** Well, I think ultimately what that  
13 case is saying is that it goes to the sitting  
14 court's analysis of reliability. And even if  
15 you have a witness who is qualified as an  
16 expert, who says in his expertise he relies on  
17 this system and even if The Court wants to take  
18 his testimony on going into the back yard as the  
19 evidence of reliability, and the fact that other  
20 folks use it to go generally locate an area  
21 where they might want a plant, I still think for  
22 the purposes which it's being offered here  
23 today, it requires a higher level of reliability  
24 than has been established.

25 **THE COURT:** What would your objection be about





1           allowing it in only -- not to the specific  
2           location of where the tack is, but just to  
3           generally show where he took the photos?

4   **MR. GRESSETTE:** I think that's okay, Your Honor, as  
5           long as The Court in its weighing of evidence  
6           also considers the other statements that have  
7           gone along with it prior to its introduction.  
8           In other words, I want The Court to remember he  
9           can't identify any of these unless you put that  
10          in front of him.

11   **THE COURT:** Yeah.

12   **MR. WALKER:** Your Honor, are we going to say that  
13           there are really two things that are being  
14           depended on aside from the humans? One is  
15           Google Earth and one is a handheld device and  
16           there's been no testimony as to the accuracy of  
17           devices.

18   **THE COURT:** Well ---

19   **MR. WALKER:** And we intend to have proof that this  
20           handheld is not considered accurate to the  
21           extent that any surveyor or anybody else would  
22           rely on it. I just say that to buttress what  
23           you're willing to consider it for and that's  
24           general location.

25   **THE COURT:** Well, I'm going to consider it for



1           general location and then -- but I will allow  
2           you to present evidence as to the accuracy of  
3           the handheld unit and weigh that as to whether  
4           I consider the points accurate in the least.  
5           So, Mr. Churdar?

6   **MR. CHURDAR:**     Your Honor, while I'm not sure if  
7           you've just made your decision, sir?

8   **THE COURT:**    No, no, I'm open.

9   **MR. CHURDAR:**   Okay. Well, I mean, there has been one  
10          of the things mentioned in the *Lizarrago-Tirado*  
11          case is a correct calibration. There has been  
12          no testimony as to whether the machines that are  
13          being used have been correctly calibrated and,  
14          even more foundationally under that is upon what  
15          basis would they know whether they're correctly  
16          calibrated or not. And my other objection with  
17          ---

18   **THE COURT:**   Well, that's a good point. I'm going to  
19          ask for a response on that one. Go ahead.

20   **MR. CHURDAR:**   The other point is there is also on  
21          this image an overlay that is ---

22   **THE COURT:**    Oh, the overlay, at least so far from the  
23          testimony I've heard, the overlay doesn't come  
24          in. That's pretty clear to me.

25   **MR. CHURDAR:**   Okay.



1     **THE COURT:**    So -- or at least consideration of an  
2                   overlay is completely out.

3     **MR. CHURDAR:**   Okay.

4     **THE COURT:**    All right.   I'm just talking about the  
5                   point, look like stick pins?

6     **MR. CHURDAR:**   Right.

7     **THE COURT:**    Okay.   Can you respond to that or -- I  
8                   don't know who's on ---

9     **MS. ARMSTRONG:**   Well, I think -- I mean, he's  
10                   certainly testified as to the reliability  
11                   because he testified about how he went out and  
12                   took a point in his back yard and then pulled it  
13                   up and saw it was exactly where he was just  
14                   standing.   I can allow -- I mean, I think Ms.  
15                   White would probably on the calibration  
16                   question, we'd be glad to get more evidence into  
17                   the record to satisfy The Court.

18    **THE COURT:**    Well, I'll allow you to do that.

19    Q:   All right.   Thank you for bearing with us, Dr.  
20           Porcher.   I'm not sure how much of that you  
21           could hear.

22    A:   Well, let me wake up.   They put me to sleep.  
23           Not you, sir, the lawyers.

24    **THE COURT:**    That's fine.   It wouldn't insult me if  
25                   you said I did.



1 Q: Dr. Porcher, is your GPS unit calibrated?

2 A: Well, I calibrate it by using it. I mean, I've  
3 already said I can -- I don't -- it probably  
4 calibrated when I buy it. They probably  
5 calibrate it. I can't calibrate it. But these  
6 things are so accurate, I've already said if I  
7 can go out and find a spot where somebody  
8 identified ten years ago, I can walk right to  
9 it, I don't know how -- how else you'd calibrate  
10 it. I don't know -- and I'm not a surveyor. A  
11 surveyor uses an entire different kind of  
12 system. A surveyor has to survey 1,000 acre  
13 tract of land and do a bunch of lines and has to  
14 come back and he has to have it close, within a  
15 fraction in other words. They use an entire  
16 different system than we do. I am not a  
17 surveyor, all right. So this system here is not  
18 a system that a surveyor would ever use. I'm a  
19 field botanist, okay. And if I can get to these  
20 points within five feet, that's perfect. That's  
21 nothing wrong with that. And I've worked with  
22 this thing for 20 years and I've never had a  
23 problem where a point I was trying to locate was  
24 off. I mean, I've calibrated. I've done it for  
25 20 years over and over again. I've taken a --



1 did a point miles away and I followed the -- you  
2 can take the GPS system and you can put into the  
3 GPS system the coordinates of the place you were  
4 looking for and you can follow it when the --  
5 can I keep going?

6 Q: Well ---

7 **THE COURT:** Have you had similar results after you  
8 put it on a Google Map, for the Google Map to be  
9 accurate?

10 A: It's always been accurate. Is that the  
11 question?

12 **THE COURT:** How accurate?

13 A: Within a few feet. I mean, I'm looking at these  
14 points right here. I know I was in those points  
15 right there. I can look at the photograph and  
16 realize, that point four is within a few feet of  
17 where I was.

18 **THE COURT:** All right. I'm back to where I was. I'm  
19 going to let it in generally. I will allow  
20 y'all to attack it if you wish, but it's -- I'm  
21 not going to let it in for within a few feet  
22 because I've heard enough where I'm concerned  
23 about it. But generally, the location, I have  
24 no problem with.

25 **RULING OF THE COURT REGARDING OVERLAY:**



1 **MR. GRESSETTE:** And so that we're clear, the exhibits  
2 that have the overlay, the overlay's not being  
3 considered?

4 **THE COURT:** The -- I'll state specifically for the  
5 record that the overlay is not a consideration  
6 whatsoever for The Court.

7 **MR. GRESSETTE:** Thank you, Judge.

8 **MR. CHURDAR:** And just for my understanding and  
9 clarification, when you say I'll let it in  
10 generally, you're talking about in the general  
11 vicinity of where the pins are ---

12 **THE COURT:** Yes. If y'all want to take me up on  
13 appeal and lay the law out so that I'll learn,  
14 I would love to have something more specific.

15 **MR. CHURDAR:** I'm just trying to understand. I'm  
16 just trying to understand.

17 **THE COURT:** Yeah, okay.

18 **MS. WHITE:** All right. Thank you, Your Honor.

19 Q: Dr. Porcher, did you form any opinions while you  
20 were on the ground on Captain Sam's Spit on the  
21 day of that map that's in front of you marked as  
22 20A?

23 A: Yes, I -- I realize that ---

24 **MR. GRESSETTE:** Objection, Your Honor.

25 Q: And if you ---



1     **THE COURT:**   Okay.

2     **MR. GRESSETTE:**  There's been no testimony of what day  
3                   the map photograph was taken.  In fact, there  
4                   was testimony yesterday that there are multiple  
5                   of these Google Earth photographs.

6     **MS. WHITE:**   I'll back up.

7     **THE COURT:**  Well, he never answered, so I don't have  
8                   to strike that.  Go ahead.  Rephrase it.

9     **Q:**    Dr. Porcher, when we were looking at these  
10            photographs earlier, Exhibit 20B through H, do  
11            you recall what day they were taken?

12    **A:**    Well, I can tell, let me get my notes here.  
13            That is the day that's -- August the 19th, 2016.

14    **Q:**    Okay.  And looking at the map 20A, are you able  
15            to determine what day those points on the map  
16            were taken?

17    **A:**    The same day.  I took the readings the same day  
18            that you and I were there.

19    **Q:**    The same day being what day?

20    **A:**    August -- August 19, 2016.

21    **Q:**    Okay.  And on August 19, 2016, did you form any  
22            opinions?

23    **A:**    About what?

24    **Q:**    About the proposed development project on  
25            Captain Sam's Spit?



1 A: Well, I was -- I was still concerned about how  
2 far this spit or slough went up and how far the  
3 water might go because, you know, I can't  
4 imagine you're going to put roads and things  
5 over a wetland habitat, so what I thought then  
6 was I've got to come back and at a higher tide  
7 and see how much further the water goes up.

8 Q: And did you go back ---

9 A: Because you and I didn't have -- you were not  
10 going to go wading further up that slough. I  
11 barely got you to where you were, but I knew I  
12 was going to have to go back and do some more  
13 work on it if that's what you all wanted. I had  
14 to clear it with you and Amy to see if that's  
15 what you wanted.

16 Q: Okay. Did you go back to Captain Sam's Spit  
17 after August 19th?

18 A: All right. September 19, Amy picked me up at  
19 9:00 o'clock. We headed to the landing at  
20 Kiawah where we were met by Bradley Smole, Sidi  
21 Limehouse, and Rich, a friend of Amy's. So we  
22 went that particular day, September ---

23 Q: And what did you do on September 19th?

24 A: I just had time to walk up the slough on my own  
25 one time. This -- we were looking at other





1 things that day, so I walked up the slough --  
2 let's see, I could walk up the slough and see  
3 how far the tide went up and I wanted to see how  
4 far the tide would go up. But it wasn't one of  
5 the high tides that day, so I knew I was going  
6 to come back.

7 Q: Okay.

8 A: So I just wanted -- I wanted to go that day. I  
9 think I wanted to show Sidi what we were talking  
10 about and so I took a trip on my own, but I  
11 still didn't go as far as I could because it  
12 wasn't a very high tide. What I was looking for  
13 is going back to the site to a time when we had  
14 a king tide and see how far the water went up  
15 the slough.

16 **THE COURT:** When you had a what tide?

17 A: We didn't do it that day.

18 **THE COURT:** You said when you had a king tide?

19 A: Sir?

20 **THE COURT:** What kind of tide?

21 A: King tide.

22 **THE COURT:** Okay.

23 Q: And what is a king tide?

24 A: Oh, boy. Do you want me to go into a lot of  
25 detail on this one? It's complex and I think



1           ...

2       Q:     How -- maybe if you can explain what it is and  
3             in terms of why you felt that that's why you  
4             wanted -- you wanted to go back out when it was  
5             a king tide? I think that would be ---

6       A:     Well, the Judge asked me, I think, what a king  
7             tide is. Oh, you did.

8       Q:     He wanted clarification as to what you said.

9       A:     Oh, I'm sorry.

10      **THE COURT:** I think I -- so, as y'all say, I withdraw  
11             that question. So let's get back on track.

12      A:     Well, by definition -- by definition, we call a  
13             kind tide a perigeon tide. And if you want it,  
14             it's P-E-R-I-G-E-A-N, that's the way king tide  
15             is a perigeon tide. And if you want to go on to  
16             elaborate it, I can do so.

17      Q:     Why did you want to go back during a king tide?

18      A:     Oh, because I wanted to see how -- at 7'4" tide,  
19             how far the water went up the slough. Because  
20             I knew up the slough there was going to be  
21             houses, parking lots, roads, all kind of things,  
22             water plants, and I couldn't imagine it. I  
23             imagine if I could demonstrate that the water  
24             went way up that slough, that would be -- that  
25             would help y'all.



1 Q: So after September 19th, did you go back to  
2 Captain Sam's Spit?

3 A: All right. Let's see. After I said -- well, I  
4 went on one after the hurricane on March 10th.

5 Q: On March the 10th?

6 A: I mean October 10, I'm sorry.

7 Q: October the 10th?

8 A: I didn't go to the slough then.

9 Q: What did you do on October 10th?

10 A: That was just after the hurricane and Celie and  
11 I wanted to go and look at the damage.

12 Q: What did you observe?

13 A: 120 feet of dunes were washed away. Everybody  
14 knows and that's just sort of on the record. We  
15 just went quick as we could to see what happened  
16 and we -- you know, I think we took GPS points  
17 and photographs and documented how much dune --  
18 dune loss was there.

19 Q: You took GPS points on the front beach of  
20 Captain Sam's Spit?

21 A: Yes, we followed the dune line down and took GPS  
22 points to show on a, once again a Google map,  
23 how far the erosion occurred inland from the  
24 dunes.

25 Q: So did you take GPS points at the point where



1 the dunes began?

2 A: No, we came into the beach and went down maybe  
3 halfway, I don't remember how far down we went  
4 down there, I'd have to look at a map. We  
5 didn't do the entire spit, but we did take a  
6 section where the erosion was very severe just  
7 to document it for our own. That's -- yeah.

8 Q: And do you recall how many GPS recordings you  
9 took on ---

10 A: Oh, they're on a map. I don't know.

11 Q: --- October 10th?

12 A: They're on one of the maps we did. You have a  
13 copy of it. I'd have to look at -- I'd have to  
14 look at my map. But now we're going --  
15 sometimes I can't hear you, so I apologize.

16 **THE COURT:** That's fine.

17 A: Okay. And I'll have to ask her sometimes what  
18 you said. It's my fault, not yours, and I  
19 apologize.

20 Q: Okay. Dr. Porcher, I'm going to hand you a  
21 photograph that Ms. Dailey testified about  
22 yesterday that I believe she testified that she  
23 took on October 10th.

24 A: Okay.

25 Q: And I want you to look at this and see if you



1 recognize it?

2 A: Yeah, that's the -- the erosion after the  
3 hurricane of the front dunes.

4 Q: Does that represent a spot where you took a GPS  
5 recording on that day?

6 A: More than likely. I mean, I can't -- the whole  
7 -- it was all the same all the way up and down,  
8 so we took a bunch of photographs only using  
9 one. But that would have been an area where I  
10 would have taken a GPS reading.

11 Q: The area that -- what's represented in the  
12 photograph on 21B is representative of somewhere  
13 you would have taken it?

14 A: Oh, yeah, number five. Number five.

15 Q: Just looking at the photograph, is that -- did  
16 you testify that that was an area that you would  
17 have taken a GPS reading?

18 A: Yes.

19 Q: And how do you know that?

20 A: Well, we recorded the photograph at the GPS  
21 reading. This is photograph number -- site  
22 number five of the GPS reading number five, I  
23 believe.

24 Q: And what were you trying to accomplish in taking  
25 -- having photographs of those points?



1 A: That the island is very unstable. In a  
2 hurricane that we lost 150 -- 120 feet of dune  
3 systems. Everybody else will do the same thing,  
4 but we just did it for ourselves and for y'all.

5 Q: I'm going to hand you what are -- this is my  
6 copy. I'm going to hand you what's marked  
7 Petitioner's Exhibit 21A. Have you seen this  
8 before?

9 **(Petitioner's Exhibit Number 21A was introduced into**  
10 **the record at this time.)**

11 A: Yeah, this -- can I check against my map just to  
12 make sure this is the one we did? I don't see  
13 the date on it, wait a minute.

14 Q: If you are able to just look at the map and let  
15 me know if you recognize it.

16 A: I'm trying to make sure I correlate with the one  
17 -- with my photographs because there's so many  
18 of them.

19 **THE COURT:** One second. Before he goes and looks at  
20 his photographs, he just -- can you stop him?

21 Q: Richard. Just ---

22 **THE COURT:** He just testified awhile ago, I thought,  
23 that he could not correlate the photographs with  
24 that map independently, he needed the map to  
25 tell him where the photographs were taken. And



1 so my struggle is he has no independent  
2 knowledge of linking, you know, four to four,  
3 three to three, and if that's true, even if we  
4 get -- we've got to get past that to get to the  
5 GPS arguments that I think you're standing up.  
6 So ---

7 **MR. GRESSETTE:** I agree with Your Honor.

8 **THE COURT:** Well, because it's working in your favor  
9 right now. But ---

10 **MS. WHITE:** Maybe if I could ---

11 **THE COURT:** So if you could just lay the foundation  
12 on ---

13 **MS. WHITE:** Maybe it would be helpful if I back up.

14 Q: Dr. Porcher, have you had an opportunity to  
15 observe Captain Sam's Spit from an aerial  
16 perspective?

17 A: Yes, we flew it with a gentleman?

18 Q: When?

19 **THE COURT:** You can come around here if you want.

20 **MR. GRESSETTE:** I don't want it to feel like too many  
21 of us are hovering.

22 **THE COURT:** It's not going to bother me.

23 A: On Friday, October 14th, 2016.

24 Q: And who did you fly over ---

25 A: A Lindon Forn. He is a commercial -- or a



1 pilot, who has a plane and he volunteers to fly  
2 groups or do work for environmental groups that  
3 need free time. He works for a company and Dana  
4 Beach wanted me -- Dana Beach wanted photographs  
5 of Bay Point because there's an issue at Bay  
6 Point. I said, "Well, Dana, if I'm going to  
7 find Bay Point, why don't they get the guy to  
8 fly me down to Kiawah and the spit, and get  
9 photographs the same day?" So we also came down  
10 to the spit and I -- made a whole series of  
11 photographs at the spit on that day.

12 Q: You ---

13 A: Yeah, October 14, 2016. So I made hundreds of  
14 photographs, aerial photographs, that day. And  
15 of course, I turned them over to Dana because  
16 that's what I meant to do.

17 Q: I'm going to hand you two photographs that are  
18 marked as Petitioner's Exhibits 1B and 1C. Have  
19 you seen these photographs before?

20 **(Petitioner's Exhibit Number 1B and 1C were**  
21 **introduced into the record at this time.)**

22 A: Yeah, these are the ones I took.

23 Q: And did you take those photographs on October  
24 14th?

25 A: I did.





1 Q: And what are they showing?

2 A: This shows probably called the neck region.

3 Q: And you're looking at 1B?

4 A: 1B, I guess that's what y'all been calling the  
5 neck region.

6 Q: Okay.

7 A: And this is probably just up from the neck  
8 region.

9 Q: 1C?

10 A: 1C, here. I think this is probably a couple  
11 hundred yards further up or, you know, south of  
12 the neck region.

13 Q: And you indicated that you took a bunch of other  
14 photographs in addition.

15 A: We went up and down three times photographing  
16 it. I probably took 100 photographs of Captain  
17 Sam's Spit.

18 Q: Do you have a familiarity with Captain Sam's  
19 Spit looking at it from an aerial perspective?

20 A: Probably not. I have flown the -- I had my own  
21 license one time ten years ago and we did a lot  
22 of photography up and down the coastline, but  
23 whether we actually did Captain Sam's Spit, I  
24 don't remember.

25 Q: Okay. Are you able to look at a aerial image on



1 Google Earth and identify Captain Sam's Spit?

2 A: Certainly. Done it I don't know how many times.  
3 Type in Kiawah Island and it pops right up there  
4 and you just move the pointer right down to the  
5 spit.

6 Q: Are you able to identify where you would expect  
7 the beach community to be on Captain Sam's Spit  
8 from an aerial perspective?

9 A: If you're there when the beaches are accreting.  
10 Not when it's eroding, because there would be no  
11 beach community.

12 Q: Looking at the Exhibit Number 21A ---

13 A: All right.

14 **(Petitioner's Exhibit Number 21A was introduced into**  
15 **the record at this time.)**

16 Q: Are you able to see a beach community in that  
17 image?

18 A: Oh, certainly not. There's none there. There's  
19 no beach community here now on this one.

20 Q: On 21A?

21 A: Yeah.

22 **(Petitioner's Exhibit Number 22 was introduced into**  
23 **the record at this time.)**

24 Q: Now, I'm handing you Petitioner's Exhibit 22,  
25 are you able to observe a beach community?



1 A: No.

2 Q: How do you know?

3 A: Well, I've been there because we know that these  
4 dunes along there were sheered off. It was just  
5 -- we've been -- it's just no beach community  
6 there during that date. We were there -- we  
7 moved -- our first trip in February of '16 all  
8 the way up to July '17, there's never been any  
9 beach community in those entire times. That's  
10 the point we're trying to make, that is the  
11 island now regressing or -- it's not a  
12 prograding island any more. It's regressing so  
13 there is no beach community. There's been no  
14 beach community since the first day I went up  
15 February until all the way -- February '16 to  
16 July 2-17, no beach community anywhere along the  
17 spit.

18 Q: Do you have an understanding of the date that is  
19 -- do you have an understanding looking at  
20 Exhibit 21A ---

21 A: Right. This is ---

22 Q: --- the proximate date of when those points  
23 reflect?

24 A: This is after the hurricane. This site -- 21A  
25 is after the hurricane.



1 Q: How do you know that?

2 A: Because I remember -- because the dunes -- the  
3 dune system was about half what it would be on  
4 this date. This is the pre-hurricane, here's  
5 the after hurricane.

6 **MR. GRESSETTE:** I've gotten confused. Is he  
7 testifying about the photograph or the pin  
8 points?

9 **THE COURT:** Appears to me the photographs, if you're  
10 asking me. I'm not the witness.

11 **MR. GRESSETTE:** I'm sorry; I just wanted to be sure.  
12 You're talking about the photographs, Dr.  
13 Porcher?

14 A: Right.

15 **MR. GRESSETTE:** Yes, sir. Okay. Sorry.

16 A: This is -- this is Google Earth before the  
17 hurricane (indicating).

18 Q: Exhibit 22 is before the hurricane?

19 A: Right, and this is after the hurricane  
20 (indicating).

21 Q: And you know that Exhibit 21A is after the  
22 hurricane how?

23 A: Look at the width of the dune system, here  
24 versus here. Here versus here. Half the dune  
25 system is gone. This is the dune system out



1 here. Here, it's half gone (indicating).

2 Q: I'm going to take Exhibit 22 up with me. I  
3 believe 21A is on the screen in front of you.

4 A: Okay.

5 Q: Are you able to show by marking on the computer  
6 monitor what you were just describing as the  
7 loss of the ---

8 A: This is before the hurricane. Here's after the  
9 hurricane. There's your dune system before,  
10 there it is after. You lost 100 feet of dune  
11 system (indicating).

12 **MOTION TO ADMIT PETITIONER'S EXHIBIT 22:**

13 **MS. WHITE:** Your Honor, we would -- we would move  
14 Petitioner's Exhibit 22 into evidence.

15 **THE COURT:** Any objection?

16 **MR. GRESSETTE:** Same objections, Your Honor, subject  
17 to your ruling.

18 **THE COURT:** Well, I need to know what those are  
19 because I can't -- I'm not sure which exhibit's  
20 22 and which one's 20. Is 22 the one with  
21 pinpoints on it?

22 **MS. WHITE:** 22 is, yes. 22 is ...

23 **MR. GRESSETTE:** Yes, Your Honor, 22's been identified  
24 as a Google Earth photograph and if it's coming  
25 in as an image from Google Earth, then that's



1 fine. He has not testified about the points  
2 along there.

3 **THE COURT:** Well, actually, I'll let it in as an  
4 image. He was -- last I heard, as I said  
5 earlier, he specifically said he could not  
6 correlate the photographs with the pinpoints, so  
7 I'm not letting it in for that purpose at this  
8 point.

9 **MR. CHURDAR:** And one other thing just a repeat of --  
10 -

11 **THE COURT:** The topographic ---

12 **MR. CHURDAR:** --- prior images is the overlay.

13 **THE COURT:** Overlay, yeah.

14 **MR. CHURDAR:** Right. That I would object to The  
15 Court's consideration of that.

16 **RULING OF THE COURT:**

17 **THE COURT:** And it's not admitted for any purpose.  
18 So with that all said, so the record will be  
19 clear, I'm admitting it for simply the Google  
20 Earth photograph, not for the truth or  
21 authenticity of the pinpoints or the overlay.

22 **(Petitioner's Exhibit Number 22 was admitted into**  
23 **evidence.)**

24 **MS. WHITE:** Thank you, Your Honor.

25 **Q:** Dr. Porcher, after October 10th did you go back



1 to Captain Sam's Spit?

2 **THE COURT:** Hold on.

3 **COURT REPORTER:** 21? I'm sorry, you said 22. Go  
4 ahead.

5 **THE COURT:** Yeah, I said 22. You were seeking to  
6 admit 22?

7 **MS. WHITE:** Yes.

8 A: That question again?

9 Q: After October 10th, did you go back to Captain  
10 Sam's Spit?

11 A: Yeah, October 17.

12 Q: And what did you do on October 17th?

13 A: We -- Celie and I met Joe Kelly at the beach.  
14 We three made a dash to the slough to catch the  
15 king tide, 7'2" roughly at 9:28. We thought  
16 maybe a king tide at -- a seven foot two king  
17 tide at about 9:28.

18 Q: And was there?

19 A: Well, it was very high. I can't determine the  
20 -- if it actually got to 7.2, but it was  
21 certainly -- we assume it is. I mean, I can't  
22 -- the paper says at so and so time, these tide  
23 tables should have a seven foot two tide at  
24 9:28. So we went by the tables in the paper,  
25 tide tables.



1 Q: And do you typically rely on the tide tables in  
2 the paper and ---

3 A: Well, the tide tables in the paper come from  
4 whatever government agency. I mean, everybody  
5 uses the tide tables. They print them in the  
6 paper every day.

7 Q: And what did you observe when you got to Captain  
8 Sam's Spit on that day?

9 A: We made five waypoints, GP points, and measured  
10 the tide depth at each. Wait, the tide went  
11 further than I expected up the slough, way past  
12 where I expected the road ends, although I have  
13 not mapped the road. The water was four inches  
14 at the last waypoint. The next king tide will  
15 be November 15th, expected to be 7.4.

16 **MR. GRESSETTE:** Your Honor, can the record indicate  
17 that that entire answer was read from his notes?

18 **THE COURT:** So noted.

19 **MR. GRESSETTE:** Thank you, Your Honor.

20 A: So we made five readings that day and expect to  
21 go back when we get a higher tide later on.

22 Q: Okay. So you made five GPS unit readings?

23 A: Yeah, that day.

24 Q: And did you collect any other data or  
25 measurements?





1 A: We did water, I think I did water depth, I  
2 believe.

3 Q: How do you do a water depth?

4 A: Take a ruler, stick it in the ground, see how  
5 high -- deep the water is.

6 Q: Did you use a standard yard stick ruler?

7 A: Certainly.

8 Q: Okay. And you measured how deep the water was  
9 using that ruler?

10 A: I believe I did. I don't have the data, but I  
11 believe we did measure the water depth at the  
12 same time. We took five waypoints.

13 Q: Do you recall the approximate location of those  
14 points and are you able to identify them by  
15 looking at the aerial, 1A?

16 A: This is so hard to look at that map and see  
17 where the hell we are. I imagine the last point  
18 we got probably right along here. But it's just  
19 -- this map is so vague. It's so fuzzy. It's  
20 just difficult for me to locate where I am on  
21 it. I mean ---

22 Q: I understand.

23 A: It's just difficult, I'm sorry.

24 Q: Maybe we can try another map.

25 **(Respondent's Exhibit Number 35 was introduced into**



1 the record at this time.)

2 Q: I just put Respondent's Exhibit 35 up on the  
3 projector screen. Is that map easier for you to  
4 identify the points where you took the GPS  
5 readings?

6 A: I can't look at my map or not?

7 Q: Well, let's ---

8 A: Okay.

9 Q: --- let's just look at this ---

10 A: Okay. All right. Okay. All right.

11 Q: --- map first.

12 A: All right. I imagine the last point was right  
13 along here somewhere, just best I can imagine.  
14 Right along here somewhere (indicating).

15 Q: And how did you access that point?

16 A: We walked. We went into the slough and walked  
17 up the slough.

18 Q: Did you walk up the path that you previously  
19 identified?

20 A: Yeah, we always go into that path into the  
21 slough and then go which way we wanted to. And  
22 that day we were able to move a little further  
23 up than the day you and I went. So I imagine  
24 that day the furthest point was right along  
25 here.



1 Q: And when you say move further -- able to move  
2 further up ---

3 A: The tide was higher.

4 Q: So ---

5 A: What I do is I follow the continuous flow of  
6 water from the estuary and see how far that  
7 continuous flow of water moves up the slough.

8 Q: And did you take GPS ---

9 A: We did.

10 Q: You took GPS recordings?

11 A: We did.

12 Q: Were they taken at points that had water?

13 A: Oh, well, yeah, we always take them with water.

14 Q: All of the GPS points had water?

15 A: Yes.

16 **MR. WALKER:** Can we take a short break?

17 **THE COURT:** A short break?

18 **MR. GRESSETTE:** Yes, Your Honor, please.

19 **THE COURT:** All right. Let's just take a five minute  
20 break.

21 **MR. GRESSETTE:** Yes, Your Honor. Thank you, Your  
22 Honor.

23 (A break was taken from 3:13 p.m. until 3:27 p.m.)

24 **COURT REPORTER:** All rise.

25 **THE COURT:** Y'all be seated.



1 **MR. GRESSETTE:** Thank you, Judge.

2 **THE COURT:** I'll address one issue right real quick  
3 before we get going. This came to my attention,  
4 is it -- that it's possible that someone is  
5 recording this proceeding independently. Is  
6 that true of anybody in this courtroom? There  
7 you go, thank you. Well, that makes life  
8 easier. Okay.

9 **MS. WHITE:** Thank you, Your Honor. We -- I was just  
10 trying to confirm what I had moved into evidence  
11 because I know there's been a lot of moving  
12 parts and objections and I think we had a  
13 question and the court reporter also had a  
14 couple question marks next to some of her  
15 exhibits.

16 **THE COURT:** The court reporter's exhibits?

17 **COURT REPORTER:** She wanted to know if 21A was  
18 admitted. I have in my notes two question marks  
19 by it because there was a question of whether or  
20 not you actually allowed A, but you did allow B.

21 **MS. WHITE:** And both our notes and counsel's ---

22 **THE COURT:** Is that the one with the tack marks on  
23 it?

24 **MS. WHITE:** It was the one that had the single photo  
25 on the beach and the ---



1 THE COURT: All right. Is this ---

2 MS. WHITE: I think it's the one that Ms. Dailey  
3 testified that she ---

4 THE COURT: Are y'all talking about today or  
5 yesterday?

6 MS. WHITE: Yesterday.

7 THE COURT: Oh, yesterday, I didn't let anything in  
8 with tack marks on it.

9 MS. WHITE: Okay.

10 THE COURT: Today I did. You'll have to show it to  
11 me.

12 MS. WHITE: Where is it?

13 THE COURT: Is it up here?

14 COURT REPORTER: You referred to 21A today just a  
15 little while ago, but ---

16 THE COURT: Yeah.

17 COURT REPORTER: --- it has not been admitted ---

18 THE COURT: Well, there you go.

19 COURT REPORTER: --- to my understanding.

20 THE COURT: Okay.

21 COURT REPORTER: But there was that one question I  
22 had when you allowed B and I thought not A, but  
23 I was confused by that whole conversation, so.

24 THE COURT: Okay.

25 MOTION TO ADMIT PETITIONER'S EXHIBITS 20B through I:



1 **MS. WHITE:** I am certain that I did not move to admit  
2 Petitioner's Exhibit 20B through I, so I did  
3 want to move that. Those were the photographs  
4 that Dr. Porcher walked through and we had up on  
5 the projector screen earlier.

6 **THE COURT:** Any objection?

7 **MR. GRESSETTE:** No, Your Honor.

8 **MR. CHURDAR:** No, sir.

9 **RULING OF THE COURT:**

10 **THE COURT:** They're admitted.

11 (Petitioner's Exhibit Numbers 20B through I were  
12 admitted into evidence.)

13 **MS. WHITE:** Thank you. Do you have a map under your  
14 binder? I can't find 21A.

15 **DR. PORCHER:** Here's 21B.

16 **MS. ARMSTRONG:** Oh, Jessie ---

17 **THE COURT:** All right. 21A was admitted.

18 **MS. WHITE:** 21A was, okay.

19 **THE COURT:** I think I limited it only through ---

20 **MS. WHITE:** The point five because it's ---

21 **THE COURT:** Point 5, yeah, yeah, because they  
22 correlated.

23 **MS. WHITE:** Okay. That's what we thought.

24 (Petitioner's Exhibit Numbers 23B through 23H were  
25 introduced into the record at this time.)



1 Q: All right. Dr. Porcher, I'm going to hand you  
2 what's marked Exhibit 23B through H.

3 A: Okay, got it.

4 Q: Have you seen those photographs before?

5 A: Yes, those are the ones we took on October 17th.  
6 Celie and I and Joe Kelly, we went out.

7 Q: Okay. And is that -- what is -- can you  
8 describe for me what is going on in ---

9 A: Yeah.

10 Q: --- 23B?

11 A: Oh, you're putting up a map, oh, okay. We are  
12 in the slough making GPS readings and measuring  
13 the water level.

14 Q: Okay. So did you take a GPS reading at that  
15 point?

16 A: I did.

17 Q: And you measured the water at that point?

18 A: I checked the water depth.

19 Q: And did you take the water depth with a -- with  
20 the meter stick?

21 A: I believe -- yeah, I believe it was. I'm pretty  
22 sure it was.

23 Q: Is that what you're holding in your -- is that  
24 you in that photograph?

25 A: No, that's Dr. Kelly. You think that's me?



1 Q: I'm just asking.

2 A: That looks like an old man. Whooh, you just  
3 lost your tip.

4 Q: Is the individual in the photograph leaning on  
5 the measurement tool?

6 A: Dr. Joe Kelly, a friend of mine, he just wanted  
7 to go along.

8 Q: Okay. And are you able to identify where you  
9 are -- where you took this -- did you take this  
10 photograph?

11 A: I think Celie took it.

12 Q: Were you and Ms. Dailey and Mr. Kelly taking data  
13 in the same locations together?

14 A: Yeah, we were all together.

15 Q: Okay. Can you hear me if I stand over here and  
16 kind of speak loudly?

17 A: I'm doing all right, I believe.

18 Q: Okay. Are you able to identify this approximate  
19 location looking at this map here, Respondent's  
20 Exhibit 35 (indicating)?

21 A: I'm not -- I think -- I need to check something.  
22 Hold on a minute.

23 **MR. GRESSETTE:** For purposes of the record, Your  
24 Honor, I believe the witness is referring to a  
25 map with the yellow pinpoints on it to





1           presumably match the number on the pinpoint to  
2           the number on the bottom of the photograph.

3       A:     Correct.

4       **THE COURT:**   Have you requested that he do that, Ms.  
5           White?

6       A:     That is number one.

7       Q:     Dr. Porcher, if you could just bear with me and  
8           look at the photograph only.

9       A:     Okay.   This one?

10      Q:     Yes.

11      A:     There's just no way unless I know -- because we  
12           went -- we only took four waypoints, by the way,  
13           not five, and we didn't go in order.  I think we  
14           went -- it's just impossible, on this map, for  
15           me to locate these.  I'm sorry, I can't do it.

16      Q:     Okay.

17      A:     I just -- it can't be done.

18      Q:     That's okay.  Looking back at this photograph,  
19           are you able to describe what you observed?

20      A:     Yeah, we're in the slough and we've got some of  
21           the marsh shrubs or brackish shrubs around us.  
22           I see borrichia, iva frutescens, some of the  
23           same shrubs we identified before.

24      Q:     Okay.  And now I put up 23C, what is this a  
25           photograph of?



1 A: Well, I've got borrichia, iva, fimbristylis,  
2 some of the same plants we identified before.

3 Q: And did you take this photograph?

4 A: I believe Ms. Dailey did.

5 Q: Did you observe what's represented in this  
6 photograph?

7 A: Say it again, ma'am.

8 Q: Did you observe what was -- what is represented  
9 in this photograph?

10 A: Yes. I basically instructed her to take the  
11 photograph because I -- if I remember correctly,  
12 because I wanted to show certain things in  
13 there.

14 Q: And what did you want to show?

15 A: The brackish shrubs, the shrubs. There was  
16 water. You can see the water and some of the  
17 plants. Trying to identify the plants.

18 Q: Is there water visible on Exhibit 23C?

19 A: Say it again?

20 Q: Can you see water on that photograph?

21 A: Well, I know it's there, just -- the photograph  
22 is not good enough, but we're in water. No  
23 question.

24 Q: How do you know that?

25 A: It says number two, ten inches of water.



1 Q: Are you able to determine by looking at the  
2 photograph and not the information?

3 A: No, the water -- the water doesn't show up.

4 Q: Okay.

5 A: It's just that you can't see the water. I know  
6 it's there, but it doesn't show up as a ...

7 Q: And this is Exhibit 23D. Can you describe what  
8 is in that photograph?

9 A: We're in the slough at point three, twelve  
10 inches of water, some of the same marsh plants  
11 are still there.

12 Q: And were you on the ground on October 17th and  
13 did you observe this -- did you observe what's  
14 depicted in this photograph?

15 A: Yes.

16 Q: On Captain Sam's Spit?

17 A: Yes.

18 Q: And this is 23E, have you seen this photograph  
19 before?

20 A: Yes.

21 Q: What is it a photograph of?

22 A: The slough.

23 Q: What kind of vegetation?

24 A: Looks like I see a panicum, a fimbristylis,  
25 maybe a borrichia. The photograph is not very



1 clear, but that's the best I can do.

2 Q: And what kinds of plants are those?

3 A: Oh, mostly brackish I guess, in that point, but  
4 some plants go back and forth, but ...

5 Q: Now, I'm looking at 23F, do you recognize that  
6 photograph?

7 A: I believe that's probably one Ms. Dailey took.

8 Q: If you want to ---

9 A: Because there's no point.

10 Q: Sure. If you're looking at the originals that  
11 I handed you here, it's a little easier to see  
12 than on the computer screen.

13 A: Okay.

14 Q: So it's 23F.

15 A: Okay. Okay. You're looking at C11.

16 Q: Are you able to identify what is depicted in  
17 that photograph?

18 A: Well, you're still in the slough and it's, of  
19 course, flooded and got water in it, but this is  
20 a photograph that Ms. Dailey took on her own.  
21 It's not at -- not at one of my points.

22 Q: Okay. And what kind of vegetation do you see in  
23 that photograph?

24 A: There's a palm tree in the back; looks like I  
25 see a wax myrtle, some fimbristylis again.



1 Q: And what kind of vegetation is that?

2 A: The palm -- I think the palm trees are on the  
3 high land. The other plants could be brackish  
4 plants, it's just -- it's hard to see these  
5 because I didn't take this photograph.

6 Q: When you say brackish plants, is that a wetland  
7 species?

8 A: They're all wetland, certainly.

9 Q: Okay. Dr. Porcher, I'm going to hand ---

10 **THE COURT:** Hold on a moment.

11 **MS. WHITE:** Oh, I'm sorry.

12 **THE COURT:** Go ahead and proceed.

13 **MS. WHITE:** Okay.

14 Q: Dr. Porcher, I'm handing you what's marked as  
15 Exhibit 23A.

16 A: All right.

17 Q: Have you seen that map before?

18 A: Yes, Ms. Dailey and I did it.

19 Q: Are you able to identify what that map -- what  
20 information is on that map?

21 A: That is the day that Ms. Dailey, I, and Joe  
22 Kelly, we walked up the slough. We did it -- I  
23 see now in reverse order, we ---

24 **MR. GRESSETTE:** Objection, Your Honor, it's non-  
25 responsive. What's reflected on that map is not



1 a date.

2 **THE COURT:** All right. I sustain that.

3 Q: Dr. Porcher, are you able to identify for me  
4 what the information on this map means?

5 A: It shows the four waypoints we took and how deep  
6 the water was on that day.

7 Q: On what day?

8 **MR. CHURDAR:** Your Honor, I would object for the  
9 reasons that the Court has not allowed  
10 consideration with the prior exhibit as being  
11 anything other than general information  
12 regarding the pins.

13 **THE COURT:** And she hasn't offered it into evidence  
14 yet, but ---

15 **MR. CHURDAR:** I'm just saying his -- I'm objecting to  
16 Dr. -- that portion of Dr. Porcher's testimony.

17 **THE COURT:** His referring to it?

18 **MR. CHURDAR:** Yes, sir.

19 **THE COURT:** What specifically did he say that ---

20 **MS. WHITE:** I asked him to identify what information  
21 was on this map.

22 **MR. CHURDAR:** And he said -- if my memory is -- I  
23 mean, if I heard him correctly, the pins  
24 represent where we were.

25 **MR. GRESSETTE:** And ---



1     **THE COURT:**   Awhile ago he testified that he couldn't  
2                   identify that at all in the previous photograph  
3                   of where the -- where the photos were taken and  
4                   this map is just suggesting the answer, is it  
5                   not?

6     **MS. WHITE:**   Well, I'm -- I was asking the witness if  
7                   he could identify what information was on this  
8                   map.

9     **MR. GRESSETTE:**   And then for purposes of the record,  
10                  Your Honor, I believe that he identified the  
11                  points as the points that had purportedly been  
12                  transferred to the map and also including the  
13                  measurements of water that we took. They are --  
14                  there are measurements printed on the document  
15                  he's been handed.

16    **THE COURT:**   Well, they're printed on the documents,  
17                  yeah.    At this point in time -- well, your  
18                  motion is what?   Or your objection is for me to  
19                  do what?

20    **MR. CHURDAR:**   Well, my objection is to his testimony  
21                  ---

22    **THE COURT:**   Oh, you object to it.   Are you seeking to  
23                  have it stricken?   I mean, what, what's your ---

24    **MR. CHURDAR:**   Correct.

25    **THE COURT:**   All right.



1 **MR. CHURDAR:** Correct. Right, that portion of his  
2 testimony that was -- that I just spoke to.

3 **THE COURT:** All right. At this point I'll strike  
4 that. Proceed.

5 Q: Dr. Porcher, could you just look at -- just look  
6 at that map. Are you able to tell me what  
7 information is on that map?

8 A: Yes, the four waypoints that we identified and  
9 how deep the water was in the slough. The four  
10 GPS points we took and measured the water in the  
11 slough on that day.

12 Q: And what day?

13 A: March -- October 17, 2016.

14 **MR. CHURDAR:** Your Honor, I would object. It's just  
15 the same answer to the same question.

16 **THE COURT:** I sustained that objection. Strike it  
17 again. But I didn't really let you argue.  
18 What's your response?

19 **MS. WHITE:** I -- I don't really understand the  
20 underlying objection, Your Honor. I'm asking  
21 the witness to ident- -- if he can identify  
22 information that's on the map and I don't know  
23 that there's too many ways to ask that question.

24 **THE COURT:** Well, you could lay a foundation that he  
25 would have -- like I said, let's go back -- stop





1 with the GPS stuff and just go back to the old  
2 days where we had things marked on an exhibit.  
3 A witness couldn't testify using that exhibit if  
4 they didn't have independent knowledge because  
5 it would -- it suggested the answer. I think  
6 that's what the -- that's what I gather the  
7 objection to be.

8 **MR. CHURDAR:** That's correct.

9 **MS. WHITE:** Dr. Porcher has gone through ---

10 **THE COURT:** Is it the exhibit ---

11 **MS. WHITE:** --- I mean, he has talked at length about  
12 the GPS measurements and the water measurements  
13 that he took on that day and now I'm handing  
14 him -- that's independent of this map because I  
15 just handed him this map. He wasn't looking at  
16 it.

17 **THE COURT:** All right. But unless I'm incorrect,  
18 before he got this map, he told you he could not  
19 identify where the photos were taken. I think  
20 he said it was impossible.

21 **MS. WHITE:** On a particular -- on an aerial that I  
22 just happened to ---

23 **THE COURT:** On that one back -- yeah.

24 **MS. WHITE:** --- put up there, but that doesn't -- I  
25 don't think that's the same as him not having



1 independent knowledge of where those points that  
2 he took were.

3 **THE COURT:** Now, he's got it because there's a  
4 pinpoint to show him exactly where it was. I  
5 sustain the objection.

6 Q: Dr. Porcher, is there information on Exhibit  
7 21A?

8 A: Yes.

9 Q: How did that information get on 21A?

10 A: We took the water measurements in the field and  
11 the GPS points in the field. We took the GPS  
12 point and measured the water. Then I gave it to  
13 Celie that night, she entered the four waypoints  
14 into Google Earth map and printed it out. She  
15 took my data that I recorded in the field, the  
16 waypoint and the water level, and then  
17 transferred them to Google Earth.

18 Q: Is it your data that you collected on the field?

19 A: Yes, my data.

20 Q: Represented on Exhibit 21A?

21 A: Yes, those four waypoints. But she also did  
22 three waypoints on herself, these three here,  
23 and had a photograph. That's what you showed me  
24 awhile ago, but she didn't do a water depth.  
25 She just took three GPS points on her own and



1 made a photograph. And then she put those on  
2 here too. My four are these right here. One,  
3 two, three -- one, two, three, four. Those are  
4 the ones that I stood there, took the GPS, made  
5 the water measurement, and she transferred them  
6 to the Google Map that night.

7 **MOTION TO ADMIT PETITIONER'S EXHIBIT 23A:**

8 **MS. WHITE:** The petitioners would move Exhibit 23A  
9 into evidence.

10 **MR. GRESSETTE:** Objection, Your Honor.

11 **THE COURT:** All right. Give me your reasons.

12 **MR. GRESSETTE:** The exhibit not only suggested the  
13 answer, it provided the answer in that all the  
14 witness did was read what was reflected on the  
15 map. He testified that he had some personal  
16 knowledge that one color of the pins were  
17 intended to represent where he took photos. He  
18 also testified that the other color, he had no  
19 independent knowledge of because someone else  
20 took them and transferred them onto the paper.  
21 Again, we circled back ---

22 **THE COURT:** So the yellow ones are the ones that he  
23 said ---

24 **MS. WHITE:** I don't think the witness ever testified  
25 to a specific color.



1     **THE COURT:**    Okay.

2     **MR. GRESSETTE:**   Excuse me.

3     **THE COURT:**    He said four of them, as I remember, so  
4         I'm just mathematically going with there's four  
5         yellow ones and three red ones. So if somebody  
6         says there's four, I'm doing deductive reasoning  
7         on that one. All right. But go ahead.

8     **MR. GRESSETTE:**   Additionally, for the same reasons  
9         we've talked about these Google Earth images,  
10        the Google Earth pinning, even if they were  
11        reliable, which has not been established, for  
12        all the hearsay and other reasons that we've  
13        discussed, although this may be the kind of  
14        information that he would rely upon as an expert  
15        and perhaps even testify from, the document  
16        should not come in.

17    **THE COURT:**    Can I -- awhile ago, you just got an  
18        exhibit just like this in. And you laid an  
19        independent knowledge where he said okay, I took  
20        this photo and this generally links up to where  
21        I took this photo. And the problem I'm having  
22        is he has no -- or he says he doesn't remember  
23        this or couldn't identify it.

24    **MS. WHITE:**    I think he just did. I mean I ---

25    **THE COURT:**    Well, if you could -- are there any



1        photos -- the photos that we just went through,  
2        if he can -- if there's a map that's not  
3        suggestive and he can show the -- where it was  
4        generally taken, that would certainly help.

5        **MR. CHURDAR:** Your Honor, I had ---

6        **THE COURT:** I'm waiting to ... What was your  
7        objection?

8        **MR. CHURDAR:** Well, I was just going to say that all  
9        of this is based on the context of the overlay.  
10       I mean, the information is meaningless without  
11       the overlay and so I would just object for the  
12       reasons that I mentioned before with the -- what  
13       they are representing is where the proposed  
14       development is going to be.

15       **THE COURT:** Well, we're not considering the overlay  
16       right now. If it came in, it wouldn't be for  
17       the purpose of the overlay.

18       **MR. CHURDAR:** Right.

19       **THE COURT:** So it would -- we're only trying to see  
20       if we can utilize the pin dots or whatever y'all  
21       call them.

22       **MR. CHURDAR:** Your Honor, in that case, then, I would  
23       -- I would add to another basis of my objection  
24       is relevance. I mean, because where a king tide  
25       goes is not relevant unless it is, according to



1 Dr. Porcher, going to be paved over by a road.

2 **THE COURT:** Paved over by a road or as a home? I  
3 think if a home was sitting where -- well, I  
4 don't know. I'm not even sure about that. Any  
5 response to that?

6 **MS. WHITE:** I guess I'm confused as to why Mr.  
7 Churdar continues to raise the overlay when we  
8 haven't been speaking about it and ---

9 **THE COURT:** Well, that's settled so you can drop that  
10 one.

11 **MS. WHITE:** Okay. And it's -- what was his -- I  
12 don't even remember his second point.

13 **MR. CHURDAR:** My second ---

14 **THE COURT:** It wasn't relevant because without the  
15 overlay, it's ---

16 **MS. WHITE:** I think it's certainly relevant  
17 regardless of the overlay to show where water  
18 was on this property where there's proposed  
19 development that the Department has authorized.

20 **THE COURT:** I think they can offer that. I have to  
21 disagree with you on ---

22 **MR. CHURDAR:** Okay.

23 **THE COURT:** I mean, it's sufficient to be -- to carry  
24 enough probative value to come in. Down the  
25 road, we've got to decide that the import of



1           that. They'll have -- will certainly have their  
2           position and y'all will have yours.

3   **MS. WHITE:** Thank you, Your Honor.

4   **MR. CHURDAR:** So did Your Honor make a ruling on our  
5           motions? I'm sorry, maybe I ---

6   **RULING OF THE COURT:**

7   **THE COURT:** It's not coming in at this point, no.

8   **MR. CHURDAR:** Okay, thank you.

9   Q: Dr. Porcher, do you recognize the aerial that I  
10       just placed on the screen?

11   A: I don't -- yeah, but I don't know what date.

12   Q: Okay. What is your understanding of what that  
13       is an aerial photo of?

14   A: That's the spit.

15   Q: Okay. Are you able to generally identify where  
16       the points were that you took GPS recordings and  
17       water measurements on October 17th on that map  
18       without -- I'm just going to remove Exhibit 23A  
19       from the witness' ---

20   A: I guess here, here -- oh, my God. Here, here,  
21       here, and here, probably (indicating). Close as  
22       I can tell. Ooh, it disappeared.

23   Q: Maybe we can use a different tool that's a  
24       little easier to see.

25   **THE COURT:** Let me see if they fixed mine.



1 **MS. ARMSTRONG:** Or a different color.

2 A: Now, I know we're further up the spit. I think  
3 this last one is probably ---

4 Q: Hold on one second.

5 A: --- right along there somewhere. One here  
6 (indicating) -- uh-oh, they disappear.

7 Q: Hold on one second, Richard.

8 A: All right.

9 **THE COURT:** I'm trying to get it to work. I don't  
10 think -- my monitor's not working, so I can't  
11 help y'all. Well -- or did you do that?

12 Q: Maybe, see what that -- you can mark on the  
13 points where you took GPS recordings and water  
14 measurements.

15 A: I'm supposed to move this?

16 Q: Yes. Oh, no, sorry. Just ---

17 **THE COURT:** That's how I -- I can show you ---

18 **MS. WHITE:** I thought it was going to put an X, I  
19 apologize.

20 **THE COURT:** See the one with the pencil and the  
21 squiggly line? That's probably the one you want  
22 to use.

23 Q: Okay. If you could mark the points where you  
24 took the GPS readings and the water  
25 measurements, maybe do an X or a circle.





1 A: I can't, they keep disappearing.

2 Q: I think if you hold ---

3 A: My X -- oh, damn.

4 Q: If you draw something a little more -- there you  
5 go.

6 A: Best I can do on a map like that.

7 Q: Okay. Dr. Porcher, why is it the best you can  
8 do on a map like that?

9 A: I can't remember what I -- I can't see  
10 landmarks, I can't see ---

11 Q: Is it zoomed out too far?

12 A: That doesn't make any difference. I can't --  
13 there's no way -- there's 30 feet -- the slough  
14 might look the same from here to here, it's just  
15 no way for me to be able to use this map and be  
16 very accurate. I just can't. That's why you  
17 use GPS.

18 Q: So is your concern with your ability to identify  
19 where you took the GPS recordings and water  
20 measurements with the map that's on the screen  
21 ---

22 A: Certainly.

23 Q: --- is the concern precision?

24 A: Yes.

25 Q: And is that concern addressed by using a GPS



1 device?

2 A: Certainly.

3 Q: And is it also addressed by importing the GPS  
4 coordinates into Google Earth?

5 A: Certainly. That's what the two systems are for.  
6 That's exactly why you use the two systems.

7 Q: Okay. And on October 17th when you took those  
8 GPS recordings and water measurements, was that  
9 data imported into Google Earth?

10 A: Yes. We made a map of it.

11 Q: Does Petitioner's Exhibit 23A appear to reflect  
12 the map of that data?

13 A: Yes.

14 **SECOND MOTION TO ADMIT PETITIONER'S EXHIBIT 23A:**

15 **MS. WHITE:** Petitioners would move Exhibit 23A into  
16 evidence.

17 **THE COURT:** Same objections?

18 **MR. GRESSETTE:** Same objections, Your Honor. By the  
19 time you showed it to him four times, it's  
20 accomplished its purpose to suggest the answer.

21 **THE COURT:** This is not just an exhibit that shows  
22 the pinpoints. It is an exhibit that shows the  
23 pinpoints and corresponds to number three and  
24 twelve inches of water. I mean, he hasn't  
25 linked it up. So ---



1 **MS. WHITE:** I -- I believe the witness just testified  
2 that he took a GPS reading -- a GPS recording  
3 and a water measurement at four points and that  
4 data was uploaded into Google Earth, so I ---

5 **THE COURT:** By someone else.

6 **MS. WHITE:** At his direction. It's his data and he  
7 testified at length that that's the methodology  
8 that he uses on a regular basis to locate  
9 information in his field and others use that  
10 methodology to locate information in the field  
11 and that's what he did in this case.

12 **THE COURT:** All right. I'm going to take a short  
13 break and then I'll decide this.

14 **(A break was taken from 4:01 p.m. until 4:05 p.m.)**

15 **THE COURT:** All right. I just wanted to make sure if  
16 I'm -- I went out to make sure I'm just not  
17 missing something and I think I've confirmed I'm  
18 not. So you're offering this photograph, and  
19 you tell me where I'm wrong, but it appears to  
20 us that you've got a pinpoint -- there are four  
21 yellow pinpoints. The witness cannot identify  
22 or correlate those to a specific photograph  
23 without using this document. He hasn't  
24 testified that I took this photograph in this  
25 general area and also then you're taking it one



1 step further and going with the water. He can  
2 certainly testify, and I think he probably  
3 already has, that this is an area where I saw  
4 twelve inches of water; this is an area where I  
5 saw ten; this is an area where I saw eight. But  
6 if he can't correlate as he did previously in  
7 his testimony, that's all I'm ---

8 **MS. WHITE:** Your Honor, if I may. The photographs  
9 that we walked through previously that I think  
10 you're referring to ---

11 **THE COURT:** Yeah.

12 **MS. WHITE:** --- he took those photographs. The  
13 photographs that we've been going through after  
14 that are what Ms. Dailey took that she testified  
15 to taking yesterday.

16 **THE COURT:** Okay.

17 **MS. WHITE:** And so that -- I wasn't trying to get him  
18 to necessarily -- he didn't testify that he took  
19 any of these photographs and what I understood  
20 that Your Honor wanted was just independent  
21 confirmation that he ---

22 **THE COURT:** I wanted independent -- so you'll  
23 understand, I wanted independent confirmation  
24 that number three here was taken in this area  
25 before he correlates it to a GPS position



1           because he's got to say that the photo was taken  
2           in that area and he hasn't been able to do that  
3           at this point in time. That's what I'm getting  
4           at. You're not linking it. So tell me if I'm  
5           wrong, but I -- I haven't heard that.

6   **MS. WHITE:**   I mean, I -- I disagree. I ---

7   **THE COURT:**   Well, when has he testified, using an  
8           exhibit like this without the markings on it,  
9           that number three was taken in this area; number  
10          four was taken over here; and ---

11   **MS. WHITE:**   I don't believe Your Honor required that  
12          kind of specificity on Exhibit 20 that was  
13          admitted.

14   **THE COURT:**   Because I ---

15   **MS. WHITE:**   I offered ---

16   **THE COURT:**   --- didn't require it because he did it.  
17          I didn't mention it because ---

18   **MS. WHITE:**   No, well, I -- I mean, he spoke generally  
19          and I had him speak generally to this overlay  
20          that's up on the screen, but he testified that  
21          it's difficult to do on an aerial like that and  
22          that's why he ---

23   **THE COURT:**   But is there -- do you have another  
24          exhibit like this without the markings on it  
25          that he can utilize and say -- and give us an



1 idea of where the photos were taken?

2 **MS. ARMSTRONG:** We can pull up a Google Earth image,  
3 if that's on a computer, if we're able to  
4 utilize this system. We've got our laptop, we  
5 can pull up a Google Earth image and ask him to  
6 do that. Is that possible for us to connect to  
7 the internet?

8 **THE COURT:** Well, I don't know about that. I just  
9 don't know the ...

10 **MS. WHITE:** Yeah, that would be the only -- I mean,  
11 that would be the only other way.

12 **THE COURT:** Y'all don't have a blank -- one without  
13 markings on it?

14 **MS. WHITE:** We did not print out a blank Google Earth  
15 images, no, Your Honor.

16 **THE COURT:** Is there anyway we can get -- accomplish  
17 something without wasting a lot of time here?

18 **MR. GRESSETTE:** Yes, Your Honor, probably the way we  
19 could have done it was if they -- after  
20 yesterday's three-hour process, printed some  
21 plain ones of these anticipating that we were  
22 going to have this problem. But I don't mean to  
23 be ---

24 **THE COURT:** Well, that's why I'm asking.

25 **MR. GRESSETTE:** We don't have any objection to the



1 way we proceeded before about general  
2 information, but part of what's going on is that  
3 we just keep doing this so much that we feel  
4 like some how we're standing in the way of a  
5 process that we're not. I mean, I just feel  
6 like we're getting beaten down over here because  
7 we're objecting.

8 **THE COURT:** Well, I'm not treating you that way. I  
9 just ask is there any way we can generally get  
10 this in and move on.

11 **MR. GRESSETTE:** I don't think so for the purpose they  
12 want to use it for, Your Honor, no, sir.

13 **THE COURT:** All right.

14 **MR. GRESSETTE:** Because they're going to want to link  
15 this to specific locations to make a point, and  
16 my concern is that if it gets in the record, it  
17 will be cited for that purpose.

18 **THE COURT:** Well, the photos are in, so it's just  
19 that correlating the photos to the general area  
20 to get the GPS. Any other response?

21 **MS. ARMSTRONG:** Can we have just -- can we have just  
22 about one minute?

23 **THE COURT:** Yeah.

24 (Off the record discussion.)

25 **PROFFER OF EXHIBIT:**



1 MS. WHITE: We'd just like to make a proffer on that  
2 exhibit and move on if ---

3 THE COURT: Okay.

4 MS. WHITE: --- if that's all right with the Court.

5 THE COURT: Well, you've offered it, so ---

6 MS. WHITE: Okay.

7 (Petitioner's Exhibit Number 240 was introduced into  
8 the record at this time.)

9 Q: Dr. Porcher, I'm handing you a -- I'm going to  
10 put this photograph on the projector screen.  
11 It's Petitioner's Exhibit 240. Do you recognize  
12 that photograph, Dr. Porcher?

13 A: I have no way of saying where it is.

14 Q: Have you seen it before?

15 A: Yeah, it's one of the ones that we took  
16 somewhere in -- on one of our treks, but I don't  
17 now where that is. I can look at my notes if  
18 that's what you want me to do.

19 Q: Hold on one second. After October 17th, did you  
20 visit Captain Sam's Spit again?

21 A: Yeah, November 15.

22 Q: And what did you do on November 15?

23 A: We started just past the -- we began walking  
24 along here. It was a king tide around 7'2", 7  
25 foot 4 tide. And so we followed the water line





1 wondering where the tide would come in, flush,  
2 trying to demonstrate everywhere along here and  
3 the tide had flooded all the lots, everything,  
4 so we just took readings all up and down here,  
5 as many as we could, and do the water  
6 measurement. Of course, much of the tide  
7 flooded where the lots are or the edge of the  
8 lots. Then we came around here. I think we  
9 went up into here, this slough, back out here,  
10 all the way here, and all the way back as far as  
11 we could go. And by the time we got to the end,  
12 we were at the -- way past where the road was,  
13 way past the parking lot, way past lot number,  
14 I think, 26 and had continuous water all the way  
15 way back here as far as you can go.

16 Q: How do you know you were past where the road  
17 was?

18 A: Well, I have roughly an idea.

19 Q: The proposed ---

20 A: We looked at all these maps. I have roughly an  
21 idea of where these -- by this time I can sort  
22 of visualize where these site were.

23 Q: And is that from looking at the develop- -- the  
24 construction plans?

25 A: Their's, ours, the plat we have right here that



1 we couldn't use. By this time, we had a pretty  
2 good idea where we were. Where the road were  
3 and everything.

4 Q: And when you were following continuous water as  
5 you indicated on Exhibit 1, Petitioner's 1A, did  
6 you go in the same direction that you had ---

7 A: Yeah.

8 Q: --- followed water before?

9 A: Yeah. No, I think the time just before that, we  
10 came like this and went back up. But this time  
11 we made a continuous every so many feet, we  
12 stopped and took a GPS, photograph and did the  
13 water measurement, came on down here, up in  
14 here. I think we went down here, down here, all  
15 the way, taking readings, taking readings,  
16 taking reading until we get to the point where  
17 the -- there's no more water.

18 Q: Did you begin on the river side?

19 A: Okay. We began right along here somewhere. I  
20 can't remember, right along here (indicating).

21 Q: And you're indicating on the riverside?

22 A: Yeah, right. My -- we figured that the king  
23 tide, 7 foot 2, 7 foot 4 tide, would flood all  
24 parts of all these lots back here which is what  
25 we want to demonstrate. That some of those



1 tides, people who have houses here, their yards  
2 are going to be flooded, maybe the -- that's  
3 what we were trying to demonstrate.

4 Q: And did you walk up what you've referred to  
5 previously as the slough?

6 A: Yes.

7 Q: Was it the same slough that you walked up  
8 previously?

9 A: Same one -- same one we talked about all along.  
10 All three of us. And this is as far as these  
11 go, 7 foot 4 tide, I believe we got pretty close  
12 to a 7 foot 4 tide and went as far as we could  
13 go taking readings, water measurements, GPS,  
14 everything.

15 **(Joint Exhibit Number 7 was introduced into the**  
16 **record at this time.)**

17 Q: Okay. I am handing you a page from Joint  
18 Exhibit 7 and it's labeled C1.5, Bates labeled  
19 KDP 072817, that's the date, and then it's 08.  
20 If you could look at this for me and identify it  
21 for me.

22 A: It's the map of Phase 1.

23 Q: Okay. And are you able to identify on that  
24 construction drawing the -- the furthest point  
25 that you collected ---



1 A: Right along here (indicating). That's lot  
2 number 129, went to right -- right along here,  
3 between the two lots (indicating).

4 Q: I'm going to hand you a purple pen, could you  
5 mark the point where you ---

6 A: Now, I can't check my notes to make sure it's  
7 correct?

8 Q: I would just ---

9 A: All right. Okay.

10 Q: Based on your understanding ---

11 A: Yeah.

12 Q: --- mark the point that you believe was the  
13 furthest point you saw water.

14 A: (Witness does as instructed.)

15 Q: And the witness has marked a purple X in between  
16 what's identified on Joint Exhibit 7, page C1.5,  
17 in between lots numbered 129 and 123. And in  
18 that drawing, the X -- you took multiple  
19 readings from your GPS before that point?

20 A: Oh, yes ---

21 **MR. GRESSETTE:** Leading, Your Honor.

22 Q: Did you take ---

23 A: Yes.

24 Q: --- multiple readings?

25 A: We took almost 20-something readings that day.



1 Q: Okay. And when you were walking up the slough,  
2 did you -- was there ever a point where you took  
3 a reading and there was no water?

4 A: Well, no, we -- we -- the whole idea is you  
5 follow a continuous flow of water until you get  
6 to the end. That's what we did every time we --  
7 all three of these, we just followed as long as  
8 the water is continuous with the estuary, then  
9 we stop when it ends.

10 Q: And so is the X that you've marked on that  
11 drawing where you stopped?

12 A: Yes, that is where we -- roughly where we  
13 stopped. It was three inches of water at the  
14 time.

15 Q: Okay. And based on your understanding of the  
16 proposed development, do you have any opinions  
17 about what that would mean for the proposed  
18 development?

19 A: Well, it's -- to me, it's a wetland. The road  
20 goes across it. There's a parking lot, looks  
21 like it would be underwater at times. This lot  
22 right here, 129, where the slough goes right  
23 through the middle of it. I mean 129 would be  
24 in the middle of a slough.

25 Q: Okay. And on that day -- what day was it that



1           you took that measurement?

2       A:     November 15, 19 -- 2016.

3       Q:     Were your GPS data points -- and did you also  
4           take water measurements?

5       A:     Oh, yeah, we took water measurements and GPS  
6           points everywhere.

7       Q:     Was that data then imported into Google Earth?

8       A:     It was.

9       Q:     And did -- was that data reflected on a map?

10      A:     It is.

11      Q:     Over a Google Earth aerial?

12      A:     Yes, one just like that.     And which the  
13           development had been overlaid onto it.

14      **(Petitioner's Exhibit Number 24A was introduced into**  
15      **the record at this time.)**

16      Q:     I'm handing the Petitioner's Exhibit 24A. Have  
17           you seen that map before?

18      A:     Yes. That's the one we -- one we created.

19      Q:     And are you able to verify whether the point  
20           that you've marked with an X on the development  
21           drawing in Exhibit -- Joint Exhibit 7 is also  
22           marked on that map, 24A?

23      A:     Right here (indicating). Number 15, that's the  
24           farthest point we were able to go up with a  
25           continuous flow of water.



1 Q: Okay.

2 A: Point number 15, three inches of water.

3 Q: Okay.

4 **MOTION TO ADMIT PETITIONER'S EXHIBIT 24A:**

5 **MS. WHITE:** Petitioners move Exhibit 24A into  
6 evidence.

7 **THE COURT:** Can I see it?

8 **MS. WHITE:** Oh ---

9 **THE COURT:** So I'll ---

10 **MR. GRESSETTE:** Your Honor, our objection would be to  
11 the overlay, to the other points except the one  
12 that was just identified and then that one point  
13 would come in as generally -- pursuant to his  
14 testimony linking to the other one on the other  
15 exhibit he marked.

16 **THE COURT:** Well, that's going to be an odd -- but I  
17 -- that's -- are you going to make a different  
18 ---

19 **MR. CHURDAR:** Well, I would ---

20 **THE COURT:** Yes, thank you.

21 **MR. CHURDAR:** I would object for the same reasons  
22 that Mr. Gressette has mentioned, along with --  
23 well, I think he did say the overlay, so.

24 **RULING OF THE COURT:**

25 **THE COURT:** Well, so I admit it for the one that was



1 generally identified and that's what I've been  
2 seeking is if you can generally get me in the  
3 area, but -- so I'll let it in for the purposes  
4 of identifying -- what was it? Was it five?

5 **MR. GRESSETTE:** 15, Your Honor.

6 **THE COURT:** No, no, no, not the exhibit.

7 **MS. WHITE:** Exhibit 24A.

8 **THE COURT:** The mark.

9 **MR. GRESSETTE:** It was 15.

10 **MR. CHURDAR:** Number 15.

11 **THE COURT:** 15?

12 **MR. GRESSETTE:** Yes.

13 **THE COURT:** So, for purposes of the general area of  
14 15 and without the overlay coming in for any  
15 purpose.

16 **MS. WHITE:** Understood.

17 **(Petitioner's Exhibit Number 24A was admitted into**  
18 **evidence.)**

19 **Q:** Dr. Porcher, in addition to water, what else did  
20 you observe at point number 15 on November 15?

21 **A:** Whatever plants are there; I don't remember what  
22 they are now. I don't think we took note --  
23 well, we wanted to go as fast because we had a  
24 long route to take, remember. Because we had --  
25 we figured we had an hour before the king tide,





1 7 foot 4 tide or close to it, so we had a long  
2 way to go taking readings, taking read, here,  
3 here, so I don't think we bothered to stop and  
4 do the plant vegetation. Alls we wanted was GPS  
5 point and how deep the water was. That was the  
6 role; that was the plan of that particular day,  
7 so I don't believe we stopped and did any  
8 vegetation surveys.

9 Q: Okay.

10 A: That would've taken too much time and we  
11 might've missed the high tide.

12 Q: Okay. So your concern on that particular site  
13 visit was primarily to obtain water readings?

14 A: Water readings to see how far up the slough  
15 would go the tide.

16 Q: Okay. And do you have any concern about what  
17 you observed on November 15th with regard to the  
18 development ---

19 A: Oh, yes.

20 Q: --- proposed development?

21 **MR. GRESSETTE:** Objection, Your Honor. I don't know  
22 that his concerns are relevant.

23 Q: As a field botanist in your opinion.

24 A: As a field botanist, I'd certainly be concerned  
25 about the destruction of a slough. It is a



1 conduit for organic material, their breed, food  
2 and everything to go from the highland down that  
3 slough into the estuary. That is the function  
4 of a tideland, like a -- of a slough like that.  
5 It provides the conduit for organic materials to  
6 get from the highland in there out to the  
7 estuary which forms the base of the food chain.  
8 This is basic ecology.

9 Q: Okay. And ---

10 A: The tide goes in; organic material gets in the  
11 water; tide goes out; carries that material back  
12 into the estuary where all the copa pods grow  
13 plankton, everything, that's the basis of their  
14 food chain.

15 Q: In your opinion, to a reasonable degree of  
16 scientific certainty, is the point that you've  
17 marked on this page on Joint Exhibit 7 as the  
18 furthest point you measured water, is that a  
19 part of the conduit as you just described?

20 A: Yes, that's a continuous -- the continuous flow  
21 of water, all the way here, here, here, all the  
22 way up here. So any event -- you have rainwater  
23 in the highlands, organic material drains down  
24 into the slough, the water carries it back out  
25 the ocean. There's no really photosynthesis



1 occurring in the estuary. All the organic  
2 material and so forth that provides the food  
3 chain basis, that's got to come from somewhere,  
4 from the highland, from the grading marsh  
5 system, that's where it comes from. And this is  
6 just one example, all that organic material  
7 comes in here, down here, into the estuary,  
8 where it forms the base of the food chain.

9 Q: And if the proposed road is constructed as  
10 planned, in your scientific opinion, would that  
11 impact the area as you observed on the ground?

12 A: Well, if you develop -- if the development goes  
13 through and you put a parking lot, a house site,  
14 or a road, certainly, all that's going to impact  
15 it. Like any wetland.

16 Q: Based on your expertise, are you able to say  
17 with a reasonable degree of scientific certainty  
18 that water will cross over the location of the  
19 proposed road at a high tide?

20 A: Well ---

21 **MR. GRESSETTE:** Objection, Your Honor. He has never  
22 referred to this tide as a high tide. He has  
23 referred to it as a greater than seven foot king  
24 tide every time he has testified.

25 **THE COURT:** All right.



1 MS. WHITE: I'll clarify.

2 MR. CHURDAR: And, Your Honor, I would object because  
3 I believe that is beyond the scope of his  
4 recognized expertise as a botanist.

5 MR. GRESSETTE: That's true. He doesn't know the  
6 scientific engineering of what will happen with  
7 the road and the roadway if the water meets it.

8 MS. WHITE: I don't think engineering has anything to  
9 do with it, but, okay. I'll -- I'll ask the  
10 question again.

11 THE COURT: Okay.

12 Q: Based on your expertise, are you ---

13 THE COURT: Wait. When you say the question, you  
14 mean another question?

15 MS. WHITE: I'll rephrase.

16 THE COURT: You'll rephrase it, okay.

17 Q: Based on your expertise, are you able to say  
18 with a reasonable degree of scientific certainty  
19 that water will cross the location of the  
20 proposed road at a king tide?

21 A: At a king tide and probably at ---

22 MR. GRESSETTE: Your Honor ---

23 A: --- at high tide.

24 MR. GRESSETTE: I would ---

25 A: --- spring tide.



1 **MR. CHURDAR:** I would object for the -- I mean, my  
2 objection is that is beyond the scope of a field  
3 botanist expert.

4 **MR. GRESSETTE:** I would additionally object, Your  
5 Honor, in that he has testified as a botanist,  
6 he has no knowledge or information or testimony  
7 about the drainage, the engineering plans, the  
8 stormwater, he has no basis to offer an opinion  
9 that water will flow onto a roadway when he has  
10 no information about how the drainage works.

11 **MS. WHITE:** It has nothing to do with the drainage.

12 **THE COURT:** All right. Number one, this isn't  
13 botany. This is -- but this is basic -- your  
14 question's based on his observations of where  
15 the water went with a king tide. He can testify  
16 to that. As to the location of the roadway and  
17 the implications of where the water would go  
18 after a development, there's not been a  
19 foundation laid for that. It has -- so I think  
20 your question's going further into the future  
21 than -- than he can do at this point.

22 **Q:** Dr. Porcher, I'm going to hand you again Joint  
23 Exhibit 7, page C1.5, where you marked the point  
24 that you measured water.

25 **A:** All right.



1 Q: Would -- based on your understanding of the  
2 proposed road location, would water cross over  
3 the road?

4 A: Yes.

5 **MR. GRESSETTE:** Objection, Your Honor. He has no  
6 basis to testify about water flow, impacts upon  
7 development, drainage, engineering, culverts.  
8 He is a botanist. He himself said he studies  
9 plants.

10 **THE COURT:** Well ---

11 **DR. PORCHER:** Am I allowed to make a statement?

12 **THE COURT:** No, sir.

13 **DR. PORCHER:** Okay.

14 **THE COURT:** Sorry. But ---

15 **DR. PORCHER:** I could clarify it.

16 **THE COURT:** I sustain that and strike the testimony.  
17 But, again, your objection is to what would  
18 happen post-development, correct?

19 **MS. WHITE:** Yeah.

20 **THE COURT:** Yeah.

21 **MR. GRESSETTE:** Yes, Your Honor.

22 **MS. WHITE:** Which is not what I'm asking him.

23 **THE COURT:** I know and I'm -- as I said earlier, he  
24 can testify about where the water is now, where  
25 it's gone, and where it would be in



1           corresponding to things, but he can't testify to  
2           post-development unless it ---

3   **MS. WHITE:**   I didn't ask him about that.

4   **THE COURT:**   You didn't?

5   **MS. WHITE:**   I -- not about post-development, no.

6   **THE COURT:**   Well ---

7   **MS. WHITE:**   I was ---

8   **THE COURT:**   --- you said would it be over a roadway,  
9           and that ---

10   **MS. WHITE:**   The proposed location of the road.

11   **THE COURT:**   Well, that's a different question.

12   **MS. WHITE:**   Right. Exactly.

13   **THE COURT:**   Okay. Is that what you asked or you're  
14           going to ask now?

15   **MS. WHITE:**   Yes, I believe that's what I asked.  
16           That's ---

17   **THE COURT:**   Well, then I missed it.

18   **MS. WHITE:**   --- the question I have written down.

19   **THE COURT:**   Well, ask that again and let's see if  
20           they object.

21   **Q:**   Based on your expertise, are you able to say  
22           with a reasonable degree of scientific certainty  
23           ---

24   **THE COURT:**   Well, he's not an -- he can testify to  
25           what he saw and where the water would be,



1           because that doesn't require science. As a  
2           botanist, does he testify to where water --  
3           that's the study of plants. So maybe your  
4           question is causing a lot of the foray here.

5   Q:     Did you observe water ---

6   **MS. ARMSTRONG:** Your Honor, I just -- I'm sorry, I  
7           felt the need to jump in, and excuse me for  
8           being out of order ---

9   **THE COURT:** That's fine.

10   **MS. ARMSTRONG:** --- here, but Dr. Porcher testified  
11           he's a botanist and one of the things he has  
12           expertise in is wetland vegetation.

13   **THE COURT:** Uh-huh.

14   **MS. ARMSTRONG:** Now, when he's looking at wetland  
15           vegetation, he considers water, and hydrology is  
16           a very important component of being a botanist  
17           to determine whether a species is a wetland  
18           species, a saltwater or freshwater -- I mean,  
19           that was all of his testimony early on. I --  
20           the notion that this witness can't testify about  
21           where water is because he's intimately connected  
22           with the kind of vegetation that he studies is  
23           -- doesn't make any -- it doesn't make any sense  
24           to me.

25   **THE COURT:** He doesn't have expertise in -- and I





1 forgot the phrase of the flow of water, but as  
2 a botanist, he can identify plants and identify  
3 wetlands, so he can identify if it was a wetland  
4 base, certainly. Now, the occurrence of a  
5 wetland happens because of water, but as to  
6 whether an area would be inundated with water,  
7 there has been no expertise established in that  
8 regard. He can testify to his personal  
9 observations in this area. But not as an expert  
10 based on what he's observed. That's my ruling.

11 Q: Dr. Porcher, did you observe continuous water  
12 from the Kiawah River and into the point on  
13 Joint Exhibit 7 that you've marked?

14 A: I did.

15 Q: And based on your understanding of the proposed  
16 development plans and the proposed location of  
17 the road, would that water have crossed the  
18 proposed road?

19 A: Yes.

20 Q: Dr. Porcher, when we were looking at Exhibit 24A  
21 and talking about point number 15 ---

22 A: Right.

23 Q: --- is it your opinion that that point is  
24 located in a wetland area?

25 A: That's -- yeah, at the very high point of the



1 slough.

2 Q: Okay. Is it your opinion that that point number  
3 15 is part of the estuarine system?

4 A: It is.

5 Q: And is it your opinion that it is an integral  
6 part of that system?

7 A: It is.

8 **MR. CHURDAR:** Your Honor, if I could just object. I  
9 believe that The Court's ruling is not that Dr.  
10 Porcher can give testimony or maybe The Court is  
11 not accepting testimony as to the specificity,  
12 but rather these points are very general.

13 **THE COURT:** I didn't say very general, but I just  
14 said the points reflect a general location ---

15 **MR. CHURDAR:** Okay.

16 **THE COURT:** --- about where they are.

17 **MR. CHURDAR:** Thank you.

18 **THE COURT:** Go ahead.

19 Q: In your opinion, is point number 15 an integral  
20 part of the estuarine system?

21 A: It is.

22 Q: As it stands today, would the proposed road  
23 cross over wetlands?

24 A: What I consider wetlands, yes.

25 Q: And are you certain to a reasonable degree of



1 scientific certainty that that is your opinion?

2 A: Oh, no question.

3 **MR. CHURDAR:** Your Honor, I would object. I don't  
4 think the foundation has been laid for Dr.  
5 Porcher's knowledge of where the proposed  
6 development is to any level of certitude for him  
7 to be offering that opinion.

8 **THE COURT:** As to where the road is?

9 **MR. CHURDAR:** Well, the development. I mean, this  
10 whole thing is premised on him having a  
11 knowledge and understanding of where the  
12 development is in relationship to where he was  
13 when he was walking around out there.

14 **MS. WHITE:** That's -- Dr. Porcher specifically  
15 identified the point where he walked -- followed  
16 continuous water until it stopped on the  
17 development plans, so I -- I'm not sure how much  
18 ---

19 **THE COURT:** Yeah, I overrule that in that his  
20 testimony is that that is his understanding of  
21 where the road would be. If his understanding  
22 turns out to be wrong, then that will affect  
23 his testimony. But he's saying it not based on  
24 where the road will be, but his understanding  
25 that that is where the road is going to be, this



1 will be an area that will be a wetland. So,  
2 it's a -- more of a hypothetical situation is  
3 how I'm treating it.

4 **MR. CHURDAR:** Okay. Thank you, Your Honor.

5 **MS. WHITE:** I believe that's all the questions I  
6 have.

7 **THE COURT:** Do we need a break or are we good?

8 **MS. WHITE:** I don't.

9 **MR. GRESSETTE:** No.

10 **THE COURT:** All right. You ready?

11 **MR. GRESSETTE:** Yes, sir.

12 **DR. PORCHER - CROSS-EXAMINATION BY MR. GRESSETTE:**

13 Q: Good afternoon, Dr. Porcher.

14 A: How you doing?

15 Q: I'm fine. How you doing?

16 A: Well, I don't know.

17 Q: It's been a couple of hours. You going to make  
18 it?

19 A: Been a couple hours. What time is it now?

20 Q: 4:40, I think you've been on for two hours and  
21 forty minutes.

22 A: I guess I don't get home tonight. I need to  
23 make reservations somewhere tonight. Anybody  
24 got an extra room around here tonight.

25 **MS. ARMSTRONG:** Before we get started, Dr. Porcher



1 has keys that one of our witnesses needs before  
2 you get started.

3 **MR. GRESSETTE:** Oh, sure.

4 **MS. ARMSTRONG:** If we can get those keys from him?

5 **MR. GRESSETTE:** Do you have keys for Ms. Dailey?

6 **DR. PORCHER:** Oh, yeah.

7 **MS. ARMSTRONG:** Sorry about that interruption.

8 **MR. GRESSETTE:** Oh, no, that's okay.

9 **MS. DAILEY:** I apologize.

10 **MR. GRESSETTE:** Are we good to go?

11 **DR. PORCHER:** Yeah.

12 Q: All right. You were just talking a moment ago  
13 about some opinions related to wetlands. Did  
14 you understand you were testifying under the  
15 South Carolina legal definition of wetlands or  
16 Dr. Porcher's definition of wetlands, like in  
17 your deposition?

18 A: I'm not sure what the legal definition is, but  
19 ---

20 Q: So when you said wetlands, what did you mean?

21 A: Any habitat that the primary influence on a  
22 community is -- is water.

23 Q: Okay. And so ---

24 A: Yeah.

25 Q: And so it wasn't your intention that that



1 opinion be construed to assert that the areas  
2 you identified are wetlands under South Carolina  
3 law?

4 A: I'm not sure what South Carolina law is. You  
5 tell me what the law is and I can tell you  
6 whether it is.

7 Q: Right, because ---

8 A: But I don't know, I've never read the South  
9 Carolina law.

10 Q: I think at your deposition we talked about the  
11 definition of a critical area and I asked you if  
12 you were testifying about it and you said  
13 something like, heck, no, you can't beat that  
14 out of me. Meaning that you don't get involved  
15 in defining what is and is not a tideland under  
16 South Carolina law.

17 A: Not law. I'm not sure what the law is, but I  
18 know what a tideland is but ---

19 Q: Okay. But ---

20 A: --- put it that way.

21 Q: Have you ever designated a critical line?

22 A: No.

23 Q: Have you ever attempted to designate a critical  
24 line?

25 A: No.



1 Q: Has anybody ever offered -- asked you to?

2 A: No.

3 Q: Okay. Now, you talked a little bit about your,  
4 I believe you characterized it, crusade to stop  
5 this development.

6 A: I wouldn't say it was a crusade, but I thought  
7 I had -- I developed some material that they  
8 could use in their crusade, let's put it that  
9 way.

10 Q: And is that based upon your understanding that  
11 water is going to come up into a proposed I  
12 believe you said water treatment plant, is that  
13 right?

14 A: I thought I remember there was a parking lot, a  
15 road, a lot, maybe not the water treatment  
16 plot, I don't know, because memory still ---

17 Q: But you remember that the plans included a  
18 parking lot?

19 A: Yeah, I think so.

20 Q: And is it your testimony that the water you have  
21 identified as flowing up into the slough will  
22 come up into that new proposed parking lot?

23 A: I thought it -- based on this map.

24 Q: Yes, sir.

25 A: And where I thought the -- yeah, and basically



1           where I thought the -- those structures, those  
2           things were.

3       Q:     How much of that parking lot will be covered  
4           water when that slough ---

5       A:     I don't ---

6       Q:     --- floods as you've described it?

7       A:     I couldn't tell you that. No way.

8       Q:     So, Dr. Porcher, I want to go back through, just  
9           a minute, the history because I want to try to  
10          make us a long clean line, all right. So if I  
11          understand correctly, you visited the slough on  
12          February 13, 2016 ---

13      A:     Hold on, let me follow my -- can I follow you in  
14          my notes?

15      Q:     Sure.

16      A:     Okay. Let me go back to my notes. Let me make  
17          sure we got it all straight.

18      Q:     Yes, sir. Just don't flip past your journal.

19      A:     Where is there to look?

20      Q:     Well, no, I mean, look in your journal pages ---

21      A:     Oh, oh, oh.

22      Q:     --- just don't go to the back because I don't  
23          know what's back there.

24      A:     Okay.

25      Q:     You might surprise me.





1 A: Let me get it -- let me get the journal pages in  
2 order then.

3 Q: Well, you know what, why don't we do it this  
4 way. All right, so I'm going to put up here --  
5 let's just back up a second, Dr. Porcher. I'm  
6 going to step up here -- I'm sorry to jump  
7 around. Before I pull this off, this document  
8 here marked as Petitioner's Exhibit 240 ---

9 **(Petitioner's Exhibit Number 240 was introduced into**  
10 **the record at this time.)**

11 A: Oh, I didn't see the bottom of it. That's point  
12 number 15. When she put it up, I didn't see the  
13 ---

14 Q: The bottom of it?

15 A: Yeah, number ---

16 Q: The bottom of the picture?

17 A: Yeah, I didn't see number 15. That's the  
18 furthest point I went up the slough.

19 Q: And you know that because it says that at the  
20 bottom of the picture, right?

21 A: Yeah, it's labeled, yeah.

22 Q: Because you can't identify any of these pictures  
23 without the numbering across the bottom, can  
24 you?

25 A: Not really because it's so similar.



1 Q: Right, and I mean, you know, to offer an opinion  
2 based on all these pictures to a reasonable  
3 degree of scientific certainty, you need to see  
4 all that information written across the bottom,  
5 don't you?

6 A: Yeah. I mean, I took the photographs so I'd  
7 know what's there.

8 Q: Right. Sure, and so you need to be able to see  
9 this information in order for us to get reliable  
10 testimony from you, right?

11 A: Certainly.

12 Q: Okay. And so I want to back up and be sure  
13 while we're talking about your testimony, during  
14 your deposition, we made this document right  
15 here, Exhibit Number 10, and I'm going to show  
16 you some language down here at the bottom. Can  
17 you read what's highlighted for me?

18 A: Dr. Porcher is a field botanist and professor  
19 emeritus at The Citadel within its Department of  
20 Biology. He has expertise in vegetation found  
21 in and around the Captain Sam's Spit and its  
22 relationship to the existing conditions of the  
23 area.

24 Q: I'll represent to you that that is a response  
25 provided by the Coastal Conservation League to



1 an identification of witnesses. And do you see  
2 the word testify anywhere in that answer or  
3 scope of testimony?

4 A: No.

5 Q: Okay. And is it your belief that that is an  
6 accurate statement of the kinds of opinions you  
7 plan to provide?

8 A: Yeah.

9 Q: Okay. Before I get to this next one, which I  
10 believe is your journal, did I recall correctly  
11 from your deposition testimony that one of the  
12 things you know about sheet pile walls is how  
13 the one at your house functions?

14 A: Yeah, I think somebody asked me and I understand  
15 that -- am I supposed to explain it?

16 Q: No, yes, sir, I just wanted to know how you use  
17 a sheet pile wall at your house?

18 A: Oh, yeah, we had a -- we had a wall at a house  
19 up on Lake Moultrie, a sheet metal wall put up.  
20 And as I understand it, the wave action would  
21 come, hit the wall, go down, and scour out, so  
22 the next thing we know that the wall has gone  
23 because it totally scoured out. I just -- why  
24 we brought that up, I don't remember, but that's  
25 how I understand it.



1 Q: But nobody tried to stop you from putting that  
2 wall up, did they?

3 A: Well, I didn't put it up, but my father did.

4 Q: Did anybody try to stop your father from putting  
5 it up?

6 A: Oh, that was back close to 50 years ago, I don't  
7 think so.

8 Q: Okay. All right. So, if you would, pull out  
9 your notes from your journal.

10 A: (Witness does as instructed.)

11 Q: So, if I am correct, you went out to Captain  
12 Sam's on Saturday, February 13th, with Ms.  
13 Dailey, is that right?

14 A: Correct.

15 Q: And while you were there, you observed some  
16 things that gave you concern, correct?

17 A: Correct.

18 Q: And as a result of that, you contacted the  
19 lawyers of South Carolina Coastal -- the lawyers  
20 for the South Carolina Coastal Conservation  
21 League, is that correct?

22 A: Correct.

23 Q: And after you contacted them, is it correct that  
24 you re-visited Captain Sam's on May 5th, 2016?

25 A: July 6.



1 Q: I apologize. May 5th, 2016, is when they made  
2 that disclosure I just showed you. I'm sorry.

3 A: No, it was July, July 6, 2016.

4 Q: Okay. And did you return again on August 19,  
5 2016?

6 A: Well, I also returned on August the 3rd, but I  
7 also came back on August 19.

8 Q: Okay. And why did you go back on August 19?

9 A: Because by that time I'd been listed -- I'd been  
10 asked to be -- or I joined the team as an expert  
11 witness and I thought it was important for Amy  
12 and Jessie to see what the whole place looked  
13 like, especially the front beach and also the  
14 slough.

15 Q: Okay.

16 A: I thought they needed hands on information of  
17 what the place looks like.

18 Q: Because that would be more specific information  
19 for them?

20 A: Certainly.

21 Q: And is specific information important when  
22 you're offering scientific opinions?

23 A: For me it is.

24 Q: Yes, sir. And did you, on August 19th, record  
25 anywhere or do you recall what the tide was like



1           that day?

2       A:     It was not a high tide, because when I -- when  
3           we pulled in with the boat captain, I said, you  
4           know, I forgot who he was, I said is this  
5           normally what -- is this the normal high tide.  
6           He said, oh, no, the high tide, you can't even  
7           see the marsh. So we didn't go necessary to see  
8           for a high tide. We just went when they could  
9           go.

10      Q:     And did there come a time when you went back one  
11           or more times because you were seeking a higher  
12           tide?

13      A:     Well, certainly, I went back three times, I  
14           believe.

15      Q:     And you chose those three dates, September 19;  
16           Monday, October 10; and October 17, because they  
17           would have specifically high tides?

18      A:     I think you got a date wrong. Let me check it.

19      Q:     Okay.

20      A:     Okay.

21      Q:     If you would, look at your notes ---

22      A:     I am. I am.

23      Q:     --- take your time and list for me each date  
24           that you selected to visit Captain Sam's Spit to  
25           obtain data because there was going to be a king



1 tide.

2 A: Okay. Well, not -- well, only one, I believe a  
3 king tide, but there were a couple of smaller  
4 tides. But I'll come to it -- hold on. I'll  
5 come to it. All right, October 17, Celie and I  
6 met Joe Kelly and we thought there was going to  
7 be a 7 foot 2 tide on October 17.

8 Q: Okay. So on October 17 when you visited Captain  
9 Sam's Spit, you chose that date because it would  
10 be a seven foot or higher king tide.

11 A: We hoped, yeah.

12 Q: And was it, when you got there, a seven foot  
13 king tide?

14 A: Well, I have no way of knowing myself, but I go  
15 by the tide table. But we still can know the  
16 tide is way higher than we've seen it before.

17 Q: Okay. And was the tide also way higher than  
18 you'd ever seen it before on Monday, September  
19 19, when you visited Captain Sam's Spit?

20 A: I don't have a September 19 down here.

21 Q: I think you do if you look carefully.

22 A: Oh, September 21.

23 Q: Oh, I'm sorry. What does that note say on  
24 September 19, is that I will have to return at  
25 a true king tide ---



1 A: Oh, I ---

2 Q: --- I believe the surface water will go much  
3 further up the slough.

4 A: I think I sent that to Amy that I wanted to go  
5 -- e-mail to her.

6 Q: Oh, so you e-mailed Amy that you wanted to go  
7 back to Captain Sam's to gather data on a king  
8 tide day?

9 A: Yeah.

10 Q: And why did you want to go on a king tide day?

11 A: Trying to show how far the water goes up the  
12 slough. The whole ---

13 Q: But only on a king tide day, right?

14 A: Well, I know ---

15 Q: I mean, you haven't gathered any data on a  
16 regular tide day.

17 A: Well, everybody knows how far it goes on a  
18 regular tide. I mean ---

19 Q: Okay. So ---

20 A: --- the higher it was -- the highest -- how far  
21 it goes on the highest tide.

22 Q: Okay. So the idea was it would be better for  
23 the case if you went and gathered data on a  
24 higher tide?

25 A: Well, certainly.





1 Q: Okay. And so you only went ---

2 A: Go further in the slough.

3 Q: Let me finish.

4 A: Yeah.

5 Q: So you only went to gather data on days when you  
6 knew the tide was going to be seven foot or  
7 higher?

8 A: Yeah.

9 Q: Okay. So all the data that you presented today,  
10 if I understand correctly, is that water reaches  
11 those places when the tide is at least a seven  
12 foot or greater tide?

13 A: Roughly.

14 Q: So you have no data about the usual tidal flow  
15 at Captain Sam's?

16 A: Oh, certainly, I know the tidal -- high tide is  
17 gonna go up all the way into the salt marsh.

18 Q: Show me on that map where the high tide goes on  
19 a regular day.

20 A: Probably right on up to here (indicating).

21 Q: Probably?

22 A: Yeah. This is a rough map.

23 Q: Right.

24 A: This is a salt marsh, all this is spartina up to  
25 along here. So normal high tide might come



1 through here, but I can't be precise  
2 (indicating).

3 A: Okay. Okay. So the ---

4 A: This is a normal salt marsh.

5 Q: Okay. So salt marsh comes up to a point with  
6 the regular tide, and then on the king tide days  
7 ---

8 A: A pure -- a pure salt marsh.

9 Q: Okay. And then on the king tide days it goes  
10 into the brackish plants?

11 A: And all the way up here (indicating).

12 Q: Okay. So ---

13 A: Yeah.

14 Q: --- that's not the saline plants up that high?

15 A: What's not a saline plant?

16 Q: Well, where the king tide goes.

17 A: Well, those are brackish plants.

18 Q: They're not saline plants up there?

19 A: Well, what do you mean by saline? Well,  
20 freshwater is 0. to .5 parts per thousand of  
21 salt. That's freshwater. Brackish is .5 to 35  
22 parts per thousand. That's brackish. Saline is  
23 35 point to 50 points, and that's how we define  
24 the three terms.

25 Q: Okay.



1 A: The further -- okay. The further you go up, the  
2 less and less you'd have high, high salt  
3 content, let's put it that way.

4 Q: And do you have any data on the salt content?

5 A: No, we didn't do that.

6 Q: Okay. And I believe when we talked at your  
7 deposition, I asked you a lot of questions in  
8 September about where the road was going to go  
9 and my questions about your specific data and  
10 you told me a lot of things you wanted to go  
11 back and do. Do you remember that?

12 A: Well, certainly.

13 Q: And do you remember that you told me you needed  
14 to go back and do those so your opinions would  
15 be reliable?

16 A: Well, the more data the more visits, the more  
17 reliable your opinion.

18 Q: Sure. And do you remember telling me you wanted  
19 to set up a test?

20 A: I did.

21 Q: And did you set up that test?

22 A: Didn't have the chance to do it.

23 Q: All right. Why not?

24 A: Well, number one, I've got four books I'm  
25 working on; I've got a farm I'm running; I've



1 got a social life; I've got -- I'm doing all  
2 this free of charge. I can go on for an hour.

3 Q: Sometimes a crusade has to take a back seat.

4 A: --- but the only king tide I had a chance to do  
5 anything with was the one we did on -- well, the  
6 one I've already reported on. There was a king  
7 tide or a high tide at night. I couldn't do it  
8 then. So I just never got a chance to do it.

9 Q: Okay.

10 A: That's all.

11 Q: And the visit on October 10th, was that the king  
12 tide?

13 A: October ---

14 Q: Well, I guess they were all king tides.

15 A: Oh, that -- that was the hurricane.

16 Q: Right. That was the day you went to the beach?

17 A: Right.

18 Q: After the hurricane?

19 A: Right.

20 Q: How many days after the hurricane?

21 A: I can't remember when the hurricane was but it  
22 was October 10th.

23 Q: Right, I believe it was October 7th that the  
24 hurricane was.

25 A: That was three days afterwards.



1 Q: And then ten days after that, on October 17, did  
2 you return to Captain Sam's Spit?

3 A: Yeah, Celie, Joe, and I on October 17.

4 Q: And y'all took a bunch of pictures?

5 A: We did. We've already reported on that.

6 Q: And those were all the pictures that you've  
7 brought here to show us as the basis of your  
8 opinions, right?

9 A: Right.

10 Q: And that was ten days after Hurricane Matthew?

11 A: Right.

12 Q: And can you explain to me how long it takes  
13 after a hurricane like Matthew on Captain Sam's  
14 for all the flood waters and everything to  
15 settle back down?

16 A: No, I have no earthly idea.

17 Q: So what impact did Captain Sam's receive from  
18 the hurricane and how did that impact what you  
19 saw on the 17th, ten days after the hurricane?  
20 Or maybe you didn't consider that.

21 A: No, not at that point.

22 Q: Okay. So you disregarded ---

23 A: I was just trying to show was that periodically  
24 you get a high tide, king tide, way up the  
25 slough. That was the whole idea.



1 Q: Okay. So your opinion is that periodically when  
2 the tide is seven feet higher -- sorry, when the  
3 tide is seven feet or higher, which is  
4 periodically?

5 A: Right.

6 Q: The water extends up into the slough to the  
7 points you have ---

8 A: Right.

9 Q: --- indicated? Okay. When Ms. White asked you  
10 to testify all those times pointing at Exhibit  
11 1A, the blow-up over here, if I understood you  
12 correctly, you were saying that the  
13 demonstrations you made on that picture weren't  
14 sufficiently reliable for you to be comfortable  
15 offering opinions based on them?

16 A: No, that's why we use GPS and the Google Earth.

17 Q: Okay.

18 A: Yeah.

19 Q: So we shouldn't give much weight to the  
20 testimony based on the general waving of hands  
21 in front of 1A, should we?

22 A: We'll have to ask counsel over there. I don't  
23 know if I can answer ---

24 Q: How much weight would you give?

25 A: I can't answer that. I don't think I can answer



1           it correctly. There should be some weight, how  
2           much I can't say that.

3       Q:   Not as much as other testimony you might provide  
4           in another way?

5       A:   If everything else is excluded, that may be all  
6           we have, I don't know. That -- that's what the  
7           lawyers and Judge work out.

8       Q:   Right. And if that is all we have, are you  
9           comfortable that you have ---

10      A:   I think I'm comfortable in showing that I showed  
11           that it would go so far up this point here,  
12           that's where the road and parking lot and so  
13           forth are. I can say that.

14      Q:   Okay.

15      A:   Okay.

16      Q:   So the road and the parking lot will be impacted  
17           by the ---

18      A:   And the lot 129, I believe.

19      Q:   So the road will be impacted; the parking lot  
20           will be impacted ---

21      A:   129.

22      Q:   --- lot 129 will be impacted; and maybe part of  
23           the water treatment plant, is that what you  
24           testified?

25      A:   Yeah, but I'm not certain where that water



1 treatment plant is. So I may -- let's don't  
2 talk about that. I'm not that certain.

3 Q: Okay. But we know that there's a water  
4 treatment plant in the works, is that what  
5 you're testifying?

6 A: If you say so. I remember there's supposed to  
7 be one, but I don't know where it is.

8 Q: Yes, sir. I'm just relying on the fact that you  
9 remember there's a waste -- a water treatment  
10 plant.

11 A: Right.

12 Q: Yes, sir. Okay. And if I understand your  
13 testimony about the photographs that were marked  
14 as Exhibit 20B -- well, you know what, that's a  
15 lot to make you go through again, isn't it?

16 A: You want mine?

17 Q: No, sir.

18 A: I'll help you out. I like you.

19 Q: I'm okay. Do you remember the one you marked  
20 on? Is it over here? Yeah. Dr. Porcher, we've  
21 looked at several potential exhibits ---

22 A: Right.

23 Q: --- had lots of conversations ---

24 A: Y'all did, not me.

25 Q: --- we, out here.





1 A: Okay.

2 Q: --- about Google Earth being used to create some  
3 of these exhibits.

4 A: Correct.

5 Q: For any of the exhibits that have been presented  
6 to you today that utilize Google Earth, can you  
7 identify for me the date that the Google Earth  
8 image was taken by satellite?

9 A: Unless it's on here, but we always use the  
10 latest one there is. Google Earth is  
11 continuously updated. I just don't remember how  
12 much. Ms. Dailey could answer that, but Google  
13 Earth is continually updated. In fact, after  
14 the hurricane, it was already updated after the  
15 hurricane.

16 Q: And do ---

17 A: So it's continually updated.

18 Q: Right. And do sometimes the images that you  
19 pull from Google Earth of a given area, are they  
20 also sometimes the composite of two different  
21 satellites that some how Google puts together?

22 A: Could be, but I don't know that.

23 Q: Okay. So how do they get those images that go  
24 into Google Earth?

25 A: Good cameras, I guess, I don't know. That's way



1           beyond my expertise, I'm sorry.

2       Q:     Okay.

3       A:     I wouldn't have any idea how they're created.

4       Q:     But just so I'm clear, you have no knowledge of  
5           whether the underlying image in any of those  
6           Google Earth exhibits, whether the underlying  
7           image was taken in 2014 or 2016 or 2012?

8       A:     They -- pretty -- they continually update them.

9       Q:     Right, but you don't know the date of the  
10          underlying ---

11      A:     No.

12      Q:     --- image of trees pictured on Exhibit 20A, do  
13          you?

14      A:     Well, we -- when we did the map, it was -- we  
15          saw it, but I don't remember. When we do the  
16          map, the date's right there, if I remember  
17          correctly. But we didn't bother to put -- if I  
18          thought it was necessary, in my case, I would  
19          have done it. But it never occurred to me it  
20          made a difference.

21      Q:     Okay. So as you sit here today, you don't know  
22          what dates apply to those underlying images,  
23          correct?

24      A:     No.

25      Q:     Okay.



1 MR. GRESSETTE: Do you know where 1B and 1C are?

2 MS. WHITE: I mean ---

3 MR. GRESSETTE: I'm sorry, I made a mess of your  
4 stuff.

5 MS. WHITE: No, I made the mess first. Right here.

6 MR. GRESSETTE: Okay.

7 Q: Okay. Dr. Porcher, did you take Exhibits ---

8 A: I did.

9 Q: --- 1B and 1C?

10 A: I did.

11 (Petitioner's Exhibit Number 1C was introduced into  
12 the record at this time.)

13 Q: Okay. So I'm going to pass that to Ms. White.  
14 This picture right here marked as Exhibit 1C ---

15 A: Okay.

16 Q: --- can you see that up there? Let me back up  
17 a little bit. Do you see that one, sir, Exhibit  
18 1C? Did you take that?

19 A: I believe that's one of -- yeah, I flew down the  
20 coastline and just took, click, click, click,  
21 click, click, click, click.

22 Q: Okay. And what type of camera did you use?

23 A: I have a Nikon 610 and I used probably a 30 to  
24 70 millimeter lens.

25 Q: Okay. And did you have it some how adjusted to



1 zero in on that area?

2 A: Yes, I focused on it.

3 Q: Yeah, and so if you had used just a straight  
4 picture from where you were up in the air, all  
5 of this stuff wouldn't have shown up, would it?

6 A: Say it again.

7 Q: If you had taken the picture from the airplane  
8 ---

9 A: Right.

10 Q: --- without some sort of magnification, we  
11 wouldn't have been able to see all that stuff,  
12 would we?

13 A: Well, no, certainly not.

14 Q: So then once you ---

15 A: Well, hold on. I did three or four runs.  
16 Sometimes I use a high magnification, sometimes  
17 less, okay. So I don't know which one this was,  
18 but I took a whole -- I think I used two or  
19 three different cameras.

20 Q: Oh wow.

21 A: Yeah, I took -- different lenses, I'm sorry.

22 Q: Different lenses.

23 A: I have no -- I just sent all the data to Dana  
24 Beach and I don't know what lens I had on that  
25 one.



1 Q: And so if I understand correctly for these two  
2 exhibits, you don't know which camera you used,  
3 correct?

4 A: Which lens, lens.

5 Q: Which lens you used?

6 A: No, no, I couldn't. I'm sorry.

7 Q: And did you see these images before they were  
8 printed?

9 A: Well, I gather them myself when I get home.

10 Q: Right, but I mean, isn't it possible that that  
11 was adjusted between your camera and when it was  
12 printed here?

13 A: I don't -- I have no idea.

14 Q: Right. I mean, you don't know, do you?

15 A: No, I have no ---

16 Q: Okay. Because you took ---

17 A: I sent them to ---

18 Q: Yeah, you took the digital image and you sent a  
19 digital image to somebody else?

20 A: Yeah.

21 Q: And then some time between when they got it, it  
22 has now shown up here?

23 A: Yeah.

24 Q: But it could have been adjusted, correct?

25 A: Say it again.



1 Q: It could have bene adjusted in some way,  
2 correct?

3 A: I have no earthly idea.

4 Q: Could have been magnified, correct?

5 A: (No audible response.)

6 Q: The frame could have been changed, correct?

7 A: They could have done anything they wanted to  
8 with them. I gave them to them, they were  
9 their's.

10 Q: Okay. Those your boots?

11 A: My LaCrosse boots, \$125 worth.

12 Q: How deep is that water?

13 A: Do what?

14 Q: How deep's that water in that picture?

15 A: That's about two or three inches there probably.

16 Q: Okay. And is it your testimony that there was  
17 three inches of water all the way up to point --  
18 around point 15?

19 A: Oh, the water gets deeper, shallower -- and gets  
20 shallower and shallower as you go. When I got  
21 to point 15, it was three inches. Where you go  
22 -- it started, may have been ten inches, but as  
23 you keep going further up, the water depth got  
24 less and less and less.

25 Q: Okay. And when you said several times that the



1 front beach lost 100 or 120 feet ---

2 A: Right.

3 Q: --- you haven't taken any measurements to  
4 support that opinion, have you?

5 A: We were able to go and see where the old dune  
6 line was, you know, because the spartina grass  
7 -- I mean the sea oats go pretty far down in the  
8 soil. So we could actually see what the old --  
9 where the old dunes were, so I think we stepped  
10 it off, sort of took a rough estimate.

11 Q: Okay.

12 A: And OCMR, who did -- went out there and did  
13 extensive -- so that data is available to  
14 anybody. We just did it for ourselves.

15 Q: Right, and your testimony on the 100 to 120 feet  
16 was based on your generally stepping it off?

17 A: Yes, generally stepping it off.

18 Q: Okay. Dr. Porcher, you have been very patient  
19 with me. Thank you, sir.

20 A: I appreciate it.

21 Q: Mr. Churdar may have some questions. Thank you,  
22 sir.

23 A: I love you.

24 Q: I love you too, buddy.

25 **MR. CHURDAR:** Wow, I don't think I've ever heard that



1 at the end of a cross.

2 **THE COURT:** He ain't going to say it to you.

3 **DR. PORCHER:** He's got one of the most beautiful  
4 smiles I've ever seen on a man.

5 **MS. WHITE:** Someone's blushing.

6 **MR. GRESSETTE:** I know, I'm turning red.

7 **THE COURT:** And you won't hear that from me.

8 **MR. CHURDAR:** I don't think my cross will be nearly  
9 as entertaining.

10 **DR. PORCHER - CROSS-EXAMINATION BY MR. CHURDAR:**

11 Q: All right. Dr. Porcher, I just have a couple  
12 follow-up questions. It's not going to be  
13 nearly as long as what Mr. Gressette -- the  
14 questions that he asked you about.

15 **MR. CHURDAR:** Where is the exhibit with the purple X  
16 that he ---

17 **MR. GRESSETTE:** It's right there on top.

18 **MR. CHURDAR:** Okay. What number is that exhibit?

19 **MR. GRESSETTE:** I think it's a page of 7.

20 **MS. WHITE:** Uh-huh, 7.

21 **MR. GRESSETTE:** Has it been admitted?

22 **MS. WHITE:** (Nods head.)

23 **MR. GRESSETTE:** Okay.

24 Q: Dr. Porcher, it's your opinion that the -- with  
25 regard to king tides, the location that the king





1 tides carry water up in the slough, as you've  
2 testified, passed where the road ends. That is  
3 not listed as critical area by the Department,  
4 correct?

5 A: I don't know. I don't know where the critical  
6 area line is. I think I've seen it on a map,  
7 but I can't say yes or no.

8 Q: Okay. Well, I tell you what, can I ---

9 A: If you show me a map, I can -- but I don't have  
10 a map.

11 Q: Well, I was going to say, I'd like to just go  
12 back to your deposition testimony. Do you  
13 remember ---

14 A: Yeah.

15 Q: --- giving your deposition? And if you could  
16 just take that, I'm sorry, those are the  
17 condensed pages, but I'll tell you the page and  
18 line number. On -- this is page 14, starting at  
19 line one.

20 A: Page 14 or page 4?

21 Q: Page 14. Page 14. Line one. Yeah, page 14,  
22 line one. And ---

23 A: The critical line, if it's in the critical area,  
24 I don't know. I thought critical line ---

25 Q: If I could just read ---



1 A: I'm sorry.

2 Q: --- just if you could read along with me  
3 starting on line one, you said "My concern is  
4 these king tides, even though it's not listed as  
5 a critical area, the king tide is going to carry  
6 water way past where your road ends." So I  
7 mean, I read that correctly, didn't I?

8 A: Yeah.

9 Q: So that is -- that was your opinion given in  
10 your deposition?

11 A: Okay. And then I made a mistake just then.

12 Q: Okay. So ---

13 A: I apologize, that is what I said, but I -- I  
14 really don't know what -- my gut opinion is I  
15 wasn't too certain when I said it then, but  
16 that's okay.

17 Q: Okay.

18 A: It's in the record, so don't worry about it.

19 Q: Okay. And you, Dr. Porcher, you would  
20 acknowledge that your opinion about what is the  
21 critical area differs from what OCRM's critical  
22 area delineation is?

23 A: I do not know -- I do not know what OCRM says --  
24 ask the question again, I'll make sure I get it.

25 Q: I'm just saying you're -- what you were



1           testifying to       as to what is the critical  
2           habitat ---

3       A:    A critical habitat is -- that's a biological  
4           term, not a legal.

5       Q:    Okay. But what I'm saying is ---

6       A:    The whole slough is critical habitat as far as  
7           I'm concerned.

8       Q:    Okay. But what I'm talking about is critical  
9           area as that -- as the term of art used in the  
10          program with OCRM and my question is you would  
11          acknowledge that your opinion regarding critical  
12          area differs from what OCRM's critical area  
13          delineation is?

14      A:    Okay, I -- if I said that, I really don't -- I  
15           don't think I understood what I was talking  
16           about at the time, because this was very early  
17           on, that's the first deposition.

18      Q:    Well, no, I mean, I'm asking you a question. Do  
19           you agree with that?

20      A:    And what I'm saying is at that time, I think I  
21           was a little hazy on what those terms were and  
22           that's all I'm saying. I don't really  
23           understand what, what I said right now. Okay.

24      Q:    Okay. If I can just get you to turn over a page  
25           to page 16 of your deposition.



1 A: Which one?

2 Q: Page 16.

3 A: Okay.

4 Q: And starting at line two, you said, as an  
5 ecologist and a botanist, to me, that's what ---

6 A: Hold on, what line?

7 Q: Starting at line two.

8 A: Two, okay.

9 Q: On page 16. You there?

10 A: Okay. Yeah.

11 Q: Okay. You said, "As an ecologist and a  
12 botanist, to me, that swale as far as the time  
13 goes is critical habitat."

14 A: Correct.

15 Q: "Now, it may not be exactly, I mean, as the  
16 State says." So, I mean, your understanding of  
17 what the critical area delineation is is not the  
18 same as what you're talking about when you talk  
19 about the critical area habitat?

20 A: Yeah, I'm talking about as an ecologist. That's  
21 certainly how you determine critical area or  
22 critical line, certainly.

23 Q: Okay. And I'm not sure -- I don't want to  
24 repeat Mr. Gressette, but you have never  
25 submitted a critical area delineation --



1 proposed delineation ---

2 **MS. WHITE:** Objection, Your Honor, asked and  
3 answered.

4 Q: --- for -- okay.

5 **THE COURT:** Any response?

6 **MR. CHURDAR:** I'm sorry?

7 **THE COURT:** She said asked and answered, objection.

8 **MR. CHURDAR:** Well, I mean, I think that he's  
9 confirming that he ---

10 **THE COURT:** Have you asked and answered the -- have  
11 you already asked ---

12 **MR. CHURDAR:** Well, that's what I was saying, I just  
13 -- I wanted to make sure that I'm not covering  
14 the same ground as Mr. Gressette. If she's ---

15 **MS. WHITE:** My objection was that he -- Mr. Gressette  
16 did cover ---

17 **THE COURT:** Oh, Mr. Gressette?

18 **MS. WHITE:** --- whether or not Mr. Porcher had ever  
19 conducted or submitted a ---

20 **THE COURT:** Well, he's free to ask it. Asked and  
21 answered will fit with him. One second. I'm  
22 sorry, I thought you said Porcher -- you were  
23 saying -- oh, you did say Gressette. Mr.  
24 Gressette can ask that question. He can come  
25 back and ask the same question if he wishes.



1 Now, it may take longer for our hearing to  
2 progress, but you can ask him.

3 **MR. CHURDAR:** It's very short.

4 Q: I just want to make sure that you have never  
5 submitted a critical area delineation to OCRM?

6 A: No.

7 Q: Okay. Now, when you were out there, you've  
8 testified today regarding different types of  
9 water, you know, there's freshwater and brackish  
10 and saltwater and so on and so forth.

11 A: Right.

12 Q: And in -- those are based on the amount of salt  
13 that's in the water, correct?

14 A: Freshwater is 0 to .5 parts per thousand salt.  
15 -- I mean, freshwater, yeah, I think 0 to .5  
16 parts of salt. .5 to 35 is brackish. 35, I got  
17 them mixed up, to 50 is salt, is saltwater. 35  
18 parts per thousand or whatever it is, is a  
19 grade, and I sort of get them mixed up. Fresh,  
20 brackish, salt, okay.

21 Q: Okay. And there is -- there is equipment to  
22 test with precision ---

23 A: Certainly.

24 Q: --- the salt content in water, correct?

25 A: Correct.



1 Q: I mean, so that you can test the salinity and  
2 you can say this is fresh ---

3 A: Sure.

4 Q: --- this is brackish or this is saltwater?

5 A: Certainly.

6 Q: Okay. And you did not do a salinity test  
7 regarding the water that you were ---

8 A: There was no need to.

9 Q: Okay. But you were planning on doing that,  
10 weren't you?

11 A: No, there was no -- my whole idea was to show  
12 the water goes all the way up to a certain point  
13 at the high tide. That was the whole reason  
14 whether it was fresh or salt or any of that,  
15 that was immaterial. Whatever water goes up to  
16 that seven foot, point four, is going to bring  
17 nutrients back.

18 Q: Okay.

19 A: That's the whole -- the whole general theory of  
20 what I was trying to demonstrate. Sometimes you  
21 get rainwater in those dunes and that flushes  
22 organic material down into the salt marsh.

23 Q: Now, if I could just have you turn over quickly  
24 to -- on page 186 of your deposition.

25 A: Which one?



1 Q: Page 186.

2 A: Okay.

3 Q: And on line 19, you said, I will probably ---

4 A: Got it.

5 Q: I will probably do a -- do salinity in this next  
6 experiment. So ---

7 A: That was the experiment if I ever set up the net  
8 and everything.

9 Q: I see. Okay. Okay. Now, the normal high tide  
10 does not go up to the top of the slough,  
11 correct?

12 A: Say it again.

13 Q: A normal high tide does not go to the top of the  
14 slough?

15 A: No.

16 Q: Okay. And as far as king tides go, it is  
17 accurate to say that you do not know how often  
18 they occur?

19 A: How often or how long?

20 Q: How often they occur.

21 A: I just never looked it up. Anybody can do that.  
22 Just didn't make a difference to me.

23 Q: Okay. So you don't know then?

24 A: No.

25 Q: Okay.





1 A: I never looked it up.

2 Q: Now, as far as your opinion regarding the --  
3 what is or is not an integral part of the  
4 estuarine system, it is your opinion that  
5 anywhere where you have standing water would be  
6 an integral part of the estuarine system,  
7 correct?

8 A: Anywhere water flows from the estuarine system  
9 into a little slough or bay or anything, those  
10 are part of the -- integral part of the  
11 estuarine system.

12 Q: Okay. Can I invite your attention to page 274?

13 A: Okay.

14 Q: Okay. And I asked you starting on line five,  
15 how deep does the water have to be ---

16 A: I say that? What line?

17 Q: Line five.

18 A: Five, okay.

19 Q: Yes, sir. I asked, "How deep does the water  
20 have to be on an excessively high tide for you  
21 to determine that it is integral to the  
22 estuarine system?" And you said, "Anywhere you  
23 have standing water from here up to there."

24 A: I'm not sure where you are. On page 270?

25 Q: 274.



1 A: Oh, I'm sorry. That's where I messed up.

2 Q: That's okay.

3 A: I'm sorry. Now, what line, where do you want  
4 me?

5 Q: On line five.

6 A: All right. Five.

7 Q: I asked you, "How deep does the water have to be  
8 on an excessively high tide for you to determine  
9 that it is integral to the estuarine system?"  
10 And you said, "Anywhere you have standing water  
11 from here up -- from here up there."

12 A: Anywhere the water reaches, the continuous flow  
13 of water reaches, to me that system is an  
14 integral part of it, of the entire estuarine  
15 system.

16 Q: Okay. Now, you don't know before your November  
17 15th visit when it had rained last?

18 A: No.

19 Q: You do not?

20 A: No, it didn't make a difference.

21 Q: Okay. But you don't know whether or not the  
22 water that you were walking through was -- the  
23 salinity content in it, though, correct?

24 A: I didn't take it. It wasn't necessary.

25 Q: Okay.



1 MR. CHURDAR: That's all the questions I have. Just  
2 one second, please.

3 THE COURT: Everybody's got pink notes.

4 MR. CHURDAR: Yeah, I don't have a follow-up.

5 Q: Let me just grab this from you. I don't have  
6 any more questions. I was just going to grab  
7 this, okay.

8 A: Yeah.

9 THE COURT: Any re-direct?

10 MR. CHURDAR: Thank you.

11 MS. WHITE: Your Honor, I think ---

12 MS. ARMSTRONG: Can we just take one short minute and  
13 -- the pink note was about -- I've got two  
14 witnesses here under subpoena. It's 5:20. I  
15 would at least like to let one of them be  
16 released because I can't imagine -- I would like  
17 to get to one of them. I can't imagine we're  
18 going to get to two more witnesses tonight.

19 THE COURT: Well, Harvin -- I'm not throwing her  
20 under the bus, I'm just letting her -- you know  
21 that she told me she needs to leave at 6:00, so  
22 today I'm going to have to break a little -- I  
23 don't think I'm going to be able to go that late  
24 today.

25 MS. ARMSTRONG: Okay. Well, can I at least release



1           one of them right now.

2       **THE COURT:**   So we can see.   Yeah, but, no, I was --  
3           yes, and then I was just letting you know the  
4           other issue.

5       **MS. ARMSTRONG:**   At 6:00, okay.

6       **THE COURT:**   Yeah.

7       **MS. ARMSTRONG:**   We might be able to get like one more  
8           witness up.

9       **MS. WHITE:**   I just have three or four other quick ...

10      **THE COURT:**   All right.   Let's take a quick break.

11      **MS. ARMSTRONG:**   May I release Curtis Joyner?

12      **THE COURT:**   Yeah, yeah.

13                               **(Off the record.)**

14      **DR. PORCHER - RE-DIRECT EXAMINATION BY MS. WHITE:**

15      Q:    Thank you, Dr. Porcher.   Mr. Churdar was just  
16            asking you to look at your deposition on page 74  
17            -- 274, excuse me.

18      A:    Oh, 274?

19      Q:    Right.

20      A:    I don't have 274.   I must not have all of it.

21      Q:    Do you have a copy of the -- did you have your  
22            deposition taken twice?

23      **MR. GRESSETTE:**   I've got the -- I mean, I've got what  
24            I handed him up ---

25      **MS. WHITE:**   Oh, you handed it.



1 MR. GRESSETTE: If he would like to ---

2 MS. WHITE: I thought -- thank you.

3 A: I don't have all of them.

4 Q: Mr. Churdar has lended his copy back. Are you  
5 on page 274.

6 A: Oh, this 274.

7 Q: Page 274 of your deposition.

8 A: Yeah.

9 Q: And he was asking you about your answer on line  
10 eight.

11 A: All right.

12 Q: After -- he read your statement. Did he read  
13 the whole statement?

14 A: I don't remember that.

15 Q: What does the full answer beginning on line  
16 eight say?

17 A: "Anywhere you have standing water from here up  
18 there, anywhere you have standing water,  
19 continuous water, you'll have a flushing out of  
20 nutrients."

21 Q: Okay. Thank you. Is your understanding of  
22 there being water at point number 15 ---

23 A: Right.

24 Q: --- as you measured it being standing water or  
25 ---



1 A: Well, when the tide comes in and then it's slack  
2 tide, the water might not be moving then, but  
3 then it'll go back out, so I'm not sure just  
4 what you mean by that. But at slack tide, the  
5 water's not moving any more.

6 Q: So is there a period of time when tidal waters  
7 are standing still?

8 A: Well, yes, yes, slack tide. Or the point at  
9 high tide and slack tide, when the tides are  
10 changing and the water's not really moving.

11 Q: And Mr. Gressette was asking you about a water  
12 treatment plant.

13 A: Right.

14 **(Respondent's Exhibit Number 9 was introduced into**  
15 **the record at this time.)**

16 Q: I'm putting what was pulled from KDP's Exhibit  
17 Number 9 on the projector. Are you able to  
18 identify the point that you marked as number 15  
19 on this map?

20 A: Yeah. Just did.

21 Q: And are you able to identify what you believe to  
22 be a water treatment ---

23 A: Is that the same thing as a pump station?

24 Q: Is that your understanding?

25 A: I don't know, have no idea what a water



1 treatment versus a pump station is. I couldn't  
2 tell you.

3 Q: Is ---

4 A: But I believe the pump station would be  
5 certainly near the slough.

6 Q: Okay.

7 A: I'm not sure if that's the same thing as a --  
8 what you just asked me, but there's a pump  
9 station and I believe that's probably right in  
10 line of the slough.

11 Q: And Mr. Gressette was also asking you about the  
12 information that you reported on the bottom of  
13 this photograph.

14 A: That's the -- that's number 15, that's the  
15 highest point that I had traveled up the slough.

16 Q: Right. And Mr. Gressette asked whether it was  
17 important to have that information on the  
18 photograph so that you could identify it more  
19 reliably, do you recall.

20 A: Now, say it again.

21 Q: Do you recall that Mr. Gressette asked if you  
22 needed that information in order to identify the  
23 photograph reliably?

24 A: I -- there were so many questions, I'm not sure  
25 what -- I don't remember now.



1 Q: Is there a reason why it would be important to  
2 have identifying information on a photograph in  
3 your opinion?

4 A: Well, you want to know that the water's there  
5 and there's a brackish plants and everything  
6 right around the water. I mean, that's part of  
7 the -- part of the slough.

8 Q: Is it -- do you take notes of the information  
9 that you collect on the ground?

10 A: Now, say it again.

11 Q: Do you take notes of the data that you collect  
12 on the ground?

13 A: Oh, I -- well, like this day, we didn't take  
14 many notes because remember we were trying -- we  
15 had an hour to go a long way and get up to  
16 there, so we didn't take notes each time. We  
17 just took the photograph, the GPS, and the water  
18 depth. We didn't take any notes on the plants  
19 or anything.

20 Q: Do you record information when you're on the  
21 ground?

22 A: Oh, certainly, yeah. Just not this one.

23 Q: And do you use that information to be able to  
24 reliably determine the location of where you  
25 were on the ground?





1 A: I don't think there's enough difference in these  
2 different sites to say I can use -- look at that  
3 and -- I know it's not a diverted -- early part  
4 of the slough where you've got slat marsh, pure  
5 salt marsh, but I couldn't tell you -- there's  
6 four or five points that could look just like  
7 that.

8 Q: Okay. And so is there a combination of  
9 information that you use in order to identify  
10 the location of the points that you visit on the  
11 ground?

12 A: The GPS? The GPS is the -- is what I use to  
13 find the location.

14 Q: Okay. And you record the GPS data on the  
15 photographs that correspond to it?

16 A: Well, yeah, there's -- yeah, here it is right  
17 here (indicating).

18 Q: Okay.

19 A: Every photograph has the GPS coordinates written  
20 on the bottom of it.

21 Q: And Mr. Gressette was also asking you about the  
22 photographs that you took and the flight that  
23 you took over ---

24 A: Yeah.

25 Q: --- Captain Sam's?



1 (Petitioner's Exhibit Numbers 1B and 1C were  
2 introduced into the record at this time.)

3 Q: To the best of your recollection, is the  
4 photograph that's been put on the projector, 1C,  
5 is that what the photograph looked like when you  
6 downloaded it after you took it?

7 A: I can't tell whether the color is that -- I  
8 can't tell you that. I just don't remember. It  
9 looks a little strange, but I can't -- I don't  
10 know.

11 Q: I'm going to hand you the actual exhibits.

12 A: Okay.

13 Q: The colors on the projector do ---

14 A: Oh, that's -- this is way better here. This is  
15 what it looked like. What you had on the screen  
16 was totally different.

17 Q: Are you able to look at Exhibits 1B and 1C and  
18 confirm that those represent the photographs as  
19 you took them?

20 A: They're as close as you can get, yeah. This is  
21 what it looks like.

22 Q: And ---

23 A: The screen distorts everything.

24 Q: Based on -- I believe both Mr. Gressette and Mr.  
25 Churdar were asking you about normal high tides



1 and the usual high tide flow and how far it  
2 reaches up the slough.

3 A: Right.

4 Q: Do you have any reason to expect that the normal  
5 high tide might change any time in the future?

6 A: Well, certainly ---

7 **MR. CHURDAR:** Your Honor, I would object. I believe  
8 that is asking for an opinion that is beyond the  
9 scope of the expertise of a field botanist.

10 **MS. WHITE:** I will try to rephrase.

11 **THE COURT:** Okay.

12 Q: Dr. Porcher, do you have an understanding of  
13 normal tidal flows and do you utilize normal  
14 tidal flows in your work as a field botanist?

15 A: I'm not sure what you mean normal tide flows.  
16 You've got spring -- we've got neap tide, spring  
17 tide, king tides, I'm not sure what you mean by  
18 that.

19 Q: Do you pay attention to that kind of  
20 information? Is it relevant to the type of work  
21 you do as a field botanist?

22 A: Surely, when we study the marsh systems, you  
23 always want to know what the tides are. The  
24 highest tide you're going to carry nutrients  
25 further up into the tidal system and drop them



1 off, so we're going to always know what tides  
2 are doing because they carry nutrients and  
3 everything that affects plant life. Certainly,  
4 we have to know. Just because you're a field  
5 botanist doesn't mean you don't know what water  
6 flow and runoff from -- runoff. We studied  
7 runoff, how it affects -- you know, runoff from  
8 plants -- industrial plants, how it affects  
9 plant growth. We do that all that time. That's  
10 just part of being a field botanist,  
11 understanding how pollution and everything  
12 affects the plant life.

13 Q: And do you study or understand changes in tidal  
14 flows or ranges?

15 A: Yeah, we've been talking about that. Neap tide,  
16 spring tide, average tide, king tide. Is that  
17 what you mean?

18 Q: Yeah.

19 A: Yeah, I know all those terms.

20 Q: And in your ---

21 A: If I want to show my kids certain things, I go  
22 to neap tide when the marsh is dry.

23 Q: Okay.

24 A: If you want to show them something to do about  
25 the root system of spartina and how they



1 function, you want to go at neap tide.

2 Q: And in your work as a field botanist, do you  
3 consider future changes in tidal flow?

4 A: Future, certainly.

5 Q: In what way?

6 A: Well, climate change is going to have a hell of  
7 an effect on the coastal processes and how high  
8 the tides go into estuaries. We're concerned  
9 about this all the time down the road, all kind  
10 of sea level -- I guess sea level rise is what  
11 we're worried about, how it's going to change  
12 everything. Plant life, animal life, you name  
13 it. I haven't done any -- my knowledge of  
14 climate change comes from the body of scientific  
15 work. I haven't done any research on it myself,  
16 but I understand it and I accept it. And that's  
17 one thing that's going to affect this place  
18 here. 50 years down the road, we know what's  
19 going to happen. Well, have a pretty good idea  
20 what's going to happen at a sea level rise.

21 Q: Based on your scientific opinion of the  
22 vegetation at point 15, is saltwater reaching  
23 that point on a regular basis?

24 A: No, not a regular basis, no.

25 Q: Is it ---



1 A: Now, the freshwater may reach it during rain  
2 systems. It's still important. Every time it  
3 rains in the dunes, it carries nutrients down  
4 into their system. Then when your tides come  
5 in, the freshwater -- the king tide comes in, it  
6 carries it out. Well, if there's enough rain,  
7 I mean a heavy rain, a lot of stuff will be  
8 flushed down to the normal high tide mark, then  
9 it's carried out. But that whole slough is an  
10 integral part of the estuarine system. It's a  
11 -- a exit.

12 Q: Is it reaching that -- is saltwater reaching  
13 that point more frequently than a king tide?

14 A: Well, say that again.

15 **MR. GRESSETTE:** Objection, Your Honor. There's no  
16 foundation in his data for anything other than  
17 king tide.

18 **MR. CHURDAR:** And I would also renew my objection  
19 that while he takes into account water flow as  
20 a field botanist, I don't believe that there has  
21 been a foundation laid of his knowledge that  
22 would -- I still believe it is beyond the scope  
23 of what The Court has recognized him as a field  
24 botanist to be talking about tidal changes.

25 **MS. WHITE:** I believe Mr. Churdar or Mr. Gressette or



1 both asked about king tides and normal tides and  
2 ---

3 **THE COURT:** That would be Mr. Gressette.

4 **MS. WHITE:** --- tidal flow. I'm sorry?

5 **THE COURT:** He asked about the king tides.

6 **MS. WHITE:** And I believe they also asked about  
7 normal tidal flow and normal high tide are the  
8 words that I wrote down.

9 **THE COURT:** All right.

10 **MS. WHITE:** And my question was whether saltwater was  
11 reaching a point on a regular basis and the  
12 second question was more frequently than on a  
13 high -- on a king tide.

14 **THE COURT:** Well, he can testify to that based on his  
15 observations in the area. That's where I  
16 originally ruled pursuant to the previous  
17 objections, that he was -- that he's not an  
18 expert in the tidal -- or in the tidal flows of  
19 water or inundation.

20 **MS. WHITE:** I don't think he needed a specialized  
21 qualification for that.

22 **THE COURT:** That's what I said, he could testify to  
23 his observation.

24 **MS. WHITE:** Well, I think the witness also testified  
25 extensively to tidal influences and the need to



1 ---

2 **THE COURT:** In the field of botany. Yes, in the  
3 field of botany.

4 **MS. WHITE:** Right. Okay.

5 Q: Dr. Porcher, based on the vegetation that you  
6 observed on the ground on November 15th at the  
7 point number 15, how frequently is saltwater  
8 reaching that point?

9 **MR. CHURDAR:** Your Honor, I don't believe that he --  
10 -

11 A: I'm not sure how ---

12 **MR. CHURDAR:** --- testify to that based on a visit.

13 A: You have to ---

14 **THE COURT:** Well, if he can based on his -- Dr.  
15 Porcher, if you can testify to that based on  
16 your understanding of plants and the  
17 observations of that, you can testify to that or  
18 that which you observed, you've observed  
19 yourself. Either one, either one.

20 A: Well, I have -- say the question again, make  
21 sure ---

22 Q: Based on your understanding of the vegetation at  
23 point 15 and your -- or your observations, are  
24 you able to say how frequently saline water  
25 reaches that point?





1 A: I'd have to go back in the record and see how  
2 often a king tide occurs. I've never -- I've  
3 never done that. I didn't -- on my own original  
4 -- my idea was to show that a king tide, water  
5 goes up there. Then y'all can hash out how many  
6 times it occurs. I just don't know. I didn't  
7 ---

8 Q: Okay. Fair enough.

9 A: I didn't go on the record to do that.

10 Q: Sure. Fair enough.

11 A: Alls I did, I saw it one time. And y'all can go  
12 back in the records and count how many times it  
13 did it in the last ten years.

14 **MOTION TO ADMIT PETITIONER'S EXHIBIT NUMBER 39:**

15 **MS. WHITE:** The petitioners also would like to move  
16 the exhibit that was pulled from the Joint  
17 Exhibit Number 7 ---

18 **THE COURT:** And mark?

19 **MS. WHITE:** --- and marked by the witness as ---

20 **THE COURT:** Well, you need to get it marked as an  
21 exhibit.

22 **MS. WHITE:** We would like to get it marked as  
23 Petitioner's Exhibit 40 ---

24 **COURT REPORTER:** 39.

25 **MS. WHITE:** Yes, 39.



1 COURT REPORTER: Is there a way that it goes, maybe  
2 you can help me out. We like the stickers in  
3 the bottom right.

4 MS. WHITE: Um ...

5 THE COURT: That's a court reporter that takes her  
6 job seriously.

7 MS. WHITE: Yes.

8 COURT REPORTER: Sorry.

9 MS. WHITE: Why don't you put it right here. It  
10 doesn't look like there's anything right here.

11 (Petitioner's Exhibit Number 39 was marked for  
12 identification purposes.)

13 COURT REPORTER: Are you going to admit it?

14 THE COURT: Oh, yeah, it's admitted. Well, I don't  
15 know, do y'all have an ---

16 MR. GRESSETTE: No objection, Your Honor.

17 MR. CHURDAR: None.

18 RULING OF THE COURT:

19 THE COURT: That just made it a lot easier. It's  
20 admitted.

21 (Petitioner's Exhibit Number 39 was admitted into  
22 evidence.)

23 MS. WHITE: No further questions.

24 THE COURT: Re-cross?

25 MR. GRESSETTE: No, Your Honor. Thank you.



1 MR. CHURDAR: No, sir.

2 THE COURT: You may step down, Dr. Porcher.

3 MS. WHITE: You're all done.

4 DR. PORCHER: I don't get trumped down by Mr. Walker  
5 here?

6 MR. WALKER: Not today.

7 DR. PORCHER: I've been waiting for that all my life.

8 MR. WALKER: We'll take care of that later.

9 THE COURT: He was scared of you.

10 DR. PORCHER: Good to see you, sir.

11 THE COURT: Nice to meet you, sir.

12 (Off the record)

13 THE COURT: One thing before ---

14 DR. PORCHER: Oh, I'm sorry.

15 THE COURT: --- before Dr. Porcher leaves, I do not  
16 believe I will change my mind, so -- but --  
17 well, I was talking to them.

18 DR. PORCHER: Oh, I'm sorry. Okay.

19 THE COURT: But if for any reason, because I'm just  
20 going to think through it tonight, that I was  
21 to change my mind on the exhibit with the Google  
22 map points, you were simply offering that  
23 exhibit into evidence, there would be no further  
24 testimony surrounding that, would there?

25 (No audible response.)



1     **THE COURT:**   Okay.

2     **MS. ARMSTRONG:**   I don't -- well, if he admits the  
3                   Google Earth images, do we need any other  
4                   testimony?

5     **THE COURT:**   The exhibit that had his ---

6     **MS. WHITE:**    The ones that were just proffered?

7     **THE COURT:**    --- with 15, yeah, number -- it came in  
8                   for 15.   If I was to cogitate on whether to  
9                   expand that or not.

10    **MS. WHITE:**    Oh, no.

11    **THE COURT:**    Because it speaks for itself?

12    **MS. WHITE:**    Yeah.

13    **THE COURT:**    All right.   That's what I thought.   I  
14                   needed to tell y'all that.   I'm not saying I'm  
15                   going to change my mind, I'm -- that testimony  
16                   and the arguments about that got so convoluted,  
17                   I just want to think through it.

18    **MS. ARMSTRONG:**   Can I send Harvin an e-mail and copy  
19                   co-counsel on just some -- it's not any kind of  
20                   detailed memo or anything like that, but it's  
21                   just some of the cases that we identified for  
22                   you?

23    **THE COURT:**    Well, it's not the cases that my ---

24    **MS. ARMSTRONG:**   Okay.

25    **THE COURT:**    --- that's not what I would re-think



1           anyway.

2       **MS. ARMSTRONG:**   Okay.

3       **THE COURT:**   It was -- I didn't -- my concern was that  
4           the testimony did not link it up, and that was  
5           -- but in my mind, I can't do right now A, B, C,  
6           D, E, F, G to get there.   And so that was my  
7           concern.   It is not the -- because I already let  
8           other exhibits in in that regard with the  
9           general reference, so we've got -- we got beyond  
10          that.   You know, it was just whether we got to  
11          the point where we could then let it.   All  
12          right.   So let's don't beat that horse any more.

13       **MS. ARMSTRONG:**   Yeah, so it's 5:43, and if Harvin has  
14          to leave in 17 minutes, I guess we're not going  
15          to start with another witness.

16       **THE COURT:**   Okay.   Well, I hate to quit this early,  
17          but -- maybe I've got too much of my father in  
18          me.

19       **MS. FAIR:**   We could go to 6:15 if that'll help.

20       **THE COURT:**   We could go to 6:15.

21       **MS. ARMSTRONG:**   Yeah, I just -- I think that -- like  
22          it's going to be -- I can't imagine finishing  
23          direct in that period of time and I just hate  
24          being ---

25       **THE COURT:**   Okay.



1 MS. ARMSTRONG: I don't want to be rushed and I don't  
2 want you to put Harvin in that position of ---

3 THE COURT: How many more witnesses do we have?

4 MS. ARMSTRONG: We have two and we understand that  
5 KDP has twelve.

6 THE COURT: Well, I'll worry about that -- I can  
7 worry about that next week. I definitely want  
8 to get through y'all this week, so.

9 MS. WHITE: We would love to.

10 MS. ARMSTRONG: I mean, I think that -- I'm hopeful  
11 that KDP can start their case tomorrow.

12 THE COURT: Okay.

13 MR. WALKER: We plan to start tomorrow, Your Honor.

14 THE COURT: Great.

15 MR. WALKER: Yeah, we're ready to roll.

16 THE COURT: All right. With that said then ---

17 MS. ARMSTRONG: I was hoping it might even happen  
18 today.

19 THE COURT: --- do we need to start earlier than  
20 9:00?

21 MR. WALKER: I think 9:00's a good start time.  
22 There's only so much juice we can put in the  
23 course of a day and I think 9:00 will be  
24 adequate.

25 THE COURT: Okay. How late -- Fridays are just



1 another day for me, but y'all have to go back to  
2 Charleston area, so.

3 **MR. WALKER:** We ---

4 **MR. GRESSETTE:** We're fine.

5 **MR. WALKER:** If petitioner has two witnesses ---

6 **THE COURT:** Oh, you're even further.

7 **MR. WALKER:** We have three witnesses that we're ready  
8 to call tomorrow. One is really, really, really  
9 short; one is medium; and one could be long.

10 **THE COURT:** Okay.

11 **MR. WALKER:** And we'll start with the short and the  
12 medium.

13 **THE COURT:** Okay.

14 **MR. WALKER:** So that we can get through people and we  
15 are -- we've already pulled one or two people  
16 and I will meet with Ms. Armstrong immediately  
17 when we adjourn and tell her who these  
18 individuals are we're going to call tomorrow and  
19 if we've removed somebody, who it is.

20 **THE COURT:** Okay. Well, then one more time. How  
21 late are y'all willing to go, and consider it  
22 reasonable?

23 **MS. ARMSTRONG:** I mean, my preference is not to go  
24 beyond 6:00 tomorrow.

25 **THE COURT:** Okay. That's fine.



1 **MR. WALKER:** Yeah, I would say 5:00 or usual quitting  
2 time tomorrow.

3 **MS. ARMSTRONG:** Well, I mean, I guess it -- let's --  
4 when it's a natural ---

5 **THE COURT:** Well, usual quitting time for me is 6:00.

6 **MR. WALKER:** Well, you mentioned your father and I  
7 just have to say, Your Honor, I tried a week-  
8 long case with your father and we started at  
9 8:30, as you know ---

10 **THE COURT:** Yeah.

11 **MR. WALKER:** --- and we went to 7:30 some nights.

12 **THE COURT:** I used to do that.

13 **MR. WALKER:** I just cannot imagine ---

14 **THE COURT:** And I'm still willing to -- we can start  
15 doing that next week if ---

16 **MR. WALKER:** No, well, I ---

17 **MS. ARMSTRONG:** Your Honor, when I went back ---

18 **MR. WALKER:** I hold that up there. He was -- he was  
19 -- he worked us hard. I've never had a judge --  
20 -

21 **MS. ARMSTRONG:** His son. Do you not remember when we  
22 were in the courtroom together in 2009, I read  
23 the transcript, we ended at 8:00 one night.

24 **MR. WALKER:** That's right.

25 **MS. ARMSTRONG:** 8:00 p.m.





1 **MR. WALKER:** Anyway, it brings back good memories.

2 **THE COURT:** I can beat that. I broke my leg in half  
3 an finished out a case.

4 **MS. ARMSTRONG:** Mary Shay told me about that and she  
5 was very worried about you.

6 **THE COURT:** But so I can compete with dad on some  
7 things. Although the standing joke with dad I  
8 remember he lived with me for a little while  
9 when he was up here in Columbia and the lawyers  
10 were joking, when dad said be there at 7:30,  
11 they had to ask a.m. or p.m. Let's break for  
12 today. Thank y'all.

13 **MR. GRESSETTE:** Thank you, Judge.

14 **(DAY FOUR of the hearing adjourned at 5:47 p.m.)**

15 **(DAY FIVE - FRIDAY, AUGUST 25, 2017. The hearing**  
16 **reconvened at 9:05 a.m.)**

17 **THE COURT:** Are y'all ready to begin?

18 **MS. ARMSTRONG:** Yes, Your Honor.

19 **THE COURT:** Okay.

20 **MS. ARMSTRONG:** Thank you, Your Honor. The  
21 petitioner calls -- actually, before we get  
22 started, I just wanted to note that we have in  
23 the audience today Ms. Wendy Kulick who's a  
24 member of the Coastal Conservation League is  
25 with us. Again, Merrill McGregor, Erin Pate,



1 Emily Cedzo and ---

2 **MS. SMITH:** Caitie Smith.

3 **MS. ARMSTRONG:** --- Caitie Smith, staff with the  
4 Coastal Conservation League.

5 **THE COURT:** All right.

6 **MS. ARMSTRONG:** The petitioner calls Bill Eiser to  
7 the stand.

8 **COURT REPORTER:** Can you spell your last name for me,  
9 please?

10 **MR. EISER:** Sure, it's E-I-S-E-R.

11 **COURT REPORTER:** Raise your right hand, please.

12 **MR. EISER:** (Witness complies.)

13 **COURT REPORTER:** Do you solemnly swear the testimony  
14 you're about to give in this matter is the  
15 truth, the whole truth, and nothing but the  
16 truth, so help you God?

17 **MR. EISER:** I do.

18 **COURT REPORTER:** Thank you.

19 **MR. EISER - DIRECT EXAMINATION BY MS. ARMSTRONG:**

20 Q: Good morning, Mr. Eiser.

21 A: Good morning.

22 Q: Where you do you live?

23 A: In Summerville, South Carolina.

24 Q: And how long have you been there?

25 A: In Summerville, since 1989.



1 Q: And can you tell the Court about your  
2 educational background?

3 A: Sure, I have a bachelor's and master's degree in  
4 marine science from the University of South  
5 Carolina.

6 Q: Okay. And when did you receive your master's in  
7 marine science?

8 A: Master's was 1984.

9 Q: Okay. And what did you do after you graduated  
10 from the marine science program?

11 A: Between 1984 and 1985, I worked for a private  
12 coastal engineering company here in Columbia  
13 called Coastal Science and Engineering.

14 Q: And who's firm is that? Is there a  
15 president/principal or a ---

16 A: Yeah, a guy named Tim Kana, K-A-N-A.

17 Q: And then what did you do after you left CSE in  
18 Tim Kana's firm?

19 A: In 1989, I went to work for the state agency  
20 then known as the South Carolina Coastal  
21 Council, now OCRM.

22 Q: And what was your position when you were hired  
23 at Coastal Council?

24 A: I was a staff oceanographer working in the  
25 regulatory section.



1 Q: And you said then Coastal Council, what -- there  
2 was a name change, what -- tell us about that.

3 A: Yes. The Coastal Council was merged in with  
4 DHEC and became DHEC OCRM around 1993, I think.

5 Q: And was your position always oceanographer or  
6 did it change over time?

7 A: Well, my unofficial title was always staff  
8 oceanographer. My duties within the agency  
9 changed somewhat over the years that I was  
10 there.

11 Q: What did your duties entail with respect to  
12 being the staff's oceanographer?

13 A: To review beachfront permits, to periodically  
14 revise the locations of the agency's  
15 jurisdictional lines on oceanfront property, the  
16 baseline and setback line. Basically, be the  
17 point man for any beach erosion-related issue  
18 that the agency was dealing with.

19 Q: And what were your duties and responsibilities  
20 -- are you still employed with OCRM?

21 A: No, I left the agency in December of 2015.

22 Q: And what were your duties and responsibilities  
23 at the time that you left the agency?

24 A: I was a project manager for any regulatory issue  
25 on Kiawah Island, Seabrook Island, John's



1 Island, that side of town.

2 Q: And through your career at OCRM, if you could  
3 explain from the perspective of regulatory  
4 review what all regulations and guidelines and  
5 tools you utilized and how you conducted your  
6 work?

7 A: Sure. Well, I mean, the tools that we relied on  
8 were the Coastal Zone Management Act or the  
9 Coastal Tidelands and Wetlands Act, the critical  
10 are regulations and then the Coastal Program  
11 Document.

12 Q: And so if you were reviewing a project or if you  
13 were assigned to a particular permit  
14 application, what would your work entail?

15 A: To review the application, to typically conduct  
16 a site visit, to look at the conditions, to  
17 review any public comments that came in  
18 regarding the project, and then to formulate a  
19 decision that was consistent with the governing  
20 laws and regulations.

21 Q: Would you make determinations regarding  
22 compliance with the various regulatory  
23 provisions?

24 A: Yes.

25 Q: And when you were -- during your time of work at



1 OCRM, have you ever been qualified as an expert  
2 witness?

3 A: Yes.

4 Q: In what area?

5 A: Coastal processes, which means the physical  
6 forces that shape our coastline and then also  
7 coastal zone management.

8 Q: And you just indicated that Kiawah Island and  
9 Seabrook were under your purview at the time you  
10 left the agency.

11 A: Yes.

12 Q: So I'm taking that to mean you're familiar with  
13 Kiawah Island?

14 A: Yeah, my first visit to Kiawah and Seabrook was  
15 probably 1984 and I've made numerous visits  
16 there since then.

17 Q: Okay. So in 1984, was that ---

18 (Phone ringing.)

19 **THE COURT:** Hold on a second. Hadn't had it happen  
20 so far before, but I don't take your phone this  
21 time luckily, but if it happens again, the rule  
22 is here if someone's phone rings during a  
23 hearing, it becomes a possession of the Court,  
24 of which you'll have the opportunity to buy it  
25 back. So everybody, make sure your phones are



1           turned off. Thank you.

2       Q:     So 1984 ---

3       **THE COURT:** Do you need to check yours?

4       **MS. ARMSTRONG:** Me? No.

5       **THE COURT:** Okay. I mean, I just noticed you're away  
6           from it, so I'm giving you the opportunity. Go  
7           ahead.

8       Q:     When You first visited Captain Sam's Spit and  
9           you said it was 1984. Does that mean that you  
10          were with Coastal Science and Engineering at  
11          that time?

12      A:     Yeah, I had just started working for them and I  
13          was assisting a guy named Jim Mason, who was  
14          doing a research study on the first Captain  
15          Sam's Inlet relocation project and so I was  
16          helping him collect all his field data for that  
17          study.

18      Q:     And what kinds of data were you working to  
19          collect?

20      A:     We were measuring current velocities and creek  
21          depths in Captain Sam's Inlet and also doing  
22          some beach profile or beach monitoring work.

23      Q:     And can you tell The Court about the work that  
24          you did related to Captain Sam's Spit when you  
25          were at the agency?



1 A: Yes, well, first of all, I was the project  
2 manager on the critical area permit for the half  
3 mile long bulkhead on the Kiawah River back in  
4 2008. I was also the project manager on the  
5 second and third Captain Sam's Inlet relocation  
6 permits; and I was also involved in the  
7 revisions to the baseline and setback line and  
8 the beachfront jurisdictional lines for the  
9 entire state, including Kiawah and Seabrook.

10 Q: For what years were you responsible for the  
11 jurisdictional lines on Captain Sam's Spit?

12 A: Sure, well, I was involved with the very first  
13 jurisdictional lines as an employee at Coastal  
14 Science and Engineering, then I was -- excuse  
15 me, also involved with revisions in 1998 and  
16 2008.

17 Q: And what year was it when you worked on the  
18 baseline and setback lines when you were at  
19 Coastal Science and Engineering?

20 A: Beachfront Management Act passed in 1988 and  
21 there was a requirement to immediately adopt  
22 preliminary lines, so going that far back.

23 Q: And you referenced the 2008 critical area permit  
24 for the bulkhead and revetment. You were the  
25 project manager?





1 A: Yes.

2 Q: And what did you understand was the purpose of  
3 the bulkhead revetment structure?

4 A: To halt the erosion on the Kiawah River  
5 shoreline by Captain Sam's Spit.

6 Q: And are you the person that conducted the review  
7 of that permit application for compliance with  
8 the applicable provisions?

9 A: Yes.

10 Q: Did you go to the spit in connection with your  
11 review?

12 A: Yes.

13 Q: What did you observe on your visits to the spit?

14 A: That there was an erosion problem along the  
15 Kiawah River shoreline, I don't think that's in  
16 dispute. I would also characterize that sandy  
17 beach as being utilized by the public. You  
18 would see kayaks pulled up and people walking  
19 along that beach. I would also characterize the  
20 general area as a pristine, undeveloped portion  
21 of a barrier island.

22 Q: And when you talk about the area, how are you  
23 defining the area?

24 A: I'm ---

25 **MR. WALKER:** Objection. We're on a different permit



1 application. What's going on is an effort to  
2 undermine the staff's decision in this case on  
3 the consistency by going back to a separate case  
4 that has been in the courts for nine years,  
5 different facts, different circumstances. Mr.  
6 Eiser was not the one who made the decision in  
7 this case. This is a de novo hearing. It's  
8 irrelevant what went on in that case. In this  
9 case, the staff made a determination that was  
10 affirmed by the DHEC Board through not granting  
11 a review conference, so the DHEC Board, in  
12 essence, has adopted the staff position here.  
13 What is going on is an effort to collaterally  
14 attack that, but it doesn't tend to prove or  
15 disprove any fact at issue. Mr. Eiser was not  
16 listed as an expert. He can't render an opinion  
17 in this case. He may have had something to do  
18 with the processing of this application. If he  
19 did, that would be pertinent testimony, but it's  
20 entirely irrelevant what he did in a separate  
21 permitting provision -- excuse me, in a separate  
22 permit application that we all know about that's  
23 hotly contested, different facts, different  
24 result. Even if she elicited the testimony,  
25 which I think she's headed or trying to get,



1 that he came to a different conclusion than  
2 staff now, that doesn't make any fact in this  
3 case more or less probative. It's your  
4 determination as to whether there's consistency  
5 and he can't talk about, can't render, and  
6 qualified as he may be, he's not listed as an  
7 expert, and he can't render an opinion on  
8 consistency in this case. So we think it's  
9 irrelevant; we think it's also an effort to  
10 impeach a witness with extrinsic evidence. They  
11 have the project manager or the Coastal Zone  
12 Consistency Director, Curtis Joyner, under  
13 subpoena. He's the one who was the head at the  
14 time this decision was made. And I say that  
15 because they're putting up this witness to put  
16 up testimony contrary to his testimony about a  
17 different application or maybe what he would  
18 have done differently and that witness hasn't  
19 testified. So it's irrelevant; it's a  
20 collateral attack; it's unnecessary; it's a  
21 separate permit proceeding. The DHEC Board has  
22 spoken in this case, what went on in that other  
23 case is irrelevant, and this is a de novo  
24 hearing on this application. We're not going to  
25 try that case again. Thank you.



1     **THE COURT:**   Mr. Churdar?

2     **MS. ARMSTRONG:**     Do you want to hear from the  
3         Department or ---

4     **MR. CHURDAR:**   No.

5     **THE COURT:**   Well, he didn't ---

6     **MS. ARMSTRONG:**   Well, it's relevant, very relevant  
7         factually because we're obviously talking about  
8         the exact same piece of land and the same area  
9         where a structure is being proposed and a  
10        structure of a very similar nature and type.  
11        Moreover, the same regulatory provisions apply  
12        as far as the provision for the long range  
13        cumulative impact analysis. Mr. Eiser not only  
14        reviewed the critical area permit, he also was  
15        involved in the certification decision for this  
16        project.

17    **THE COURT:**     Well, he set forth that if he was  
18        involved in this part, he can testify regarding  
19        that.

20    **MS. ARMSTRONG:**   And I think one of the issues in  
21        question is what is the character and the nature  
22        of the spit. And he's testified he's got first-  
23        hand experience ---

24    **THE COURT:**   He can testify about that.

25    **MS. ARMSTRONG:**   And that's exactly what he was



1 saying.

2 **THE COURT:** Okay.

3 **MS. ARMSTRONG:** And he said ---

4 **THE COURT:** He can't give -- it's interesting that  
5 once you're released -- from my perspective,  
6 it's interesting.

7 **MS. ARMSTRONG:** Once what?

8 **THE COURT:** I said it's -- I said it's interesting,  
9 and then I guess if I was writing, I'd put dash,  
10 from my perspective dash, that once you step out  
11 of the Department, you can no longer give an  
12 opinion. While you're in the Department, you  
13 can give an opinion because that opinion derives  
14 from your decision-making process. Now, that  
15 he's outside of the Department, if he's not an  
16 expert, he can't sit over there and give me  
17 opinions because he's no longer doing it to  
18 support that which he -- the decision he made.  
19 So -- but I will certainly allow the factual  
20 testimony to his observations.

21 **MR. WALKER:** We would object and move to strike in  
22 terms of his interpretation of what the area is  
23 for two reasons. Because this Court ruled in  
24 that case what the area was, it was the gradient  
25 area beyond the spit itself. And he is



1           collaterally attacking that by giving an  
2           interpretation that's different from what this  
3           Court held. That's a final determination ---

4   **THE COURT:** Well, I disagree with that.

5   **MR. WALKER:** --- as a matter of law.

6   **THE COURT:** I disagree. He testified that it was  
7           pristine. I mean, that's his -- his ---

8   **MR. WALKER:** I thought they were getting him to apply  
9           the cumulative effects analysis under the CZMP.  
10          If he's just saying in his estimation the spit  
11          is pristine, that's one thing, but she was using  
12          the area and getting ready to talk about the  
13          character of the area and she may have even used  
14          that to try to ---

15   **THE COURT:** Well, let's get -- I'll tell you what,  
16          let's -- what is it he testified that you think  
17          should be stricken?

18   **MR. WALKER:** That to the extent he said that the  
19          general character of the area is pristine.

20   **THE COURT:** I won't strike that because that's his  
21          observation of the -- a factual observation is  
22          how I'm going to treat that, not as a legal  
23          observation.

24   **MR. WALKER:** All right.

25   **THE COURT:** And ---



1 MS. ARMSTRONG: Yeah, I mean, I think ---

2 THE COURT: I'll let you just start again.

3 MS. ARMSTRONG: Okay.

4 THE COURT: And if you don't like her next question,  
5 we'll move on again.

6 MS. ARMSTRONG: And if I -- just, you know,  
7 responding to Mr. Walker ---

8 THE COURT: Well, you've won right now, so ---

9 MS. ARMSTRONG: Okay.

10 THE COURT: The only thing you can do now is lose.

11 MS. ARMSTRONG: Well, I was anticipating other  
12 objections, but we'll go with that.

13 THE COURT: Okay.

14 MS. ARMSTRONG: Okay.

15 Q: Mr. Eiser, what did you do in making your  
16 determination about the character of the area?

17 A: As part of my review of the 2008 critical area  
18 permit, I was required to come up with a  
19 determination of the general character of the  
20 area and at that time, as the project manager,  
21 I determined that the area was Captain Sam's  
22 Spit and the character was that it was a  
23 pristine, undeveloped beachfront property.

24 MR. WALKER: Objection to the extent that he's  
25 applying the CZMP. If that's his observation,



1       that's one thing, but if he -- if the purpose of  
2       this is to argue that's an interpretation of the  
3       CZMP by staff, we strongly object because it's  
4       a separate permit proceeding.

5       **THE COURT:** I agree with that.

6       **MR. WALKER:** And we have separate people evaluating  
7       here. He testified in that other case. That's  
8       that case, not this case. Different facts,  
9       different boards. We have a final board  
10      determination affirming the staff. That's what  
11      DHEC has spoken in this case.

12      **THE COURT:** I understand. Of course, we're trying to  
13      decide if what DHEC spoke was correct, but ---

14      **MR. WALKER:** That's right and that's for you to  
15      determine based on the facts concerning this  
16      permit application, not what went on in the  
17      revetment case.

18      **THE COURT:** Okay. Any response?

19      **MS. ARMSTRONG:** Sure. Well, first, he's testifying  
20      about what he did in that case and that ---

21      **THE COURT:** Well, how is that relevant is what we --  
22      I mean, how is it relevant what he did in a  
23      previous case to this case?

24      **MS. ARMSTRONG:** Because we're talking about the same  
25      piece of land and the same considerations that





1 are applicable. I mean, you can't keep a  
2 witness from testifying just because the Court  
3 didn't agree with the staff decision in another  
4 case. We're going to present evidence that the  
5 staff -- there was multiple discussions among  
6 the staff about how to reconcile the 2008  
7 decision with the current decision, and there's  
8 going to be evidence presented through our next  
9 witness that's absolutely going to link those  
10 two decisions up and how the Department was  
11 having discussions about how that all ---

12 **THE COURT:** All right. I'll tell you right now, I've  
13 done this in every case I've ever had. I'm not  
14 here -- I don't know if I've ever done it to  
15 you, but I've told them over and over and over,  
16 I'm not here to try the Department for its  
17 decision making. That's not an issue. I'm here  
18 to try the case based on the facts of the case.  
19 How the Department reached its decision, I'm not  
20 worried about it because it's a de novo hearing.  
21 So I don't need to hear all the insight about  
22 how the Department reached their decision  
23 because that's not an issue for me.

24 **MS. ARMSTRONG:** Right, but ---

25 **THE COURT:** I'm not trying the Department.



1 **MS. ARMSTRONG:** Sure, but the argument was relevance  
2 and whether this testimony's relevant and ---

3 **THE COURT:** Well, it's relevant only to the part --  
4 it's only relevant to that which would help me  
5 reach a decision in this case. And but not as  
6 to what there may have been in-fighting or  
7 disagreement with the Department.

8 **MS. ARMSTRONG:** Sure, the only reason I brought that  
9 up is just to show that that was something that  
10 was going on. It's not a big surprise that Mr.  
11 Eiser's decision in that case was something that  
12 was discussed among the Department. That, I  
13 agree, Your Honor, that's not your  
14 consideration. The point is that it very much  
15 is relevant and so we'd like to present evidence  
16 about the thing -- the considerations that Mr.  
17 Eiser, what he looked at. And the reason why it  
18 is relevant is because the care -- we're still  
19 talking about the same area and what that  
20 character of the area is and he's saying what he  
21 determined it to be and what his -- and what he  
22 did ---

23 **THE COURT:** Historically ---

24 **MS. ARMSTRONG:** --- in that case.

25 **THE COURT:** Historically, what the Department



1 determined.

2 **MS. ARMSTRONG:** And I'm going to ask him whether he's  
3 been there again and what it looks like now.  
4 What he viewed, what he observed. That's ---

5 **THE COURT:** In that regard, I'm going to let him  
6 testify.

7 **MR. WALKER:** We haven't no problem with him testifying  
8 to his actual observations of the site.

9 **THE COURT:** Well, the question on the board right now  
10 though is what did he do in the past, how did he  
11 view it in a previous determination and going  
12 forward now, how does he look at it. So I'll  
13 allow it.

14 **MR. WALKER:** Well, we'd object to how he views it  
15 now. He's no longer a member of the staff.

16 **THE COURT:** Well, he can't give opinions, but he can  
17 only give -- he can't give an opinion as to his  
18 view of what it is under the Coastal Zone  
19 Management Plan, I agree with you on that. He's  
20 not an expert. So, but he can tell me what he  
21 did in the past. And what I find interesting is  
22 I know what he did in the past, so ---

23 **MS. ARMSTRONG:** Your Honor, this is like a preemptive  
24 objection before the testimony -- I haven't even  
25 elicited the testimony yet.



1     **THE COURT:** And you know I don't like those, so I'm  
2                   going to rule in your favor. All right. Thank  
3                   you. Go ahead. Do you remember the question?

4     A: No.

5     Q: I'm not sure exactly that I remember the  
6                   question.

7     A: I think you might have asked me what did you  
8                   consider to be the area, does that sound right?

9     Q: Right, when you were -- how did you -- let me  
10                  back up. I guess what did you consider as the  
11                  area?

12    A: That the area was Captain Sam's Spit.

13    Q: And when you were at the agency, is that how you  
14                  interpreted the character of the area?

15    A: Yes.

16    **MR. WALKER:** Your Honor, I made my objection earlier.

17    **THE COURT:** You're fine.

18    **MR. WALKER:** I don't want to interrupt, I just want  
19                  to ---

20    **THE COURT:** No, you're fine.

21    **MR. WALKER:** --- my grounds are preserved.

22    **THE COURT:** I know. I want you -- that's fine.

23    **MR. WALKER:** So I think ---

24    **THE COURT:** I don't want to keep anybody from ---

25    **MR. WALKER:** --- we're digging up the prior case,



1 don't think it's relevant ---

2 **THE COURT:** Okay.

3 **MR. WALKER:** --- for all the reasons I said earlier.

4 But I don't want to prolong this unnecessarily.

5 **THE COURT:** Well, I don't have a problem with a  
6 lawyer preserving the record for appeals, so I  
7 can get corrected if I'm wrong. So it's  
8 overruled.

9 Q: And, Mr. Eiser, when was the last time that you  
10 went to Captain Sam's Spit?

11 A: Thursday of last week.

12 Q: What did you observe?

13 A: That the general character of the area is still  
14 essentially the same. I observed public use of  
15 the sandy beach along the Kiawah River  
16 shoreline; three different groups of kayakers  
17 pulled up, got out, walked around. One group  
18 even climbed up onto the high ground that's  
19 adjacent to that sandy beach area. I saw signs  
20 of the erosion from the hurricane last fall on  
21 the beachfront section of Captain Sam's Spit.  
22 I went as far down as the inlet and saw three  
23 dolphins strand feeding.

24 Q: And what did you observe on the beachfront?

25 A: Well, you can see that there was significant



1 erosion last fall from the hurricane and that  
2 area is now dry sand beach. There are no dunes  
3 that have reformed on it just yet, but, to me,  
4 there was extensive erosion and the beach is in  
5 the process of recovering.

6 Q: And what indicated the erosion?

7 A: Because you can see where the dunes were -- were  
8 cut back or scarped back and the width of that  
9 shelf of dry sand is much wider than you would  
10 typically see on a South Carolina beach.

11 Q: And did you walk down to the very end of Captain  
12 Sam's Spit where it meets the inlet?

13 A: Yes.

14 Q: What did you observe at the very tip there?

15 A: At the very tip, there are a lot of wax myrtles  
16 that look like they've been killed by salt water  
17 inundation, probably from Hurricane Matthew, a  
18 lot of dead trees.

19 Q: And were those dead trees on the active beach?

20 A: They were -- they were gordering; they were  
21 immediately adjacent to it.

22 Q: So was there any difference in the activities?  
23 How would you compare the activities that you  
24 saw going on at the spit when you were there on  
25 Thursday compared to when you were conducting



1 your review back in 2008?

2 A: Well, aside from the erosion on the ocean side  
3 from the hurricane, it was essentially the same.

4 Q: What about on the Kiawah River side?

5 A: I saw a lot of public use of the -- of that  
6 sandy beach last week, just the way I had  
7 observed it back in 2008.

8 Q: When you were conducting your review in 2008,  
9 what kinds of -- what did you look at, what  
10 specific things did you look at and consider in  
11 your review?

12 A: Well, the general character of the area and how  
13 that could be potentially changed as a result of  
14 the critical area permit being issued. I also  
15 looked very specifically at the impact that the  
16 structure in the critical area would have on the  
17 public use of that sandy beach and whether or  
18 not the specific regulation about bulkhead  
19 revetments ---

20 **MR. CHURDAR:** Your Honor, I would ---

21 A: --- would apply.

22 **MR. CHURDAR:** I would object to that. What he did in  
23 terms of looking at the critical area for  
24 purposes of the critical area permit is not what  
25 is before The Court today so I don't believe



1           it's relevant.

2       **MR. WALKER:** I would renew my objection for all the  
3           reasons I've already stated.

4       **THE COURT:** I think we're getting into the area of  
5           your objection now, so would you respond, Ms.  
6           Armstrong, because he's now giving the elements  
7           that he looked at concerning the application and  
8           that's really not before me today in the past.

9       **MS. ARMSTRONG:** Your Honor, to the extent that we  
10           have a -- there are a lot of overlaps and  
11           similarities between what was happening in 2008  
12           and what's happening right now. And for one,  
13           there's a proposal for a wall to stabilize the  
14           shoreline to allow a development on Captain  
15           Sam's Spit. So to the extent that -- he hasn't  
16           testified yet, but I anticipate that the witness  
17           is going to testify to some of the impacts that  
18           he looked at, things that he actually did were  
19           what kinds of impacts flowed from the  
20           development project on the spit. So in that  
21           regard ---

22       **THE COURT:** Well, I think he can -- I think he can  
23           testify to that if he was an expert.

24       **MS. ARMSTRONG:** This is what he actually did, though.  
25           He's not giving opinions. I'm asking him to





1 tell me what he -- what he did, not what he --  
2 it's not what he concluded, but what -- because  
3 that's reflected in the agency's decision  
4 document.

5 **THE COURT:** And what he did in the past for a  
6 different permit is relevant to this case how?  
7 Move up where I can look at you better.

8 **MS. ARMSTRONG:** Oh, I'm sorry.

9 **THE COURT:** Did you follow me? Because I know I was  
10 kind of behind the stand a little bit. What he  
11 did in a past permit is relevant to this case  
12 how?

13 **MS. ARMSTRONG:** Because the requirement that the  
14 agency conducted to make a determination and  
15 consider the long range and cumulative impacts  
16 of a project on a possible future development  
17 and the general character of the area is -- that  
18 applied in that case and that same provision  
19 applies in this case. And so The Court has to  
20 consider, your decision, what kind of -- what  
21 are those impacts. What are cumulative impacts  
22 that The Court -- what did the Department  
23 consider and what should they have considered.  
24 And so when we're talking about a development  
25 project, the same development project, there are



1           certainly it's not identical in the applications  
2           that they're asking for, but the ultimate --  
3           ultimately it's in connection with developing --  
4           -

5   **THE COURT:**   Okay.

6   **MS. ARMSTRONG:**   --- a development on Captain Sam's  
7           Spit so that ---

8   **THE COURT:**   So did he consider in the past the same  
9           criteria that we have before us today ---

10   **MS. ARMSTRONG:**   Correct.

11   **THE COURT:**   --- same exact ---

12   **MS. ARMSTRONG:**   Correct.

13   **THE COURT:**   Can y'all respond to that?

14   **MR. WALKER:**   Yes, this gets to right to what the  
15           Court was saying. You have the analysis de novo  
16           to make the determination. What they did in  
17           some other case doesn't determine the  
18           application in this case. She's putting the  
19           Department on trial to say look, they're  
20           inconsistent with the prior decision and we're  
21           using this witness to show it. The argument  
22           that she made saying the Department needs to  
23           consider the cumulative impacts and the  
24           potential affect on the character of the area,  
25           that's a direct issue in this case based on the



1 proof in this case. It's not to be determined  
2 by what the Department did in some other case.  
3 If defendant runs a stop sign one day and then  
4 the next day doesn't run the stop sign and  
5 there's a wreck, the fact that he ran it one day  
6 is not proof of how he behaved a different day.  
7 And we've got a conclusive determination here by  
8 the DHEC Board sustaining the staff on not a  
9 critical area permit, on a stormwater permit.  
10 This is a separate proceeding. How it was  
11 applied in another case is irrelevant to your  
12 decision here. And they're just trying to  
13 prejudice The Court and bring up this irrelevant  
14 information because they want to try the motives  
15 of DHEC. And as you plainly said, why they did  
16 it, if they were doing it for ---

17 **THE COURT:** Well, Ms. Armstrong agreed to that.

18 **MR. WALKER:** Yeah, the motive, they cannot bring up  
19 the motive. The motive's irrelevant. But what  
20 they did in some other case, they haven't  
21 brought an equal protection case. They don't  
22 have an equal protection case. If we had a  
23 reasonable legal basis for looking at other  
24 conduct and analyzing it, perhaps. But we don't  
25 have it here. We're here on a direct contested



1 case hearing for whether or not the facts in  
2 this case sustain the permit. And if she wants  
3 to say the staff didn't consider the cumulative  
4 effects and those cumulative effects include  
5 whatever and if she wants to argue that the area  
6 is Captain Sam's Spit and nothing else, she can  
7 argue that. She doesn't need this gentleman to  
8 bring up a prior case for her to do that.  
9 Again, I'd say that this Court ruled on this  
10 specific question in a final determination in  
11 that case that the area was greater than just  
12 the spit. That is on appeal. This gentleman is  
13 testifying to something different from the legal  
14 interpretation as applied to the facts by The  
15 Court. And we object that it's a collateral  
16 attack on The Court's Order ---

17 **THE COURT:** Well, I don't ---

18 **MR. WALKER:** --- as well.

19 **THE COURT:** See, I don't really even care what I did  
20 in the past, I mean, in this case either. This  
21 is de novo, so even when you make that point,  
22 I'm not even interested in that.

23 **MR. WALKER:** Well, if it's relevant, then we're bound  
24 by the prior determination.

25 **THE COURT:** I would have a right to interpret it



1           however I want in this case.

2       **MR. WALKER:**   Yeah, exactly.   Exactly.

3       **THE COURT:**   All right.

4       **MR. CHURDAR:**   Your Honor, Rule 701 says that if the  
5           witness is not testifying as an expert, which  
6           Mr. Eiser here is not testifying as an expert --  
7           -

8       **THE COURT:**   Can't give an opinion.

9       **MR. CHURDAR:**   I'm sorry?

10      **THE COURT:**   He can't give an opinion.

11      **MR. CHURDAR:**   Well, that -- yes, but -- and one of  
12           the other factors that is listed in Rule 701 is  
13           that what he testifies about (c) says does not  
14           require special knowledge, skill, experience, or  
15           training.   And I believe that the reason -- the  
16           only relevance to asking Mr. Eiser about his  
17           educational background and his work experience  
18           is to show that he has a level of training and  
19           experience that would inform his opinions.  
20           Otherwise, I mean, we would be looking at a  
21           standard that would be akin to just asking one  
22           of those kayakers that is out on the river what  
23           do you think, you know, what do you observe.   I  
24           mean, his observations are ---

25      **THE COURT:**   Okay.



1 **MR. CHURDAR:** --- are certainly infused with all of  
2 his training and background and I believe that  
3 that is in violation of Rule 701.

4 **THE COURT:** Okay. He cannot give an opinion. I see  
5 their point about I'm not here, again, to -- but  
6 you agree with that, to try the Department.  
7 What he did in the past or his evaluation of  
8 this area in the past is not relevant -- what's  
9 relevant is for me to determine today what the  
10 -- what the -- to determine the issues in this  
11 case today, I'll phrase it that way.

12 **MS. ARMSTRONG:** Okay.

13 **THE COURT:** But he can certainly tell me about his  
14 observations.

15 **MS. ARMSTRONG:** Right.

16 **THE COURT:** I'm not trying to cut you off entirely.

17 **MS. ARMSTRONG:** Okay. And so I think where we left  
18 off ---

19 **THE COURT:** Actually I'm not trying to cut you off at  
20 all. I'm just trying to rule on the objection.

21 **MS. ARMSTRONG:** Yeah and I'd like -- if I can  
22 respond. The question was what kinds of things  
23 did he consider. So that's what he did. That's  
24 his own personal knowledge of what he actually  
25 did. And it's -- what I'm trying -- the



1 testimony I'm trying to get before The Court is  
2 this Court has to make a determination of  
3 whether the agency -- how the agency and whether  
4 it properly applied the requirement to consider  
5 the long range and cumulative impacts.

6 **THE COURT:** Okay.

7 **MS. ARMSTRONG:** And so Mr. Eiser's ---

8 **THE COURT:** You can ---

9 **MS. ARMSTRONG:** --- testimony about ---

10 **THE COURT:** Can I -- let me see if I can simplify  
11 this.

12 **MS. ARMSTRONG:** Okay.

13 **THE COURT:** And then you can keep on going if you  
14 want to. But from my observations, he can't  
15 testify -- that is based on the objection, he  
16 cannot testify as to what he did in the past  
17 based on his analysis of the Coastal Zone  
18 Management Plan. That would be giving an  
19 opinion. But he can testify as to the factual  
20 considerations and observations he's made in the  
21 past and now. So if we can just not let it  
22 blend in and I can instruct the witness at least  
23 at this point, you've heard what I've said ---

24 A: Yes.

25 **THE COURT:** --- just not have your testimony blend in



1 with any opinion or evaluation as to the Coastal  
2 Zone Management Plan, but simply factually what  
3 you observed and what you thought of the area in  
4 the past and what you think of it now. We're on  
5 safe ground with that.

6 A: Okay. Yes, sir.

7 **THE COURT:** Is that okay, Ms. Armstrong?

8 **MS. ARMSTRONG:** Yeah, I believe so. I mean, we're  
9 just trying to elucidate The Court on what kind  
10 of factual benefit things ---

11 **THE COURT:** I like to be elucidated when it's  
12 pertinent.

13 Q: So let me rephrase the question. Mr. Eiser,  
14 what kind of factual considerations and  
15 observations did you utilize when you were  
16 considering the long range and cumulative  
17 impacts?

18 A: I ---

19 **MR. WALKER:** Your Honor, objection. How is that not  
20 the application of the statute? She said what  
21 did you consider when you were applying the  
22 standards. I think he can say I saw this, I did  
23 this, but we're already getting into an  
24 interpretation to apply the regulation or the  
25 program document requires an interpretation or





1 an opinion and it's applying the law. He's not  
2 testifying then just about what he saw.

3 **MS. ARMSTRONG:** I'm not asking him about his ---

4 **MR. WALKER:** What he observed, she's trying to get --  
5 again, set him up.

6 **THE COURT:** His objection goes to that last phrase on  
7 your question ---

8 **MR. WALKER:** Correct.

9 **THE COURT:** --- long term cumulative impacts.

10 Q: Mr. Eiser, when you were conducting your review,  
11 what factual considerations and observations did  
12 you take into account?

13 A: I observed that there was public use of the  
14 sandy shoreline along the Kiawah River; I  
15 observed a complete lack of development on  
16 Captain Sam's Spit.

17 Q: Were there other considerations that you took  
18 into account?

19 **MR. WALKER:** Now, she's talking about the  
20 deliberative process, are there other  
21 considerations.

22 **THE COURT:** Well, we don't ---

23 **MS. ARMSTRONG:** Factually.

24 **THE COURT:** We don't know what she's asking.

25 Q: Factually. Any factual considerations ---



1     **THE COURT:**   There you go.

2     Q:     --- things that were going on at that time  
3             there?

4     A:     I observed that there was public use of that  
5             open space.

6     Q:     And ---

7     **THE COURT:**   And when you say open space, where I can  
8             be -- refresh my memory at least.   What open  
9             space are we talking about?

10    A:     All of Captain Sam's Spit.

11    **THE COURT:**   Even the high ground?

12    A:     Yes.

13    **THE COURT:**   Okay.

14    Q:     Were there any factual considerations of  
15             wildlife utilizing the area?

16    A:     There were factual considerations based on  
17             comment letters that were in the critical area  
18             permit file, not directly from my observations  
19             of wildlife use of that area.

20    Q:     And were those -- those facts were presented to  
21             you in your decision-making process?

22    A:     Yes.

23    Q:     And presented by whom?

24    A:     By what we call the resource agencies, which are  
25             South Carolina Department of Natural Resources



1 and the U.S. Fish and Wildlife Service, a  
2 federal agency.

3 Q: And what factual considerations from those  
4 resource agencies did you utilize?

5 MR. WALKER: Hearsay. He's testifying to what they  
6 said in the ---

7 THE COURT: I'll sustain that.

8 MR. WALKER: --- and now she's ---

9 THE COURT: I sustained it.

10 MR. WALKER: --- she's trying to get through the  
11 process. Sorry.

12 THE COURT: That's okay. Well, once I sustain it,  
13 you can take advantage of the comfortable seats  
14 that we provide you.

15 MR. WALKER: That means sit down and shut up, doesn't  
16 it?

17 Q: Did you have any knowledge of what was being  
18 proposed on Captain Sam's Spit?

19 A: Yes.

20 Q: And what was that?

21 A: That the knowledge was that the area was  
22 intended to be developed with a road and 50  
23 house sites.

24 Q: And was that a piece of information that you  
25 took into consideration in making your decision?



1 A: Yes.

2 Q: How many tracts of -- let me ask you, are you  
3 familiar with a document called The  
4 Environmental Inventory of Kiawah Island?

5 A: I've heard of that document. I haven't really  
6 looked at it.

7 Q: How many tracts -- do you know how many tracts  
8 of land there are like Captain Sam's Spit in  
9 South Carolina?

10 A: I would say that there are two other tracts that  
11 are similar to Captain Sam's Spit.

12 Q: And what are those other tracts?

13 A: Those would be Hunting Island State Park in  
14 Beaufort County and Huntington Beach State Park  
15 in Georgetown County.

16 Q: And how do you draw the similarities between  
17 those three tracts?

18 A: The criteria would be that it's a large  
19 undeveloped tract of land, or at least portions  
20 of the State parks are undeveloped, where the  
21 general public has good access and can  
22 experience a pristine, undeveloped beachfront  
23 environment.

24 Q: Do all three of those areas have public access?

25 A: Yes.



1 Q: Mr. Eiser, are you familiar with the permit  
2 applications that we're here about today?

3 A: Yes.

4 Q: Yes?

5 A: Yes.

6 Q: Were you employed with the Department when the  
7 agency issued the permit decisions that we're  
8 here about today?

9 A: Yes.

10 Q: Were you asked for input from agency staff with  
11 respect to the permits that we're here about  
12 today?

13 A: Yes, I was.

14 Q: Who asked you for input?

15 A: The request was actually funneled through my  
16 supervisor, Blair Williams, but the request came  
17 from Curtis Joyner and a staff person project  
18 manager named Tara Maddock, who no longer works  
19 at the agency.

20 Q: Did you provide that input?

21 A: Yes.

22 Q: Were you asked for you input about -- with  
23 regard to the long range and cumulative impacts  
24 on the project and general character of the  
25 area?



1 A: No, the questions that they asked me were  
2 specifically to the proposed sheet pile wall,  
3 how the shoreline would respond, how effective  
4 it would be, if it would shift the erosion  
5 problem to other sections of the shoreline.

6 Q: And so when you were employed with OCRM, you  
7 looked at -- or did you look at what would  
8 happen to the wall given if there was continued  
9 erosion?

10 A: Well, I provided a written response to those  
11 three specific questions that were part of the  
12 Coastal Zone Consistency review being conducted.

13 Q: I'm going to show you a document and ask if this  
14 refreshes your recollection. Is this what  
15 you're referring to?

16 A: Yeah, this -- what you've handed me is a piece  
17 of paper that has three specific issues that  
18 they were asking me to respond to. There's  
19 another document that has those three questions  
20 restated and then also contains my answers.

21 Q: And with respect to the first question about the  
22 wall, what would happen to it over time, did you  
23 express any concerns to the Department?

24 **MR. WALKER:** Object to the extent he's about to  
25 render an opinion as to what would happen to the



1 wall. He's not listed as an expert.

2 **THE COURT:** Okay. Let me -- I'm going to respond to  
3 you and you can tell me if you disagree. He can  
4 testify as to that which he -- whatever opinion  
5 he was asked by the Department and the answer he  
6 gave. He can testify to that, correct?

7 **MR. WALKER:** Well, we still think it's rendering an  
8 expert opinion, but understanding the way the  
9 Court looks at it ---

10 **THE COURT:** Well, I'm asking you, what, in your  
11 opinion, is that ---

12 **MR. WALKER:** Well, I think that it's an out-of-state  
13 -- out-of-court statement by this witness being  
14 put in for the truth of the matter asserted.  
15 And so I do think it's hearsay and I also think  
16 it contains an expert opinion.

17 **THE COURT:** Well, at this point it's not an expert  
18 opinion. It's just he was staff and what -- if  
19 they asked him while he was staff to apparently  
20 three questions. His answers to those three  
21 questions, are those not proper answers to  
22 submit into evidence?

23 **MR. WALKER:** Well, to the extent he's just going to  
24 repeat what's in the memo, we'll withdraw the  
25 objection.



1     **THE COURT:**    Okay.

2     **MR. CHURDAR:**   Well, Your Honor, excuse me, I would  
3                   just go back to Rule 701 again that I mentioned  
4                   earlier. I mean, Mr. Eiser sits here today as  
5                   a lay witness and certainly embedded in his  
6                   answers that he gave back then is something  
7                   beyond -- well, it requires special knowledge,  
8                   skill, experience, or training for him to have  
9                   answered that.

10    **THE COURT:**     Well, under that theory, then, I  
11                   shouldn't allow the Department to ever give  
12                   their opinions as to why they did what they did  
13                   because unless they are qualified as experts.  
14                   And I do that all the time because -- I allow  
15                   them to give their opinions because that is part  
16                   of their decision-making process, which is  
17                   before me. So if I was to follow that logic, I  
18                   don't think you would like the end result down  
19                   the road, so I'm going to continue with my logic  
20                   because I think my logic's better.

21    **MR. CHURDAR:**    Yes, sir.

22    **THE COURT:**    Respectfully.

23    **MR. CHURDAR:**    Understood.

24    **THE COURT:**    All right. Did you follow all that?

25    **MS. ARMSTRONG:**   Yes, I did. I think we're on the





1 same page.

2 Q: Do you recall that question or do you need ---

3 A: Yeah, I think I'm fine with the question. I  
4 actually have ---

5 **THE COURT:** Well, we've got to make sure that I'm  
6 fine with your answer, too. The issue's not  
7 whether you're you fine with the question, so.  
8 You can testify about that which you have -- how  
9 you responded to the Department's questions.

10 A: All right. Your Honor, I have a copy of those  
11 questions and my responses in front of me, would  
12 you prefer me to read it directly or paraphrase  
13 it?

14 **THE COURT:** I'm not in charge on that.

15 A: Okay.

16 Q: Yeah ---

17 A: Well, I didn't want to get tripped up on what  
18 you're allowing in and not allowing in.

19 Q: Well, I'mnot intending to introduce your actual  
20 answers into evidence. So if you could, just  
21 tell us what they -- what they were with  
22 respect to how you ---

23 A: Sure. Well, the first question was how would  
24 the shoreline and that erosional area respond to  
25 the construction of the proposed sheet pile



1 wall. And my response was if the sheet pile  
2 wall is constructed on high ground, but only  
3 five to ten feet landward of the erosional scarp  
4 line, that the erosion will continue. At some  
5 point in the future, the sheet pile wall will  
6 become exposed; it will be in the critical area.  
7 The sandy beach at the base of that sheet pile  
8 wall will be eroded away; and the public use of  
9 that beach at the base or foot of the sheet pile  
10 wall will be diminished and then eventually  
11 lost. That was question number one.

12 Q: And were those -- that occurrence with respect  
13 to this permit, was that a consideration that  
14 you utilized in your 2008 decision?

15 MR. WALKER: Objection.

16 THE COURT: Go ahead.

17 MR. WALKER: Because he's applying the law in 2008.  
18 I think what's relevant is what the Department  
19 did and she's already gotten in the relevant  
20 testimony that this is what was his opinion  
21 here. That was a different structure.

22 THE COURT: Okay. I'm going to sustain that unless  
23 you can direct me to my erroneous thinking.

24 Q: Can you describe the structure that was  
25 permitted or that the Department I guess



1 conditionally permitted in 2008, can you  
2 describe what was sought -- what was requested  
3 and then what actually -- how the Department  
4 ultimately made its decision, what the decision  
5 was, not ---

6 **THE COURT:** Yeah.

7 Q: --- the decisions.

8 A: I think the original 2008 critical area permit  
9 was for a, I believe it was 2,700 foot long  
10 revetment to be constructed in the critical  
11 area. The Department approved I believe it was  
12 270 feet of that structure to protect the  
13 parking lot at the Charleston County park and  
14 then the rest of the requested structure was  
15 disallowed.

16 Q: And how would that structure -- what exactly did  
17 it look like? Let me withdraw the question.

18 **MR. WALKER:** Objection. We're here in Court on  
19 another structure.

20 **THE COURT:** Well, she said she withdrew the question.

21 **MR. WALKER:** All right.

22 Q: And that was a construction in the critical area  
23 permit ---

24 A: Yes.

25 Q: --- you were discussing?



1 A: Yes.

2 Q: And the structure would have been located where?

3 A: In the critical area.

4 Q: Are you aware of the condition for a new  
5 critical area line in connection with the  
6 permits that we're here about today?

7 A: There have been numerous critical lines  
8 established in this property since 2008. I'm  
9 aware of a fairly recent one that was  
10 established by EarthWorks, I believe. I think  
11 that's the most recent one.

12 **MR. WALKER:** Objection, Your Honor.

13 **MS. ARMSTRONG:** I want to back up a step.

14 **MR. WALKER:** There's no testimony that they  
15 established a critical line. Earthworks said  
16 they didn't get it certified.

17 **THE COURT:** Actually, I remember that testimony. I  
18 sustain that and strike that testimony.

19 **(Joint Exhibit Number 6 was introduced into the**  
20 **record at this time.)**

21 Q: If you don't mind, Mr. Eiser, right in front of  
22 you, there's that big notebook and in that  
23 notebook I believe it's Exhibit Number 7 is the  
24 permit. It's it's either 6 or 7.

25 **COURT REPORTER:** 6.



1 MS. ARMSTRONG: Thank you.

2 Q: Is that document familiar?

3 A: Well, there are multiple pages to it. I've  
4 never seen this document before, but it appears  
5 to be the actual land disturbance report,  
6 stormwater permit from May of 2015.

7 Q: If you keep flipping down to the back, do you  
8 see the Coastal Zone Consistency Certification?

9 A: Yes.

10 Q: And are there any requirements with respect to  
11 -- if you look at the first page, condition  
12 number one, are you familiar -- do you remember  
13 any -- are you aware of that condition? Does it  
14 ---

15 A: Yeah, I have seen ---

16 Q: --- ring a bell now?

17 A: I have seen this document before. I am familiar  
18 with condition number one on this consistency  
19 certification.

20 Q: And were you involved in the determination to  
21 put in that condition for a new critical area  
22 line?

23 A: I was not directly involved with the  
24 determination to put that permit in there. I  
25 think in some informal discussions with Tara



1 Maddock and certainly it's documented in my  
2 response to those three questions, I made them  
3 aware of the fact that the critical area was --  
4 the line was moving, the shoreline was eroding,  
5 and at some point the sheet pile wall would be  
6 in the critical area.

7 **(Petitioner's Exhibit Number 14 was introduced into**  
8 **the record at this time.)**

9 Q: Mr. Eiser, I'm going to put on the screen what's  
10 been admitted as Petitioner's Exhibit Number 14.  
11 Are you able to identify the location of what's  
12 depicted on this drawing?

13 A: Yeah, this is Captain Sam's Spit.

14 Q: You referenced where the critical line is and do  
15 you see the legend on the bottom of this?

16 A: Yes.

17 Q: And there are -- there's -- what is in that  
18 legend?

19 A: Well, it's telling you that the blue line is  
20 approximate critical line from March 2017. The  
21 red line is the critical line from May of 2016.  
22 And then it's also showing -- you just moved it  
23 off screen, I think it was the baseline or the  
24 setback line, yeah, OCRM baseline and OCRM  
25 setback line.



1 **MR. WALKER:** Your Honor, we object to any line of  
2 questioning based on this. He's not an expert;  
3 he didn't draw it; he has nothing to do with it;  
4 it's hearsay as to him; and the fact -- and the  
5 fact that he's looking at something and telling  
6 us what it says, the document speaks for itself.  
7 There's just no relevance to any of the last  
8 several questions with respect to this  
9 gentleman's personal knowledge as a lay witness.

10 **THE COURT:** Normally, it is a proper objection that  
11 the document speaks for itself. So why would  
12 that be improper in this instance?

13 **MS. ARMSTRONG:** Well, sure, okay. Well, I mean, I  
14 just was going to ask him a question about it  
15 and I wanted to make sure he reviewed it. The  
16 document's in evidence.

17 **THE COURT:** Okay. I sustain the objection. Strike  
18 his testimony simply because the document speaks  
19 for itself. Okay.

20 **Q:** You expressed your concern while you were at the  
21 Department to staff making a permitting decision  
22 that the critical line was moving, is that  
23 accurate?

24 **A:** Yes, that's correct.

25 **Q:** And why was that -- why would that be a concern?



1 A: Well, the concern was that the applicant was  
2 trying to hit a moving target. They were trying  
3 to build a structure out of the critical area,  
4 but the location of the critical area was  
5 changing.

6 Q: You're familiar with the certification and the  
7 agency's decision, does that decision authorize  
8 impacts to critical area?

9 A: No, the special condition or the first condition  
10 specifically says that they cannot impact  
11 critical area.

12 **MOTION TO ADMIT PETITIONER'S EXHIBIT 28:**

13 **MS. ARMSTRONG:** Your Honor, I'd like to move  
14 Petitioner's Exhibit Number 28 into evidence.  
15 The authenticity of this document has been  
16 established through the deposition, 30(b)(6)  
17 deposition testimony of Shannon Hicks. It's  
18 also been -- she was testifying under oath, she  
19 said that she took these notes, she verified the  
20 notes ---

21 **THE COURT:** It would help if I -- just kind of let me  
22 know what it is. You can tell me all about it.

23 **MS. ARMSTRONG:** Sure, they're handwritten notes of  
24 Shannon Hicks.

25 **THE COURT:** Who is a? Who is that an employee of?





1 MS. ARMSTRONG: Who is a DHEC employee.

2 THE COURT: Okay.

3 (Petitioner's Exhibit Number 28 was introduced into  
4 the record at this time.)

5 MS. ARMSTRONG: I'm putting them up on the screen.

6 This is what Exhibit 28 looks like.

7 THE COURT: Okay. Any objection?

8 MR. WALKER: Your Honor, if it's part of the  
9 deposition that was admitted, then it is part of  
10 the record, as I understand it, and you admitted  
11 the deposition, correct? So it would be part of  
12 the record. We'll wait to hear what's being  
13 asked about what some other witness wrote down  
14 and see what comes out.

15 MS. ARMSTRONG: I don't have the same level of  
16 confidence that Mr. Walker has that it's coming  
17 into evidence because in the deposition  
18 transcript, it's called -- it's marked for  
19 demonstrative purposes or something like that.

20 THE COURT: Well, also, you preserved your right to  
21 object ---

22 MR. WALKER: Well, obviously, I'm under -- I was  
23 under the misimpression that it was marked and  
24 identified and basically entered into the  
25 record.



1 THE COURT: Well, you also preserved your right to  
2 object to components of the 30(b)(6) deposition.

3 MR. WALKER: We did. We did.

4 THE COURT: So, with that said ---

5 MR. WALKER: We'll just let it ---

6 THE COURT: With that said, it would present an  
7 interesting corollary that it's part of the  
8 record until you object to it down the road and  
9 get around it. So I'm going to rule now. Is  
10 there any objection?

11 MR. WALKER: Well, I think we need to have a question  
12 and I'm waiting to hear what the question is and  
13 there probably will be an objection.

14 THE COURT: No, the request is to admit this  
15 document.

16 MR. WALKER: Oh.

17 THE COURT: Any objection? I know that you may have  
18 objections down the road to questions.

19 MR. WALKER: Well, I do object to it. I think it's  
20 hearsay.

21 THE COURT: All right.

22 MR. CHURDAR: And, Your Honor, I mean, while there  
23 haven't ---

24 MR. WALKER: And -- I'm sorry.

25 MR. CHURDAR: While there haven't been any questions



1 or explanations in court, the issue that was  
2 brought up earlier about the de novo review of  
3 authority of -- and what goes on and why staff  
4 makes decisions, you said DHEC is not on, you  
5 know, trial, it's the DHEC decision, that's the  
6 very heart of what this exhibit gets to is that  
7 very issue.

8 **THE COURT:** All right.

9 **MR. WALKER:** And I join in that.

10 **THE COURT:** Okay. It's an objection right now.  
11 Let's just address the hearsay. They contend  
12 it's hearsay.

13 **MS. ARMSTRONG:** So the witness was on the stand  
14 testifying essentially because she was in a  
15 deposition, she testified that those were her  
16 notes and that she wrote those notes and that  
17 was her -- that she basically testified that  
18 that was her words.

19 **THE COURT:** Okay. The exception to the hearsay rule  
20 then that you're relying upon, that's all I  
21 really want to know.

22 **MS. ARMSTRONG:** Well, it's not hearsay.

23 **THE COURT:** Because?

24 **MS. ARMSTRONG:** Well, it's an ---

25 **THE COURT:** I recognize it. When I said exception,



1 I do recognize that there are under Rule 802 or  
2 801 that there are certain components of hearsay  
3 which are not hearsay because they're under 801  
4 ---

5 **MS. ARMSTRONG:** Sir, I mean, the other way this comes  
6 in, this document comes in is, as Mr. Churdar  
7 pointed out, is directly relevant to the  
8 Department's decision-making and it's an  
9 admission of a party opponent.

10 **THE COURT:** That's not what I was asking. All right.  
11 802 is what I should have said, I think. All  
12 right. All these definitions. Yeah, okay. It  
13 sets forth that it's an admission of a party  
14 informant under 801. Response?

15 **MR. WALKER:** Was she ---

16 **THE COURT:** 30(b)(6).

17 **MR. WALKER:** The other aspect of it deals with what  
18 she's saying in the memo which we have a de novo  
19 hearing, and she's talking about her  
20 understanding of the scope of or what she's to  
21 do in applying the CZMP provision dealing with  
22 cumulative impacts and that is for this Court to  
23 determine in a de novo hearing, so we don't  
24 think it's relevant. It doesn't tend to prove  
25 or disprove any fact at issue because it doesn't



1 go to any of the facts before this Court. How  
2 to apply the regulation is for the Court to  
3 decide as a matter of law, not for them to tell  
4 you how.

5 **THE COURT:** Well, I'll agree with that last part, but  
6 ... Anything else Mr. Churdar?

7 **MR. CHURDAR:** I'm sorry, Your Honor. I was -- I was  
8 looking at Ms. Hicks' deposition.

9 **RULING OF THE COURT:**

10 **THE COURT:** Okay. That's fine. I'm admitting it  
11 only as statements as to -- to the 30(b)(6)  
12 deponent's view of the decision in this case.  
13 And if it's irrelevant, as you contend, then it  
14 should not be very prejudicial. It's admitted.  
15 **(Petitioner's Exhibit Number 28 was admitted into**  
16 **evidence).**

17 **MS. ARMSTRONG:** I'm sorry, Your Honor. I don't know  
18 that I entirely understand your ruling because  
19 this is being admitted regardless of whether  
20 it's a 30(b)(6) deponent or not; the person who  
21 wrote it has authenticated it and we are  
22 introducing it as an admission of a party  
23 opponent.

24 **THE COURT:** I was including the 30(b)(6) part to  
25 support my ruling, but not to limit the ruling.



1 In other words, I was supporting why I ---

2 **MS. ARMSTRONG:** Okay.

3 **THE COURT:** --- I made the decision.

4 **MS. ARMSTRONG:** Does the Court see any limitations  
5 aside from me ---

6 **THE COURT:** No, the 30(b)(6) was not a limitation.

7 **MS. ARMSTRONG:** --- are there any limitations? Okay.

8 Okay. I just wanted to make sure. Obviously,  
9 I understood your ---

10 **THE COURT:** Yeah.

11 **MS. ARMSTRONG:** --- you're going to weigh it, but ---

12 **THE COURT:** Yeah.

13 Q: So, Mr. Eiser, looking at Petitioner's Exhibit  
14 Number 28 that contains -- it really speaks for  
15 itself, indicates that there was more direction  
16 regarding Cape Charles to limit review only to  
17 that which is occurring in the clearing limits  
18 and do not evaluate cumulative impacts. When  
19 you were working at the Department, did you ever  
20 receive direction from the board in that regard?

21 **MR. WALKER:** Objection. The question's what happened  
22 in this case, not what went on in some other  
23 case.

24 **THE COURT:** I'm going to sustain that unless you can  
25 ---



1 **MS. ARMSTRONG:** Your Honor, to the extent that we are  
2 able to show that the Department treated this  
3 particular permit application differently than  
4 it normally would treat a permit application  
5 under these standards is absolutely relevant.

6 **THE COURT:** I disagree on that because, again, like  
7 I said, I'm not -- and you agree, that I'm not  
8 here to try the Department. So I think that's  
9 an element of impuning the Department. Unless  
10 you're trying to -- no, because then -- that  
11 would be something that -- you're not cross-  
12 examining anybody right now, so I would sustain  
13 the objection.

14 **MS. ARMSTRONG:** Your Honor, I think this document  
15 gets to applying the policies that are at issue  
16 in this case.

17 **THE COURT:** Well, that's a different ground. That's  
18 a different ground than what you said earlier,  
19 so what do you mean by that?

20 **MS. ARMSTRONG:** Well, how the regulation is  
21 interpreted and applied.

22 **THE COURT:** Now, you just said this document or the  
23 question you asked of him? Because this  
24 document is in evidence, so you're -- that's  
25 settled.



1 **MS. ARMSTRONG:** Right. The question that I was  
2 asking him and the agency's entitled to  
3 deference in its interpretation and so what that  
4 interpretation is is certainly relevant. This  
5 Court -- that's the agency ---

6 **THE COURT:** So the agency's -- the agency's entitled  
7 to deference regarding anything -- any  
8 interpretation of a regulation which is  
9 ambiguous. And I -- but I don't know how that  
10 -- his question you made of him is addressing --  
11 well, there's been no foundation laid on that,  
12 that's what you're addressing. So I sustain the  
13 objection.

14 **MS. ARMSTRONG:** Your Honor, may I have just a moment?

15 **(Off the record discussion)**

16 **Q:** Mr. Eiser, I'm going to -- the exhibits on the  
17 bottom are a little bit more difficult to get  
18 out. I'm going to hand you what's been marked  
19 as Petitioner's Exhibit Number 36.

20 **(Petitioner's Exhibit Number 36 was introduced into**  
21 **the record at this time.)**

22 **A:** All right.

23 **Q:** Are you familiar with this document, Mr. Eiser?

24 **A:** Yes.

25 **Q:** And how are you -- what is this? How are you





1 familiar with it?

2 A: This is the 2008 critical area permit for the  
3 originally requested bulkhead along the Kiawah  
4 River shoreline.

5 Q: And are you the person who authored this ---

6 A: Yes.

7 Q: --- Exhibit? And when you -- did you look at,  
8 did the Department, did you look at the  
9 cumulative effects in 2008?

10 A: Yes.

11 Q: Did you look at only what was going on in the  
12 actual clearing limits for this bulkhead  
13 revetment structure?

14 A: No.

15 Q: And did you look at the general character of the  
16 area?

17 A: Yes.

18 Q: What physically did you do when you went out on  
19 the site? How did you determine what the area  
20 is? What did you do?

21 A: Well, during multiple site visits for this  
22 critical area permit, I went to specifically  
23 observe the erosional section of shoreline where  
24 they were proposing to build the structure to  
25 observe how it might currently be in use by the



1 public and then to observe the character of  
2 Captain Sam's Spit.

3 Q: And what did you physically do to observe the  
4 character?

5 A: Walk around and take pictures, make  
6 observations.

7 Q: So you made that determination on site on the  
8 ground?

9 A: Yes.

10 Q: And when you were making that determination of  
11 the character of the area, how far did your  
12 observations extend?

13 A: As far down as the end of the proposed structure  
14 for the purposes of direct impacts of the  
15 structure and then as far down as the end of  
16 Captain Sam's Spit as far as the character of  
17 the area.

18 **MS. ARMSTRONG:** I don't have any other questions for  
19 this witness.

20 **THE COURT:** Mr. Walker?

21 **MR. WALKER:** Thank you very much.

22 **MS. ARMSTRONG:** Would it be possible just to take a  
23 five minute break?

24 **THE COURT:** Yes, it would be possible.

25 **MS. ARMSTRONG:** Can we, please?

