SOAH DOCKET NO. 582-14-3597
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APPLICATION BY PINTAIL LANDFILL, LLC FOR NEW MUNICIPAL SOLID WASTE PERMIT NO. 2377	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

ORAL DEPOSITION OF

STEFAN STAMOULIS

December 15, 2014

Volume 1

ORAL DEPOSITION OF STEFAN STAMOULIS, Volume 1, produced as a witness at the instance of City of Hempstead, and duly sworn, was taken in the above-styled and numbered cause on the 15th of December, 2014, from 11:06 a.m. to 4:04 p.m., before Julie A. Jordan, CSR, RPR, in and for the State of Texas, reported by machine shorthand, at the law offices of Kelly Hart & Hallman LLP, 301 Congress Avenue, Suite 2000, Austin, Texas 78701, pursuant to the Texas Rules of Civil Procedure and any provisions stated on the record or attached hereto.

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ALSO PRESENT:

Dr. Philip C. Bennett

INDEX

EXHIBITS

EXHIBITS (Continued)

STEFAN STAMOULIS,
having been first duly sworn, testified as follows:

EXAMINATION

BY MS. JACOBS:

Q. Mr. Stamoulis --

A. Stefan is fine.

Q. Stefan. Thank you so much. You can call me Monica. My name is Monica Jacobs. I represent the City of Hempstead.

A. Okay.

Q. Are you familiar with the process that you are now a part of, and by that I mean the contested case hearing regarding Pintail's landfill application?

A. Somewhat, yeah.

Q. Okay.

A. I mean, yeah. I mean, I -- yeah.

Q. And have you taken your deposition before?

A. No.

Q. Okay. So let me tell you, this is -- some people do it differently, but the way that I will do this is, as we discussed before, if at any point you need to take a break for any reason, you just let me know.

A. (Indicating.)

Q. If I say anything that is confusing to you in

6

any way or you want me to clarify something, define something, stop me and let me know.
A. Yes, ma'am.
Q. Okay. And these are the sum total of the documents that you brought with you today?
A. Sum total.
Q. Okay. Great. And I'm going to hand you a copy of the notice of intent to take your oral deposition of Stefan Stamoulis.
A. Uh-huh.
Q. And ask you if you have seen a copy of that. We can mark that Exhibit 1, please.
A. I haven't seen it. Oh, I mean, I'm looking at it now, but --
(Exhibit 1 marked)
Q. (BY MS. JACOBS) Yeah. If you can wait to talk until she finishes doing her little exhibits just because she has trouble catching what you're saying.
THE WITNESS: I'm sorry.
THE REPORTER: That's okay.
Q. (BY MS. JACOBS) That's no problem.
So if you haven't seen this deposition notice, how did you come to appear here today?
A. Someone called my office and I think it was that lady right there (indicating).

7

Q. Uh-huh.
A. And when they did, I called my client, who in turn called the client's attorney.
Q. And who is your client?
A. My client is Biggs and Mathews.
Q. Okay. And who did you speak with at Biggs and Mathews?
A. Mike Snyder.
Q. And just so we're on the same page in terms of the terms that I anticipate using --
A. Okay.
Q. -- here this deposition notice references application by Pintail Landfill, LLC. When we're talking about "the applicant" -- when I reference "the applicant," that's who I'm talking about. And for New Municipal Solid Waste Permit No. 2377 --
A. Uh-huh.
Q. -- if I talk about "the permit" or "the application," that's what I'm referring to --
A. Okay.
Q. -- is Permit No. 2377.
A. Okay.
Q. And do you -- have you reviewed any portions of the application for this landfill filed by Pintail?
A. I looked at draft logs a couple years back,

8

but that was it.
Q. And draft logs for what drillings or what holes?
A. The ones I drill out in the field.
Q. And so you're talking about all the borings that you did for Pintail, the piezometers, all of those borings?
A. Correct.
Q. And the draft logs, were those something that you created?
A. I created field logs. The client created the draft logs.
Q. And what is the difference between field logs and --
A. The -- the logs?
Q. Yeah.
A. Field logs are logs taken out in the field. The logs they had were supplemented with laboratory data.
Q. And so when you reviewed those draft logs, did you then provide corrections or -- what was the purpose of your review of those draft logs?
A. To make sure that the data that I had given them was correct.
Q. Correct according to your field logs or

9

correct in what way?
A. Correct according to my field logs.
Q. Okay. And have you been asked by your client, Biggs and Mathews, or Mr. Ryan here or anybody else associated with this project to produce those draft field logs?
A. I don't have them.
Q. Okay.
A. I mean, I don't --
Q. Who --
A. Once --
Q. Who has them?
A. Biggs and Mathews.
Q. Okay. And you didn't retain any copies of those?
A. (Nodding.) No. I guess I need to say -- give you an answer instead of shaking my head. I'm sorry. Okay. No.
Q. That's okay.
All right. I'm going to show you what we're going to call Exhibit No. 2.
A. Uh-huh.
(Exhibit 2 marked)
MS. JACOBS: And Diana is going to provide everybody else with a copy of this.

10

Q. (BY MS. JACOBS) So Exhibit No. 2 --
MR. RYAN: Thank you.
Q. (BY MS. JACOBS) Can you just describe or identify what this document is?
A. It's a -- kind of a bio.
Q. And did you draft this or author this?
A. I did.
Q. And is the information contained in this biography that is Exhibit 2 correct?
A. It's been updated.
Q. And so parts have been updated?
A. It says I hold two patents. I hold three. I'm not married to Sandy anymore and unfortunately I don't have my two dogs anymore.
Q. I'm sorry to hear that.
A. Yeah, me too.
Q. Let's look at a couple of aspects of this. It says --
A. Uh-huh.
Q. -- in Paragraph 1 that you have "25 years of experience dealing with groundwater issues"?
A. Yes, ma'am.
Q. When you say "groundwater issues," what do you mean?
A. It means I install monitor wells.

11

Q. That's the sort of sum total of what you mean by that? And I realize that some of the questions that I ask may seem maybe difficult for you to understand why I'm asking them. But just be patient with me. Okay?
A. Yes, ma'am. Yeah. No, absolutely.
Q. All right.
A. Yeah.
Q. Okay.
A. Yeah. We install and sample groundwater.
Q. Okay. And it says in the second paragraph that you "have installed more monitoring wells at landfills than any other company or individual in the state of Texas"?
A. Yes, ma'am.
Q. And -- and when you say "monitoring wells," does that include the piezometers?
A. Yes, ma'am.
Q. Okay. And that you are currently providing "groundwater consulting services to over 50 facilities in Texas"?
A. I think at the time we had 50. I think it's less than that now.
Q. And when you mean -- when you say "facilities," are those landfills?
A. Yes, ma'am.

12

Q. Are you a Texas-licensed geoscientist?
A. Yes, ma'am.
Q. Are you -- and this may be the same thing and I'm not sure. But are you a Texas-licensed geologist?
A. It's classified geoscientist, but it's in geology, yes, ma'am.
Q. And you're currently licensed?
A. Yes, ma'am.
Q. And what is your license number?
A. 333.
Q. That's easy.
A. Yeah.
Q. And when did you --
A. Half the devil.
Q. And when did you obtain your license?
A. Whenever they came out with the -- I was one of the early ones, 333 -- when they came out with the registration.
Q. And do you --
A. I can't remember the year.
Q. Okay. And have you -- are you licensed in any other state?
A. Applied for a license in Louisiana.
Q. Okay. And did you --
A. It's pending.

13

Q. It's pending?
A. Not finalized.
Q. Okay. And are you self-employed?
A. I am.
Q. Do you work for a registered geoscientist firm?
A. Hydrogeologic/Environmental Testing.
Q. And that's your firm?
A. It is.
Q. And are you a sole proprietor?
A. It's a corporation.
Q. Do you know what kind of corporation?
A. Like S or a C?
Q. Uh-huh?
A. Is what you're asking?
Q. Yes.
A. I believe it's a C.
Q. And do you know what your firm's registration number is?
A. No.
Q. Is your -- and you -- but you said your firm is registered?
A. Yes.
Q. These are not trick questions.
A. No. I --

14

Q. You're looking at me like this is a trick. These are not trick questions.
A. No, no. I mean, I --
Q. I'm honestly seeking information here.
A. No. And I may have -- I think we -- I was remembering if we paid the fee. I think it's registered.
Q. Gotcha. And, you know, if you at any point are unsure or don't know the answer to a question, that is perfectly fine.
A. Okay.
Q. You just tell me.
A. Yes, ma'am.
Q. Do you remember when your firm was first registered?
A. No.
Q. Okay. Do you know whether at the time that you did this work for Biggs and Mathews for Pintail whether you were working at a Texas-registered geoscientist firm? In other words --
A. Don't know.
Q. Okay. And are you also a licensed well driller?
A. I am.
Q. And do you recall how long you've been

15

licensed?
A. Don't recall.
Q. I'm going to give you what I believe -- and I'll have you identify this for us -- but I believe these are printouts from your company's website and I'm going to have the court reporter mark that Exhibit 3.
(Exhibit 3 marked)
Q. (BY MS. JACOBS) And could you look through that and just identify that document for me or identify those pages, if you will.
A. (Reviewing document.)
Q. Do you want to identify that?
A. Looks like it, yes, ma'am.
Q. Looks like your website?
A. Yeah. I haven't seen my website in a while. Yeah.
Q. Printouts from your website?
A. Yeah.
Q. You probably don't need to pay much attention to marketing.
A. Yeah.
Q. So if we could look on Page 3.
A. Uh-huh.
Q. And this is under the "Services" section.
A. Uh-huh.

16

Q. And I've got a highlighted statement at the bottom.
A. Uh-huh.
Q. "HE/T has assembled a qualified team of professionals to achieve well/piezometer installations, soil and groundwater sample acquisitions, statistical evaluation and interpretation of subsurface and hydrogeological conditions as required by State and/or Federal regulations."
Do you see that statement?
A. Yes, ma'am.
Q. And what I wanted to ask you is to get a better idea of your experience because you've obviously been doing this for at least 25 years. You've been constructing these monitoring wells, if I'm understanding you correctly, for at least 25 years, is that right?
A. Yes, ma'am.
Q. So when you say that your company "has assembled a qualified team of professionals" --
A. Uh-huh.
Q. -- "to achieve well/piezometer installation," are you one of those qualified team members in that regard?
A. Yes, ma'am.

17

Q. And how -- do you have, like, an estimation of how many piezometers you have installed over the years, ballpark figure?
A. No. A bunch.
Q. Do you consider yourself -- and I think this probably answers itself -- but do you consider yourself qualified as a professional geoscientist to install these piezometers?
A. Yes.
Q. And you consider you have a certain level of expertise in that field?
A. Yes.
Q. And I'm going to ask you the same question about the soil and groundwater sample acquisition --
A. Uh-huh.
Q. -- that's referenced in Exhibit 3.
You are one of the qualified team members of professionals regarding soil and groundwater sample acquisition?
A. Yes.
Q. And do you consider yourself qualified as a professional geoscientist to take these soil and groundwater samples?
A. Yes.
Q. And do you consider that you have a level of

18

expertise in doing that?
A. Yes.
Q. Do you have any idea how many samples you've taken over the years?
A. No.
Q. You think it's a lot?
A. Yeah.
Q. And same thing with this next one with the "statistical evaluation and interpretation of subsurface and hydrogeological conditions."
A. Uh-huh.
Q. Is this something -- is this an area that you also feel that you are an expert in?
A. No.
Q. Okay. So you're not one of the qualified team members?
A. No. We team with people to do that statistical analysis. Yeah.
Q. Okay. And so who do you team with to do the statistical analysis?
A. Biggs and Mathews. I think there is a firm in -- that we deal with here in Austin, Pastor, Wheeler and somebody.
Q. Okay. So the statistical evalu- --
A. You know, various -- various firms.

19

Q. So the statistical evaluation --
A. We don't do it inhouse.
Q. You don't do it inhouse. Okay.
How about the "interpretation of subsurface and hydrogeological conditions"? Do you do that inhouse?
A. No.
Q. Okay. And what do you -- what -- how do you -- what does that phrase mean in this context here? What do you -- you didn't write this?
A. Someone else wrote it.
Q. Okay. So -- well, what does -- regardless of who wrote it --
A. Yeah.
Q. -- what does "interpretation of subsurface and hydrogeological conditions" mean to you? What does that consist of?
A. Identification of soils, identification of aquifers, movement of groundwater.
Q. And so -- and would you include, I guess, in identification of soils -- is that what you do when you create a log?
A. Identification of soils?
Q. Yes.
A. Describing soils?

20

Q. Yes.
A. In a field log? Yes.
Q. And how many borings would you or how many field logs would you estimate that you have created over the years?
A. A bunch.
Q. Hundreds?
A. Hundreds.
Q. And -- and when you say "movement of groundwater" as being part of that interpretation --
A. Yes, ma'am.
Q. -- of the subsurface and hydrogeological conditions, how do you -- what aspect of determining the movement of groundwater is within your area of expertise?
A. Say again.
Q. We're talking about --
A. Can I determine which way the groundwater is going?
Q. No. What I'm asking is -- well, yeah. But -- sure, we can start there.
A. All you need is three points to figure out which way groundwater is moving.
Q. Okay. And you would get those three points from?

21

A. Piezometers.
Q. Okay. And what I was trying to ask is -- because we're -- what I'm trying to flesh out here is what are your areas of expertise? What are the things that you have the most experience in? What do you feel confident in your ability to accomplish because there's some things that might be within your abilities and your experience and there's going to be some things that won't be. And so I'm trying to determine from this phrase "interpretation of subsurface and hydrogeologic conditions," what are the things that you consider yourself qualified to do as a professional geoscientist.
And so the question I had is, with respect to the movement of groundwater, which you have now clarified how you would achieve that, finding that, are there any other aspects of the -- of determining how groundwater moves in the subsurface that you feel you have experience and are qualified to do? Any other testing related to that?
A. We do, you know, slug aquifer testing.
Q. Okay. And with respect to slug testing, do you -- is that something that you do often?
A. Yeah.
Q. Okay. I mean, can you be a little more specific? How often? How many times a year would you

22

guess that you do slug testing?
A. Depends on how many projects we're working on a year. So --
Q. Well, and I'm not asking you to speculate about the future. I'm asking you to look back over your 25 years, to the best of your ability, and say, Hey, okay. I typically do X number of slug tests a year. Or if that's not a good measure, then you can think of some other way to describe it for me.
A. I'm trying to figure out how to describe this. I guess, you know -- I don't know how many a year. I really don't.
Q. Okay. Over the course of your career, would you say you've done it ten times?
A. More.
Q. 20 times?
A. More.
Q. 50 times?
A. Probably -- I mean, less.
Q. Okay. So somewhere between 20 and 50?
A. Yes, ma'am.
Q. And administering these slug tests, this is something that you feel is within your arena of expertise and experience?
A. Field data acquisition, yes.

23

Q. Okay. We're going to start talking about the -- and we'll probably go as best I can in chronological order.
A. Okay.
Q. We're going to talk about the work that you've specifically done for this landfill application.
A. Okay.
Q. And I realize you were -- if I'm understanding you correctly, you consider Biggs and Mathews to be your client?
A. Took direction from them.
Q. Okay. So I'll try to specify when I'm talking about, you know --
A. That's fine.
Q. -- Biggs and Mathews versus Pintail.
A. That's fine.
Q. Did you ever take any direction from anyone with Pintail?
A. No.
Q. Did you ever talk to anybody with Pintail?
A. Yeah.
Q. Okay. And what kinds of things -- if you weren't taking direction from them, what kinds of things were you talking with them about?
A. They came out to the site and they had a

24

representative on site and we talked about riding -- driving dirt bikes and stuff.
Q. Very pertinent, relevant information.
A. It's -- yeah. It was --
Q. And who was that representative?
A. Thad. I can't remember his last name. It's been too many years.
Q. And anyone else with Pintail that you recall meeting or talking to?
A. I met some people there on -- on the site on the facility, but I don't remember who they were. I mean, their representatives were coming and going. I don't...
Q. And have you talked to Mr. Ryan about the project or taken any direction from Mr. Ryan or anyone with his firm?
A. About the project or about my deposition?
Q. Well, we can start with the project.
A. No.
Q. Okay. And what did you talk with Mr. Ryan about regarding your deposition?
A. I had no idea what a deposition -- or what my role in this deposition was and I discussed that with him. Wanted to see if I should bring my own attorney, that kind of stuff.

25

Q. And so you were not informed by Biggs and Matthews or anyone else that you might be called upon in the course of this type of proceeding?
A. I think the first time is when I got a phone call. I don't know. I think so.
Q. You mean from Ms. Nichols?
A. Yes, ma'am.
Q. Okay. Let's talk about what I understand are -- you called exploratory borings.
You did six initial exploratory borings?
A. Yes, ma'am.
Q. Is that the term that you use to describe those?
A. Yeah.
Q. Okay. And the six borings I'm talking about, just to be clear, are at the site that Pintail has designated as being its potential landfill site. And is -- did you also refer to that as being -- and I don't know if I'm going to say this right -- the Marengo tract?
A. The Marengo tract. Uh-huh.
Q. Okay. So if I say "Marengo tract," then you know that --
A. Yeah. Right. Yeah. Yeah.
Q. -- I'm talking about the proposed landfill

26

site?
A. We're talking about the site.
Q. Right.
Did you submit any kind of written proposal regarding to Biggs and Mathews or to anyone with Pintail or anyone else regarding this initial drilling of the exploratory bore holes?
A. I don't know.
Q. You don't remember?
A. I don't remember.
Q. And do you remember if there was any discussion about drilling on any other tracts?
A. No. I don't remember.
Q. Okay. What I will try to do is when I have them, I will try to provide whatever documents I can to help refresh your memory.
A. Yeah. Yeah.
Q. We're going to label this next document Exhibit No. 4.
(Exhibit 4 marked)
Q. (BY MS. JACOBS) And this is -- well, I'll first just ask you if you've seen this document before?
MS. JACOBS: We can go off the record while he reviews it.
(Recess from 11:33 a.m. to 11:34 a.m.)

27

A. Yeah. I don't remember this document.
Q. (BY MS. JACOBS) Okay. And would you agree with me this appears to be an e-mail from Mike Snyder to William F. Hodges dated November 24th, 2010?
A. That's what it looks like.
Q. And for the record, we're referring to a document produced by the applicant Bates labeled 001263.
So after looking at this e-mail, do you have any recollection of discussing these borings on the what's call the Peterson tract?
A. I don't -- I don't remember that.
Q. And that's perfectly okay.
A. Yeah. I don't -- I don't remember. I don't remember there being two tracts there. I really don't.
Q. Okay.
A. Maybe there was. I don't remember.
Q. It's not a problem.
Do you recall who picked the locations for these initial six exploratory borings?
A. My client Mike Snyder.
Q. And did you have any input in that selection process?
A. He wanted basic areas and I got within what I thought were those areas.
(Dr. Philip C. Bennett entered.)

28

Q. (BY MS. JACOBS) When you say "basic areas," can you be a little bit more specific?
A. He didn't want all six borings next to each other.
Q. Okay.
A. Yeah.
Q. So he gave you that direction and then did you pick the specific locations?
A. No. He -- I mean, basically -- basically he said, Here's the property. Get one close to the corners and one in the middle type deal. I mean, you know.
Q. Okay. So you picked -- so he gave you general direction about how to do it and then you went out and picked which exact locations you were going to do?
A. Basically, yeah.
Q. Did you -- did you verify with him in advance that you had gotten the appropriate locations before drilling them?
A. We probably talked about them once I looked at the site and said, Hey, I'm going to drill one here, here, her and here type deal for all six of them.
Q. Okay. And when you located these -- you picked these locations, how did you locate these exploratory boring locations when you were out in the field? And what I'm looking for is I'm assuming -- not

29

knowing anything about how you do your business, I'm assuming that when you get out there, you have to figure out, Okay. What specific location do I want to go to? And then you have to make some sort of record of, Here's where I'm at. Here's where I'm drilling this particular bore hole.
Is that right?
A. There's -- I mean, we took a GPS reading at the location.
Q. Okay.
A. Sure.
Q. What kind of GPS did you utilize?
A. Handheld.
Q. Okay. And do you recall the brand?
A. Garmin.
Q. Okay. And do you know what kind of -- what model number?
A. No.
Q. Okay. And were you the person that did that, used the Garmin to locate --
A. Yeah. Yeah.
Q. -- exploratory boring locations?
A. Yeah. Uh-huh.
Q. Okay. And for these particular borings -- and it's my understanding that these borings are designated

30

EB-1 through EB-6.
Is that your recollection?
A. Yes, ma'am.
Q. And do you recall how many borings there are -- there were? Is it -- does six sound right to you?
A. I think it is, yes, ma'am.
Q. Okay. Do you recall who picked the depths of these particular borings?
A. Mike Snyder.
Q. And what depth did he -- did he pick or depths did he pick?
A. I can't remember.
Q. Okay. I'm going to -- this is another one of those documents that we'll use to kind of --
A. Yeah.
Q. -- help refresh, because I do realize --
A. Yeah.
Q. -- this is a while back. I mean --
A. Right. Yeah.
Q. -- I don't remember what I did yesterday, so -- I'm going to -- be a document which we will mark Exhibit 5 and have you identify that for me.
(Exhibit 5 marked)
A. (Reviewing document.) Okay.

31

Q. (BY MS. JACOBS) And so can you identify the document that I just placed in front of you as Exhibit 5?
A. Yeah. It's one of the ones I brought in.
Q. That is correct. This actually is a version, though, that was produced by the applicant that has a Bates label number at the bottom.
A. Okay.
Q. And the Bates label number for the record is 001261.
A. Yes, ma'am.
Q. But you also did bring a copy, which I very much appreciate.
A. Uh-huh.
Q. And it look like this is a letter from you to Biggs and Mathews, attention Mike Snyder, dated December 16th, 2012, is that right?
A. Correct.
Q. Okay. And using this to refresh your memory, I'm going to ask you again what were the depths of the six bore holes that we're calling EB-1 through EB-6?
A. Five of them went to 60 foot and one went to 78.
Q. And do you recall -- I think it says in this letter that EB-1 is the one that went --

32

A. To 78.
Q. -- to 78.
Do you recall why that one went to 78 feet in depth as opposed to the 60 foot for the other ones?
A. I don't.
Q. Okay. And so when we're -- when -- in this letter when it says, "Borehole locations were estimated in the field," what -- is that just what we were just talking about where you --
A. Yeah.
Q. -- used the Garmin to locate it and then provide the --
A. Latitude and longitude are located on the logs.
Q. Okay. And the latitude, longitude, that's the information you got from the Garmin?
A. GPS reading, yes, ma'am.
Q. Great.
And did you -- have you had any discussions with anybody from the Texas Commission on Environmental Quality regarding this application?
A. No.
Q. And so you didn't receive any approval or anything for this aspect of the boring project from anyone else besides Biggs and Mathews, is that correct?

33

A. Correct.
Q. Okay. Let's talk a little bit about how you did some other things related to these exploratory borings.
Did you when you were out in the field -- I know we've talked about how you located where each boring was going to be.
Did you take a surface elevation reading at those points as well?
A. Probably not.
Q. Okay.
MS. JACOBS: Can we take a moment off the record?
(Recess from 11:42 a.m. to 11:43 a.m.)
Q. (BY MS. JACOBS) I'm going to hand you another stack of papers, and this is --
A. Uh-huh.
Q. -- again for purposes of sort of facilitating our discussion, refreshing your memory. And we're going to mark these Exhibit 5 -- 6.
A. 6.
Q. See, you're getting the hang of this.
(Exhibit 6 marked)
Q. (BY MS. JACOBS) And if you would take a moment and just look at those.

34

A. Uh-huh.

MS. JACOBS: And we can go off the record for this.

(Recess from 11:44 a.m. to 11:45 a.m.)

A. Yes, ma'am.

Q. (BY MS. JACOBS) Could you identify those -- that stack of documents I just handed you that we've marked Exhibit 6?

A. Yeah. Those are boring logs for EB-1 through EB-6.

Q. And so they're the logs for these exploratory borings that we've been talking about?

A. Yes, ma'am.

Q. And are these logs that you created?

A. No.

Q. And so is -- are we again dealing with the situation you were describing before where you did field logs?

A. Right.

Q. And then gave that information to Biggs and Mathews?

A. Correct.

Q. And just so I know what we're looking for, with field logs, are field logs done by hand?

A. They are.

35

Q. Okay. So when -- and this is part of my confusion here.

A. Okay.

Q. If we look at EB-1, the first page of the stack that I handed you and the log of the boring EB-1.

A. Uh-huh.

Q. And by the way, just for the record, this -- these are copies of these logs that we obtained from Pintail's technically complete December 10th, 2012, application.

A. Okay.

Q. And that's right here at the bottom. That's what that means.

A. Okay. Yes, ma'am.

Q. Here it says, Surface Elevation up at the top.

A. Yes, ma'am.

Q. And I understood you to say that you did not take surface elevation readings out in the field or you were not remembering whether you did, is that right?

A. No. I -- I didn't take the survey elevation out in the field. And I didn't take that northern and eastern out in the field. That was done by a surveyor.

Q. Okay. So a surveyor located the --

A. Afterwards, yes, ma'am.

Q. Afterwards. Okay.

36

So did -- do you know whether a surveyor went out there afterwards, out to the Marengo tract afterwards and located?

A. I'm sure they did.

Q. Okay. But you were not involved in that?

A. No, no. I didn't -- I didn't contract the surveyors, no.

Q. Okay. So looking at this, just so we're clear and I don't keep asking the same question here --

A. Uh-huh.

Q. -- still looking at this log of Boring No. EB-1 --

A. Yes, ma'am.

Q. -- what on this log -- which information on this log did you collect?

A. The sample interval. Okay. See where it says "Sample" (sic)?

Q. The second column?

A. Right. Uh-huh.

Q. Got it.

A. I collected that data.

Q. Okay.

A. The first sample we took was U1.

Q. Okay.

A. It was a sand. Okay?

37

Q. Got it.

A. All right. We took the hand penetrometer, which was a field test that you do to check the -- and so I took -- oh, and the symbol, they put that in. So I did "Sample," "MATERIAL DESCRIPTION," "Hand Penetrometer" or blow counts per foot column. I provided them with -- you know, I told them what the drilling method and the sampling method and my name and stuff. And basically, you know, gave them the remarks, which were notes for them to know, you know, where we set up and started washing the boring, where we were going to dry and where we were washing them.

Q. Got it. And so you -- and would that -- would those comments or description of the portions of the log for which you were responsible hold true for the rest of these exploratory boring logs as well? In other words, if I took you through EB-2, EB-3, EB-4, did you -- were you responsible for the --

A. Yeah. Yes. Yes, ma'am.

Q. -- same --

A. Yeah. Yeah.

Q. Okay.

A. Uh-huh. I mean, and -- I mean, the field logs are -- are -- you know, the position of the stuff is different. I mean, I gave them the completion depth and

38

when the boring was started and completed, but...
Q. All right. Okay. And is it -- and the same thing, were you responsible for -- let's turn to "LOG OF BORING NO. EB-2."
A. Okay.
Q. And were you responsible for the "Groundwater Observations" portion at the bottom of this document? And I'm looking down here where it -- you know, right by where it says, "Drilling Contractor, Drilling Method" and then --
A. Uh-huh.
Q. -- the next column over it looks like it says "Groundwater Observations."
A. Right. Right.
Q. And you were the person who observed -- made this observation about the groundwater depth?
A. Yeah.
Q. And was that also something that you noted in your field logs?
A. Yeah. Uh-huh.
Q. And did you take any geophysical logs of these --
A. No.
Q. -- six holes?
A. No.

39

Q. And is that something that you ever discussed with anybody from Biggs and Mathews, possibility of taking geophysical logs?
A. I didn't discuss it with them, no.
Q. And going back to this EB-2 -- log of EB-2 --
A. Uh-huh.
Q. -- when we were talking about the groundwater observations --
A. Uh-huh.
Q. -- how did you -- and again, I'm just talking about the exploratory borings.
A. Okay.
Q. How did you note that depth of groundwater?
A. We were drilling dry.
Q. Okay.
A. Okay?
Q. Okay.
A. We were drilling in dry conditions and we hit water. And if you look at the "Remarks" section, it says, "Dry augered to 30.0'." Okay? So at 28 foot right there in this particular case on this boring, EB-2, we hit water. There was water there. And we were in a sand. And we couldn't go past the 28- and 30-foot sample, so that's why we set up and washed.
Q. And you said you were drilling dry?

40

A. Right.
Q. What does --
A. Dry augered. We didn't have -- we weren't introducing water while drilling.
Q. And what does it mean "set up to wash"?
A. We set up a mud rotary pit and we mixed up mud and we started drilling from there --
Q. And so did --
A. -- because -- because we couldn't physically keep the hole open.
Q. Got it.
So you went dry as far as you could and then you went wet?
A. Right.
Q. And when you observed that groundwater at the depth of 28 feet -- and is that 28 feet below the surface of the ground surface?
A. Yes, ma'am.
Q. And when you observed that, how did you -- how did you know it was 28 feet? How did you measure that groundwater level?
A. I don't remember, but if it was noted at 28 foot, we measured it somehow or we -- while we were drilling, we realized at 28 foot that we -- it was saturated.

41

Q. How do you typically take water levels in bore holes? What kind of -- do you have an instrument like an E line or?
A. You can -- you can drop an E line down a hole if it's not caving. So yes.
Q. Well, I guess what I'm asking is that even if you don't remember particularly, is there -- I mean, what -- is it possible that you just eyeballed this depth of water?
A. I don't think I could see 28 foot down in a hole.
Q. Okay. That's kind of what I thought. That's why I was trying to get at the --
A. Yeah.
Q. -- instrumentation here.
A. Yeah.
Q. And when you were talking about how you had to dry auger and then you did -- I guess it says down at the bottom of EB-2 "Wet Rotary" --
A. Uh-huh.
Q. -- were you using a hollow stem auger or a solid stem?
A. We were using dry auger methods, so we had a bit on. So we were not using hollow stem, no.
Q. And did you take any other samples or -- did

42

you take any samples from the borings EB-1 through EB-6?
A. Did we take any samples?
Q. Yes.
A. (Reviewing document.) Yes.
Q. Okay. And are you -- when you're looking at Exhibit 6, are you referring to the second column from the left labeled "Samples"?
A. Yes.
Q. Did you take any other types of samples perhaps to send them off somewhere to be tested further?
A. Those were the samples that were taken to be tested.
Q. And so all of these samples were --
A. I -- I don't know if they were tested. They were sent to them.
Q. Okay.
A. I don't know if they were tested.
Q. And where did you send them?
A. Biggs and Mathews.
Q. And so when you were taking these samples --
A. Uh-huh.
Q. -- for what purposes were you taking the samples? And I'm again referring to the samples that you have noted on these logs of the borings EB-1 through EB-6.

43

A. What purpose were we taking samples for?
Q. Yes. Remember, just as you do not know about the law, I do not know about drilling borings.
A. How do you know I don't know about the law?
Q. Because you didn't know about depositions.
A. So this is the difference between a field log and a final log that we have here.
Q. Okay.
A. Samples are taken and they're tested in the laboratory and it verifies the description that we continue the field. Okay? So it's -- it's a verification.
Q. So are you saying that if -- for example, if I looked down here and I'm looking at log of boring No. EB-1 -- I'm still on Exhibit 6.
A. Uh-huh.
Q. And that first -- in the first notation I see in that sample column is U1.
A. Uh-huh.
Q. And does that mean the first sample you took?
A. Yes, ma'am.
Q. And U refers to what kind of sampling technique?
A. It was a -- that was a tube.
Q. A tube? And that's --

44

A. Shelby tube was pushed.
Q. Shelby tube?
A. Uh-huh. Shelby tube was pushed.
Q. Okay. And so are you saying that if you are in the field and you take that sample and you look at it or do whatever it is that you do with it in the field --
A. Uh-huh.
Q. -- that you then send that sample, you will note on your field log what you think it is with respect to the material description?
A. Correct.
Q. Is that right?
A. Uh-huh.
Q. And then you send the sample U1 and your field log to Biggs and Mathews?
A. Correct.
Q. And then Biggs and Mathews, as your -- you understand it, test the sample, U1, to see if it matches up with the material description you've provided in your field log?
A. They get property tests. Like for instance if it's a sand, they'll do a grain size distribution. If it's a clay, they find out what the liquid limits, plastic limits are. Looking at these logs, apparently no tests were sampled because they're not in the

45

columns. There -- I mean, there's no analysis done, liquid limit, unit dry weight --
Q. Uh-huh.
A. -- moisture content, plasticity index or percent passing 200 or the unconfined strength. So apparently I sent the logs and the samples to the lab, and for these particular ones, if these were the final logs -- you said they came out of the thing --
Q. Uh-huh.
A. -- they didn't run tests on these.
Q. Okay.
A. But that -- that's what would happen, yes.
Q. And so since they didn't run any other tests on these, is -- and you -- and the person that you deal with at Biggs and Mathews is Mike Snyder?
A. One of the people, yes, ma'am.
Q. One of the people?
A. Uh-huh.
Q. Who did you deal with with respect to these exploratory borings?
A. Snyder and I -- I can't remember the engineer on this project. It might have been -- I don't know. Whoever the engineer was.
Q. And the engineer --
A. I mainly deal with Snyder, but yeah --

46

Q. Okay.
A. -- one of the engineers -- field engineers. I don't --
Q. Okay. And does it ever happen -- I'm trying to understand the -- the process. I understand that this is a little bit of an iterative process here --
A. It is.
Q. -- as you get from field log to --
A. Final log.
Q. -- the final log.
A. Right.
Q. And I'm trying to understand sort of the back and forth between you and Mike Snyder, whoever it is at Biggs and Mathews.

So with this log where you're not doing any kind of testing, are you still -- are the samples still being used by Mike Snyder or whoever it is at Biggs and Mathews to, I guess, visually look at it and see whether they agree with your material description?
A. They come out to the sites and I know they look at them in the lab, so yeah.
Q. So I guess what I'm asking is, did you ever have a material description -- and it could be for these exploratory borings or for some of the other borings that you did for this particular project -- did you ever

47

have where you would send in a sample and you had a material description and Mike Snyder or somebody else came back and said, You know, instead of this "CLAY, silty, yellow and light brown, hard," as listed on EB-1, for example, I actually think it might be "CLAY, sandy, light brown, iron oxide staining." I think it might be something different.

Did you ever have that kind of give-and-take process where you're talking about the materials descriptions?
A. No. No.
Q. So pretty much -- so for you, what you identified the material as, that's what went into the final log? Whatever you -- and let me just clarify.

What you identified material as being a specific material as being in your field log, that's what ended up being in the final log as well, is that right?
A. They might have changed it. I don't think we had a discussion. I mean, if they --
Q. Okay.
A. -- took a test -- if they tested a sandy clay and turned ought to be a clay sand, by the lab tests or by their observations, you know, I mean, lab tests definitely tell you what -- what a material is. You

48

know, if something is on a fine line, I mean, I don't think I have a problem identifying a sand or a clay. Okay?
Q. Right. I guess what I'm asking is who had the final say?
A. Mike Snyder.
Q. Okay.
A. Mike Snyder has final say.
Q. Okay. And would it be -- would they have to check with you first before changing the material description if they thought it was different than --
A. No.
Q. -- what the laboratory testing was coming up with or --
A. No.
Q. Okay.
A. Would they have to check with me? No.
Q. And did you have an opportunity to -- and I may have already asked you this. If I did, I'm sorry.

Did you have an opportunity to check the final logs and compare them to your field logs?
A. When I sent the final logs and they did all their testing --
Q. Wait you just said "final logs." You mean --
A. I mean, when I did the field log --

49

Q. Okay.
A. -- they sent me a copy of the draft logs after the data was in and I looked at those. You know, I never saw the permit or the final final. I don't know what happened.
Q. And the draft logs that they sent you, is this what they sent you, this -- basically this -- what's in Exhibit 6 for these six borings? Did they look like this? Was it in this form?
A. The final logs?
Q. Yes. The draft logs that they sent you for your review?
A. Yes, ma'am.
Q. Okay. So in other words --
A. "In this form" meaning this format?
Q. This format.
A. Yes.
Q. Yeah. So you -- so in other words, you have reviewed -- or maybe -- or I don't want to put words in your mouth.

Do you feel pretty confident that you have reviewed -- if these were the final final ones, that you've reviewed the final final ones prior to this deposition, or if you just don't know?
A. Don't know.

50

Q. Okay. And you said before that -- and we can go back, actually. Let's go back to -- actually, I don't think we have that yet.

When you took the -- okay.

So you don't remember when you -- how -- the method that you utilized to take the water levels in these bore holes, is that right?

A. It was a tape measure, but I don't -- yeah.

Q. Okay. Is a tape measure the same thing as an E line or -- you're going to have to explain the real basic stuff for me because I --

A. No. You know --

Q. -- I don't know anything about this.

A. I probably didn't -- I probably didn't drop an electronic tape measure down an open hole. I probably used a tape measure with a plonker on it, you know.

Q. Okay. And did you -- we talked before about how it looks like with each one of these, EB-1 through EB-6 --

A. Uh-huh.

Q. -- that you used -- at some point you started with the dry augering --

A. Uh-huh.

Q. -- and then you had to switch to the wet rotary, is that right?

51

A. Yes.

Q. And when you were taking the water levels that we see in these logs in Exhibit 6, did you leave the portion of the drilling apparatus, the stem, in the bore hole?

A. No.

Q. Okay. So you took the solid stem auger --

A. The rods and the bit.

Q. -- the rods and the bit --

A. Uh-huh.

Q. -- out. And then did you allow the bore hole to sit there for a while before you took the water level measurement?

A. No. We pulled them out and took a reading.

Q. Okay. Now, I know that -- and so I'm going to talk about this project. As I look at it, it's sort of in three phases, and if you look at it differently, just let me know. But for convenience sake, it seems to me, from what I know about your involvement, that you first drilled six exploratory bore holes, which we've been talking about in Exhibit 6 --

A. Uh-huh.

Q. -- correct?

And then you had a series of other borings that you drilled --

52

A. Uh-huh.

Q. -- that were 36 in number.

A. Uh-huh.

Q. That's right?

A. Uh-huh. I believe so. Uh-huh.

Q. And then you also had a number of piezometers --

A. Piezometers.

Q. -- that you created and I think there were -- do you recall how many of those there were?

A. 15 maybe. I don't --

Q. And did you at any point, talking with Mike Snyder or anyone else -- did anyone consider making those initial bore holes -- any of those initial bore holes into the piezometers or what -- do you know what I'm saying?

A. No.

Q. So if you're going to create or install a piezometer --

A. Yes, ma'am.

Q. -- you first have to drill a hole, right?

A. Correct.

Q. So if you have a bore hole, you can go one of two ways in that context. One, you can drill the bore hole and plug it, or two, you can drill the bore hole

53

and create a piezometer, correct?

A. You could.

Q. Okay. For those initial 36 borings, did you turn any of those initial 36 borings into a piezometer?

A. They were grouted upon completion.

Q. Okay. So no?

A. No.

Q. Did you ever discuss with anyone turning any of those initial 36 instead of grouting them upon completion --

A. No.

Q. I was going to finish my question.

A. Okay. Go ahead.

Q. So you did not discuss with anybody turning any of those initial six into a piezometer?

A. No.

MS. NICHOLS: You said 6 or 36?

Q. (BY MS. JACOBS) Sorry. I --

A. Six.

Q. I said -- I should have said -- I meant 36 instead of 6. I --

A. Oh.

Q. And I should clarify that because I may have been doing that all along. The --

MS. JACOBS: Thank you, Diana.

54

Q. (BY MS. JACOBS) The -- when I'm talking about turning -- well, we can ask about --

For the initial EB-1 through EB-6, did you talk with anybody about turning any of those borings into piezometers?

A. No.

Q. Did you -- you're going to throw me off if you --

A. No. I'm sorry.

Q. -- nod at the time that you --

A. Yeah. Sorry.

Q. And again, just be patient. Okay?

A. Yeah. No. I --

Q. These may be very obvious questions and answers to you, but that's because you know them.

A. Okay.

Q. Right?

A. Yeah.

Q. And I'm not asking them to irritate you. I promise.

A. No, no. I'm -- I'm not irritated. Just --

Q. Okay.

A. It's like pulling teeth. Okay.

Q. It is.

A. Yeah.

55

Q. I feel that way too.

A. Yeah.

Q. So going to the 36 bore holes then, did anyone -- which were not exploratory ones, but the ones that you did after the exploratory ones on the Marengo tract -- did anybody talk to you about turning any of those into piezometers?

A. No.

Q. Okay. Do you realize that you nod yes when you're actually saying no?

A. Yes. (Nodding negatively at same time.)

Q. And you mentioned before that you had visits from people with Biggs and Mathews to the field?

A. Uh-huh.

Q. Did anybody from Biggs and Mathews come out to the Marengo tract when you were drilling the first six exploratory bore holes?

A. No.

Q. And who else was present in the field with you for the drilling of these first six exploratory bore holes?

A. Who like employees?

Q. Sure. Whoever was out there that was with you at the time.

A. I'm trying to remember who worked for me at the time. Maybe a guy named John Vallier I think was working for me.

56

Q. And what was his role in this project -- this portion of the project?

A. Field hand. I mean --

Q. Okay.

A. -- you know, he's just a roughneck.

Q. Okay. So he would be assisting you how?

A. Shovelling dirt.

Q. And so you were the one running the rig?

A. I think so.

Q. I'm going to hand you another document that is -- we're going to label Exhibit 7.

(Exhibit 7 marked)

Q. (BY MS. JACOBS) And I'm going to ask you to take a moment to review that and refresh your memory.

MS. JACOBS: And we can go off the record while he does that.

THE WITNESS: All right.

(Recess from 12:12 p.m. to 12:17 p.m.)

Q. (BY MS. JACOBS) And as you are looking at what has been marked Exhibit 7, can you identify that for me, please?

A. Yes. That was a proposal I gave to Mike Snyder.

57

Q. So it is a proposal -- and you -- did you draft this proposal?

A. I did.

Q. And it is regarding what?

A. Drilling of the geotechnical borings, piezometer installation, water level measurements and slug test --

Q. And --

A. -- for this project.

Q. Okay. And when you are referring to the geotechnical borings, is that the same as the 36 borings that we were referring to sort of Phase II of this project?

A. 36. Uh-huh.

Q. So let's just look at Page 1 of this.

A. Okay.

Q. And actually, first let me ask you.

Did you draft any other proposals regarding this -- what we're talking about here, the drilling of these, as you were calling them, geotechnical bore holes, the piezometer installation, water levels?

A. Any other proposals?

Q. Any other proposals or e-mails between you and Mike Snyder or anyone else at Biggs and Mathews that you

58

recall --
A. No, I don't recall.
Q. -- regarding this subject?
A. I don't recall.
Q. Okay. Let's start with Page 1.
A. Okay.
Q. And the second bullet on Page 1 you say, "Please have the surveyors provide us with" -- and it says "coordinated," but I think --
A. Yeah. It should be "coordinates."
Q. Okay. "Coordinates."
And so what do you -- what did you mean by that?
A. They were going to survey the locations, -- those locations.
Q. The locations for the 36 --
A. 36 borings.
Q. -- borings? Okay.
And just so that we have this in time sequence, this is after the drilling of the EB-1 through EB-6 exploratory borings, correct?
A. Correct.
Q. Okay. And so were you present when the surveyors did that -- or let me ask you, did the surveyors actually go out and survey the locations of

59

the 36 borings?
A. They did.
Q. Okay. And do you recall what methodology they used in doing that?
A. I don't.
Q. Okay. And so just so I understand this process, the surveyors provide you with what type of information? Is it latitude and longitudes for each boring or what form do they provide you this information?
A. I provided y'all with a sheet.
Q. Okay. And we can certainly go through that.
Is this the sheet you're referring to?
A. Yeah.
Q. Okay. Great. We will mark this Exhibit 8.
(Exhibit 8 marked)
Q. (BY MS. JACOBS) Okay. And so what has been marked Exhibit 8, can you identify this document, kind of tell me what it -- what I'm looking at here?
A. This is the coordinates that the surveyors gave me for the locations that they surveyed.
Q. And is this the document that they provided you?
A. I believe so.
Q. Okay. And did the surveyors then also take

60

the column -- we've got several columns here. I'm looking at the second one from the left which appears to be Ground Elevation, is that right?
A. Correct.
Q. And did they provide you with the ground elevation numbers?
A. They did.
Q. And the ground elevation numbers, is that -- does that relate to above mean sea level? Is that what you --
A. Natural ground elevation, no. It's above mean sea level.
Q. Okay. And when you went out and -- so you received this information. Then you go out to the field.
How do you locate --
A. There's a stake in the ground.
Q. -- these bore hole locations?
Okay. So they put a stake in the ground.
(Sotto voce discussion between Ms. Nichols and Ms. Jacobs)
MS. JACOBS: Yeah.
Q. (BY MS. JACOBS) You know, and --
A. What?
Q. I'm sorry. She was just reminding me if you

61

could let me finish my question --
A. I'm sorry.
Q. -- first. No, that's okay. It's just difficult for the court reporter to capture all of that.
THE WITNESS: I'm sorry. I'm sorry.
MS. NICHOLS: Smart people make that mistake all the time.
MS. JACOBS: That's right.
THE WITNESS: I'm sorry.
Q. (BY MS. JACOBS) Okay. So the -- I think you were saying that the way that you found these locations in the field was because the surveyor had marked them with stakes, is that correct?
A. Yes.
Q. Thank you.
And were any of the stakes -- I noticed you mentioned in Exhibit 7 that the cows will knock down the stakes and eat the flagging.
Did you have any issues with that with respect to these 36 locations?
A. No. I asked the -- Mike Snyder to have the surveyors put a metal T post in addition to the stakes.
Q. Smart.
And when you were out there -- so you had the stakes out there.

62

Did you verify or take any elevation measurements yourself?

A. I don't have the ability to take elevations, no.

Q. And is that just because you don't have the equipment?

A. I'm not a surveyor.

Q. Okay. Let's go back to Exhibit 7 --

A. Uh-huh.

Q. -- which is your proposal -- February 25th, 2011, proposal.

A. Uh-huh.

Q. And again, I'm using a copy that was produced to us by the applicant and that's why you see those numbers at the bottom, 1249 through 1251.

A. Uh-huh.

Q. You mentioned "The cost includes securing of water off-site," is that right?

A. Uh-huh.

Q. I'm still on Page 1.

A. Yes, ma'am.

Q. And where did you secure water from for purposes of these borings?

A. We purchased it from the -- I can't remember the name of the place. It was on the highway somewhere.

63

We purchased water.

Q. And was it -- when you say "on the highway," was this --

A. Some -- some business.

Q. A business that sells water?

A. Yeah. We bought water from a guy. Yeah. I don't think he was in the water selling business.

Q. Did you do any water quality testing of the water that you purchased from this business --

A. Lab testing? No.

Q. -- off the highway?

A. No.

Q. Well, even -- or even any kind of testing --

A. No.

Q. -- maybe in the field?

A. No. No.

Q. And have you ever done -- the kind of project that is laid out in Exhibit 7 where you are doing this geotechnical drilling -- well, let me start with geotechnical drilling.

Have you ever done that for any other proposed landfill site?

A. Yes.

Q. And do you recall which sites those were?

A. Yeah. Do you want to start in Houston?

64

Q. Yeah, that would be great.

A. Hawthorne Park Landfill, Atascosita Landfill, Baytown Landfill, Coastal Plains Landfill, Blue Ridge Landfill, Galveston County Landfill, Cougar Landfill, Fairbanks North Houston Landfill, Conroe Landfill, Security Landfill, Whispering Pines Landfill, Newton County Landfill. I should have written them down. Greenhouse Road Landfill, Green Shadows Landfill, Addicks-Fairbanks, Sprint Fort Bend County Landfill.

Q. And are these all Texas landfills?

A. Yeah. These are the ones in the Houston area.

Q. Okay. And just --

A. So -- yeah. Go ahead.

Q. Well, I was going to ask you to clarify. These are -- so for all the ones you've mentioned you have done the -- and I'm not sure what you would characterize this as, but the borings that are done to characterize the subsurface of these planned or proposed sites.

Is that how you would characterize the projects that you're talking about?

A. Yes.

Q. And for all of the -- you know, we just talked about the fact that the Exhibit 7 proposal includes several different components. You've got the 36 borings

65

drilling.

A. Uh-huh.

Q. You've got the piezometer installation.

A. Uh-huh.

Q. You've got the water levels and you've got the slug test.

A. Uh-huh.

Q. And so for each of the ones that you are referring to, did you do all of these components at each ones of the sites that you were just listing? For example --

A. I don't know about all, but most, yeah.

Q. Okay. So for most of them, you did the borings, the piezometer installation, water levels and slug tests?

A. Yeah.

Q. Majority of them?

A. Majority.

Q. Okay. And those were just the landfills projects that you -- that were located in the Houston area, is that right?

A. That I can remember.

Q. That you can remember.

So there may be more in the Houston area?

A. Yeah.

66

Q. Okay. And then presumably -- and you work all over the state of Texas?
A. Yes, ma'am.
Q. Okay. And do you -- generally, who do you work for? Who is your client generally?
A. Engineering firms.
Q. Engineering firms.
Do you work with Biggs and Mathews quite a bit?
A. I do.
Q. Okay. Can you estimate how many of these preliminary geological investigations you have completed for Biggs and Mathews?
A. No. I don't know.
Q. Do you think more than ten?
A. Oh, yes.
Q. Okay. More than 20?
A. Yeah.
Q. Okay. And going back to Exhibit 7 -- and I keep calling this sort of a -- the preliminary hydrogeological -- I don't even know what you want to call this.
What do you refer to what you're proposing in Exhibit 7? What do you call this sort of investigation? Just a preliminary site investigation?

67

A. Yeah.
Q. Okay. I'm just trying to figure out what I can call it so that you'll know what I'm talking about without going through this lengthy--
A. Just say the proposal.
Q. The proposal. Okay.
So are you saying in this proposal that the cost -- and I'm still on Page 1 --
A. Uh-huh.
Q. -- of Exhibit 7 -- the cost includes two field geologists?
A. Uh-huh.
Q. Did you actually end up -- well, I guess we can just go through the tasks on Page --
A. Uh-huh.
Q. -- 2. So looking at Task 1 --
A. Uh-huh.
Q. -- which says, "Drill and sample 36 borings" -- and these are the 36 borings that we've been talking about for a while now?
A. Yes, ma'am.
Q. And it says here that you were planning on or proposing to utilize two rigs.
Did you, in fact, utilize two rigs?
A. Yes, ma'am.

68

Q. Did you utilize more than two rigs?
A. Different rigs?
Q. No. No. I'm -- well, yeah, I guess -- I guess more than two rigs. More than two rig operators. I'm not so concerned about the equipment.
So did you have more than two rigs out there at one time?
A. No.
Q. Okay. And with respect to Task 1, again, did you actually end up using two geologists? I'm presuming that you were one of the geologists, is that right?
A. Yes.
Q. And did you use a second geologist?
A. Yes.
Q. And who was the second geologist?
A. Her name was Krystal. She was one of my employees. Nichols.
Q. And do you -- I guess can you give me some idea of Krystal's level of expertise.
Has she been -- is she a qualified geoscientist?
A. She was a, you know, field geologist in training. I don't think she had her P.G. when she left our firm. She, you know, was -- you know, she was educated in geology.

69

Q. But you don't think that she was a registered geoscientist?
A. No, I know she wasn't at the time.
Q. She wasn't at the time?
A. She wasn't at the time.
Q. Okay.
MS. JACOBS: We're going to take a break off the record.
(Recess from 12:34 p.m. to 12:35 p.m.)
Q. (BY MS. JACOBS) Okay. We're still on Exhibit 7.
A. Uh-huh.
Q. And you were saying that Krystal Nichols, who was working with you at the time, was the second geologist that was mentioned in this proposal with respect to Task No. 1?
A. Yes, ma'am.
Q. And under the last bullet under Task 1, you have "Delivery of samples to Mansfield."
And who is or what is Mansfield?
A. That's where Snyder's office is, Biggs and Mathews.
Q. So that means delivering to Biggs and Mathews -- delivering the samples to Biggs and Mathews?
A. We physically took them up there. Uh-huh.

70

Q. Great.
And do you know what tests were going to be performed on those samples?
A. What tests?
Q. Yes.
A. No.
Q. So in other words, when you were taking the samples, you didn't know the purpose of the samples?
A. No. Do I know what -- what kind of tests they were going to take?
Q. Yes.
A. Yes.
Q. What kind of tests?
A. Classification tests.
Q. Classification tests. Okay.
Anything --
A. I don't know what -- which ones they were going to test, but I know that -- what they were going to test for.
Q. Got it.
Any other types of tests that you understood were going to be conducted on the samples from these 36 borings?
A. No.
Q. Okay. Do you want -- actually, do you want us

71

to get you like a Kleenex?
A. Yeah. This -- no, I think I'm okay.
Q. Seems kind of rough. Okay.
A. I felt like I got something in my eye, but --
Q. It looks a little red.
A. It's a little red?
Q. Yeah.
A. Yeah.
Q. Okay. Well, just let us know. You don't have to use the napkins.
So let's move on to Task 2. I'm still on Page 2.
A. Uh-huh.
Q. And it looks like you've got -- it says, "Drilling and installations of 24 piezometers will consist of twelve (12) at 80', twelve (12) at 50'."
Is that right?
A. Uh-huh.
Q. Okay. And why did you suggest drilling 12 at 80 feet and 12 at 50 feet?
A. I didn't suggest it.
Q. Okay. I --
A. They gave me parameters and I gave them cost for those parameters.
Q. So Mike Snyder gave you the numbers, these

72

depths?
A. Yeah. They said, Estimate this at this and this at this.
Q. Okay.
A. We have to have some idea. So yeah.
Q. No. And I totally understand that. What was confusing me is that you said before that you drafted this. And so I'm -- what I'm trying to determine is what parts of this did you come up with and what parts, I guess, did Mike Snyder or someone else come up with. And I think what I heard you just say is that Mike Snyder gave you the parameters and said, What we were looking for in your estimate is 12 piezometers at 80 feet and 12 piezometers at 50 feet.
Is that what you recall?
A. I think so. Uh-huh.
Q. If Mike Snyder didn't give you those numbers, is there anybody else that would have given you those numbers?
A. No. And I didn't make them up. It had to come from Snyder.
Q. Okay. And again on Task 2 --
A. Uh-huh.
Q. -- when -- it says second bullet, "(2) geologist logging boreholes."

73

A. Mistake.
Q. Okay. And so was there only one geologist logging the bore holes?
A. Yes, ma'am.
Q. And that was you?
A. Me. Yes, ma'am.
Q. Okay. And so what did Krystal -- was Krystal also present during Task 2 and the piezometer installations?
A. She was probably present, yes, ma'am.
Q. Okay. And so what was her role in the field?
A. Assisting me.
Q. Can you be more specific? In other words, how would she typically assist you or how did she assist you in this project, in drilling and sampling the 36 bore holes, for example?
A. She was behind one rig and I was behind the other one.
Q. And when you say "behind one rig" --
A. Yeah. She was -- you know, they were drilling and we were drilling.
Q. Okay. So -- and what does that mean? What do you do when you're behind the rig? Somebody is -- somebody is running the rig, presumably?
A. Correct. Uh-huh.

74

Q. And that's somebody different than the geologist?
A. In this case, yes. At times it's not. At times it's not. I'll -- I may do both. But in this particular one, no. We had a subcontracted driller because I had two rigs going.
Q. Got it.
And so why would you -- why would you follow or stay with a rig in the field? In other words, why do they -- why do you not just send a rig off to drill something without a geologist with the rig, or maybe you do?
A. We're collecting samples.
Q. Ah, okay.
So with one rig -- and again, I'm still talking about the 36 borings.
A. Uh-huh.
Q. So with one rig, you were with one rig collecting samples and then Krystal Nichols was with the other rig collecting samples?
A. Correct.
Q. Okay. Now, with Task 2, however, you're saying that -- was she not out there with -- I guess maybe you didn't have two rigs with --
A. We had one rig. She was --

75

Q. One rig?
A. She was on site, but we had one rig.
Q. And were you with that rig?
A. Yes, ma'am.
Q. Continuously?
A. Continuously.
Q. Okay. So still with Task 2 --
A. Uh-huh.
Q. -- moving steadily through, you are talking about in the third bullet here the piezometer materials and you mentioned the screen.
A. Uh-huh.
Q. And -- and actually, let me ask you first --
A. Okay.
Q. You know, we had these -- going back up to the 24 proposed piezometers, you actually didn't end up doing 24, is that right?
A. I can't remember what the number was.
Q. Okay. Well, we'll get to --
A. Yeah.
Q. We'll get to that later.
A. Yeah.
Q. Okay. So going back to the screen, do you know what screen was used? And when I mean what screen, I'm referring to, you know, specifics like who made it,

76

where you got, that kind of thing.
A. I don't know who made it. I know who I bought it from.
Q. And who did you buy it from?
A. A supplier in Houston. Gulf Coast Monitoring.
Q. Okay. And it looks like here that -- what is this ".010 screen slot"? What does that mean?
A. That's the slot size of the screen.
Q. Slot size of the screen. Okay.
And why did you choose that particular slot size, or did you choose it?
A. Just from experience knowing that -- that in the area that it would work.
Q. So in the Houston area, experience has told you --
A. Surrounding, yeah.
Q. -- that .01 slot size is appropriate?
A. Yeah.
Q. And how do you -- what are the factors that go into choosing a screen slot size or another way of saying it is what factors do you consider? How do you know that that's going to work and what do you mean by "work"?
A. Your filter sand and your slot size are going to try to keep the fines out to make sure that this well

77

doesn't get silted in. So, you know, it -- it works. So, I mean, it's just from experience we know that it will keep the silt out.
Q. Okay. And so you are the one that picked the slot size?
A. Yes, ma'am.
Q. Okay.
A. Yes, ma'am.
Q. And what size were the screens?
A. Length?
Q. Yes.
A. I can't remember.
Q. Do you -- and we can look at some of the boring logs later when we talk about this. But do you remember -- I mean, what kind of factors do you consider when choosing a screen size -- screen length?
A. I didn't -- you know, I didn't --
Q. Or I guess I should ask you, did you pick the screen length in this instance?
A. No.
Q. Okay. And so who picked the screen --
A. Snyder.
Q. Okay. And did you use the same screen -- and I mean, like -- by same screen, I mean same slot size, same length for all of the --

78

A. I don't remember.
Q. Okay.
A. Yeah. I don't remember.
Q. What does this mean -- I'm looking at the same line on Exhibit 7 -- "20/40 sand"?
A. Uh-huh.
Q. What does that mean?
A. It's the grade of the sand.
Q. The grade of the sand. Okay.
And what do you do with the sand?
A. It's a filter media that goes in the bore hole to prevent fines from coming in the well.
Q. Okay. And then on the next bullet down, you say, "Development to 5.0 NTU's."
A. Uh-huh.
Q. What does that mean?
A. NTU's is a clarity of the water. So we -- we develop the well, purge water out of it until it got a clarity below 5.0.
Q. And how did you measure that clarity?
A. With a turbidity meter.
Q. And do you -- can you recall what meter you used, what the brand was?
A. Probably Hach, H-A-C-K (sic).
Q. And did you -- do you recall whether you were

79

able to develop to 5.0 NTUs for each of the piezometers that you ultimately --
A. Yes.
Q. -- developed?
Going back now to the next bullet --
A. Uh-huh.
Q. -- the -- when we're talking about the surface completions here, you have "gravel fill casings."
What are those?
A. Gravel fill casings are the upright protective casings. I put gravel in them to keep the PVC in the center.
Q. Okay. And so this is -- is this in the -- this is outside the --
A. Above ground.
Q. It's above ground. Got it.
Okay. So this is talking about the surface completion. Got it.
And then moving down to the last bullet on Task 2, you say, "Installation report for piezometers," and in parentheses "factual report."
What are you referring to there?
A. They did that.
Q. Who did what?
A. Snyder did it. I -- all I did was do the logs

80

on -- these are like template. That's why there's mistakes in it. These are template, like, proposals.
Q. Okay.
A. So I'm filling stuff in. So if -- you know, in this particular case, I didn't do an installation report. All I did was the -- I provided them with as-builts and water well drillers' logs.
Q. Got it.
And those are again those field logs you were referring to?
A. No.
Q. No. Okay.
So for the piezometers you did the water well driller logs?
A. Correct.
Q. Okay. Okay. Moving down to Task 3 --
A. Uh-huh.
Q. -- the monthly water level measurements.
A. Uh-huh.
Q. And what's your understanding of why you were taking monthly water level measurements for a period of one year?
A. Establish seasonal high and seasonal low water level.
Q. She's not going to know either, I can

81

guarantee you.
Okay. And so looking at Task 4, here we've got -- it says, "We will test a maximum of (8) piezometers."
And is this again just part of the form or is that something that was designed for this particular project?
A. You know all these are estimates, right?
Q. Right. Right. And so we're talking about this, but then I'm also asking you questions about what you actually did in the field.
A. This was the estimate. I can't remember how many we did in the field.
Q. Okay. No. We can -- you don't have to and we can go over that later.
A. Yeah.
Q. I guess what I want to know is how did you -- did you come up with that number eight or did someone else come up with the number?
A. Snyder gave me parameters and I came up with a proposal.
Q. Okay. And again, "parameters" is sort of a vague term. And that's why I'm asking you in detail what information he gave you and what he didn't. And so did he give you that number eight or did you come up

82

with that on your own?
A. He gave me the number.
Q. Okay. And did you discuss in the context of this proposal as you were discussing this with Mike Snyder, did you discuss how those eight piezometer readings would be taken, at what locations they would be taken? And here's what I'm trying to figure out.
Under Task 2, Snyder, you said, gave you the parameter of 24 piezometers, 12 at 80 feet and 12 at 50 feet, correct?
A. Uh-huh.
Q. And then Snyder under Task 4 gave you the parameter of eight piezometers.
Did you talk to him about which eight piezometers you would be doing the slug tests on? For example, four that were at 12 feet and four that were at 50 feet, did you discuss how that would be split among the piezometers at all?
A. No.
Q. Okay. I'm going to give you another exhibit --
A. Uh-huh.
Q. -- which will be Exhibit 8.
THE REPORTER: 9.
MS. JACOBS: 9.

83

THE WITNESS: Uh-huh.
MS. JACOBS: We're just rocking along here.
(Exhibit 9 marked)
Q. (BY MS. JACOBS) And I'm going to ask you if you've seen this before?
A. No.
Q. Okay. And I'm just going to represent to you again this is a document that's Table E-4 entitled "Summary of Borings" on the first page, and then at the bottom of that page, "Table E-4(a), Summary of Piezometer Borings" that -- and it's also identified at the bottom, "Biggs & Mathews Environmental, Page E-17," and again, from the technically complete December 10th, 2012, version of the application. So that's where we obtained this document.
A. Okay.
Q. And -- but you have not seen that before, you said?
A. No.
Q. Okay. The second page, because the first page is somewhat difficult to read, there's small text, the second page is just that top Table E-4 blown up just a little bit for reading purposes.
A. Okay.

84

Q. And actually, I'm going to ask you to take a look at this in more detail and see if these numbers seem correct to you. And I have -- if you want to refresh your memory, I have copies of these borings, the logs.
A. Okay.
Q. If you want to refresh your memory.
MS. JACOBS: And we'll go off the record while he does that.
(Recess from 12:54 p.m. to 12:58 p.m.)
Q. (BY MS. JACOBS) Okay. So Exhibit 9 -- have you had an opportunity to review Exhibit 9?
A. Yes.
Q. And I think I asked you before whether you had seen this document before?
A. You did.
Q. And what was your answer?
A. No.
Q. And did you -- if we just look at the different columns here -- and I'm going to start with Table E-4 -- the boring number here in the first column, is that information that you would have provided to Biggs and Mathews, for example?
A. No.
Q. Okay. "Surface Elevation," is that

85

information -- that's the second column, again, on Exhibit 9. Is that information that you would have provided to Biggs and Mathews?
A. No.
Q. How about third column, "Total Depth," is that information you would have provided to Biggs and Mathews?
A. Yes.
Q. And again, going back to "Surface Elevation," when we're talking about -- in this table I think you can see that the -- we have logs or boring numbers that are called BME borings.
A. Uh-huh. Right.
Q. And then down at the bottom you've got EB-1 through EB-6?
A. Correct.
Q. Is that right?
A. Uh-huh.
Q. And so those would be the exploratory borings that we had talked about previously?
A. Correct. Uh-huh.
Q. So looking at the BME borings, did you -- and this may be something -- I know I asked you about this with respect to the exploratory borings, but I wanted to make sure I asked you about this with respect to the 36

86

borings that were -- that -- the BME borings here.
A. Okay.
Q. Did you -- I think you said that the surveyor was the one that obtained the surface elevation information in Column 2?
A. Correct.
Q. And did you -- when you were out in the field drilling, you did not verify that surface elevation in any way?
A. No.
Q. Okay. So going to Column 4, the "Bottom of Boring Elevation" --
A. Uh-huh.
Q. -- is that something that you would have provided Biggs and Mathews with?
A. No.
Q. And so who came up with that column of numbers -- or actually, who came up with the bottom of boring elevation numbers for these BME borings?
A. I don't know.
Q. Okay. How about this -- I guess it's the fifth column over, we have -- it's called "Feet Above/Below EDE."
A. Uh-huh.
Q. And then if we look down at the bottom of this

87

table --
A. Uh-huh.
Q. -- it says that EDE is "Elevation of deepest excavation."
Do you see where I'm talking?
A. Yes, ma'am.
Q. And did you provide those numbers the -- in the fifth column?
A. No.
Q. Okay. Do you know who provided those numbers?
A. No.
Q. And then we've got "Top of Stratum II Elevations" in the sixth column.
Do you see that title?
A. Uh-huh.
Q. And are those numbers that you provided to Biggs and Mathews?
A. No.
Q. And do you know who provided those numbers?
A. No.
Q. How about the "Install Date" column? Is -- are those dates that you would have provided to Biggs and Mathews?
A. Yeah. They were on the logs.
Q. Okay. And I'm assuming that the "Type" in

88

this column, which is only one type, that is "Boring," that's something you would have provided to them, is that right?
A. No.
Q. Okay. And then the last two columns, "Northing" and "Easting."
A. Uh-huh.
Q. Are -- now, this -- is this -- are this the information that came from the surveyors?
A. Correct.
Q. Okay. And if you need to refresh your memory by looking at this table -- and again, I would refer you to the second copy, which is a little bit bigger.
A. Okay.
Q. This typeface is hard for me to see. You look at either one you want.
Is it correct that the BME borings, the 36 borings we've been talking about, were drilled from June 20th, 2011, to July 21st, 2011? Does that sound right?
A. Yeah.
Q. Would that information be noted on the boring logs?
A. Yes, ma'am.
Q. Okay. And you have no reason to think that

89

that information is not correct on the logs?
A. No.
Q. Okay. And again, this may be -- we can -- I want to make sure we cover for these BME borings, the 36, these -- this was again a situation where you did the hand -- the field logs and then sent the field logs to Biggs and Mathews, is that right?
A. Yes, ma'am.
Q. And then they at some point sent you back a draft log, is that right?
A. Uh-huh.
Q. And do you recall whether for the -- do you recall whether you ever saw a final version or a version of those logs that was described to you as being final?
A. I don't remember.
Q. Okay. And if we look down here -- and again, if you want to look at the installation date at the bottom of Exhibit 9, Table E-4(a) -- do you see where I'm --
A. Okay. Yeah.
Q. -- looking?
A. Yeah.
Q. And again, if you just want to tell me -- I'm looking at these dates and it looks like you drilled three of the piezometers on July 17th, is that right?

90

Yeah. You have to go back to the first page, unfortunately.

A. Okay. That's fine. I drilled what?

Q. Looks to me like you drilled three, if I'm looking at installation date or "Install Date" column, which is one, two, three, four -- five, the fifth column.

A. Uh-huh. Yeah.

Q. It looks to me like you drilled three piezometers on July 13th, 2011.

A. Okay.

Q. Is that right?

A. Okay.

Q. Are you saying that that's correct or --

A. I'm looking at it right there. I don't -- I don't know --

Q. Okay.

A. -- if that's -- I'm assuming that's correct.

Q. Okay. Well, from your recollection do you recall that you drilled three piezometers in mid July?

A. I don't remember.

Q. Okay. And that's fair.

A. Yeah.

Q. But you don't have any reason to believe that these numbers are inaccurate or these dates are

91

inaccurate, is that right?

A. I -- I don't -- I don't believe that they're inaccurate.

Q. Okay. And again, would I find the correct date definitely on the actual piezometer log? You don't know?

A. Yeah, I don't know.

Q. Right. Okay.

Let's talk about the -- and actually, you know what? We will -- this is going to -- I think this is going to help.

A. Okay.

Q. I'm going to give you -- I'm a kind of visual spacial person too.

A. Okay.

Q. So this -- I mean, this may or may not be helpful to you. Hopefully it is.

A. Okay.

Q. This is Exhibit 10.

(Exhibit 10 marked)

Q. (BY MS. JACOBS) And before we talk about what this is, I'm just going to ask you, have you seen this document before?

A. I don't know if this version, but --

Q. Something similar?

92

A. Yeah. I thought I gave y'all one that was similar to this. Yeah.

Q. Yes. I think you did provide -- and I'll just --

A. Something similar, yeah.

Q. Yeah. I'll just identify this for the record. This is Figure E2-2 from the Pintail landfill application. It's entitled "BORING AND PIEZOMETER LOCATION MAP."

A. Okay.

Q. And when we look at these -- so looking at the --

(Interruption)

Q. (BY MS. JACOBS) So looking at the -- looking at this map here -- and again, if you want to just use this to refresh your memory.

A. Okay.

Q. Or would you prefer to use your own map?

A. No. This is fine.

Q. Okay. I'm going to represent to you that according to this table, Exhibit 9 --

A. Uh-huh.

Q. -- that the first boring that you drilled was on June 20th, 2011. And that it was the F-6 boring. And so if we look on this map, it appears to me -- and

93

this map I'm referring to is Exhibit 10.

A. Uh-huh.

Q. It appears to me that F-6 -- Boring F-6 is in the southeastern corner.

Do you see that?

A. Correct. Uh-huh.

Q. Okay. Now, do you recall who picked that as a starting location? Was that you or was that Mike Snyder?

A. I don't remember.

Q. Okay. And looking at this map so that there's no confusion, I'm going to direct you to Note 2 over on the right-hand side --

A. Uh-huh.

Q. -- where it says, "A boring was also drilled at the locations identified as piezometers."

A. Uh-huh.

Q. And so that -- when it says "PF-6" on here, that's a piezometer location, but then that's also a location of a boring.

Is that your understanding?

A. Correct.

Q. And how far away did you drill? So you went through and you did the 36 borings and you said that you grouted those immediately upon completion, is that

94

right?
A. I think so. Uh-huh.
Q. And then you came back later and did the piezometers -- installed the piezometers, is that right?
A. Uh-huh.
Q. When you -- when you came back and installed the piezometers, how far away were the piezometers from that original boring location? And to be more specific, for example, you obviously drilled a -- or it says, according to Table E-4 in the logs, that you drilled a boring at the location of F-6.
A. Correct.
Q. So you then came back and installed a piezometer around that location?
A. Correct.
Q. So you didn't use the same bore hole presumably, is that right?
A. Correct.
Q. So how far away was the original F-6 bore hole from the piezometer F-6 boring? Do you recall? And you can give an estimate.
Are we talking ten feet?
A. Yeah. Ten foot.
Q. Ten feet. Okay.
And would that be your best estimate for

95

the other piezometers that were located --
A. Generally, yeah.
Q. Okay. And we talked before about how the borings -- and you provided what is Exhibit 8 regarding the bore hole -- yeah, bore hole IDs and then the latitude, longitudes.
A. Correct.
Q. And did you use -- or the coordinates, I should say.
Did you obtain additional coordinates for the piezometers? And by "additional," I mean did you -- for example, for F-6, we can look down here at the bottom on Exhibit 8 and see that there is a line of coordinates for F-6 --
A. Uh-huh.
Q. -- and a ground elevation so on and so forth.
When you went out to drill piezometer F-6 --
A. Uh-huh.
Q. -- within, you know, ten feet away from that initial boring --
A. Yeah.
Q. -- did you receive an additional set of coordinates other than the coordinates for F-6 that we see on Exhibit 8?

96

A. Say again.
Q. How did you know where to put the piezometer F-6? You already had -- we talked about how you had the stakes --
A. Right.
Q. -- out there for the BME bore holes, 36 bore holes.
Did somebody go out and stake the locations of the piezometers?
A. No. We just did it generally in the area, about ten foot away.
Q. Okay. So you just determined those precise locations in the field, in other words?
A. Those locations.
Q. The locations -- I'm sorry. I need to clarify. The locations for the piezometers?
A. Yeah.
Q. You just went out there and said, Okay. Here's a location of my original boring F-6 and I'm going to do my piezometer at this other location. In other words, you didn't have any coordinates before you went out there, is that right?
A. They were surveyed after.
Q. Okay. They were surveyed after.
And did you take any sort of GPS reading

97

while you were out there of the piezometer locations?
A. I can't remember. I mean, I had to put that on the log. I can't remember if I did it on the field -- in the field or if the surveyor provided those for me to put on the log.
Q. Did you -- do you know if anybody took a measurement or did you receive any coordinates providing the distance between that initial boring and the corresponding piezometer that went with it? And again, we've been talking about F-6. Never mind.
Okay. So let's look at -- while we're talking about these borings, let's look at one of the documents that you brought with you.
A. Uh-huh.
MS. JACOBS: Is this his original or is this --
Q. (BY MS. JACOBS) Are all these copies copies that we can keep?
MR. RYAN: No. Those are his originals.
MS. JACOBS: Okay.
A. Yeah, those are my originals.
MS. NICHOLS: Those are -- I don't know which is the original.
MS. JACOBS: All right. We'll figure that out later.

98

Q. (BY MS. JACOBS) So we're going to mark this Exhibit 11. And after she marks it, I'm going to ask you to identify it.

MR. RYAN: Can we go off the record for just a second?

MS. JACOBS: Sure.

(Recess from 1:15 p.m. to 1:25 p.m.)

(Exhibit 11 marked)

Q. (BY MS. JACOBS) You're looking at what has been marked, I believe, Exhibit 11.

A. Uh-huh.

Q. And could you identify that document for me?

A. Yes. This is a boring plan.

Q. And is this a document that you created?

A. Nope.

Q. And was it based on -- did you have any input into what appears on this document?

A. Nope.

Q. Okay. Is the writing in blue that is on this document your writing?

A. Yes.

Q. Okay. And what do these -- what does this blue writing on here mean? Just if you can decipher that for us.

A. I have no idea. I -- I don't know. It could

99

have been fences, ways to go to the locations. I don't know.

Q. Okay.

A. I don't -- I don't know.

Q. Okay. That's fine.

Why did you bring this with you today?

A. It was in the file. It was -- you said you wanted everything, so here it is.

Q. Actually, I didn't.

A. Well --

Q. That must have been your --

A. They told me to bring everything in the file, so I brought the file.

Q. And was that Mr. Ryan?

A. Yeah.

Q. Okay. So since we may or may not obtain these field logs that you did, I'm going to ask you about them in a little bit more detail.

A. Yes, ma'am.

Q. Paint me a visual picture of what it is -- if I was looking at this field log in front of me, what information would it have on it? Just walk me through what information you put on your field logs.

Does it vary from case to case?

A. No. No. There's --

100

Q. Okay.

A. I mean, there's standard things that go in the field log.

Q. Okay. What are those standard things that you put on your field logs?

A. Sample number --

Q. Uh-huh.

A. -- description, complete date -- I mean, completion depth, date started, date completed, drilling method, sample method, you know, the observation like groundwater observation and hand penetrometer and blow counts.

Q. Do you -- is there anything else that you typically include in your field logs that is other than what you just mentioned?

A. I think that was sum total. I don't --

Q. And is the field -- if I'm understanding you correctly, then, the field logs are -- that's -- is that your only record that you have of your observations in the field?

A. Yes.

Q. So when you were going through this iterative process with Mike Snyder and you were comparing and he was -- he was sending you back a draft log presumably based on your field logs, did he also send back your --

101

a copy of your field log to you so that you could compare your field log with the draft log?

A. At times.

Q. At times?

A. Yeah.

Q. So do you -- and did he send it back to you electronically?

A. I don't remember. I don't remember. No. It was -- I think it was mail. I think I looked at these -- and I don't know if I looked at all of them. I really don't. I really don't.

Q. No. I totally understand.

A. I mean --

Q. I'm just trying to figure out if you're reviewing the draft logs, I'm assuming that you would want to be comparing it to your notes from the field. And that might be --

A. Yeah.

Q. -- a wrong assumption.

A. No, I don't think it's a wrong assumption. I do so many projects, I can't remember. I can't remember.

Q. Well, when you --

A. You know, we did 36 borings. I don't -- you know, I mean --

102

Q. Right.
A. -- I couldn't remember that until I opened up the file and saw that there was 36 borings. I mean, come on.
Q. I totally understand.
Do you -- in the projects that you do -- you've obviously done -- I think you said over 20 projects --
A. Yeah.
Q. -- with Biggs and Mathews.
A. Uh-huh.
Q. How do you typically handle it? Do they typically send you back your draft logs for your --
A. Typically, yeah.
Q. -- review? Okay.
A. Typically.
Q. But you don't have any draft logs copies in your file?
A. No.
Q. Okay. Would they have sent any of those back to you electronically, any of the draft logs -- sorry, not draft logs. Your copies of your field logs?
A. No. No.
Q. Okay. So let's talk about the water levels that you took. And I want to talk specifically about

103

the water levels that you took from the BME borings, the -- what's being called the BME borings or the 36 borings that we've been talking about.
A. Okay.
Q. And again, I'm talking about the one -- if you look at Exhibit 9, that table, the -- that's why I'm calling them BME borings because they're --
A. Right.
Q. -- they're on that Exhibit 9.
A. Right.
Q. How did you take the -- and you described before how you took the water levels -- or how you thought you took the water levels for the six exploratory bore holes --
A. Uh-huh.
Q. -- 1 through 6.
Was your procedure the same for -- for these 36 bore holes?
A. Yes, ma'am.
Q. Okay. And so just recapping that procedure, you -- or do you know with respect -- because you weren't quite sure whether you had used like an E line or what you had used for the six exploratory bore holes. I think you said something like a --
A. Little plonker. Yeah.

104

Q. -- plonker.
A. Yeah.
Q. Okay. What --
A. Just a tape mea- -- a tape measure with a little weight on it where you hit water and measure.
Q. Got it. Okay.
And so when we were talking about the exploratory bore holes, you said that -- or borings, you said that you would hit water and then I think you said that you removed the drilling apparatus from the hole?
A. Yes, ma'am.
Q. And then -- and then you immediately took a water level, is that right?
A. Uh-huh.
Q. Is that a yes?
A. Yes. Yes.
Q. She's having trouble.
A. Yes.
THE REPORTER: Thank you.
Q. (BY MS. JACOBS) And again, refer to the logs in front of you if you need to refresh your memory.
A. Okay.
Q. But for these 36 bore holes, did you use the same drilling methodology that you did -- I mean, we talked about how you were using the -- for the six

105

exploratory borings, how you were using the dry auger followed by -- I'm missing my -- dry auger followed by the wet rotary?
A. Uh-huh.
Q. Did you use the same drilling method on the 36 bore holes?
A. Yes.
Q. Okay. And so that was also the solid auger?
A. It was drill rods with a bit on it.
Q. Drill rods with a bit on it. Okay.
Okay. Looking at Exhibit 10, back again --
A. Uh-huh.
Q. -- which is sort of our map, or you can look at Exhibit 11, if you prefer, if it helps kind of refresh your memory. But you've got -- we've got these 36 borings kind of spread out over this area. And we talked before how you started with Boring F-6 sort of in the southeast corner.
How did you decide where to go? You had a -- you had your plan. So you knew kind of where you were going to be. You had your -- you knew approximately where these were going to be. You had the staked locations, right?
A. Correct.

106

Q. So how did you decide which boring to go to next after your F-6? Do you recall?
A. No.
Q. And so Mike Snyder didn't give you any instructions --
A. He may have. I don't remember.
Q. -- in that regard?
A. I don't remember.
Q. Okay. And if you want to look at one of the logs while you talk me through this --
A. Okay.
Q. -- I want -- I'd like you to sort of just explain in detail how you -- and you've done some of this already, if we just kind of recap here -- how it is that you did the drilling and the sampling. And I think with the 36 -- and specifically information that I'm looking for here is I think you said that -- or let me ask you this.
Were you behind the rig for all 36 of these borings?
A. The 36?
Q. Yes.
A. No. Krystal was doing some --
Q. Okay.
A. -- and I was doing some.

107

Q. And do you recall which ones you were present for --
A. I don't recall.
Q. -- the drilling process?
A. I looked at all the samples, but she had one rig and I had the other rig. I don't remember which ones.
Q. Okay. And how long does it generally -- I mean, in this particular -- with this particular project, how long did it take to drill a boring? And I know that we had borings of different depths, but about how long were you taking per boring? Do you recall?
A. I can't remember. I can't remember.
Q. Do you remember -- you said that Krystal was sitting on some -- sitting on the rig for some of the borings and then you were sitting on another rig for the other borings.
Do you recall how many --
A. I don't.
Q. -- she was --
A. I don't.
Q. And was anybody from Biggs and Mathews on site during the process of drilling these 36 borings?
A. Yes.
Q. And who was that?

108

A. Mike Snyder and -- I know Snyder was there and one of their engineers.
Q. And what -- on what days was Mike Snyder there?
A. I have no idea.
Q. Well, it looks like this took you about a month.
Does that sound right?
A. Yeah. Yeah.
Q. Do you have any feel for was he there 20 days out of 30? 15 out of 30?
A. Probably couple of days a week, so -- I don't know what percentage that is, but --
Q. That's --
A. -- you know.
Q. That's okay. I'm just trying to get a feel for it.
A. Eight -- yeah. Couple days a week.
Q. Okay. And on the days that he was on site, what did Mike Snyder do?
A. Observe.
Q. And did he also look at the samples that you obtained from the borings?
A. Absolutely.
Q. Did he look at all of the samples?

109

A. That we obtained from the borings?
Q. On the days that he was out there.
A. While he was there, yes, ma'am.
Q. And on the days that he was there, how long did he spend in the field? I mean, I'm trying to get a feel for was he out there -- if you were out there ten hours, was he out there ten hours or was he out there two hours?
A. No. He was out there predominantly the whole day.
Q. Okay.
A. And if he came down for two days, I mean, it was a -- I mean, he spent time in the field. It wasn't like drive by.
Q. Gotcha.
A. Yeah.
Q. And when Mike Snyder was not in the field, did you provide him with progress reports?
A. Daily.
Q. Daily. Okay.
And what form were these progress reports in? Did you talk to him on the phone?
A. Phone.
Q. Phone.
A. Yeah. We called. Yeah.

110

Q. Okay. Did you e-mail him any information?
A. Not from the field, no.
Q. Did you e-mail him information regarding the day's activities when you got back to your office or when you got to a location where you had a computer?
A. I don't think so.
Q. Okay. And again, just to make sure that I understand, I know that for -- you stated earlier when we were talking that Mike Snyder gave you certain parameters for your proposal and how you were going to conduct this investigation.
A. Correct.
Q. And just so I make sure I know, talking about the 36 borings, did Mike Snyder choose those depths on the borings?
A. They did. I didn't choose the depths. Yeah, they checked -- they chose the depths.
Q. And when you were in the field, were there ever times that you suggested another depth because of something that happened in the field or did you always just hit whatever depth that they had said?
A. If I had a question and I was at a -- the bottom of the hole, if I had a question, I'd call him, say, Hey, we're at such and such. I've hit this. What do you want to do?

111

Q. And --
A. I didn't suggest the depth.
Q. Okay. And did the -- and did Mike Snyder also instruct you as to what drilling method to use? And by "drilling method" I'm talking about dry auger versus wet rotary.
Any other types of methods that you might have an option for, is that something that you decided in the field?
A. Well, the -- they wanted this drilled to grab samples with split spoons and Shelby tubes.
Q. Uh-huh.
A. And standard we drill dry until we hit refusal or hit water and the hole caves in and then we set up and start drilling. So -- you know.
Q. And what do you mean by "hit refusal"?
A. Well, in some places, if you're drilling, you may not be able to go any further with dry auger methods, so you set up and start drilling.
Q. Okay.
A. So yeah. So --
Q. And I think what you were indicating there is that then Mike Snyder chose the sampling method that he wanted you to use, the --
A. They're ASTM methods, yes, ma'am.

112

Q. Okay. And did he also choose the sampling intervals or was that something that you decided in the field?
A. They told me where they wanted samples. For this particular project, just looking at two logs, we went continuous to 30 and then intermittent after that, from looking at two of them. So I'm sure that's probably what we did the whole project.
Q. Okay. Okay. So if we look at -- let's go back to Exhibit 9 --
A. Uh-huh.
Q. -- which is our table.
A. Uh-huh.
Q. And you can look at either page -- actually, no. You know what, you have to look at the first page. Sorry.
A. Okay. Uh-huh.
Q. On this -- if we -- if you look down at the Table E-4(a), you remember how we talked before about it looks -- according to these dates, it looks like you installed three piezometers on July 13th, sort of mid July there?
A. Yeah.
Q. Does that sound right? I mean, would you have been able to install three piezometers in one day?

113

A. Yep.
Q. And when I say "install," I mean install and develop and have it all done.
A. No. They weren't developed in -- I mean, drilled, yes.
Q. Drilled. Okay.
A. Yes. Yes.
Q. Just so we make sure --
A. Yeah. Yeah.
Q. -- we got our --
A. Terminology correct.
Q. Exactly.
A. Drilled.
Q. Exactly.
And so can you -- as best you can for the layperson, which is me, can you walk me through for -- now we've moved on. We're not talking about our 36 borings anymore. We've moved on to the piezometers.
Can you walk me through what that process looks like in the field? And I mean what equipment you used, you know, Step 1, Step 2. If you can just kind of walk me through that and then I'll -- I -- I'll ask you questions of clarification as I need to.
Does that make sense?
A. Yeah.

114

Q. So you get in there the morning. You've got your rig.
A. Uh-huh.
Q. You know what method -- drilling method you're going to use because that's the drilling method that you always use, correct?
A. Correct.
Q. Okay. So -- and for these particular ones, for the piezometers, Krystal was not -- you were the one that was sitting on the rig for these piezometers, correct?
A. Correct.
Q. Okay. So for each one of those, while they're drilling it, you're standing by the rig and what are you doing? What instructions are you giving?
A. I'm watching the cuttings come out of the hole to verify the soils.
Q. Okay. And so you took -- on these you had cuttings?
A. Uh-huh.
Q. Okay. And so continue on for me, if you will. You're -- so you're watching --
A. We were given a depth to drill to.
Q. Right.
A. We drilled to that depth.

115

Q. Right.
A. We flushed the hole out. We were given the screen interval -- the screen interval we were going to screen. We put the PVC together, put a bottom cap on it, put it in the hole, filled it up with sand to a prescribed depth, put a bentonite chip, there's a seal on top of that, and then we grouted the location to the surface or three foot from the surface.
Q. And so I think you were saying before when you -- did you say something like you flushed the well?
A. Yeah.
Q. Okay. And is that the date that you -- so you were saying that on some of these maybe you developed them the same day?
A. No.
Q. No. Okay.
So you would have developed them the next day -- the piezometers the next day?
A. No. Probably not.
Q. Probably not. Okay.
So when did you typically develop the piezometers for this project in terms of what was the interval between drilling and development?
A. I don't know.
Q. Are we talking like a week?

116

A. I don't know.
Q. Okay. And when you were talking about using the sand -- when you said put sand in there, is that what you were using for a filter pack?
A. Yes, ma'am. The 20/40 sand.
Q. 20/40 sand. Okay.
And do you recall where you got that sand?
A. Side of the road. Supplier. Yeah, the supplier.
Q. Hey, don't laugh. That's where you got the water.
A. Yeah. Gulf Coast Monitor, I believe.
Q. Okay. And do you know whether that sand was pre-cleaned or did you clean it in the field?
A. Pre-cleaned.
Q. Pre-cleaned.
Just like the lettuce, huh?
A. Just like the lettuce.
Q. And you said that you put in the sand to a prescribed depth, correct?
A. Correct.
Q. And how did you measure the depth to the sand?
A. With the weighted tape.
Q. The weighted tape.
And did you for these -- and again we're

117

talking about the piezometers.
Did you take an initial water level reading in the boring before you put the casing in?
A. No.
Q. I'm laughing because again you nod as you say no. It's very interesting.
Okay. Did you make any observations about the behavior of the water in the boring? In other words, whether it was staying stationary -- at a stationary level or whether -- and when I say "observations," obviously if you couldn't see it, then, you know, did you use instrumentation or something like that.
But did you make any observations about whether it just stayed at a certain level or whether it dropped?
A. No.
Q. Okay. Do you know if Mike Snyder made any observations of that kind when he was -- on the days he was in the field?
A. No.
Q. No, you don't know or no, he didn't?
A. No, he didn't.
Q. Okay. And did you do a specific yield test in the field at the time that you drilled these --

118

A. No.
Q. -- piezometers? Okay.
And same procedure with these, I'm assuming, and correct me if I'm wrong, but with the piezometers you had the field logs, which you then provided to Mike Snyder or somebody at Biggs and Mathews and then they came back and gave you a draft log and maybe sent you back your field log and you reviewed the draft logs?
A. On the piezometers?
Q. Yes.
A. Yes, ma'am.
Q. Okay. Now, you mentioned with the piezometers that you also did the state well report, correct?
A. Yes, ma'am.
Q. And did -- was this the same situation where you did a draft state well report and then Mike Snyder came up with the final version?
A. No.
Q. Okay. So this was -- the state well reports, that was all you?
A. (No response.)
Q. Yes?
A. Yes, ma'am. Yes. Yes.
Q. Let's talk just a little bit more about how

119

you -- your process of how you developed a well -- or the wells, the piezometers.
A. The piezometers.
Q. And when you were developing these, did you follow the same procedure for each well?
A. Yes.
Q. Okay. And what -- and what exactly did you do? How do you develop a well or how did you develop these wells? And again, I'm looking for sort of a step by step. Maybe it's not that complicated, but if you'd just explain it to me.
A. It's not complicated at all.
Q. Okay.
A. You take a water level measurement.
Q. Using the --
A. Electronic water level indicator.
Q. Okay. So on these you took -- you didn't use just the tape with the --
A. No.
Q. -- plonk thing?
Okay. So on these you used what --
A. Electronic water level indicator.
Q. Is there a brand?
A. Slope.
Q. Slope.

120

A. Slope inclinometer, I think is the brand we buy.
Q. Okay. Do you have any idea on, like, model number?
A. No.
Q. Okay. So you took the water level.
A. Uh-huh.
Q. And is this -- and this is the water level after casing it?
A. Yes.
Q. Okay. And again, timing of the water level after casing it -- we talked about the bore holes and you didn't take any initial water levels on the 36 bore holes.
That's what you said, right?
A. What?
Q. I may have said that wrong. I'm sorry. I did say that wrong.
You said that you didn't take any initial water levels for the piezometers?
A. Correct.
Q. Right. Okay.
And -- but at then what point in the process did you take the water levels with the electronic device you were referring to?

121

A. We take water levels prior to developing a well to see if it moves, you know, one way or another. So we dropped a pump down in there and get the fines and silts out that were created while drilling, make sure that the water is flowing in, get down to our five NTUs and you're developed.
Q. Okay. So you take the water level first. Then you do your -- you put the pump in the well and pump it?
A. Well, you take a water level because if you put the well in -- I mean, if you put the pump in, the water level is going to change.
Q. And did you take the water level for these piezometers -- I mean, how long did -- how long after you had finished casing the boring and -- did you take it immediately after you finished casing the boring or did you let it sit, go away for a while, come back? Do you have any recollection?
A. No recollection.
Q. Do you have any recollection about how long you were pumping the well as part of that well development process?
A. To five NTUs.
Q. To five NTUs.
And so you would just pump and then

122

presumably test the water and then pump --
A. Correct.
Q. -- some more if you --
A. Correct.
Q. Okay. And when you were collecting the sample for the NTUs, the turbidity, how did you collect that sample? What did you -- what mechanism did you use to collect that sample?
A. I had a plastic -- no. I'm sorry. The NTUs go straight into a little vial that comes with the meter.
Q. And so did you have a -- did you use a downhole pump to collect it -- the sample?
A. We installed a ready-flow tube plump down the well and purged the water out that way for development.
Q. And that's how you obtained your samples -- your water samples to test for turbidity as well?
A. Correct. Yes, ma'am.
Q. Okay. Do you need another break?
A. Do you?
Q. (Indicating.)
A. Let's do.
Q. Let's take a break.
(Recess from 1:54 p.m. to 2:04 p.m.)
(Mr. McGuffey left the proceedings.)

123

Q. (BY MS. JACOBS) So one of the things that we've been talking about are when and how you took the water level measurements in these various borings. And I want to go back and make sure that I have this straight.
So for the first EB-1 through EB-6, the exploratory borings that we talked about in the beginning, you said that you utilized the dry auger method until you hit water and then you used the wet rotary drilling method.
And did you -- and I'm not sure if I asked you this. But at what point in that process did you take the water level measurements from EB-1 through EB-6 borings? Did you take it at the point that you hit water or after you had completely drilled the bore hole?
A. The point we hit water, after we took the stuff out of the hole.
Q. And by "stuff" you mean the drilling equipment?
A. Yes, ma'am.
Q. Okay. And was that the same with respect to the water levels for the bore holes -- the 36 bore holes?
A. Yes, ma'am.
Q. So in other words, once you hit water, you

124

stopped, pulled the equipment out of the hole and then took a water level immediately?
A. Correct.
Q. And did you follow that same procedure for the piezometers when you were drilling those?
A. No.
Q. No.
So you waited to take the water levels from the piezometers after you had cased them, is that right?
A. Correct.
Q. Okay. And where did you record those water level measurements that you took from the borings for EB-1 through 6? Where did you record that information?
A. On the log.
Q. On your field log?
A. Yes, ma'am.
Q. Okay. And did you also for the -- where -- in the water level measurements for the 36 borings, did you also note those water level measurements in your field logs?
A. Correct.
Q. Okay. Can you -- switching gears here just for a moment.
A. Uh-huh.

125

Q. Can you describe for me the process that you used? And again, just remember I am -- actually, you know what, before we get into that, let's talk about the -- since we're talking about water levels, let's talk about the monthly readings that you did.
A. Okay.
Q. And I'm going to hand you an exhibit which we are to mark 12 -- Exhibit No. 12.
(Exhibit 12 marked)
Q. (BY MS. JACOBS) And if you could look at that and see if you are familiar with that exhibit.
A. Uh-huh.
Q. So have you seen this document before?
A. No.
Q. And just for the record, this is Page E-26 that we obtained from the applicant's technically complete December 10th, 2012, version of the application. And it is labeled "Table E-10, Water Level Elevations - Piezometers," is that correct?
A. Correct.
Q. And do you recognize these readings?
A. No.
Q. Do you -- well, then let me ask you.
When did you start taking water level measurements from -- for the piezometers?

126

A. For No. P-B-6, P-C-3 and P-F-6, it was taken on 7/14/2011.
Q. Okay. And then it looks like you took --
A. On 8/8, all of them.
Q. Okay. And it looks like -- so for those three, we talked earlier about -- well, let me ask you this.
You then took for those three wells that you've noted from Table E-6, you then took another water level reading on 7/15. I'm looking at the second line, it looks like.
A. Correct.
Q. And 7/18, another set?
A. Correct.
Q. Why did you take three water level readings that close together from these three piezometers? And by that close together, I mean in -- one after another. It looks like these other ones are spaced out a little bit.
Do you recall?
A. I don't recall.
Q. Okay.
A. The -- it appears from looking at this thing that the other ones weren't put in yet.
Q. Okay. And when you were taking your -- and we

127

can go -- you can go back to your proposal or your --
A. Yeah. Yeah. Yeah.
Q. -- whatever you want to do to refresh your memory.
A. Uh-huh.
Q. But in your proposal you had proposed taking monthly readings --
A. Correct.
Q. -- of the water levels?
A. Correct.
Q. And here it looks like you took more than once-a-month readings, is that right? Did you take multiple water level readings for each month? And this --
A. It -- it appears, yeah.
Q. Well, I mean --
A. It appears that we took some --
Q. -- just whatever you recall.
Do you recall taking more than once a month?
A. If I'm directed to take water levels, I'll take water levels.
Q. Okay. And the reason I'm asking for clarification is that that doesn't look, to me -- what I remember from your proposal, I thought your proposal was

128

proposing -- and I understand this is a proposal versus what you actually did.
A. Yeah.
Q. But you don't -- so you just don't remember how many times a month you might have done those water levels?
A. Right there (indicating).
Q. Okay.
A. I mean --
Q. And you're referring to Exhibit 12?
A. Exhibit 12.
Q. Okay. So you feel pretty confident that these are records of the water levels you took on Exhibit 12?
A. Correct.
Q. And again, when you were -- when you took these water levels, how did you record that information in the field? Did you write it in your notes?
A. Log.
Q. Log?
A. Yeah. It's on the log.
Q. Well, but I mean, when you went and took -- I'm not talking about your initial water levels. I'm saying when you were taking your monthly water levels for a year or bimonthly or trimonthly water levels for a period of a year, how did you record that information

129

when you were out in the field?
A. We had a sheet.
Q. Okay. And was it a handwritten sheet?
A. The data was handwritten.
Q. Okay. And did you provide that handwritten data to Mike Snyder?
A. Yes, sir -- I mean, yes, ma'am.
Q. Okay. And did you e-mail that information? How did you generally provide your field notes and your field logs to Mike Snyder? Did you --
A. On the monthly water levels?
Q. On the monthly water levels. Let's start there.
Did you e-mail it to him -- scan it and e-mail it to him?
A. Either that or fax.
Q. Either that or fax?
A. Yeah.
Q. Okay. And I -- is it the same method of transmission for your field logs that we've been talking about and other types of field notes?
A. I think with that many, I think they were sent courier, you know, like FedEx or they were delivered with the samples. These were either faxed or e-mailed. I don't know.

130

Q. Okay. And did you keep any copies of your notes?
A. No.
Q. Is that your typical practice?
A. It is.
Q. And again, just so I'm clear, you know, we talked about the methodology that you used for the water levels for the exploratory borings and for the 36 borings. Once you had these piezometers installed, what methodology -- how did you take these water levels?
A. Electronic water level indicator.
Q. The same one that you had indicated to me before?
A. Correct.
Q. And did you take the -- for each time when you went out there on a particular day, just say you went out there, you know, August 12th and you were going to take water levels from a certain number of wells.
Did you take a water level from an individual piezometer multiple times on that same day and then pick one value or did you just take one value -- take one measurement?
A. One value.
Q. Okay. Let's switch gears and talk about the slug tests.

131

A. Okay.
Q. And I think before when we were talking about your proposal, you -- I think you stated that it was Mike Snyder who picked the number of slug tests that were going to be conducted, is that right?
A. Uh-huh.
Q. Is that a yes?
A. Yes.
Q. And did Mike Snyder also pick which piezometers --
A. Yes.
Q. -- would be -- you would conduct the slug test on?
A. Yes.
Q. And again, this is kind of what we've been doing with the other stuff. If you could just walk me through the process that you followed in conducting this slug test. And, I mean, you get out there in the field. You have your piezometer. It's already been -- you look surprised.
A. No. I'm just surprised that you know all of this.
Q. You just told me.
A. No, no. No, go ahead.
Q. I thought you just told me. Am I wrong?

132

A. No. No. You're good. Go ahead.
Q. Okay. So -- so we -- Mike Snyder's picked the eight piezometers and you go out in the field and then what happens? You're going to conduct your slug test?
A. I'm going to conduct a slug test.
Q. All right.
A. We get the equipment out there. We take some measurements of the water.
Q. And what equipment are you referring to first?
A. Transducer -- pressure transducer, be able to change -- measure the change in water.
Q. Okay. And do you recall what brand?
A. It was probably a Incitu. Incitu, I think, is the brand that we do.
Q. Okay. So you got your equipment out there. You got your transducer. And you said --
A. Uh-huh.
Q. -- you -- and do you know how -- I mean, do you use the -- do you have your own transducers?
A. I own some, yes, ma'am.
Q. You own some?
How old are your transducers?
A. I don't know.
Q. Are they new?
A. Some of them are, yeah.

133

Q. Okay. But you don't know which ones you used when you were out there taking these --
A. They're --
Q. -- water levels?
A. They're calibrated by the manufacturer.
Q. Okay. I think I just said "taking these water levels." I meant "taking these slug tests." Just clarifying for the record.
Okay. So you go out there. You said then you have your equipment and then you said you take a number of water levels. And -- I thought that's what you just said in terms of the process. I shouldn't be telling this story. You tell the story.
A. I took water levels on the ones, not --
Q. Right.
A. -- I mean, at each location.
Q. Right.
A. And we made measurements meaning where we're going to put the transducer in the well. Okay? We lower it into the well. And we -- you drop a slug to make the water rise. And the pressure transducer measures the rise and the fall on the water.
Q. And did you -- when you said you took measurements to decide where to put the transducer --
A. Right.

134

Q. -- in the piezometer?
A. In the piezometer.
Q. How did you take those measurements?
A. With electronic water level indicator. I wanted to know the geometry so it wouldn't drop a metal thing on top of my transducer.
Q. Fair.
And before that I thought -- I think you said that the calibration is done by the manufacturer?
A. Uh-huh.
Q. The calibration of -- you're referring to the calibration of the transducer?
A. Transducer, yeah.
Q. Okay. And so the -- and is that calibration done before you purchase it or do you take it back periodically for --
A. I think it's taken back periodically. It has a life, you know, and then you have to send it back and pay them more money.
Q. Do you have any idea how often your equipment is calibrated?
A. When needed. When required.
Q. Okay. And what tells you when it's required? Is that just specified by the manufacturer or --
A. It's on a computer program. You plug the

135

thing into a computer and it tells you.
Q. Oh, okay.
And just to clarify, it tells you when it needs to be calibrated?
A. Correct.
Q. Okay. So you said that you --
A. There may even be a depth -- a date stamped on it.
Q. Okay. So you -- so at some point here, then, you've got your transducer in and then you -- in the boring and then you said you put your slug in?
A. Correct.
Q. Okay. And how do you do that? Do you just have it on a line or --
A. It's on a line.
Q. Okay.
A. It's lowered into the well. And I can't remember on this project, but a lot of times we'll use different lengths of -- of slugs to put in the wells and we may try multiple lengths.
Q. And why would you do multiple lengths if you were going to do multiple lengths?
A. To see which one, you know, gives you a better rise, you know -- you know, movement of water.
Q. Okay. And do you want -- I mean, are you --

136

when you say "better rise," are you -- is it better to have more water move or not as good?
A. You want water to move.
Q. And do you know whether it was a linear transducer that you used?
A. I think on this project, yes.
Q. And for the uneducated among us, how do you -- how did you -- did you check to see if it was a linear transducer? Do you recall?
A. At the time, yeah.
Q. And so how do you check?
A. There are settings you can put on the equipment.
Q. Okay. So there's just a linear transducer setting?
A. Yeah.
Q. Now, we talked about the calibration with the manufacturer. You send it back to the manufacturer to have it calibrated. (Indicating.)
A. Yeah.
Q. Did you do any kind of testing in the field, zero out the transducer in any way before you utilized it?
A. No.
Q. And -- and I can -- I have some documents that

137

might help refresh your memory. But do you -- or maybe this is something that's standard. I don't know.
But do you recall how fast the transducer was collecting the data?
A. I can't. It's -- I mean, it's like (indicating).
Q. Does it matter? I mean, does it matter how fast the transducer collects the data?
A. I don't know what you mean by "matter."
Q. Well, and that's a good clarification.
Does it -- is the speed at which the data is collected, is that something that is one of the parameters that is chosen for an individual project based on specific -- site specific conditions or is it a matter of preference, some people like faster data, some people like slower data? That's really what I mean. And I realize this might seem like weird questions, but keep in mind I have no idea what we're talking about here.
A. I don't know. I -- I don't know, because I don't understand the question.
Q. Okay. Well, then let me say this.
So you don't recall how fast the data was collected?
A. No.

138

Q. Does that -- is that significant in the results of the test? Is the speed at which the data is collected significant? Is that something that --

A. I think it's site specific.

Q. Okay. And is that something that -- do you know if Mike Snyder specified the speed at which he wanted the data collected?

A. I'm sure we discussed that.

Q. Okay. And for the slug tests -- and you may have already told me and I just --

A. Uh-huh.

Q. -- forgive me if I'm forgetting -- but was -- who participated in these slug tests in the field with you? Who was out there with you?

A. I want to say probably Krystal and maybe one other, maybe John. I don't know. But one other employee maybe.

Q. Okay. And do you know what John's last name is?

A. Vallier.

Q. How do you spell that?

A. V-A-L-L-I-E-R.

Q. And what is his role, job description?

A. Get stuff out of the truck for me, drive me --

Q. General gofer?

139

A. -- drive me to the location.

Q. Okay. And so was Mike Snyder or anyone from Biggs and Mathews present on site when you were doing these slug tests?

A. I don't remember.

Q. Is that something that you would have noted in your field notes or on your -- whatever -- well, I guess it would be your field notes in this case.

A. If he showed up?

Q. Yeah.

A. Probably not.

Q. Okay. I just didn't know if it was like a team effort or --

And when you were doing the slug tests in the field, did you -- I know that you were collecting the data.

A. Uh-huh.

Q. And that was your primary role, is that right?

A. Correct.

Q. Did you do any sort of hand calculations --

A. Huh-uh.

Q. -- with the data?

A. No.

Q. No. Okay.

And then how did you transmit the data,

140

the results of the slug tests, to Biggs and Mathews? Is that who you gave the information to?

A. It was. I know we downloaded it. I don't remember how we sent it to him. I don't know if I sent him the disk.

Q. Let's just take a two-minute break.

A. Sure.

Q. Or it could be longer --

A. Sure.

Q. -- if you need it to be.

A. No, no.

(Recess from 2:27 p.m. to 2:39 p.m.)

Q. (BY MS. JACOBS) We were talking about the process -- and if you could just again sort of recap for me step by step what exactly it is that you -- what's the procedure you follow when you're conducting these slug tests. And then I'll be able to kind of figure out where I needed to ask follow-up questions. If you could just go through it from beginning to end for me, that would be really helpful.

A. Okay. Program and insert the transducer -- no. Take a water level. Program and insert the transducer. You know, drop the slug, allow the test to complete, remove the slug, allow the test to complete. I guess that's basically it.

141

Q. Okay. And I think we talked about how you took the water levels for these piezometers in the beginning and you said you did it with an electronic --

A. Electronic water level indicator.

Q. Electronic water level indicator.

A. Slower.

Q. Got it. See, you're dealing with tiredness. I'm dealing with cedar. So between the two of us --

A. Cedars?

Q. Yes. Cedar season. It's bad. It's pretty bad right now, but I digress.

So we have this Step 1, take the water level. Then you said program and insert the transducer, and you've given some great information about the transducer.

What do you mean by program it -- programming the transducer? What do you have to program it for?

A. To retrieve the data.

Q. Okay. And can you give me an idea about how you do that? Do you just push a button or do you actually have to enter specific information?

A. No. You enter specific information.

Q. Okay. And what specific information do you -- or did you enter when you were --

142

A. I -- I can't remember. Well number, stuff like that. It asks a series of questions. I can't remember all.

Q. So you just follow whatever questions the transducer provides, is that right?

A. Correct.

Q. So do you -- and then you insert -- you said you insert the transducer. You insert it into the piezometer?

A. Correct.

Q. And then does the transducer have to do anything before you drop the slug? It sounds like these transducers are amazing. But does it -- does the transducer need time to -- I don't know.

I mean, do you have to wait for a certain period of time between when you put the transducer in the well and when you drop the --

A. Slug.

Q. -- slug in?

A. Push a button.

Q. Okay. You push a button on the transducer?

A. On the apparatus that the service --

Q. Okay. So --

A. Or a computer -- or a laptop these days. I mean, there's different ones, but it has a cord that goes to it. It's plugged in.

143

Q. You're talking about with the slug or are you talking about the transducer?

A. Transducer.

Q. Okay. So I'm still unclear. You put the transducer in the well, and do you immediately drop the slug in after it or do you wait for a period of time?

A. You can wait -- you can wait a few minutes. I mean, you're getting everything ready. I don't -- I mean, it's not a -- it's not instantaneous deal, but -- yeah.

Q. Okay. But it's not --

A. But when you get ready to drop it, it is.

Q. How do you know when you're ready to drop it, drop the slug, in other words?

A. You put the transducer in there. You measure the length of the cord of the slug. You get it ready. One person holds it on top. One person pushes a button and you drop the slug in.

Q. Okay. So in other words, what I'm hearing you say is that there's no -- there's no reason that you would -- there's no reason that there's space between these steps or there's no reason that you would put time in between these two steps of when you insert the transducer and when you drop the slug?

144

A. Period of time?

Q. That's a good -- fair question.

Is there any reason that you would allow a period of time to pass from the time when you insert the transducer and the time that you drop the slug?

A. (Indicating) yes.

Q. Okay. And why would you do that? Why would you allow that period of time to pass between those two activities?

A. To let the well equilibrate.

Q. And what does that mean?

A. Well, you inserted an object into the water and it rose. So you want it to equilibrate back.

Q. And how long do you have a period of time that you wait?

A. It's well specific.

Q. Well specific?

A. Yeah.

Q. Okay. And so for each of the wells -- each of the piezometers that we're talking about associated with this project where you conducted these slug tests for each eight of these, when you were doing these tests, did you wait this period of time for the well to equilibrate after you inserted the transducer on each one?

145

A. Yes.

Q. And did you record that time period anywhere?

A. Probably verified it with electronic water level indicator and then went down the road. No.

Q. So you didn't write it down anyplace?

A. If it equilibrated back, no.

Q. Okay. So after the equilibration, then you dropped the slug?

A. Yes, ma'am.

Q. And actually, can you -- I know you -- how big -- you were talking about the size of the slug and measuring the slug and things like that.

A. Uh-huh.

Q. How big is the transducer that you're putting in these wells?

A. An actual transducer?

Q. Yeah. How big --

A. About maybe a foot long.

Q. A foot -- okay. A foot long and then I guess really skinny?

A. Pretty skinny.

Q. Pretty skinny. Okay.

And I think you mentioned that you dropped different -- or that you sometimes do different sizes of slugs?

146

A. Yes, ma'am.
Q. Okay. So you said something about the equilibration and then you said you measure the slug beforehand?
A. Well, it's -- it's known. I mean, we know what size. We've got a two-foot, we've got a five-foot, we've got a ten-foot slug. So we put a measured slug in there. We know what the measurement is.
Q. And how do you decide what length of slug to use on a particular test?
A. We may run multiple tests to make sure. I mean --
Q. To make sure?
A. Well, if you're in a sand formation, you may -- I may run all three of them. It just depends.
Q. You mean all three different --
A. Size.
Q. -- lengths of --
A. Yeah. Yeah.
Q. Okay. Sizes?
A. Uh-huh.
Q. And when you said "to make sure," what did you mean by that? You might run more than one --
A. Gather --
Q. -- to make sure?

147

A. Yeah. Gather enough data so they can make an interpretation.
Q. Okay.
A. Because I -- I don't know what the stuff is. I mean, I'm gathering data. If it's not good, Stef has to go back.
Q. Got it.
So when you dropped the slug, what -- say you have -- what is one of the sizes of slugs that you have?
A. Ten-foot.
Q. Ten-foot.
So if you drop a ten-foot slug into one of these piezometers, how much -- I think you said you watched the water rise?
A. Well, you don't watch it rise.
Q. Well, you don't watch it rise. Okay. So the water rises.
What's the maximum that you would expect the water to rise --
A. No idea.
Q. -- with a ten-foot slug?
A. Whatever the volume is.
Q. The volume of the slug?
A. Yeah. But then it's dependent on how much is

148

going into the formation. So, you know, that's --
Q. How much water is going into the formation?
A. Yeah.
Q. Is that what you're?
A. Yeah. How transmissive the formation is.
Q. Okay. So there's no -- in other words, you're saying there's no maximum displacement that you would expect to be associated with a particular size of a plug?
A. There is an upper limit.
Q. Okay. Upper limit. That's another way of saying maximum.
So what is the upper limit for -- an example I was using, for the ten-foot length?
A. The volume of that slug.
Q. The volume of that slug.
And so how is -- if you have a ten-foot-long slug, what's the volume of that slug?
A. I can't remember. It's written down somewhere. We measured the thing and know what the volume is, so...
Q. Okay.
A. It's the volume of the cylinder.
Q. Volume of the cylinder. Okay.
And is the volume of the cylinder that's

149

utilized, is that one of the pieces of data that you transmit to Biggs and Mathews?
A. Yes.
Q. Okay. So you drop the slug and then you said that you allow the test to complete.
A. Uh-huh.
Q. What do you mean by that?
A. You allow it to get back to equilibrium.
Q. Okay. So the -- you allow the water level to return to equilibrium?
A. Correct.
Q. And how do you know that it's returned to equilibrium?
A. There's a couple of ways, but you can watch the -- the little counter on that little computer or whatever and it gets back to --
Q. The computer that's hooked up to the transducer?
A. Yeah.
Q. So --
A. Or the box. Whatever apparatus you have at that particular time. I can't remember which one we used. It was either a box that they rented us or I had it on the computer. I can't remember which one.
Q. A box?

150

A. Yeah. You know, it's a -- it's a -- a box -- like a retrieval box. You know, I mean, it's a...

Q. Is it something that is -- that comes with the transducer?

A. Yeah. Yes. Yes.

Q. Okay. So one way or the other, that is mechanically measured, the equilibration -- when you reach equilibration, it's --

A. Yes, ma'am.

Q. Okay -- mechanically measured?

All right. And then after the equilibration takes place, do you -- and you said you -- then you remove the slug?

A. You can stop the test and then you can hit a couple of buttons and then restart the test when you pull the slug out.

Q. Okay. And is that what you did on these particular slug tests?

A. I think we did do rising and falling head tests. Uh-huh.

Q. And can you tell me just briefly what a -- just describe again what a rising head slug test is and what a falling head slug test is?

A. Yes. When you put a slug in, the water level rises and it falls back to equilibrium. And when you

151

pull the slug out -- when you pull the cylinder out, it rises back to equilibrium.

Q. And so which one's -- the falling one is the first one you described?

A. No.

Q. Or is it the --

A. The -- the -- yeah, the first one is the falling and the second one is the -- it rises back to equilibrium. Yeah.

Q. Okay. So you're measuring -- you're measuring those occurrences then, the --

A. Correct.

Q. -- the rising and the --

A. Falling. Uh-huh.

Q. -- and the falling?

And that's what the transducer is measuring?

A. That's what the transducer is measuring.

Q. Okay. And as best you can recall, that's the -- that's the process that you followed for the -- testing these eight wells or conducting these eight slug tests? Actually, I shouldn't say eight slug tests. For conducting the slug tests on these eight piezometers?

A. If we -- yeah. If we did eight, yes. I don't...

152

Q. Okay. And I think I asked you this before, but have you -- you've done a lot of these slug tests, right?

A. Yeah. Yeah.

Q. So hundreds?

A. Maybe 50. I don't know.

Q. Maybe what?

A. 50.

Q. 50. Okay.

A. A hundred.

Q. So this isn't something that you -- you know, you've listed all of those different sites for which you've done -- you know, participated in subsurface investigations --

A. Right.

Q. -- in these landfill sites.

You haven't done slug tests for most of those or you haven't done slug tests for those sites?

A. If the project called for slug tests, we did slug tests.

Q. Okay.

A. I mean --

Q. I'm trying to understand. Here's where you're losing me. You mentioned a bunch of projects that were just located in the Houston area. You're saying that

153

you've maybe taken 50 slug tests. I will represent to you that you took eight times four slug tests at this particular location. That's a big chunk of 50. So I'm trying to match up that 50 number with the number of sites that you're talking about. And that doesn't -- that doesn't seem to -- and I realize that it's hard to remember, but I'm asking for your best estimate. I mean, if you do that many for each site, then that would be two sites that you've done in your entire career.

A. Okay. When you said "slug tests" --

Q. Uh-huh.

A. -- I thought you were talking about at a site, not each individual test. Sorry.

Q. No, no. That's okay.

So you're saying -- you're saying 50, but what you were referring to was 50 -- you were talking about the individual piezometers on which you did the slug tests, 50 of those?

A. Yeah. Something like that.

Q. Okay. And I realize these questions are frustrating, but you are under oath. So you do need to --

A. No. No, I --

Q. -- kind of take this a little bit seriously, okay?

154

A. I am taking this seriously.
Q. Okay. Your body language is suggesting otherwise.
A. Well, I wouldn't look at my body language. Okay? Just listen to the answers, please.
Q. I am listening to the answers and you're shaking your head and saying, I don't know, shrugging your shoulders like you really don't care. And I understand --
A. No. I really can't remember. Okay?
Q. Okay.
A. So it's not like that's a metric that I measure.
Q. And I can understand that. And I'm not asking you necessarily to measure it. I was correlating what you told me before with what you just told me now in terms of that. And that's why I was asking those follow-up questions --
A. Okay.
Q. -- because it did not make sense to me.
And while we're talking about the other sites that you have worked on, I think that you said that you have done a number of projects with Biggs and Mathews.
What are the other engineering firms that

155

you typically do this type of work for, the type of work we've been discussing today during your deposition?
A. Golder, Geosyntec. I don't know. That's all I can recall at this point.
Q. Okay. So would you say that you do the majority of your work for Biggs and Mathews?
A. No.
Q. Who do you do the majority of your work for?
A. Waste Management.
Q. And those 50 facilities or estimated 50 facilities that you are currently working on groundwater projects for that we talked about in the beginning of the deposition, what are those companies? Waste Management is one of them?
A. Republic Services.
Q. Republic.
Any other ones?
A. G.O. Weiss, Casco, City of Big Springs, City of Odessa, U.S. Ecology, McCarty Road.
Q. And are those projects you are -- what type of work are you doing?
A. Groundwater sampling, field exploration.
Q. Like the kind of field exploration we've been talking about today?
A. Correct.

156

Q. And going back to Biggs and Mathews for a moment --
A. Uh-huh.
Q. -- do you recall -- with respect to the -- I know that you put together the proposal -- the initial proposal that we talked about earlier. And I do not recall which exhibit that was. Let me look.
MS. NICHOLS: 7.
Q. (BY MS. JACOBS) Ah, 7.
A. 7.
Q. So you put together Exhibit 7, and you had said that Mike Snyder provided you with the parameters.
A. Uh-huh.
Q. And you in response came up with what is Exhibit 7, is that right?
A. I came up with the cost, yes, ma'am.
Q. You came up with the cost.
So -- so how did Mike Snyder communicate those parameters that he needed to you? Did he do that over the phone?
A. Probably so. He called me up, said, Hey, we need 36 borings to these depths, here's how I want to sample. Here's how many piezometers that we think we're going to install, so give me estimates for these to this depth and this depth. You're going take water levels

157

for a year. You're going to do eight slug tests. So we put together a proposal.
Q. Okay.
A. We're going have to take a break because I've got to -- I've got to go to the restroom. I'm sorry.
Q. No problem.
(Recess from 3:01 p.m. to 3:15 p.m.)
Q. (BY MS. JACOBS) I think I may have misunderstood you when we were talking about the slug tests.
A. Yes, ma'am.
Q. And you said that you had -- I thought you had said that -- are you --
A. Yeah.
Q. -- doing something?
A. No, no. Actually, I was trying to help her. She asked me to and I just had one that we had to correct.
Q. Gotcha.
A. We're good. Yeah, we're good.
Q. So when you were talking about the slug tests and I was asking you about the number of slug tests that you have conducted --
A. Yeah.
Q. -- in the course of your career and you said

158

something like 50, is that 50 in reference to the actual number of times you have dropped a transducer in a well?

A. No.

Q. Okay. What did you mean when you said 50?

A. Number of sites, tests (indicating).

Q. So the number of sites -- okay. See, that's what I was misinterpreting there. So number of sites.

But you're not saying -- you're saying 50 different locations and 50 different projects on which you have done slug tests?

A. Correct. Correct.

Q. Okay.

A. Approximately.

Q. And at those 50 sites, you have no idea how many tests in toto you may have conducted in your career?

A. (Nods negatively.) No.

Q. Okay. And at those 50 sites, would that be projects similar to the one that we've been discussing today -- the investigation project we've been discussing today?

A. No.

Q. Okay. What would those 50 sites where you've done slug tests -- what kinds of projects were you engaged in at those sites that necessitate a slug test?

159

A. I mean, they weren't permit applications. They were other determination of aquifer parameters for -- you know, they're trying to establish hydraulic conductivity.

Q. Okay. And you said that you sent the results from the slug tests to Biggs and Mathews, is that correct?

A. Correct.

Q. When you work with Biggs and Mathews, do you know who analyzes the data --

A. I do not.

Q. -- from the slug test?

A. I do not. I -- someone at their office. I don't know.

Q. Going back to Exhibit 7 --

A. Yes, ma'am. Yes.

Q. We talked about this previously on Page 2, Task 2.

A. Uh-huh.

Q. And I think I remember you saying that -- I asked you about, you know, the proposal here was for 24 piezometers, 12 at an 80-foot depth and 12 at a 50-foot depth, is that right?

A. Correct.

Q. And I think I remember you telling me that

160

Mike Snyder gave you that particular set of parameters for you to include in this proposal.

A. Correct.

Q. Is that right?

A. Correct.

Q. Do you recall when you got the instructions to change the number of piezometers to less than 24 to the number that you actually ended up completing?

A. No. But if we did less, I didn't charge them that amount of money, if that's what you're getting at. I didn't -- I -- I don't know. I can't remember. It had to be within -- before I finished drilling them, but I don't know. I -- I really don't.

Q. Do you -- would Mike have been the one that made that decision?

A. Absolutely.

Q. And do you recall at which other sites you have conducted slug tests for on behalf of Biggs and Mathews?

A. Fairbanks North Houston, Atascocita Landfill.

Q. Can you spell that? I couldn't tell --

A. Atascocita.

Q. Atascocita with an A in front of it?

A. I think it's A-T-A-S-C-O-C-I-T-A.

Q. Okay.

161

A. Atascocita.

Q. I won't hold you to that. I just couldn't --

A. Yeah.

Q. I couldn't, yeah, understand.

Any other ones that you can remember?

THE WITNESS: I wrote on that. I'm sorry.

THE REPORTER: That's okay.

A. I can't think of any. I'm sure there is more. I just can't think. If I think of one, I'll tell you.

Q. (BY MS. JACOBS) Thank you.

With respect to the Exhibit No. 11 there in front of you, I don't think that -- I think you said that you did not create that particular map, although you wrote on it.

A. Doodled on it.

Q. Doodled on it. Okay.

Did you have any involvement in preparing the soil boring plan that was submitted to TCEQ -- to the Texas Commission on Environmental Equality?

A. This project?

Q. Yes.

A. No.

Q. Did you review it, the soil boring plan?

A. No.

162

Q. You feel confident about that? Do you need to refresh your memory?
A. I don't think I did.
Q. Okay.
A. I'm...
Q. And did you ever receive a copy of the soil boring plan approval letter that came from TCEQ?
A. I don't think so. I may have gotten a copy. I don't know.
Q. Okay. Does that -- does it -- does approval from -- and I think -- I think in your website it mentions being familiar with state and federal regulations.
A. Correct. Yeah.
Q. I think that was one of your things.
A. Yeah. Yeah.
Q. So is that something that you look for before you begin a project? Do you look for an approval letter from TCEQ before you begin executing your boring plan?
A. Drilling out in the field?
Q. Yeah. And I should say -- and I'm going to specify and say for when you're doing an investigation like the one we've been talking about, that's detailed in Exhibit 7, to, you know, look at the subsurface for -- in preparation for a potential landfill.

163

A. I don't know. I don't -- I don't know if we always get an approval before we start drilling.
(Sotto voce discussion between Ms. Nichols and Ms. Jacobs)
Q. (BY MS. JACOBS) And what she was talking about, she was just reminding me we're going to have you identify the documents that you brought with you today for the record.
A. Okay. Absolutely.
From my copy?
MS. NICHOLS: No. We're going to hand you another one. If you want to compare, you can. Oh.
Q. (BY MS. JACOBS) If you don't feel confident that this is a true copy of what you brought, then you can compare them. But we were just -- we're going to have them stamped --
MS. NICHOLS: We'll give it to the --
MS. JACOBS: Yeah.
MS. NICHOLS: -- court reporter.
MS. JACOBS: And --
MS. NICHOLS: So it's that stuff plus -- we can go off the record.
MS. JACOBS: Yeah. Let's go off the record just a second.
(Recess from 3:26 p.m. to 3:28 p.m.)

164

Q. (BY MS. JACOBS) So what you've been handed and have been looking through for us is a copy of the documents that you brought with you here today, is that right?
A. Correct.
Q. And is this a true and correct copy of your -- contents of your file on this project?
A. Yes, ma'am.
Q. When we add it with -- you also brought Exhibit -- what is now Exhibit 18 -- or sorry, Exhibit 11 --
A. 11, 7.
Q. -- and Exhibit 8.
A. Oh, okay. Exhibit 8. Yeah.
Q. I believe. Okay.
So all of those put together, that's a correct copy of your files, is that right?
A. Yes.
Q. And do you have any other documents in your possession, e-mails --
A. No.
Q. -- maps?
A. Not to my knowledge.
Q. Okay. Have you searched for them?
A. I have.

165

Q. Okay.
MS. NICHOLS: Let's mark that as an exhibit.
THE WITNESS: It's what?
MS. JACOBS: We need to mark that stack of documents.
THE REPORTER: It will be 13.
MS. JACOBS: Mark that Exhibit 13.
(Exhibit 13 marked)
A. Is this -- is this one?
Q. (BY MS. JACOBS) No. Not unless you have a copy from the technically complete application.
MS. NICHOLS: No, that's our Exhibit 12.
A. No, but you wrote 12 on there.
Q. (BY MS. JACOBS) It's an exhibit, but it's not --
A. Oh, yeah. It wasn't one of mine.
Q. -- one of your --
A. It wasn't mine.
Q. -- pieces of paper --
A. Okay. Yeah.
Q. -- right. Right.
A. Does this go in this stack?
Q. That's actually my copy.
A. Okay. Okay.

166

Q. The official ones have a little sticker on it.
A. Okay.
Q. Great.
MS. JACOBS: Okay. I am going to pass the witness.
EXAMINATION
BY MR. WOODWARD:
Q. Mr. Stamoulis, I'm Mike Woodward.
A. Nice to meet you.
Q. Thank you. Nice to meet you.
I have just a few follow-up questions to ask you.
A. Yes, sir.
Q. Going back to the e-mail that was marked Exhibit 4, there was mention of a Peterson tract.
A. Yes, sir.
Q. And these were for some preliminary borings on two Waller County tracts. So it sounds like Peterson tract is also in Waller County. And I believe you testified that you did not remember anything about the Peterson tract.
A. Correct. I don't remember.
Q. So you don't believe you did any work at anyplace called the Peterson tract?
A. No, sir.

167

Q. Okay. When the exploratory borings were conducted in December of 2010 --
A. Yes, sir.
Q. -- was Krystal Nichols with you at that event, I think December 14th, December 15th?
A. No, sir. No, sir. I don't believe so.
Q. So you handled the boring logs by yourself that day?
A. Correct.
Q. Was Mike Snyder with you?
A. I don't think Snyder came out on those first six. I don't think he came out on his first six, no.
Q. When you're conducting borings like that, do you maintain any kind of notebook or any kind of log to keep track of samples taken and how they're preserved and where they're sent?
A. Other than the boring -- the field boring log, no, sir.
Q. So the field boring log is where all the information is entered?
A. Yes, sir.
Q. Do you -- and you don't retain a copy of the field boring log?
A. I do not.
Q. So as I understand it, when you send all that

168

information to, in this instance, Biggs and Mathews, they prepare a draft log that is sent to you for your review?
A. Yes, sir.
Q. And is your review just based upon your memory at that point?
A. No. I think they send the other logs along with it and I just verify.
Q. What do you do with the draft logs and the field logs that they send back to you?
A. If I don't send them back, I destroy them.
Q. Did you do any work in Caldwell County for Biggs and Mathews?
A. I did.
Q. For the 130 Environmental Park?
A. I did, yes, sir.
Q. I had a question about Exhibit 11.
A. Yes, sir.
Q. Was this a map that you took out into the field with you to -- when you were going to do the 36 borings?
A. A copy of it probably, yeah. This -- maybe not this exact one, but, yes, sir, a version of it.
Q. Okay. And these -- you said the blue markings on there are your hand -- from your hand?

169

A. Yes, sir.
Q. Is the red also your markings?
A. I don't know. Yeah. Probably. I don't know.
Q. Do you know what that signifies, if anything?
A. No. No.
Q. Okay.
A. I could have been talking on the phone.
Q. When you went out to do the 36 borings summer of 2012, correct -- or no, it would have been summer of 2011. My mistake.
A. Yes, sir. '11.
Q. And those borings were conducted over the course of period from July to August?
A. I believe that's what we said. A month period of time.
Q. And as I understand it, you had two rigs operating out there?
A. Yes, sir.
Q. And Krystal Nichols was with one rig and you were with the other rig?
A. Yes, sir.
Q. Do you know if Krystal Nichols was creating field logs also?
A. She was not.
Q. How were the samples being logged while you

170

were sitting on another rig?
A. She obtained the samples and I logged them on site.
Q. How would this -- how would that work?
A. All samples are retained and bagged. And so I would look at the samples.
Q. Would the rigs be operating simultaneously?
A. Yes, sir.
Q. And so explain to me, then, how she would preserve the sample for you to --
A. To look at.
Q. -- look at?
A. Yes, sir.
Q. How would she identify it?
A. She would grab a sample, put it in a bag, cut a piece off for me to look at and I'd come to the table and look at it.
Q. Would she then just tell you it was from which depth and from which hole or she wouldn't take no notes on it?
A. She would probably take a pocket penetrometer and put the depth, the sample number on the back, yes, sir.
Q. Okay.
A. But I would describe the samples because she

171

was in training.
Q. I'm trying to envision this. So you would be at another part of the property behind the rig. She would take the samples and --
A. Line them up.
Q. -- line them up in a bag and put them on a table and --
A. Well, they put them in a box, yes, sir. I physically looked at every sample and logged every boring.
Q. And every one of those went to Biggs and Mathews?
A. The samples?
Q. Yes.
A. Yes, sir.
Q. And the --
A. Through transport.
Q. And the -- every observation went to Biggs and Mathews also?
A. Yes, sir. The logs. The field logs.
Q. Field logs --
A. Yes.
Q. -- that contain the observations?
A. Yes, sir.
Q. You had mentioned that during the shallow part

172

of the boring it would be a dry --
A. Auger.
Q. -- auger.
I think you also used the term "solid stem"?
A. No, sir.
Q. No?
A. She did. I said a drill rod with a bit on it.
Q. Okay. So when you're doing a drill rod with a bit on it, it's just chewing up the rock and the dirt and it's coming up and how -- what kind of matrix is the soil coming up in?
A. When you're drilling or sampling?
Q. When you're drilling and --
A. We continuously sample to 30 foot. So what you would do is you'd push a Shelby tube or a split spoon, and then to get the cuttings that are -- were on the side of the hole, you'd go down with a -- a bit and pull it out and go back down with a -- to take another sample. So the samples came out as Shelby tubes or they were driven with a split spoon sampler. So all samples were retained either by a Shelby tube or a split spoon.
Q. And you're able to -- do you have to pull the rod and the bit out to then go back in and take those samples?

173

A. Every time.
Q. So when I look at these boring logs that -- on the EB -- I think it's Exhibit No. 6.
A. Yes, sir. 6?
Q. Yes, sir.
A. Uh-huh.
Q. So just looking at EB-1.
A. EB-1 or EB-6?
Q. No. Exhibit 6.
A. Okay. EB-1. Uh-huh.
Q. EB-1.
A. Okay.
Q. And it was total depth of 78 feet and it looks like you took 20 samples, is that correct?
A. Correct.
Q. And in the top 30 feet --
A. When this one here went continuous to 16.
Q. What do you mean by that?
A. We continuously sampled from 0 to 16 foot --
Q. Using a tube?
A. -- for this -- in this case right here, it was a tube. Yes, sir. I took eight tubes.
Q. Okay.
A. I pushed eight tubes, yes, sir.
Q. And then at 16 feet --

174

A. We put a bit in there and got the soil out, got to 18 or what's -- 18 and a half to 20 foot and we drove a spoon. And we dug out the sand, got to 24 -- or 23 foot, took a sample S-10 from 23 to 25, And so on and so on until we completed the boring.

Q. There's no groundwater observations on SB-1, are there?

A. Doesn't appear that there is.

Q. So that would indicate there was no groundwater encountered in this boring?

A. It would -- it would mean that we had to set up and start washing because it could have been we couldn't keep the hole open. We couldn't keep the hole open dry, so we had to set up and start washing to keep the hole open. So it looks like if there's not one marked -- well, it said it was dry to -- it was dry to 30 foot. We couldn't keep the hole open, so we set up the wash.

Q. But we can't tell from here why you had to set up to wash?

A. Probably couldn't keep the hole open. The sand just kept falling in.

Q. I think I said SB-1 earlier, and it's EB-1.

A. EB-1. Yeah. I knew what you meant.

Q. Just to clarify that.

175

A. Yeah. When you said Exhibit 6, I knew.

Q. We're getting ready for legislative sessions, so everything becomes SB.

A. I understand.

Q. In the summer of 2011 when you did the program of 36 borings --

A. Yes, sir.

Q. -- is there any way of telling of which rig and which boring and who was sitting behind which rig for which boring?

A. No, sir.

Q. Would that be indicated in the field logs?

A. Possibly.

Q. In Exhibit 7, which is your proposal to Biggs and Mathews --

A. Yes, sir.

Q. -- did you prepare field logs for the piezometer installations?

A. I can't remember. I don't know if I put the piezometer depths adjacent to the existing logs or if I drew another one up.

Q. I think I heard you say this is a standardized proposal, so we can't really take from the proposals what was actually done in the field.

A. Pretty much when I'm giving a proposal, it's

176

an estimate. Here's what we think it's going to be. And, you know, a lot of times it isn't. I mean, you know, we didn't do 24 piezometers, you know. I really can't remember how many piezometers we did slug tests, but I gave him a number and I probably did more than -- than -- you know, more than eight, you know, individual tests.

So to answer your question, they want a budgetary number and then -- and then only get charged for really what's done, you know, or if it's more.

Q. So you're not sure if you did field logs for the piezometer installations?

A. You know, I have the water well driller's logs that were submitted. I think y'all have copies of those. I may have done them. I know I did an as-built to tell them what depth, you know. I mean, they told me, Hey, drill this to X amount of depth. And, you know, I did a -- probably an as-built or -- I know there's some type of documentation.

Q. What is an as-built?

A. Of how it was exactly built.

Q. Is it a drawing?

A. Drawing. I don't know if y'all have that in the permit. I don't -- I didn't see it. I mean, I hadn't seen the permit. I don't know if it's in there.

177

Q. Would an as-built show the geologic formations also? Would it look like a log?

A. Yeah.

Q. And --

A. I don't know what they put in the permit, sir. I...

Q. When you prepare an as-built, do you put a seal as a professional geoscientist on it?

A. No, sir. Not for the field copy, no. If I submit it to the state on a monitoring well, I do stamp it, but in this case, I didn't.

Q. So you didn't -- you don't know if they utilized the as-builts you prepared for the application or not?

A. I can't remember what -- the final thing that they sent me to review. But I know that they had to have -- they had to have what the -- the depth of the well and the diameter and stuff like that. So I know there's something. I just don't know what we're talking about. If y'all want to put a copy in front of me, I'll definitely look at it.

Q. I'm just trying to --

A. Yeah. Yeah.

Q. -- understand what you did.

A. Yeah. I -- I -- I gave them the depths of

178

where the bottom was, where the screen was, where the sand came up to, where the chips were, and what surface completion we had at the top. So it's a drawing.

Q. Okay.

A. A field drawing of the well location, piezometer in this case.

Q. And I think I heard you say earlier you did not prepare the installation report for the piezometers.

A. I don't think I did, no, sir.

Q. And when you put in parentheses after that description "factual report," what do you mean by that?

A. A lot of times when I'll do an installation for a waste management or somebody, we'll give them a factual report. We, you know, drilled this, we did this, we put this in, and it's -- you know, it's not interpretations. It's fact -- the facts.

Q. I'm still referring to Exhibit No. 7 and --

A. Yes, sir.

Q. -- talking about Task 3, the water level measurements.

A. Uh-huh.

Q. How are those recorded for reporting to your client?

A. I think they provided us with a sheet similar to that deal right there that had the piezometer, you

179

know, number designation on it and we'd take water level readings on that sheet and send it to them and they -- I guess they'd convert them to natural ground elevations. We'd just take the water level. We wouldn't convert them.

Q. When you take the water level, what are you measuring? Is that depth to the top of the casing?

A. Depth to water from the top of the casing. When we install a well, we put a little D notch in there so it's measured from the same place each time.

Q. Okay. Earlier you said "like that deal." What were you referring to? Or when you said --

A. This Exhibit No. 12. I don't know if you have that one.

Q. Table of the water level elevations?

A. Yes, sir.

Q. Were you keeping a running tally of the water level elevations while you were --

A. No, sir. From month to month?

Q. Yes. Because you said it was a table similar to this one. I'm wondering did you for each month write in the water table elevations into a table?

A. I think we wrote it into something similar that they had generated that was similar.

So were there month-to-month stuff on

180

there? Yes, but I -- I wasn't tallying it. They tallied it. I mean, they made the conversion.

Q. So yours was a raw number from the top of the casing down --

A. Yeah. Mine was -- yeah. It was just a handwritten number. Guy would take a water level indicator, find the total depth -- I mean, the, you know, depth to water and write it in.

Q. Were you actually doing the measurements yourself or did you have someone on your staff?

A. No, sir. Probably -- I don't think I went out but maybe a couple of times on to the facility. Our staff would probably -- would -- scheduled up each -- whenever those dates were and we'd go out. I know I didn't do all of the water level readings.

Q. Okay.

THE WITNESS: Can we take a break?

THE REPORTER: (Indicating.)

MS. JACOBS: Yes, let's take a break.

(Recess from 3:52 p.m. to 3:55 p.m.)

Q. (BY MR. WOODWARD) I have just a couple more questions.

A. Yes, sir.

Q. It involves the slug test. What I'm mainly interested in is the results and how the results are

181

transmitted.

A. From me to Snyder or Biggs and Mathews?

Q. Initially to you, you know, how do you get the results, and then what do you do with them?

A. They're saved on a disk and I ship them the disk to do the interpretation.

Q. What kind of information is saved on the disk?

A. The well location, pressure, depth to water and then the readings during the test while it was conducted.

Q. What's a reading? What are the readings?

A. It's reading pressure converted into feet, change of -- of water.

Q. Do you recall when you conducted the slug test out at the Marengo site, did you have a computer hooked up to the transducer?

A. I -- I can't remember. I can't remember if it was a -- a box that was rented or the computer. It may have been a computer. I don't know.

Q. You said it's reading pressure. What type of pressure? What is it reading?

A. Psi head on top of the instrument.

Q. So there -- it would also then be an indicator of how far below the top of the water the instrument is located?

182

A. Yes, sir.
Q. And I guess you'd have to then calibrate it to the size of slug you dropped into the water?
A. No, I don't think so.
Q. It would be the same reading whether it was a two-foot slug or ten-foot slug?
A. It wouldn't be the same reading, but you don't have to calibrate it.
Q. Two-foot slug wouldn't have a smaller displacement than a ten-foot slug?
A. It would, but -- but I don't think there's a calibration involved.
Q. You wouldn't have to put in that you're dropping a two-foot slug versus a ten-foot slug?
A. That's not a calibration.
Q. Okay. I'll stand corrected, then.
A. Okay. Well --
Q. You'd have to know the type -- size of slug you were dropping into the well?
A. You do know what size you dropped in, yes, sir.
Q. And the instrument would need to also know -- you know, I hate to say an instrument knows, but it -- you have to --
A. No, sir.

183

Q. -- in order for it to measure, wouldn't it need to know what size slug was being --
A. No, sir. You're measuring the -- the rise in water, not the actual slug.
Q. But the -- okay.
A. It's a rise in water.
Q. And when you're saying "a rise in water," that's actually measured, then, by the electronic tape you dropped in?
A. No. It's measured by the transducer.
Q. The transducer --
A. Transducer.
Q. -- is able to measure how high the water went up in the well head?
A. Yes, sir.
Q. So then you would take that disk on which the data was downloaded onto and you would send that to Biggs and Mathews?
A. For interpretation, yes, sir.
Q. Would you have a transmittal letter on that?
A. If it's not in the file -- I mean, I looked all over everything I could and this is all -- I mean, this is all I had. We're not super sophisticated. I mean, we -- you know, I probably sent him a FedEx deal, you know.

184

Q. But the disk would have a label?
A. Oh, yeah.
Q. I mean, there has to be some kind of --
A. Yeah.
Q. -- identifier of what he was receiving?
A. Probably. Yes, sir. Yeah. No, they knew what they were getting.
Q. Would the person interpreting the data need to know what size slug was dropped into the well head?
A. Yes.
Q. And how would that information be transmitted?
A. You know, like a little drawing with some notes.
Q. So were there drawings and notes prepared with these slug tests that would go with the disks --
A. Yes, sir.
Q. -- to Biggs and Mathews?
A. Yes, sir.
Q. And you didn't retain copies of those?
A. No, sir. I know it looks chintzy, but this is the file.
Q. No judgment here. I'm just trying to get information.
A. No. I understand.
MR. WOODWARD: I don't have any more

185

questions.
MR. RYAN: I don't have any.
FURTHER EXAMINATION
BY MS. JACOBS:
Q. I've got one follow-up --
A. Yes, ma'am.
Q. -- on something that Mike asked you.
A. Uh-huh.
Q. If you -- when you -- how do you decide what records to keep and what records to destroy related to a particular project?
A. The data is not mine. It's the client's. I may keep copies of proposals, copies of transmittals to the state regulatory agency. But all field data is obsolete once it's been sent to the client. So I don't -- I purge it. I mean, if I kept every scrap of paper I ever had, I'd need ten buildings.
Q. And I understand that the -- I understand what you're saying that it belongs to the client.
Is that a practice that you -- is that a practice, destroying these documents that have the data -- or your copies of these documents that have this type of information, your field notes and your field logs, is that a practice that you engage in for each client that you have?

A. Yes.
Q. Each and every client?
A. Yes.
MS. JACOBS: I don't have any other questions.
(Deposition concluded at 4:04 p.m.)

CHANGES AND SIGNATURE
WITNESS NAME: STEFAN STAMOULIS
DATE OF DEPOSITION: DECEMBER 15, 2014

PAGE/LINE	CHANGE	REASON

I, STEFAN STAMOULIS, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

_____
STEFAN STAMOULIS

THE STATE OF _____)
COUNTY OF _____)

Before me, _____, on this day personally appeared STEFAN STAMOULIS, known to me (or proved to me under oath or through _____) (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.
Given under my hand and seal of office this _____ day of _____, _____.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF _____
COMMISSION EXPIRES: _____

SOAH DOCKET NO. 582-14-3597
TCEQ DOCKET NO. 2012-0302-MSW

APPLICATION BY PINTAIL LANDFILL, LLC FOR NEW MUNICIPAL SOLID WASTE PERMIT NO. 2377) BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

REPORTER'S CERTIFICATION
ORAL DEPOSITION OF
STEFAN STAMOULIS
December 15, 2014
Volume 1

I, Julie A. Jordan, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:
That the witness, STEFAN STAMOULIS, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;
That the deposition transcript was submitted on _____ to the witness for examination, signature and return to me by _____;
That the amount of time used by each party at the deposition is as follows:
MONICA M. JACOBS.....03 HOUR(S):25 MINUTE(S)
DIANA L. NICHOLS.....NONE
BRENT W. RYAN.....NONE
MICHAEL L. WOODWARD.....NONE

WESLEY P. McGUFFEY.....NONE

That pursuant to information given to the deposition officer at the time said testimony was taken, the following includes counsel for all parties of record:
Ms. Monica M. Jacobs and Ms. Diana L. Nichols, attorneys for The City of Hempstead
Mr. Brent W. Ryan, attorney for Pintail Landfill, LLC
Mr. Michael L. Woodward and Mr. Wesley P. McGuffey, attorneys for the Citizens Against the Landfill in Hempstead
Mr. Anthony Tatu (Not Present), attorney for TCEQ Executive Director
Mr. Garrett Arthur (Not Present), attorney for TCEQ Public Interest Counsel
Ms. Marisa Perales (Not Present) and Stacy Williams (Not Present), attorneys for Organization for the Environmental Health of Hempstead
Baptist Hill Cultural and Environmental Society c/o Janet Fisher
Ms. Lucille Garner

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me this 18th day of December, 2014.

Julie A. Jordan

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