TRANSCRIPT OF PROCEEDINGS BEFORE THE
STATE OFFICE OF ADMINISTRATIVE HEARINGS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AUSTIN, TEXAS

IN THE MATTER OF THE APPLICATION OF BFI WASTE SYSTEMS OF NORTH AMERICA, LLC PROPOSED SOLID WASTE PERMIT AMENDMENT NO. 1447A) SOAH DOCKET NO. 582-08-2178) TCEQ DOCKET NO. 2007-1774-MSW

HEARING ON THE MERITS

WEDNESDAY, JANUARY 21, 2009

BE IT REMEMBERED THAT AT approximately 9:00 a.m., on Wednesday, the 21st day of January 2009, the above-entitled matter came on for hearing at the State Office of Administrative Hearings, 300 West 15th Street, Hearing Room 402, Austin, Texas, before WILLIAM NEWCHURCH, Administrative Law Judge; and the following proceedings were reported by Virginia L. Bunting, a Certified Shorthand Reporter of:
Volume 2 Pages 281 - 536

P R O C E E D I N G S
WEDNESDAY, JANUARY 21, 2009
(9:00 a.m.)

JUDGE NEWCHURCH: Let's go on the record. It is 9:00 a.m. It's January 21, 2009. This is the continuation of the hearing 582-08-2178, SOAH BFI.

Are there preliminary matters this morning?

MR. CARLSON: No, Judge.

MS. MANN: Your mic?

JUDGE NEWCHURCH: I'm sorry?

MS. MANN: The mic.

JUDGE NEWCHURCH: That's as good as it's going to get. Sorry. If I'm really, really close, it's a little better.

MS. WHITE: That's a lot better.

JUDGE NEWCHURCH: Mr. Snyder, if you will return to the witness stand, please.

And if I recall correctly, Mr. Renbarger, you were still engaged in cross-examination, right?

MR. RENBARGER: Yes.

JUDGE NEWCHURCH: Mr. Snyder, of course you remain under oath.

THE WITNESS: Yes, sir.

JUDGE NEWCHURCH: Mr. Renbarger, you may begin.

PRESENTATION ON BEHALF OF
BFI WASTE SYSTEMS OF NORTH AMERICA, INC.
(CONTINUED)
JOHN MICHAEL SNYDER,
having been previously sworn, continued to testify as follows:
CROSS-EXAMINATION (CONTINUED)
BY MR. RENBARGER:

Q I believe yesterday, Mr. Snyder, you indicated that you were familiar with a late 1980s RCRA publication entitled "Ground-Water Monitoring: Technical Enforcement Guidance"; is that correct?

A Generally, yes.

Q Okay. I believe you also indicated that you were familiar with a similar 1990s document. Would that be the 1992 RCRA "Ground-Water Monitoring: Draft Technical Guidance"?

A I believe so.

Q Do you recall that both of these documents were referenced in the Subtitle D technical guidance -- the Technical Enforcement Guidance document, or TEGD, right?

A I believe that's correct.

Q And you also recall, do you not, that the TEGD is referenced in the adoption of the Subtitle D rules at the federal level, right?

A I didn't remember that, but it doesn't surprise me.

Q Okay. Don't both the TEGD document as well as the draft technical guidance document, don't both of those address groundwater monitoring characterization and design?

A In general terms, yes.

MR. RENBARGER: May I approach the witness, Your Honor?

JUDGE NEWCHURCH: Yes, sir.

Q (BY MR. RENBARGER) Mr. Snyder, I just handed you a copy of the excerpts from the 1992 RCRA Ground-Water Monitoring: Draft Technical Guidance document, correct?

A Yes, sir.

Q Okay. Would you please look at the cover of that?

Down at the bottom of that document there's a notation. It says: "This document is distributed by USEPA to update technical information contained in other sources of USEPA guidance, such as Chapter Eleven of the SW-846...and the Technical Enforcement Guidance Document, the TEGD" that we referenced earlier, correct?

A Yes.

Q And if you will move over to the next page,

Page 285

which is No. 4-8, I believe if you will go down to the first paragraph under the Heading 4.2.1, Subsurface Boring Program -- do you see that?
A Yes, sir.
Q And in the first paragraph, it reads there: "All hydrological site investigations should include a subsurface boring program to identify the lithology, stratigraphy, and structural characteristics of the subsurface. Information obtained from boreholes is necessary to characterize the subsurface at a site and to identify potential contaminant migration pathways."
You concur with that statement, do you not?
A Yes.
Q And going down to the next-to-the-last paragraph on Page 4-8 of the exhibit -- that's not an exhibit -- 4-8 of the document, it says: "All borehole samples should be collected with a Shelby tube, split barrel sampler, rock corer, or other appropriate device," does it not?
A I see that it says that, yes.
Q And finally, the last sentence of the following -- or the sentence in the following paragraph indicates: "Borehole samples should be classified according to their lithology or pedology by an experienced geologist."

Page 286

That is correct, right?
A Yes.
Q You don't dispute that guidance, do you, Mr. Snyder?
A I don't have specific disputes with the guidance if they're applied to each investigation as the professional deems appropriate.
Q And if I understood your testimony yesterday correctly, you are not a geotechnical engineer, correct?
A That's correct.
Q And would you agree with me this specific guidance document is not geotechnical engineering; it's just groundwater characterization, right?
A I believe that's true.
Q And even though the sampling in a boring plan is a basic part of the groundwater characterization, isn't it also a part of the requirements of 330.55 that we discussed yesterday for purposes of a geotechnical report?
A A boring plan as designated in the 330 rules as required, that's correct.
Q Okay. Thank you.
MR. CARLSON: May I approach, Judge?
JUDGE NEWCHURCH: Yes, sir.
(Discussion off the record)

Page 287

(Exhibit TJFA No. 7 marked)
Q (BY MR. RENBARGER) Mr. Snyder, you've just been handed a copy of a document that's been marked TJFA-7, correct?
A Yes.
Q Thank you.
Let's take a look at that for a moment.
A Okay.
Q TJFA-7 consists of two pages, 31946 and 31947, right?
A Yes.
Q And those are materials that were apparently produced in discovery from some of your e-mails, right?
A Apparently.
Q Moving to Page 31947 of the exhibit, and I will read under the e-mail transmission here, it says: "I just had a conversation with Phil Bullock regarding the review of Sunset Farms. There are a couple of issues that Phil raised (this time and before) that could be problematic and I think it would be good if we had a conversation about those issues so that we can share an understanding and agreement in how we will approach them moving forward."
Do you see that?
A I do.

Page 288

Q Who is Phil Bullock?
A Phil Bullock is a hydrogeologist that works for a firm -- or I assume he's still working for a firm called Geomatrix.
Q What was Mr. Bullock's role in preparation of the BFI's permit application?
A He was a peer reviewer of the application.
Q Did he provide comments or suggestions in the course of his duties as a peer reviewer?
A Yes.
Q Did you review or consider his comments?
A We certainly considered his comments.
Q Okay. Going back to Page 31947 of the exhibit, what issues did Mr. Bullock find to be problematic as characterized in the exhibit?
A I would like to tell you that I remember what those issues were from this e-mail, but I don't. Over the course of time, we had many discussions, and I just don't remember what the issues were.
Q Do you remember any issue that Mr. Bullock raised with respect to groundwater?
A Not specifically, no.
Q You have no recollection whatsoever of Mr. Bullock's role in participating in the groundwater review of this application?

Page 289

A Well, I think I said that I remember that he peer-reviewed it, that we had comments. I don't have specific recollection of comments that Phil had.

MR. RENBARGER: At this time I would move to admit TJFA-7, please.

JUDGE NEWCHURCH: Any objection?

MR. CARLSON: No objections.

JUDGE NEWCHURCH: 7 is admitted.

(Exhibit No. TJFA-7 admitted).

Q (BY MR. RENBARGER) And as you sit here today, Mr. Snyder, you don't recall any changes that were made to the groundwater portions of the application as a result of Mr. Bullock's input; is that right?

A I'm certain that we made changes after our peer review and discussed it. I don't have any recollection of who made which comments or even which changes were made.

MR. RENBARGER: May I approach again, Your Honor?

JUDGE NEWCHURCH: Yes, sir.

(Exhibit TJFA No. 8 marked)

Q (BY MR. RENBARGER) Mr. Snyder, I just handed you a series of documents which reflect cross-sections taken from the application. And for the purposes of the identification of this exhibit, I believe those are

Page 290

APP -409, APP -708, APP -709, APP -710, APP -711, APP -712, APP -713, APP -715, and APP -719, and APP -828.

Is that what is in that document?

A That's what I have, yes.

Q And that's Exhibit 8, right?

MR. CARLSON: For the record, I would like to reflect this is a group of documents, not all of which are cross-sections.

MR. RENBARGER: And that's fine. We can address each of those as we come to the specific item.

Q (BY MR. RENBARGER) As I mentioned, each of the documents which collectively comprise TJFA-8 came directly from the application; is that what you understand?

A I believe that's true.

Q And the copies of the pages included in the exhibits are either sealed by Mr. Brian Olson, P.E., or yourself; is that right?

A It appears so.

Q And I believe in your prefiled testimony you indicated that affixing one's seal indicates that the work has been performed by you or under your supervision?

A Yes.

Page 291

Q And it is reliable, right?

A Yes.

Q Let's look first at APP 409, please.

A Okay.

Q Now, this document represents an engineering drawing, if you will, of fill cross-sections contained in the application, right?

A Yes.

Q And if you will look at the lower left-hand corner of Page 409, I think you will see what appears to be a small version of an overhead view of the landfill, correct?

A Yes.

Q And across that landfill going -- starting at the letter A on the left-hand side and some over the diagonal ending at the letter A prime on the right-hand side of the small landfill exhibit would be the cross-section that is represented in the larger drawing itself, right?

A Yes.

Q Mr. Snyder, if I could call your attention to a couple of features on the larger part of the drawing, if you look up in the middle of the drawing, you will see a line going from left to right that consists of two dots and a dash, two dots and a dash to form a line going

Page 292

left to right, correct?

A Yes.

Q And you also see some little dark arrows that are upside-down arrows pointing to that line?

A Yes.

Q If you would, look just to the right of Mr. Olson's engineering seal. I believe there's a designated upside-down arrow touching the dot-dot-dash line, isn't there?

A Yes.

Q And what does that reflect?

A Groundwater level from December of '99.

Q So looking at the groundwater level line from 1999 on the left side of the exhibit, I think we see the line moving upward from a level of just a little over 620 and peaking right about the place of the upside-down arrow around 640. Do you see that?

A Yes, sir.

Q And that continues on the right for a distance, and then it appears to be tapering off to lower levels as that line proceeds from the left to the right, correct?

A Yes.

Q Would you agree with me that the left-hand side of the diagram reflects the westernmost portions of the

Page 293

landfill?
A Yes.
Q Okay. And that at least for purposes of this Drawing 409, it would reflect groundwater levels at a height of approximately 640 feet in the vicinity of a vertical column that's identified as B-9, correct?
A Yes.
Q Now, wouldn't that contour also suggest to you that the groundwater level in the vicinity of B-9 -- which is Boring 9, correct --
A Yes.
Q -- that that groundwater level is actually higher than the surface; is that right?
A That's not what it would suggest to me, for a couple of reasons.
Q Is that what the map says?
A Well --
Q That's how the diagram reflects?
A -- not if you look at the entire diagram, the entire picture that's displayed on this figure.
Q Well, in all due respect, Mr. Snyder, I believe the dot-dot-dash line in the vicinity of B-9 appears to be at a higher level -- or higher elevation than the actual top of that boring, does it not?
A It does. But if you'll look at the map --

Page 294

Q You've answered my question. Thank you.
MR. CARLSON: Objection, Judge. He's trying to answer the question.
JUDGE NEWCHURCH: I agree. Objection overruled. Finish your answer.
A If you look at the figure that you've directed my attention to in the bottom left-hand corner, you will see that that boring, B-9, is not exactly on that line of section but, in fact, is projected into that line of section. And so to be precise, the water level was not a water level -- not a water level in the landfill, but a water level projected from a potentiometric surface map that was drawn to reflect water levels on that day. And the boring is not exactly on that line of section.
Q (BY MR. RENBARGER) How does a geoscientist use groundwater levels from perimeter groundwater monitoring wells to project or create contours, if you will, of the groundwater levels themselves?
A Well, because we looked at the water levels, we contoured those. If you will look on these cross-sections, cross-sections are generated from a number of sources, a number of different dates. And so the potentiometric surface map that was constructed from water levels in 1999 were largely in an area on the northern part of the site where there was no waste.

Page 295

And so at that point we weren't projecting them into waste or into excavations but into a cross -- regardless of what the excavations were, based on our understanding that the groundwater mimics the top of the unweathered, which mimics the topography, this was simply a projection of those water levels based on perimeter water levels. That's the only data that went into that projection.
Q Nonetheless, I think if you look at Page 409, the schematic that we're talking about here does reflect the groundwater level at the height of 640 feet; does it not?
MR. CARLSON: Objection; asked and answered.
JUDGE NEWCHURCH: Objection overruled.
A It is shown as a dash line of about 640 at that spot, yes.
Q (BY MR. RENBARGER) Thank you.
Let's move on to a different diagram here. Let's take a look at the part of the exhibit from Page 709.
A Okay.
Q And, again, this is a cross-section of the landfill, and it would appear from the lower left-hand corner of Page 709 that this cross-section is supposed

Page 296

to reflect conditions along the -- I'll call it the northernmost border of the landfill; is that accurate?
A Generally, yeah.
Q Okay, generally. If you look at the small schematic in the lower left-hand corner of Page 709, you see the letter A and a line drawn along that line to A prime, correct?
A Yes.
Q Is that not the -- I'll call it, for lack of a better term, the northernmost boundary of the landfill property?
A Yes, it is.
Q Thank you.
Again, looking at the larger cross-section of that, we find the dot-dot-dash line, don't we?
A Yes.
Q Moving from left to right, correct?
A Yes.
Q And again at the notation of the upside-down triangle that intersects the line on the left-hand side, we again see the 640 elevation there; do we not?
A Yes.
Q Thank you. Let's move to Page 710 of the exhibit, please.
A Okay.

Page 297

Q 710 is another geological cross-section. Again, looking at the lower left-hand corner of that page, we are looking at the cross-section that goes across the landfill, transversing from the west to the east generally, correct?
A Yes.
Q And you sealed this document, right?
A Yes.
Q About in the middle of this page, Mr. Snyder, there's a designation of existing ground with an arrow pointed towards a dashed line. Do you see that?
A Yes, sir.
Q And immediately below that there apparently is an indication of a boring, B-11, right?
A Yes.
Q And to the right of that, we see the dot-dot-dash line which we've previously determined to be the groundwater levels from December '99, right?
A Yes. Although, I need to point something out about that statement.
Q And I'm sure we'll get to that in just a moment, please.
A Okay.
Q That dot-dot-dash line immediately to the right of Boring 11 would appear to cease at the 620-foot

Page 298

elevation; would it not?
A Yes.
Q Is there any reason why that line did not extend further from right to left all the way to the westernmost boundary of the landfill?
A No, there's no reason.
Q No reason?
Had it done so in following this same contour -- excuse me, the contours discussed previously, would one expect for that dot-dot-dash line to increase in elevation to approximately 640 before it hit the western border?
A Yeah. It would have been a little different because it's at a different spot on the landfill, but it would have been approximately that.
Q It's in approximately the same area as that contour that we talked about a moment ago on Page 409 of the exhibit, isn't it?
A With the exception that my line of section goes actually through the boring, so it's a little north of the 409.
Q It is a little north, but it's in the general proximity; is that right?
A I guess that depends on what you mean by "general proximity."

Page 299

Q Let's move to Page 711 of the exhibit, please.
A Okay.
Q Do you have that in front of you? Page 711 of the exhibit denotes a contour line of CC prime. If you look at the lower left-hand of that page, we're talking about a contour here that's a little bit farther south of the preceding document, right?
A Yes, sir.
Q And again looking at the groundwater elevation line on the left-hand side of the larger schematic, again we see that peaking, if you will, below the upside-down triangle at the elevation of 640, correct?
A Yes.
Q Page 712, please.
A That's the same --
Q 712 is a duplicate of the prior page. And let's go to Page 715, please.
A Okay.
Q And Page 17 is a cross-section with the contours of F and F prime, correct?
A Yes.
Q And the F prime contour actually is a contour going from the northernmost boundary of the landfill in the center down to the southernmost boundary of the landfill in the center, correct?

Page 300

A Yes.
Q Starting again left to right looking at the groundwater elevations here, we see starting at the far left-hand margin a groundwater elevation that's marked roughly 615 feet, and that elevation gradually increases to a little over 620 feet before then tapering off to around 610 feet on the far right; is that right?
A Yes.
Q Skip over to Page 828 of the exhibit.
A Okay.
Q And you have that in front of you, right?
A Yes, sir.
Q If you will look in the upper left-hand corner of Page 828 of the exhibit, you will see what appears to be some groundwater contours with the notation December of 1999, correct?
A Yes.
Q And based on the contours on that small map in the upper left-hand corner of Page 828, we do see contours for the 640-foot elevation line, do we not?
A Yes.
Q And we see elevations smaller than 640 to both the left and the right of that 640 contour, do we not?
A Yes.
Q Okay.

Page 301

MR. RENBARGER: Move to admit TJFA-8, please.
JUDGE NEWCHURCH: Any objections?
MR. CARLSON: No objections, Judge.
JUDGE NEWCHURCH: It's admitted.
(Exhibit TJFA No. 8 admitted)
(Exhibit TJFA No. 9 marked)
MR. RENBARGER: May I approach, Judge?
JUDGE NEWCHURCH: Yes, sir.
Q (BY MR. RENBARGER) I believe you've just been handed a document. And I think the court reporter has probably designated this TJFA-9; is that correct?
A Yes, I believe so.
Q And TJFA consists of three sheets of paper, the first being from the application, 401; the second page of the exhibit, 1557; and the third page from discovery materials 27985. Is that what you have in front of you, Mr. Snyder?
A Yes, sir, it is.
Q Okay. Mr. Snyder, I would first like to call your attention to Page 27985 of Exhibit TJFA-9.
A Yes.
Q That document we may have discussed earlier in another hearing, another witness, but essentially that is a chart reflecting a landfill gas collection control

Page 302

system leachate level data from August of '05, right?
A That's what it says.
Q Let's take a look at some of the water levels that appear to be identified on Page 27985 of the exhibit. And let's see how those reflect with regard to well locations on the document identified as 1557, okay?
A Okay.
Q And for purposes of this examination, Mr. Snyder, I think I would like for you to also be making marks on Page 1557.
MR. RENBARGER: So I may need to approach the witness at this point, Judge.
JUDGE NEWCHURCH: That's fine.
Q (BY MR. RENBARGER) You've got those two documents in front of you, correct?
A Yes.
Q The 1557, as well as the 27985, right?
A Yes.
Q Okay. I hand you a red ink pen here. Okay?
A Okay.
Q If you will, Mr. Snyder, in the start of the upper left-hand column of 27985, you will note there is a vertical column which identifies the landfill gas and collection control system extraction wells by number; is that right?

Page 303

A Yes.
Q And it appears going vertically down the page starting at Well No. 1 and ending at Well No. 121; is that right?
A Yes. They're not sequential.
Q They're not sequential. That's is correct. Nonetheless, we do have at least entries on Page 27985 again at the top of the page, Ground Surface Elevations, correct?
A Yes.
Q Measured Bottom of the Well Elevation, right?
A Yes.
Q Measured Water Level Elevation, correct?
A Yes.
Q And Depths to Water From Ground Surface, among other things; is that right?
A Yes.
Q Let's start with -- let's start with Well No. EW-6, which I believe is second -- the second well number represented there in the left-hand column, correct?
A Okay.
Q If we go across until we get to the vertical column saying "Measured Water Level Elevation," we find the number 618.99, do we not?

Page 304

A That's what the column says.
Q If I can refer you now to 1557 of the exhibit, we'll try to locate Well EW-6. I believe if you look at the -- kind of the lower right-hand corner of Page 1557 and proceed up there, you will see kind of the boundary of the landfill footprint. And it makes a little left to right zig-zag. Do you see that?
A Yes.
Q And right below that line is EW-6; is that correct?
A Yes, sir.
Q Would you please circle that in red, and to the right of that, just indicate the elevation from the chart, which I believe is 618.99.
A Okay.
Q All right. And going now -- jumping over to Well No. 11 on the left-hand side of 27985, again tracking that to the right, we see an elevation of 634.39 (sic), do we not?
A Yes, sir.
Q And going back to Page 1557, let's locate Well 11.
MR. CARLSON: Mr. Renbarger, what well are you on?
MR. BLACKBURN: What well?

Page 305

MR. RENBARGER: I believe I said 11, did I not?
MR. CARLSON: I think you misread the elevation.
MR. RENBARGER: I might have. Let's see. EW-11 is 624.07. I --
MR. BLACKBURN: That's not what you said.
MR. RENBARGER: That's not what I said? Well, I stand corrected. Thank you.
Q (BY MR. RENBARGER) Well 11 shows a water elevation of 624.07, does it not?
A Yes, it does.
Q Now we need to locate Well 11 on 1557. And I believe if you again start at the lower right-hand corner where you first found it, if you will circle that, Well 11.
A Is that where you see it?
Q Yes, sir.
And 624.07?
A Okay.
Q Let's go to Well 12 now -- or excuse me, it would be Well 22 -- I beg your pardon -- and proceeding again to the right in that column on Page 27985, we find a water level elevation there of 634.39, correct?
A Yes.

Page 306

Q And let's locate that on the map.
A Okay.
Q You found that?
A I believe so.
Q And if you will, circle that, please.
A (Witness complies.)
Q You already have. Thank you.
And if you would indicate on that the elevation of 634.49.
THE REPORTER: Excuse me. He has a copy and not the original. Do you want him to mark on the original exhibit?
MR. RENBARGER: This is fine.
Q (BY MR. RENBARGER) We're on Well No. 27, right, Mr. Snyder?
A I don't know.
Q Okay. That's the one I'm asking you about. Well No. 27. Proceeding to the right on the chart, we've got an elevation of 680.24, correct?
A Yes.
Q So if you will find Well 27 on the chart. I believe that's going to be from right to left, you will see a notation at the bottom of the map saying condensation sump (sic). If you will immediately go up from that circle there, I think you will find Well 27

Page 307

right below the heading "Wellhead to Lateral."
A I found it.
Q If you will, circle that and note the elevation of 680.24.
A Okay.
Q And Well 28 --
A Okay.
Q -- which appears to be immediately to the south of 27. And that elevation from the chart reflects 663.95?
A Yes.
Q Let's jump to Well 44. And Well 44 reflects a height of 632.82, right?
A Yes.
Q And that's kind of in the center/southern kind of region of the map. Do you find that?
A I haven't yet.
Q Okay.
A Near the south?
Q Near the sound end in the center.
A Okay.
Q 632.82, will you mark that?
A Yes.
Q Let's go to Well 50. And Well 50 has an elevation of 644.71, correct?

Page 308

A Yes.
Q And if you would, please mark that on the map.
A (Witness complies.)
Q You've marked that 644.71, correct?
A Yes, sir.
Q Well 58. And from the chart there appears to be an elevation there of 649.4. I believe it's, again, on the southern boundary a little bit.
A Right here?
Q Correct. The elevation was --
A 649.4.
Q That's correct.
Well 60. Well 60 has an elevation of 636.24?
A Okay.
Q You got that? Okay.
And Well 63. Well 63 has an elevation of 660.34.
A My copy is not very good. Is that 63?
Q 63 is to the left of 58.
A Okay.
Q And the elevation being 660.34.
And lastly, Well 121 with an elevation of 644. And Well 121 is in this vicinity.
A Okay.

Page 309

Q And 644, correct?
A Okay.
Q Okay. Mr. Snyder, based on the elevations of groundwater that appear from the exhibit, would you think that it would be fair to conclude that there are areas within the landfill that are experiencing some high water levels?
A That's not what I would interpret from this data. What I would interpret from this data is that there is liquid in a leachate extraction well and that they found it at a certain level in that well, and it may or may not be reflective of any level that is anywhere around.
I might point out that there are multiple wells around those that don't apparently have liquid levels. And so what I would guess and what my experience has been is that you end up -- when you drill a hole into waste, there are pockets of moisture of leachate, and when you drill a hole through there, that provides an avenue for that leachate to escape its normal condition where it's perched on waste levels or soil levels. And this is an accumulation of either leachate or possible gas condensate in a well, and it's reflective of a -- either vertical or lateral connected level.

Page 310

Q Well, the fact remains, does it not, from looking at the chart, that we do have measured water level elevations that -- in places that exceed the ground -- the surface elevations for the monitoring wells around the perimeter, correct?
A The level that was called out on this table has identified some level that appears to be higher than some of the monitoring wells on the perimeter. What that means is a different story.
Q Looking back again on 27985 of Exhibit TJFA-9 for me, please.
A Yes, sir.
Q If you look at the far right-hand column, I believe that indicates that vertical column is the portion of the well covered by water, correct?
A That's what the column says.
Q Correct. And if you go to Well 63, which I believe is one of the wells that is identified on the exhibit, I believe if you take that column -- the far right-hand column, it would indicate that there's over 11 feet of water in that specific well, right?
A Yes. Or at least it's some liquid.
Q Now, if you will look at Page 401 -- excuse me. Before we leave that, I believe the Page 27985 does refer to this as leachate level data, does it not?

Page 311

A Yes.
Q Now if we move to Page 401 of the exhibit for a moment, please.
A Okay. I'm there.
Q What we see there again are areas reflecting pre-Subtitle D areas of the landfill as well as post-Subtitle D areas, right?
A Yes.
Q And if you look at the map on Page 1557 and you compare those water levels that we just identified at the various extraction wells, it would appear that most of these water readings appear in the vicinity of the pre-Subtitle D area. Is that generally correct?
A Most of them. I can't tell on exactly how those --
Q It's very close to the border, isn't it?
A Close to the border, yes.
MR. RENBARGER: Move to admit TJFA-9, please.
JUDGE NEWCHURCH: Any objection?
MR. CARLSON: Judge, I have just one objection. It appears to be kind of a cobbled together exhibit. I'm not sure it's one exhibit. There's three different parts to it and different parts of the application. I'm not sure that Part 3 is even part of

Page 312

the application. I believe it's a little bit of a confusing exhibit.
JUDGE NEWCHURCH: The objection is that the exhibit is confusing.
MR. RENBARGER: Confusing? I'm having difficulty hearing Mr. Carlson.
MR. CARLSON: Bob, my objection was that this is three different documents that have come from at least two different sources.
MR. RENBARGER: Correct.
MR. CARLSON: It seems to be a little bit of a compound exhibit. It's not really one document or one exhibit. So to that respect, I believe it's confusing, and I'm objecting on that basis.
MR. RENBARGER: And my response to that, Judge, would be simply this: The Pages 1557 and 27985 are certainly related documents with respect to extraction well -- gas extraction well locations as well as heights. And I think combining those pages together does give some representative idea of the locations in the landfill that have experienced water levels that we noted on 27985.
Obviously, 27985 is not a part of the application, but it was a document produced during discovery. And Page 401 is only for the illustrative

Page 313

purposes to give some idea of where these different wells and well levels are with respect to the pre-Subtitle D portion of the landfill. And to that extent, I don't think that's at all confusing. I think it's helpful to put into perspective the locations of these wells.

JUDGE NEWCHURCH: I guess the test of confusion is am I confused, and I'm not. So the objection is overruled.

(Exhibit TJFA No. 9 admitted)

MR. RENBARGER: All right.

MR. HEAD: Your Honor, I know I'm not involved with this witness, but for the record, the chart -- the leachate level data chart has been admitted as TJFA-1. That was our very first admission.

JUDGE NEWCHURCH: Correct, and I remember that.

MR. HEAD: Okay.

JUDGE NEWCHURCH: Thank you.

MR. RENBARGER: Okay. I need to approach the witness once again, please.

JUDGE NEWCHURCH: Please do.

(Exhibit TJFA No. 10 marked)

Q (BY MR. RENBARGER) I believe you have been handed a document, Mr. Snyder, that I believe the

Page 314

reporter has marked as TJFA-10. Do you have that in front of you?

A Yes, I do.

Q Have you ever seen this document before, Mr. Snyder?

A I have seen it. I don't know that I've seen every page that's in here, but I have generally seen this report, yes.

Q Okay. Essentially, TJFA-10 consists of a 2002 report prepared by consulting firm PBS&J regarding some groundwater monitoring activities taking place at the Applied Materials facility immediately adjacent to BFI's Landfill, correct?

A That's what I understand it to be, yes.

Q Let's first start out on the exhibit at 49475, please.

A Okay.

Q And you have those in front of you, right?

A Yes.

Q Okay. At the bottom of Page 49475, the last paragraph, the Court describes the location of several monitoring wells on Applied Materials property, right?

A Yes.

Q And I think to paraphrase that paragraph, Monitoring Wells 1-A, 3-A, 4, 5, 7, and 8 are designated

Page 315

in the report as upgradient wells for the Applied Materials facilities, but downgradient from the landfills. In this case we're referring to BFI's Landfill as well as the Waste Management Landfill. Correct?

A Yes. That's what it indicates.

Q And the following page of the exhibit actually reflects a map, does it not, showing the monitoring wells locations at the Applied Materials facility, right?

A Yes.

Q And looking at that exhibit, if you see the notation for Monitoring Well 1-A, it appears to be immediately across Giles Lane from the BFI facility, correct?

A Well, the BFI facility is not identified on here. My previous look at this map, I think that that's not downgradient from BFI, but rather downgradient from the Waste Management site.

Q Okay. Then let's just handle it this way. Then it's downgradient, then, from at least one of the landfills on the other side of Giles?

A I would say, apparently, that's true.

Q And with respect to Monitoring Well 5, the same could be said, correct, in terms of being downgradient

Page 316

from --

A I would say apparently so. I have not studied that location in detail.

Q The Applied Materials facility is adjacent to the BFI facility in certain areas, correct?

A Yes.

Q And it is across the street from Giles Lane as far as general orientation, right?

A It's across Giles Lane from the BFI site, yes.

Q When did you first see this PBS&J report that comprises TJFA-10?

A The first time I saw this report was in materials -- the source of what I saw came from TJFA. I don't remember if it was in the discovery material or in a deposition attachment or prefiled attachment, but that was the first time I saw it.

Q So you did not review this TJFA exhibit in the context of the preparation of your groundwater monitoring system; is that correct? Do you want me to rephrase that?

A Please.

Q Based on what you just testified, it sounds like you did not have access or review TJFA-10 at the time you prepared the groundwater monitoring parts of the application; is that right?

Page 317

A That's true.
Q And, again, looking at Page 49475, the exhibit contains a narrative description of the July 2002 sampling event conducted by PBS&J at Applied Materials, right?
A Yes.
Q Let's move over to Page 49480, please. Excuse me. Strike that.
Let's move over to 49479 first.
A Okay.
Q Page 49479 generally describes some previous groundwater monitoring activities taking place at the site as well as what some of these reviews were actually focused on, right?
A Could I have just a second, please?
Q Absolutely.
A (Reviewing document.)
Okay.
Q And if you will follow with me towards the bottom of Page 49479 in the final paragraph, I believe it indicates there that "In addition to the metals and inorganic parameters discussed above that T0X, T0C, and volatile organic compound and semivolatile organic compound analyses were performed on the samples," correct?

Page 318

A Yes.
Q And the laboratory's target compound list for these volatile and semivolatile organic analyses included a comprehensive suite of 52 volatile organic compounds and 90 semivolatile organic compounds, which are the common hazardous organic constituents identified by the USEPA, right?
A Yes.
Q Now, are those 52 VOCs and 90 SVOCs, are those commonly referred to as Appendix 1 constituents?
A I believe they are, resulting from the parameter list of the 8260 and 8270 test.
Q Okay. Let's move over to the top of Page 49480.
A Okay.
Q And the first full paragraph on the page, I believe there's an indication that "None of the VOCs or SVOCs included on the laboratory's target compound list were detected in the groundwater samples," right?
A Yes. That's what it says.
Q And it also indicates that TOC was detected in all monitoring wells at concentrations of 2.53 milligrams per liter in Monitoring Well 4 to 15.2 milligrams per liter in Monitoring Well 2, and that relatively high levels of TOC were detected in samples

Page 319

from Wells MW-1A, MW-2, MW-5 and MW-8, correct?
A Yes.
Q And what is TOC?
A Total Organic Carbon.
Q Okay. What does TOC tend to indicate when it's in high concentrations in groundwater?
A Well, that's a couple of things in your question there. It can indicate things, depending on what it is. Total organic compound is the sum of the organic carbon. And organic carbon can be many things, not all of which are contaminants, number one.
Number two, the agency, since the time I was involved with the agency, had an informal level of 10 milligrams per liter to indicate that, okay, that's higher than we would expect; let's investigate further.
Q So would it be fair to say, then, if you do carry high levels of TOC in groundwater that it might be an indicator or trigger that you might want to examine things further?
A Typically what they examine further is to ask you to sample for 8260 and 8270, which they found nondetect in this site.
Q And that would be the --
A Volatiles and semivolatiles, Appendix 1 and 2.
Q Appendix 1 and 2?

Page 320

A Yes.
Q But we didn't find any hits for Appendix 1 and 2 constituents, did we?
A The report says they didn't.
Q Okay. The following, into that same paragraph, "Upon review, the laboratory indicated that several unidentified peaks (i.e., not included on the laboratory's target compound list) were present in the semivolatile range for these samples."
And based on that, it appears that the laboratory was requested to perform a top 10, if you will, search for the semivolatile compounds for the samples collected from MW-1A, MW-2, and MW-5, right?
A Yes.
Q And in doing so, the report reflects that they looked for the identification of these highest gas chromatogram peaks for semivolatile compounds. Peaks were then identified using computerized searches. When the mass spectra matched to a certain degree, the compound was named. And in many cases this was uncertain. These compounds are routinely called tentatively identified compounds. The concentrations of the TICs or the tentatively identified compounds are highly uncertain and could be orders of magnitude higher or lower than the actual concentration.

Page 321

That is reflected on Page 49480, right?
A That's what that says, yes.
Q Okay. So if you have a semivolatile compound that is present by gas chromatograms and it does not appear in the typical Appendix 1 or Appendix 2 suite of constituents, wouldn't that also seem to indicate that there has been at least a release at some point in time for those compounds to be present in the groundwater?
A The word "release" is interesting. It indicates that they found it in the groundwater. And I might point out that the one compound that they identified, which was Caprolactam, is used in the manufacture of nylon. And I think they said in their report that nylon rope was used to sample these wells, which I would suggest that that's probably not a release, but that's probably where that came from.
Q It was present in the groundwater, correct?
A According to their identification, yes.
Q Let's refer to Page 49497 of the exhibit, please.
A Okay.
Q Do you have that?
A Yes, sir.
Q At the top of the page I believe that is identified as Attachment IIc, Tentatively Identified

Page 322

Compounds, TICs, if you will, from July 2002 Groundwater Monitoring Event, correct?
A Yes.
Q And there's about 13 identified -- in the case of the last one, unidentified -- but there's 12 identified compounds in the left-hand column on Page 49497, correct?
A Yes.
Q And as you review those compounds, would you agree that none of those compounds would normally appear on an Appendix 1 or Appendix 2 review?
A I think that's true. I don't have both lists committed to memory, but I think that that's true.
Q That was the reason in the report that they identified -- they took a closer look at those? Is that the reason?
A That's why I said I think it's true.
Q What are semivolatile organic compounds?
A Generally, semivolatiles are the things that we would know -- most of us would know as pesticides, herbicides, those types of organic compounds.
Q They're not naturally-occurring compounds, are they?
A Generally not, but I can't say that I'm an expert on whether they are or not. I think they are

Page 323

not.
Q Let's take a look at Page 49447 through 49449 of the exhibit, please.
A Okay.
Q And those three pages, to the immediate right of the column that says "Report of Analysis" has got a designation CAS number and then a number designated with hyphens after that, right?
A Yes.
Q And that is true of all three pages, right?
A Yes.
Q If you will look in the upper right-hand column for Page 49447, I believe that indicates that this reflects information for Monitoring Well 1-A, right?
A Yes.
Q Similarly on Page 49448, in the upper right-hand corner, this page reflects information regarding Monitoring Well 5, correct?
A Yes.
Q And the following page, 49449, the upper right-hand corner, information regarding Monitoring Well 2, right?
A Yes.
Q And the designation CAS number, what is a CAS number?

Page 324

A I have forgotten what the acronym stands for, but it's the classification system for compounds.
Q So is it your understanding that CAS numbers typically describe in a narrative format what the compound is by identification with a number?
A That's what I believe it to be, yes.
Q Let's move to Pages 49451, 49452, and 49453. Do you have that?
A Yes, I do.
Q Looking at Page 49451, we have listed in the left-hand column under "Parameter," roughly it looks like nine different compounds, correct?
A Yes.
Q And to the right of each one of these identified compounds is the capital letters "TIC," correct?
A Yes.
Q Let's start with the first one.
MR. RENBARGER: And to the court reporter, I apologize. I'm going to try to pronounce this. I may need to spell them.
Q (BY MR. RENBARGER) The first compound is 10-Nonadecanone/TIC. It's spelled N-o-n-a-d-e-c-a-n-o-n-e, correct?
A Yes.

Page 325

Q In the next column to the right under "Result," what is the level or the result that's reflected there in numerical fashion?
A It says 1,590 micrograms per liter.
Q And the "RQL" column, what does that indicate?
A That is the laboratory's report in quantitation limits, which is just a reporting limit that they've used on this report.
Q Okay. In the instance of this specific compound, we see a result that is considerably higher than the RQL, do we not?
A That's what that page indicates.
Q And isn't it true for each of the nine compounds reflected on Page 49451, the resulting measurements taken by the laboratory are in excess of the RQLs, correct?
A That's what that indicates, yes.
Q Moving over to Page 49452. And, again, this is for Monitoring Well 5, right?
A Yes.
Q We have three compounds and all three of those compounds reflect results again in excess of the RQL, correct?
A That's what this indicates.
Q Page 49453, we have two identified compounds

Page 326

for Monitoring Well 1-A, right?
A Yes.
Q And in both cases the results of the laboratory exceed the RQLs for those compounds, right?
A Yes.
Q So assuming hypothetically, if you will, that these monitoring wells, 1-A and 5, in particular, are downgradient on either the Waste Management Landfill or the BFI Landfill, that would seem to indicate the potential migration of those compounds onto the Applied Materials property, wouldn't it?
A First of all, I'm not sure that I agree with your hypothetical, because I believe these are not downgradient from the Sunset Farms Landfill, and I know your question was either/or, but I just want to make it clear that I believe that these are not downgradient.
And secondly, I'm not familiar with all of these compounds, but I know that some of them, for instance, Caprolactam, is used in the manufacture of rope. And even the samplers or the people in the report had indicated that that is not a release, but, in fact, probably came from their sampling technique. I believe also in their report it goes on to state that many of those things that were identified may or may not be related to anything other than sampling techniques.

Page 327

Q The fact remains, though, in the report, we do have gas chromatograms that would be reflective of those tentatively identified compounds, do we not?
A Yes, sir.
Q Mr. Snyder, you indicated that you have at least seen this report before. As a result of your review of the report, have you or BFI undertaken anything or -- as far as any further investigation of the groundwater conditions at the BFI property line on Giles Road?
A Other than trying to understand this report and trying to see if it has any relationship to our site, we have not, because we don't think it has any relation to our site.
Q So your answer is you have not undertaken any further investigation?
A Yes, that was my answer.
MR. RENBARGER: Move to admit Exhibit TJFA-10.
JUDGE NEWCHURCH: Any objections?
MR. TERRILL: Objection, hearsay. It has not been properly authenticated. No foundation has been made for it.
JUDGE NEWCHURCH: Do you have a response?
MR. RENBARGER: Yes.

Page 328

If I may approach, Your Honor. The information contained in TJFA-10 was obtained pursuant to a subpoena issued by your office, served on the third-party PBS&J. In addition to serving the subpoena, there was also served a deposition on written questions to authenticate the documents that were produced pursuant to the subpoena. And on that note, I would just like to present to you the copy of the deposition on written questions to authenticate the documents that we just talked about.
JUDGE NEWCHURCH: All right. First of all, are any of those representations of dispute that it was produced in accordance with the subpoena and that it was produced during the --
MR. TERRILL: Assuming all that's correct, I am going to withdraw my objection on authentication, but it doesn't change it from being hearsay and no proper foundation being laid.
JUDGE NEWCHURCH: Okay, more specifically concerning the hearsay. Before I ask you for that, be more specific on the lack of foundation, please.
MR. TERRILL: The report wasn't done by this witness. It wasn't done by one of TJFA's witnesses, and so it can't be proved up in that respect. And so it is -- there is no foundation that's been laid

Page 329

whatsoever. It's not just hearsay. We don't even know how it was created in the first place.
MR. RENBARGER: Okay. It is what it is, Judge. It is the response to a subpoena. I think going through the deposition on written questions, I think the questions are all there to verify that these are business records that are maintained by PBS&J. I think it is verified that these documents were created at or about the same time as represented on the face of the documents. And I think it is a complete set of documents that PBS&J maintained to reflect and documented their 2002 sampling event at the Applied Materials property.
And in that regard I think certainly there's no question as to reliability as to what it is. With respect to the witness' ability to review it and comment on it, he has certainly seen it before. He has certainly formulated opinions about it already. And I think to that extent, it's certainly probative. And I think the deposition on written questions would certainly authenticate it and would remove any doubt as to its authenticity or its admissibility.
JUDGE NEWCHURCH: Okay. Let's see. Authenticity has been withdrawn as an objection.
Hearsay, you're saying it's a business

Page 330

record regularly kept in the course of business activities, hence sufficiently reliable under the hearsay rules to allow its admission.
MR. RENBARGER: That is correct, Your Honor.
JUDGE NEWCHURCH: Okay.
MR. TERRILL: May I respond to hearsay, Your Honor?
JUDGE NEWCHURCH: Yes, sir. Please do.
MR. TERRILL: Saying that something has been proven up as a business record doesn't make it not hearsay. In this case, it's sort of hearsay within hearsay. And the people who actually performed the report aren't here. They aren't being cross-examined. And just because a document is authentic doesn't take it out of the problem with hearsay. And that also ties into the objection on lack of foundation.
Again, you know, PBS&J isn't here to talk about what the report did and didn't do. And TJFA doesn't have them as retained experts to testify about the report. It's off site. I think its relevance is questionable, also, but it's a document that -- you heard the witness testifying about it.
All that is happening is Mr. Renbarger was saying, "Does the report say X, Y, and Z."

Page 331

And the witness was saying, essentially, "You read it correctly."
JUDGE NEWCHURCH: Okay. Just a second.
Mr. Renbarger, do you have copies of this exhibit concerning your deposition on written questions?
MR. RENBARGER: I do have a few copies of that, yes, Judge.
JUDGE NEWCHURCH: Assuming this were admitted, in order to address the issue of whether or not it's an authentic business record, I'm prepared to overrule the hearsay objection.
Did you want to offer this?
MR. RENBARGER: Yes, I offer it.
JUDGE NEWCHURCH: So let's make this TJFA Exhibit 10.
MR. CARLSON: Is that the deposition on written questions?
JUDGE NEWCHURCH: Yes.
MR. RENBARGER: There is a 10.
MR. CARLSON: I believe it might be No. 11.
JUDGE NEWCHURCH: Is there a 10 already?
THE REPORTER: There is.
JUDGE NEWCHURCH: Excuse me. It is 11. Excuse me.
(Exhibit TJFA No. 11 marked)

Page 332

JUDGE NEWCHURCH: All right. So the authenticity has been withdrawn. Hearsay, I'm overruling.
I'm still trying to completely understand the lack of foundation. And I'm not getting you, Mr. Terrill. And I'm afraid I'm missing something. I mean, it seems to be if it's authentic -- to the extent that you hinted at a relevancy objection, that's overruled. I think it has some relevance. So what's left on the table is this lack of foundation, and I don't quite get your objection.
MR. TERRILL: A document proven up as a business record simply means that it came from the business, which, of course, is not TJFA.
JUDGE NEWCHURCH: Correct.
MR. TERRILL: That still doesn't establish how the document was created, who is responsible for its creation, what elements went into creating that document. There are foundational elements that this witness of course can't testify about because he didn't create the document, and PBS&J isn't here to talk about what did go into the document as well. So simply because the document was proven up as a business record does not establish its foundation.
JUDGE NEWCHURCH: I can't agree with you on

Page 333

that. That objection is overruled. So --
MR. CARLSON: Judge?
JUDGE NEWCHURCH: Yes, sir.
MR. CARLSON: I do have one other objection. This does appear to be a little bit of a compilation document. The Bates numbers are out of order, leading me to believe that there are other pages within this document. I'm making an optional completeness objection. I would like to see the entire document to determine whether or not I want the entire document entered under that document.
JUDGE NEWCHURCH: Okay. You're certainly entitled to see the entire document. And you're entitled to offer the remainder of the document or other portions. That doesn't lead to this portion that has been offered being not admitted.
MR. CARLSON: And I understand that, Judge. What I would like to do is perhaps at a break look at it, and I might make that offer after a break.
JUDGE NEWCHURCH: All right.
MR. RENBARGER: And, Judge, I might just add, if I may, please, is that the entirety of all of the records that we were produced pursuant to the subpoena have been supplied in supplemental discovery documentation to each of the parties. So that is

Page 334

certainly available to Mr. Carlson. We also have additional copies of the complete set of documents if he needs to look at it.
MR. CARLSON: I don't disagree with that, but I have 200,000 documents in my office.
JUDGE NEWCHURCH: Absolutely.
The optional completeness of this reservation is noted and you will have an opportunity later to offer additional pages or, in fact, substitute the entire document.
So based on those rulings, Exhibit 11, which is the deposition on written questions and response, in order to prove that it's a regularly kept business record, that's admitted for that limited purpose.
And then based on that, 10 is admitted and the objections are overruled.
MR. RENBARGER: Judge, just as a housekeeping matter, since the deposition on written questions was identified by Your Honor as an exhibit, I would like to provide the reporter with two copies of that as well.
JUDGE NEWCHURCH: Please do that.
Mr. Renbarger, I may have overlooked it, but I don't see in my notes that you ever offered 9.

Page 335

Does the court reporter show 9 as being admitted? Maybe I just didn't make a note.
THE REPORTER: I do show that it's admitted.
JUDGE NEWCHURCH: Okay. Very good.
MR. RENBARGER: Approach, Judge?
JUDGE NEWCHURCH: Yes, sir.
Let's hang on a second.
Mr. Terrill, I think I just got your objection. Okay. What you're saying is maybe this is authentic, maybe this is not hearsay, but we don't know how these witnesses conducted their sampling activities and whether they conducted them properly and whether they had the sufficient expertise to have conducted those activities.
Is that what you're saying?
MR. TERRILL: That is exactly it, and we will never have an opportunity to talk to them about it because they're not a witness in the case.
JUDGE NEWCHURCH: Mr. Renbarger, do you want to respond to that?
MR. RENBARGER: Yes. I think the documents themselves speak for what they say. And certainly there never was any intention of calling any representative of PBS&J or anyone else for that matter. I think it's a

Page 336

simple matter of these are documents that exist. These are documents that have been provided to BFI in the discovery process. We think they are noteworthy. We think that this witness can certainly talk about them, relate his impressions of them.
And I'm not offering them for the proof of the matters asserted in those documents; I'm offering them for the purpose that this is a business record documenting a particular groundwater sampling event that took place in the year 2002 by the source of the documents, PBS&J.
MR. CARLSON: May I respond, Your Honor?
JUDGE NEWCHURCH: Okay. Let me clarify. So now your offer is limited. Your offer is to show that BFI, through its consultants, has knowledge of this information; is that correct?
MR. RENBARGER: It certainly has knowledge of the information, yes, Judge.
JUDGE NEWCHURCH: Okay. And what other limited purpose are you offering it for?
MR. RENBARGER: As a business record.
JUDGE NEWCHURCH: Okay. But that doesn't give me anything. For what purpose is it relevant to this hearing? It's a record. So what.
MR. RENBARGER: It is relevant to the

Page 337

hearing for the reason that BFI has knowledge of this particular document. BFI has put together and proposed in the pending permit application a groundwater monitoring system. And at least from TJFA's perspective, it is relevant they have knowledge of the events that are taking place across the street for purposes of consideration and to the design and efficacy, if you will, of the groundwater monitoring system that is proposed in the application.

JUDGE NEWCHURCH: Mr. Terrill?

MR. TERRILL: The fact that -- that entire line of questioning was predicated on the idea that the document was offered for the truth of the matter asserted. The fact that he's now pulling back from that and saying it wasn't offered for the truth of the matter asserted, that proves my point.

There's no foundation laid for this. We have no idea who did it, why they did it, what the purposes were, what the limitations were. And we'll never have a chance to question them about it because they're not here. So all of the questioning was for the truth of the matter asserted and saying that it wasn't now doesn't change its nature.

MR. BLACKBURN: Your Honor, may I be heard?

JUDGE NEWCHURCH: Yes, sir.

Page 338

MR. BLACKBURN: In the DuPont deep well injection case, any number of documents were admitted as business records, not only to demonstrate that they were in existence, but they were brought in for the truth of the matter because they were business records and were, in fact, relied upon by a particular business.

Now, you could cross-examine about them, you could talk about them, you could raise a lot of issues about various aspects about them. But, nonetheless, the business records exception was used extremely broadly by SOAH in that case. And, in fact, I took it up to the district Court and the district Court just kind of waved me off and said, you know, "It's a business record exception." That was never written up in a Court decision. And I don't remember the style of that case, but certainly in the past, business record exception has been broadly used by SOAH for admission of documents.

JUDGE NEWCHURCH: Well, it has, and I think that the distinction here is often we see business records that are routine compilations, something along the line the rain gauge was at 3 inches on May 31st. This is analytical. And I think that's distinguishing. Now, I don't know specifically about the DuPont case, so I don't know that I can respond to that aspect. But,

Page 339

moreover, it seems like though Mr. Renbarger has now limited his offer, you're arguing that it should be admitted for all purposes, and I can't agree with that.

I'm trying to decide if it has any legitimate limited purpose. Sometimes we get into this "I really want it in, so let's call it limited purpose," and then there's arguments as if it's in for full purpose and that gets confusing to everyone.

MR. RENBARGER: Judge, I certainly will stipulate and represent to you I'm not offering it for the truth of the matters asserted as to Mr. Terrill's objections with regard to which individuals performed which task, what did they do, what was the laboratory methods utilized. None of those things. We weren't present. No one was. It's a business record and that's what its reflected as.

To the extent that record exists, to the extent that that record has been presented through the discovery process to BFI, to the extent it may relate to an issue with regard to groundwater, we think it is at least probative at some level for purposes of the pending permit application.

JUDGE NEWCHURCH: I think the limitation just makes it more confusing, and the limitations seem to shift and move as we go. It's probative of but that

Page 340

somebody did something somewhere, that we don't know if they did it right or how they did it and whether the people who did it were qualified to do it. So I'm going to sustain the objection and reconsider the prior ruling and sustain the objection to Exhibit 10.

(Exhibit TJFA No. 10 not admitted)

JUDGE NEWCHURCH: So, Mr. Renbarger, I realize you thought you had it admitted and now it's not, so you may need to back up and reconsider what you want to do. And you're certainly free to do that.

MR. RENBARGER: Thank you.

(Exhibit TJFA No. 12 marked)

Q (BY MR. RENBARGER) I believe where we left off, did we not, Mr. Snyder -- did I not provide you with some additional documents?

A Yes, sir, you did.

MR. RENBARGER: And I believe -- and, Court Reporter, please correct me -- those were marked as TJFA-12; is that right?

THE REPORTER: Yes.

Q (BY MR. RENBARGER) Mr. Snyder, who is Kevin Carel?

A Kevin Carel is a hydrogeologist who has worked on this case and does the routine groundwater monitoring for the Sunset Farms Landfill for Allied.

Page 341

Q Exhibit TJFA-12 consists of two documents numbered APP 19698 and 19699. Do you have those in front of you, Mr. Snyder?
A Yes, sir.
Q Looking at Page 19698 of Exhibit 12, what does that appear to be?
A It appears to be groundwater contours that were drawn on a map that is a combined map showing the Austin Community Landfill and Sunset Farms Landfill and the Applied Materials site.
Q Moving over to Page 19699, what does that appear to be?
A It appears to be the hand-drawn version of that same map that we've discussed.
Q Page 19699 appears to have additional notations, I believe, on the map itself. Perhaps I should say that differently. On Page 19699, to the side of the various identified monitoring wells, there are also what appear to be elevations handwritten on there, isn't there?
A Yes.
Q Going back to Page 19698, the upper right-hand corner, there's a notation called the Carel Corporation, right?
A Yes.

Page 342

Q Do you understand the Carel Corporation to be the same company that Mr. Kevin Carel is a principal?
A Yes, sir.
Q If you look to the right-hand column of Page 19698 of the exhibit, it appears we have some handwritten notes there, don't we?
A Yes.
Q Do you see a date in the column under the letters WMI?
A Yes.
Q What date is that?
A It indicates 3/12 of '02.
Q And to the right of that date, what is handwritten there?
A "No VOCs."
Q Going down that right-hand column, I believe there's an indication that says: "Your Map." Do you see that?
A Yes.
Q Below that designation are the words "Sunset, WMI, Allied Materials," right?
A Oh, yes, I see that.
Q Going several notations below that, there's an indication in handwriting that says: "Most Sunset water flows east."

Page 343

Do you see that?
A Yes.
Q And below that, "Some, WMI water," and then a couple of dots in parentheses, however, flows southwest, correct?
A Yes.
Q And it says under Item No. 1: The southern corner of MW-26 and 27 are downgradient of liquid, ponds.
Do you see that?
A Yes.
Q "No impacts yet," do you see that notation?
A I see that.
Q And under Item No. 2, the Allied Materials, the north wells, MW-3A and 4, okay from Sunset.
Do you see that?
A I don't believe it says "okay." I think it's "DG," which stands for downgradient.
Q Excuse me. So the symbol you describe as "DG," downgradient from Sunset?
A I believe that's what --
Q Following there, the MW-1A is possibly -- I'm not sure what that says. Can you read that?
A No, I can't.
Q Okay. Flipping over to Page 19699.

Page 344

A Yes.
Q At the top of that page on the right-hand side under the column for Legend, do you see some symbols there?
A Yes.
Q And the symbol circle has designated "Groundwater Monitor Well," correct?
A Yes.
Q And in various parts of the map to the left of that, we see a number of circles associated with monitor well numbers, right?
A Yes.
Q The next item on the legend, below the circle, are three, appears to be, rectangular boxes. Do you see those?
A Yes, sir.
Q And those are identified as "Bulk Liquid Disposal Areas," right?
A Yes.
Q Where on the map to the left of that do the dark boxes appear?
A They appear in the central part of the site that would be Austin Community Landfill.
Q And on the legend, again on the right-hand column, there is a, for lack of a better term I'll call

Page 345

it -- it looks like a flower petal-type designation. Do you see that?
A Yes, sir.
Q What is the designation for that?
A It says, "Suspected Industrial Waste Disposal Areas."
Q Again, looking to the map on the left, where would that be situated on on the map?
A Just to the west or southwest from the bulk liquid disposal area.
Q What is the date of the map reflected on Page 19699?
A March 13th, 2003.
Q So that would -- assuming for the sake of discussion that the information portrayed on the map on Page 19699 to be accurate, do you see from the levels of the different monitoring wells what appears to be a groundwater gradient proceeding in the general direction of the Applied Materials property?
A I see that it shows that, but I would like to point out that I'm aware that in the construction of this map, water levels from different dates were used from all three different facilities, and I'm reluctant to draw conclusions about groundwater flow directions from maps that were created in that manner.

Page 346

Q How are you aware that the map was created in that manner?
A I asked Kevin Carel about it once I knew of this map.
Q What did Mr. Carel tell you?
A He told me it was created from maps of different water level dates.
Q Did he have an opinion as to whether or not the groundwater contours would indicate groundwater movement from the general vicinity of the landfills toward the Applied Materials site?
A I think that Kevin would say that based on what he now knows he wouldn't contour the map in this way.
Q Why do you think he would say that?
A Because I think that's what he indicated to me.
MR. RENBARGER: Can I go off the record just a moment, please, Judge?
JUDGE NEWCHURCH: Yes, sir.
(Off the record)
MR. RENBARGER: Back on the record, please.
JUDGE NEWCHURCH: Back on the record.
MR. RENBARGER: At this time we move to admit TJFA-12.
JUDGE NEWCHURCH: Is there objections?
MR. CARLSON: No, Your Honor.

Page 347

JUDGE NEWCHURCH: 12 is admitted.
(Exhibit TJFA No. 12 admitted)
Q (BY MR. RENBARGER) Mr. Snyder, shifting gears a little, what does the term "detection monitoring" mean with respect to groundwater monitoring of a solid waste facility?
A Detection monitoring is the part of the groundwater monitoring scheme laid out originally by EPA and virtually adopted by TCEQ. It's the first phase in groundwater monitoring where they've identified generally 15 metals and 47 organic compounds. And they are intended to be sampled on a semiannual basis to detect a release from an MSW.
Q What happens if during a detection monitoring event a statistically significant sample is detected from one of those constituents that you just described?
A There are several things that can happen. The first thing that can happen is the operator has the opportunity to demonstrate that that statistically significant hit was not related to their landfill. But barring that or barring the approval of such a demonstration, then they have to enter assessment monitoring where they are then obligated to sample for the Appendix 2 constituents.
Q Whenever there is a -- I'll call it a hit on

Page 348

the detection monitoring, the general procedure is to go back and sample the second time for verification, correct?
A Well, that's actually one of the options, yes.
Q What are some of the other options?
A Well, I had mentioned one of them.
Q Are there others?
A No, I think those are probably the three, from my recollection.
Q Has BFI ever experienced verified samples of exceedances which were statistically significant during the detection monitoring program at the BFI Landfill?
A Yes, I believe they have.
Q That's occurred on numerous occasions over several years?
A It's happened, yes.
Q Do you have any idea about how many times, say, within the last 10 years that there have been hits in the detection monitoring?
A Off the top of my head, no. We've included it in the application, but I don't have specific memory of each one of them, no.
Q Are you aware of Monitoring Well-30 having detected statistically significant levels of constituents from the Appendix 1 wells?

Page 349

A Yes.
Q What compounds were detected in Monitoring Well-30?
A Off the top of my head, I can't remember, but it seems like 1,1-DCA may have been one of them. They identified some volatile organic compounds.
Q What about perc or PCE?
A I think that was one of them.
Q Did BFI verify by sampling -- a second sampling that there were statistically significant levels of 1,.1-DCA and PCE?
A I'm not sure that I know whether that happened or not, but they, in fact, entered assessment monitoring for that.
Q Would you please describe what assessment monitoring consists of?
A Assessment monitoring consists of, as I suggested earlier, sampling for the Appendix 2 constituents.
Q Is it your understanding that Well MW-30 at the BFI facility remains to this day in assessment monitoring?
A I believe that that's true.
Q Are you aware of any other statistically significant hits of Appendix 1 compounds that may have

Page 350

occurred in former Monitoring Well-9 at the BFI facility?
A Again, I'm aware and have mentioned that they did. I don't remember the constituents, but, yes, they did.
Q Is it your understanding that Monitoring Well-9 is in the general facility -- or was in the general vicinity of Monitoring Well-30?
A Yes, sir.
Q And Monitoring Well-30 is along the southern border between the BFI Landfill facility boundary and that of Waste Management, correct?
A Yes, it is.
Q What are alternate source determinations?
A I think the term is alternate source demonstrations.
Q Demonstrations, excuse me.
A As I mentioned earlier, that's part of the monitoring scheme that allows an operator, when he has a detection to -- or statistical detection -- statistically significant doesn't mean environmentally significant. It just means statistically it was. They have an opportunity, then, to demonstrate to the agency that the statistical hit, let's call it, was not a source from the landfill.

Page 351

Q Are you aware of whether or not BFI has actually submitted to the TCEQ any alternate source demonstrations in the past?
A Yes, I am.
Q Do you know on how many occasions that may have taken place?
A We detailed it in the application. I can't tell you I remember the number.
Q Have you reviewed those alternative source demonstrations?
A Generally not, but I have reviewed some of them, and I reviewed a list of the approved ones as a part of compilation of the information in the application.
Q Do you have an idea of what percentage of the alternative source demonstrations submitted on behalf of BFI have ultimately been approved by the TCEQ?
A I think most of them have been. Most of the ones that I recall had to do with inorganic constituents, what we call water quality parameters. And I believe they were most, if not all of them, were approved.
Q As you sit here this morning, are you aware or can you identify any alternative source demonstration that has ever been rejected by the TCEQ?

Page 352

A I'm not aware that there is one, no.
Q Mr. Synder, you developed the Groundwater Sampling and Analysis Plan that is contained in the application, didn't you?
A Yes, I did.
Q Did Kevin Carel contribute anything to the development of that plan?
A Yes, he did. On behalf of BFI or Allied, he contributed not only review, but reviewed to make sure it was consistent with the plan and the consistency of the plan with other Allied or BFI Groundwater Sampling and Analysis Plan.
Q Is a part of the Groundwater Sampling and Analysis Plan utilized to establish what we call background water quality?
A Yes.
Q And that is included in the plan proposed by BFI in the application, correct?
A Yes.
Q Are there any changes to the existing Groundwater Sampling and Analysis Plan as a part of BFI's permit to that proposed in the application?
A I'm not sure. I'm not sure what you're asking me.
Q I'm asking, BFI does have an existing and

Page 353

approved Groundwater Sampling and Analysis Plan today, correct?
A Yes, I'm sure they do.
Q And my question is: Is the plan that was submitted as a part of this permit application, does it have differences as between the existing plan and one proposed in the application?
A I don't know for sure.
Q Are you aware of whether or not BFI obtained any variances on the inorganic parameters to be sampled in the pending Groundwater Sampling and Analysis Plan?
A I think what we've proposed are the 15 metals. And we're not sampling for the water quality parameters.
Q Why is that?
A Well, as we've gone along, since the implementation of Subtitle D, we have recognized that water quality parameters, which had originally been asked by the agency -- the Department of Health to be included in the Subtitle D sampling, because those were the parameters that were being tested before Subtitle D. And so I guess both the agency and the operators had hoped for some consistency there. However, what they found is that applied to the statistical analysis, that we are all over the state constantly getting statistically significant events in these water quality

Page 354

parameters that are more reflective of natural variation and not of any release from the landfill or any other environmental impact. And so we have all -- I shouldn't say "we have all." I can't represent that -- most of the professionals in the business have been requesting for a long time that we -- that if originally included, we would like to change that, because they're providing no benefit to the agency.
The agency has more recently -- and I'll let the agency speak for themselves. My understanding of the agency is they have more recently begun to agree and have actually requested, I guess, in cases for us to start removing those from the statistical analysis list.
Q If they are removed from the statistical analysis list, how is one going to detect a problem with any of those particular constituents?
A Well, I think the point would be that those particular constituents are usually more reflective of natural groundwater and are typically not reflective of the landfill leachate that the systems are designed to monitor for.
Q Are you suggesting that it's not possible for one of those constituents to be a contaminant in the leachate?
A No. I'm not suggesting it.

Page 355

JUDGE NEWCHURCH: Mr. Renbarger, we are ready for a morning break. Is this a good time for you to stop?
MR. RENBARGER: It would be a good time to stop, yes.
JUDGE NEWCHURCH: Okay. We'll break for fifteen -- ten minutes, rather.
(Recess: 10:42 a.m. to 11:00 a.m.)
JUDGE NEWCHURCH: It's 11:00 o'clock. Let's go back on the record.
Mr. Renbarger.
Q (BY MR. RENBARGER) Mr. Snyder, does the proposed Groundwater Sampling and Analysis Plan reflected in the application indicate any monitoring of semivolatile organic compounds as a part of this detection monitoring program?
A No.
Q Can an applicant, if it chose to do so, increase the number of constituents it monitors for in detection monitoring?
A Yes, I think it could, if it had some reason to want to do that.
Q Your answer is "yes, it could," right?
A Yes.
Q Did BFI consider adding any additional

Page 356

constituents to its detection monitoring program?
A If they ever considered it, I'm not aware of it.
Q To your knowledge, then, they have not?
A To my knowledge, they have not.
Q Mr. Snyder, is it your understanding that the March 2006 amendments to the municipal solid waste rules affected the groundwater monitoring system requirements? Correct?
A Yes, in the Subchapter J portion of those rule changes.
Q And could you outline very briefly what some of the significant changes were between the 2006 pre-March rules and the 2006 post-March rules with respect to groundwater monitoring?
A Sure. Sure. The three primary ones were monitoring well spacing requirement that was implemented in March of 2006, the reporting limits issues, and also the change in reporting from having to submit two reports to simply submitting an annual report. There may have been some other minor things, but those are the three major ones.
Q You mentioned monitor well spacing as being a change in the 2006, along with the -- excuse me, the solid waste rules. What was the MSW rule requirements

Page 357

for monitor well spacing prior to the adoption of these new rules?
A Just prior to that, there was no spacing requirement.
Q When you say there was no spacing requirement, was there not a requirement in the rules that the spacing of the wells was required to be in such a way as to identify groundwater constituents at the location?
A Yes. The requirement was to design a system that was capable of detecting contamination coming from the MSW unit.
Q And so would it be fair to say that that could be spacing of equal to or greater than 600 feet in some circumstances?
A Sure.
Q And it could be less than 600 feet in some circumstances, correct?
A Yes.
Q All of that would depend on site-specific conditions; is that right?
A Yes.
Q The existing monitor well system for BFI, the spacing of those wells is substantially greater than 600 feet across the facility; isn't that right?
A The design of the existing system, not the one

Page 358

that's in the application, I believe would likely have met the requirements of the new rule of the spacing if considered that groundwater flow direction were incorporated into that analysis and effective well spacing. But the actual distance between wells did exceed 600 feet.
Q That was my question. Thank you.
And would you agree with me that under the new rules there is a minimal spacing requirement, correct?
A Yes, there is.
Q What is that minimal spacing requirement?
A That monitor wells be no further than 600 feet apart.
Q Is that a default setting?
A That is a minimum setting.
And each site needs to be designed based on its characteristics.
Q If one chose to space anything -- in the new rules, if one chose to space wells at a greater distance than 600 feet, the applicant would have to make a demonstration to the TCEQ that was acceptable to them, correct?
A That's correct.
Q Is it your understanding that the new spacing

Page 359

rules for monitoring wells apply to all facilities, even those permitted under the prior 2006 rules?
A It's my understanding that it applies to all facilities that are not in postclosure care.
Q Don't the new rules require for facilities permitted under the former MSW rules to come forward with a permit modification to address that 600-feet spacing?
A Yes, with the exception that the rules require -- or allow -- or I guess require that facilities that have pending permit applications have 12 months from the time that the matter has been decided by the agency.
Q Does the proposed groundwater monitoring well spacing reflected in the application comply with the new spacing requirements of the MSW rules?
A It certainly complies. It exceeds those, because we've spaced the wells in many cases much closer than 600 feet.
Q Your answer is it does comply, right?
A I believe it does.
Q Do you have a copy of the application handy there, Mr. Snyder?
A Yes.
Q Could I direct your attention to Page 874 of

Page 360

the application?
A Okay. I'm there.
Q What does Page 874 consist of?
A It is the proposed site groundwater monitoring system.
Q And I believe your earlier testimony was that the existing monitoring well system consists of 17 wells; is that right?
A I believe that's correct.
Q How many wells is BFI proposing to add to that existing system in its application?
A We're proposing a total of 32, but we achieve that by plugging two of the existing 17 and then adding 17 new ones. That results in a total of 32.
Q But the 17 new wells that are being proposed -- did you say 17 new wells?
A Yes, sir.
Q Seventeen new wells being proposed in the application do not require the relocation of any existing monitoring well, do they?
A No, other than the plugging of two existing wells.
Q But my question was: It doesn't require relocation, right?
A I guess you could consider that relocation for

Page 361

two of them.
Q In what way? I don't understand your answer.
A Well, we plugged a couple of wells to relocate -- to make the result be less than 600 feet in spaces. So in those cases.
Q Excuse me. So at least in two cases, wells were plugged for the sole reason of creating the spacing desirable in the application; is that right?
A Yes.
Q Looking at Page 874, if you look along the southern border, how many wells do you indicate on that borderline there?
A Ten.
Q And would you agree that each of these wells is spaced at least 600 -- or excuse me -- a minimum of 600 feet apart?
A I think that I would say spaced a maximum of 600 feet apart.
Q Maybe I misstated my point. But, nonetheless, all the wells on the southern border are approximating that 600-foot limitation, correct?
A No. Actually there's some much closer than 600 feet.
Q Could you please identify them for me?
A I don't have a scale in front of me, but, for

Page 362

instance, the spacing between MW-28 and 38 is much less than 600 feet.
Q Was there any reason for that spacing?
A Well, we started with existing wells, and we did a combination of adding wells. And in only two cases we plugged some wells. I think both of those were on the east side. So we left the ones in place on the south side of the site and then added wells.
Sometimes that resulted -- and we added them in a way that would result in a maximum of 600-foot spacing. And in some cases it yielded much less than that. And in all cases, in my analysis, if we consider the groundwater flow direction, the spacing between groundwater flow direction arrows is much less than 600 feet all along the south side.
Q Same could be said for the east side?
A Yeah. Not as much on the east side. 600 feet or a little less.
Q And I believe on the south boundary of the BFI facility is the adjacent boundary with the Waste Management Landfill, is that correct?
A Yes, that's correct.
Q And on the east boundary of the landfill is the property that is the closest to the Applied Materials facility, right?

Page 363

A Yes, it is.
Q I believe your testimony is had BFI elected to do so, it could have added additional wells on both the southern and eastern boundaries if it had chosen to do so, correct?
A It could have proposed additional wells, yes.
MR. RENBARGER: Pass the witness.
JUDGE NEWCHURCH: Mr. Blackburn?
CROSS-EXAMINATION
BY MR. BLACKBURN:
Q Good morning, Mr. Snyder.
A Good morning, Mr. Blackburn.
Q How are you doing today?
A I'm fine.
Q I just have a couple of questions for you.
A Can I hold you to that?
Q You might even be able to do so.
Can you get the copy of TJFA No. 6?
A Okay. I have it.
Q Okay. I think you testified this is an e-mail that I guess was provided during discovery.
A Yes, sir.
Q And it has to do with a peer review meeting in Gosselink's office in late December. Do you see that?
A Yes, sir.

Page 364

Q What is a peer review meeting?
A In my experience with most of the law firms that we work with, as we prepare for permit application -- prepare the permit applications, prepare to submit them and prepare for hearing, Mr. Gosselink has probably been the lead in getting a technical and legal group together typically to do a peer review usually before we submit a permit application to say, "Here's issues that we see. Let's talk about those. Let's talk about what you think about them. Let's talk about how we would address them. Let's talk about how we can address them in a permit application if we think we need to."
Q Okay. And at the lower part of that e-mail, it says: The consensus was that we needed to do some evaluation of the groundwater for the facility to the south of here.
Do you see that?
A Yes, I do.
Q Well, what facility would that be?
A The Waste Management Austin Community Landfill.
Q And would this be because of the deposition of industrial and potentially hazard waste on that site?
A I think that it was because we anticipated that there would be some questions or challenges related to

Page 365

that.
Q Do you have any doubt that there is chemical contamination of the groundwater to the south of you?
A I have no doubt that there were constituents or chemicals that were deposited there. I personally have not been persuaded that we see evidence of groundwater contamination from the facility.
Q However, the consensus of your peer review group was that you needed to get more information, right?
A I think that's a fair statement.
Q Who was in that peer review group?
A Well, let's see. Paul was in that peer review group.
Q Oh, so your lawyer thought that?
A No, I'm not attributing that. I'm saying he was there. I think some Allied folks were there, like possibly at the time Gordon Spradley, maybe Lee Kuhn. There may have been others. I can't remember for sure.
One of the meetings, as we had earlier seen in an e-mail, Phil Bullock was there as a hydrogeologic expert. There may have been others, but I don't remember any other names.
Q Now, is it correct that -- at least as indicated in this e-mail, that you were moving forward

Page 366

with an understanding of this situation and then dropped it; is that fair?
A I think one -- I'm not sure exactly what the e-mail represents, but I think my recollection was that we had intended to do a study. I proposed a scope of work to do a study. I may have gotten authority to do the study, but at some point we didn't ever complete a study. As I indicated yesterday, we looked at data. We looked at some data. We have never done a complete compilation of that data to anything that I would feel comfortable rendering opinions about details of the Austin Community Landfill. I have looked at data.
Q Would it be fair to say that you didn't go further because of what you found?
A No, because I will represent to you that I have never seen data that to me represents indication of groundwater contamination from the industrial waste that was deposited there. I've read Dr. Kier's memos. He details his theories and his opinions. I have not seen the things that are persuasive to me. So, no, we did not stop for any reason like that at all.
Q But you did stop?
A We apparently stopped. I don't remember ever concluding the study.
Q So is that what you do with your peer review is

Page 367

you kind of take their advice for a little bit and then drop it and move on?
A No. I think it's possible that we found nothing that suggested we needed to go further.
Q But you don't know that?
A I don't remember.
Q Now, this expansion that is occurring --
A Yes, sir.
Q -- or proposed to occur, it's going to go up how many additional feet in which -- I think it's different in different places. Can you just kind of summarize that?
A I think I remember that somebody said it's about 70 feet. I don't remember specifically.
Q And that's over what is permitted in the MOD; is that correct?
A I will say that's over whatever the existing permit is. I'm not completely aware of when the MOD took place and what changed in that.
Q But whatever was previously approved, it's about plus-70 on top of that?
A I think that's about right.
Q Now, is there a liner that is proposed for this new facility?
MR. CARLSON: Objection; form.

Page 368

JUDGE NEWCHURCH: What's your objection?
MR. CARLSON: It's a confusing question. What type of liner?
MR. BLACKBURN: I'll restate.
Q (BY MR. BLACKBURN) Is there a liner proposed?
A The liner of the excavations is detailed in the application.
Q But the excavations are older and predate, certainly, this expansion, correct?
A Yes. I think there's some current excavations that have been lined that are reflected -- their condition is reflected in the application.
Q But there's also a portion of the site that is pre-Subtitle D, correct?
A Yes, that's true.
Q And will there be a liner placed underneath the expansion that is occurring above the area that is pre-Subtitle D?
A It's my understanding that there's not.
Q Okay. Now, that would mean that the waste that is deposited and the rainwater that falls on top of that waste would be in direct communication with the pre-Subtitle D landfill area, correct?
A Yeah. I might quibble just a little bit. It would have the opportunity to be in direct

Page 369

communication.
Q There's no barrier inhibiting the water from starting in the top of the new waste and going down into the old Subtitle D -- pre-Subtitle D area?
A Not as far as I know.
Q Okay. And if you would look at TJFA No. 9.
A Okay. I have it.
Q There is an area that is identified as pre-Subtitle D area on TJFA-9, APP 401. Do you see that?
A Yes, I do.
Q Is that roughly your understanding of what the pre-Subtitle D area is?
A My understanding of it comes from these drawings, so, yes, it is.
Q And if this expansion were occurring under the new rules, would a Subtitle D liner be required between this Subtitle D area and the new expansion -- vertical expansion?
A It is my understanding that it would.
Q So we have a situation here where if we were under new rules, a liner would be required -- a Subtitle D liner would be required, but because it's under the old rules it's not required; is that your understanding?
A That's my understanding of the rules.

Page 370

Q Okay. Do you understand why the rule was passed?
A I have a general idea of why they thought the rule was passed, although I've not ever talked to any of the regulators about that.
Q Would you share the general idea?
A My understanding was simply what you had suggested earlier, which is that the regulators decided that they wanted to -- in these cases they wanted to prevent any liquids that might come from the waste deposited over the pre-Subtitle D area from getting into the pre-Subtitle D area.
Q And why would you want to prevent that?
A Well, I guess they would like to make sure that the liquids would get to a leachate collection system.
Q Now, let me ask you this: Do you agree with me that there is movement of groundwater through the pre-Subtitle D area?
A I agree that there's movement of groundwater beneath the pre-Subtitle D area.
Q My question was through it.
A I don't have any knowledge that that's the case.
Q Do you have any knowledge that it's not the case?

Page 371

A No, other than I know that there were liners placed at that landfill and that -- even in the pre-Subtitle D area.
Q And did you ever inspect or undertake any test of the integrity of those liners as a part of this application?
A I have not.
Q Do you know of any data in this application that we can refer to to determine whether that liner is, in fact, intact, if there ever was a liner?
A I'm not aware.
Q So basically we are putting new waste on top of an area that we have no information about the integrity of the liner that is supposedly or perhaps might have been placed or might not have been placed; correct?
MR. CARLSON: Objection; form. That's argumentative. And I believe the documents that have been admitted show that there's liners placed in pre-Subtitle D area.
JUDGE NEWCHURCH: Any response, or did you want to just rephrase?
MR. BLACKBURN: I'll just rephrase.
Q (BY MR. BLACKBURN) All right. As we sit here today, you have no evidence of the integrity of any liner that may have been placed in the pre-Subtitle D

Page 372

area; is that correct?
A I would say that with one exception, that we have seen no evidence in the perimeter monitoring system that there has been any leak of leachate from that area.
Q And what is that exception?
A That is the exception. Since we have seen no evidence of a leak in the perimeter monitoring system, that is the first element of a demonstration that there is no leak from the landfill.
Q But in terms of physical evidence, you did no testing, probing to determine whether the liner was there, no type of geological testing; is that fair to say?
A It's fair to say.
Q Now, let me ask you this: I've been intrigued with the concept of potentiometric surface. I'm actually working on another case that involves it. And if you pile waste -- well, first of all, is there a connection in the potentiometric surface from this site to off-site areas? And I'm talking about from within the landfill.
A I believe not.
Q And that would be because it is -- you consider there to be -- or at least you're hoping that there's integrity to something that would restrict the movement

Page 373

of waste from the landfill outward; is that correct?
A Yes.
Q Now, if you pile waste on top of an existing waste area and if the water builds up within that, if they were in communication, would that increase the potentiometric surface off-site?
A If the conditions you suggested were true and if there was communication through a liner, then yes.
Q And if you would turn to TJFA No. 8.
A Okay.
Q And the first page, 409, that is a cross-section that extends from the west side to the east side of the proposed site; is that correct?
A Yes, sir.
Q Now, were you here yesterday when I was discussing with Mr. Shull the modification and the drainage aspects of that modification?
A Yes, I was here.
Q You were here?
Now, do you see the left-hand side of the diagram of what the proposed landfill slope will look like?
A Yes.
Q And when we were talking about water running off the landfill to the west, would it be coming

Page 374

basically down that slope that is shown on the left-hand side?
A Yes, it would. But for all of those who are not as aware as I know you are, that slope is a vertically exaggerated slope and the drawing is not anywhere near as steep as what's reflected in the drawing.
Q But, nonetheless, it is a four-to-one sideslope, right?
A It is a four-to-one sideslope.
MR. BLACKBURN: And, actually, that's all of the questions I have got, Mr. Snyder. I know you're disappointed.
JUDGE NEWCHURCH: Is there redirect?
MR. CARLSON: Yes, Your Honor.
REDIRECT EXAMINATION
BY MR. CARLSON:
Q Yesterday there was some testimony about geologist versus geotechnical engineers. Could you please briefly explain the difference between the two?
A Big question.
Q Short answer.
A A geologist in the context of what we're doing here studies the geology, the stratigraphy, the relationship between that and the groundwater and the

Page 375

characterization of that part of it.
A geotechnical engineer looks at soil properties in order to characterize and test for parameters that they need to design the structural aspects of the landfill.
Q And you're a geologist and not a geotechnical engineer; is that correct?
A That's correct.
Q Do you recall being handed by Mr. Renbarger four or five studies, including the ones I'm showing here, the first page, "Soil Mechanics"?
A Yes, sir.
Q And you looked at those briefly yesterday, correct?
A Yes, sir.
Q And in your opinion, are these the sort of resources that a geologist would use in connection with a landfill application, or are they more in the realm of a geotechnical reference material?
A They're more in the realm of a geotechnical reference.
Q Now, do you recall yesterday you were asked a number of questions about the 2004 boring plan and borings and boring logs?
A Yes.

Page 376

Q And do you remember a series of questions -- a relatively long series of questions about 18 borings that were done as a part of the 2004 boring plan?
A Yes, sir.
Q I'd like to back up a second. How many borings have been performed at this site in connection with any permit application that's been prepared?
A Well, prior to our involvement, there was a characterization done -- maybe multiple characterizations, and there were more than 67 borings done at the site that we included in our boring plan.
Q So there were 67 that predated 2004; is that right?
A Yes.
Q And then you-all did 18 more borings; is that right?
A Yes.
Q And if my math is correct, there's a total of 85 borings?
A That's approximately right.
Q Did the prior 67 borings come up at any point in yesterday's conversation?
A Not that I recall.
Q Was information regarding the prior 67 borings submitted with this permit application?

Page 377

A Yes, sir, it was.
Q We talked a little bit about types of borings and sampling yesterday. And I would like to clarify for the record some of those concepts.
What are the basic types of drilling methods that are used for borings?
A When we're talking about that, I would like to differentiate between drilling methods and sampling methods. I think those two things are --
Q Let me limit my question to drilling methods. Let me ask you this: What are you talking about when you're talking about drilling methods versus sampling methods?
A Well, a drilling method is the method by which we advance whatever sampling device we're having down the hole. And there's several kinds of those. There's push or percussion type, that are typically used and better described by geotechnical engineers and used for their purposes. And then there's rotary, a rotary drilling rig, which can do all kinds of sampling. And then there's hollow-stem augers, which is another method of advancing the drill tools to the formation.
Q Okay. Let me make sure that I'm clear here. Right now you're talking about drilling methods, ways to get down the hole?

Page 378

A Yes.
Q And then you talked about sampling methods. What do you mean by that?
A Well, for instance, in the percussion methods and the push methodology, Shelby tubes, split-spoons, the drilling methods and the sampling methods are one and the same. When you push a Shelby tube, you push it to advance it and it also collects the sample.
When we do rotary drilling, there's all kinds of sampling that can occur from that. There's coring where you take a sample, there's -- as we've discussed. There's other types of bits that grind up the material and you get cuttings to the surface from that. So there's multiple kinds of samples that can be done with that kind.
And, finally, there's the hollow-stem auger method which is another method, the old auger method, only it has a hollow interior where you can do multiple kinds of sampling inside those as well.
Q Just to make sure I'm clear, you can basically push to get down to get a soil sample; is that correct -- to get a sample?
A To the extent that the soils will let you do that, yes.
Q And that means you can't get down very far before that type of drilling or pushing doesn't work; is that right?

Page 379

A In most areas, that's true.
Q Okay. Or can you get some sort of drill that rotates down; is that correct?
A Yes.
Q When borings are done at a site, including Sunset Farms, who is present in that process?
A Well, multiple people are present. It's our practice to have a geologist or an engineer experienced in that, usually a professional that's licensed. And in most cases, at least some of the time, there's several of us present so we can witness the operation and the methodologies and come to agreement with a person that we are leaving in control of the site when we leave.
Q The 18 borings that we were talking about yesterday, was somebody from BME or affiliated with BME, Biggs & Mathews, your firm, present during those drilling operations, boring operations?
A Somebody either under our control or us was present, yes.
Q For each of the 18?
A Yes.
Q Is there a logging process that happens at that time?

Page 380

A Yes.
Q What happens?
A Well, we take the sample that we retrieve from the well, whichever type of sample that is, and we record the sample, log it, and describe it at the site. We then box it, which may also include wrapping the sample for some of the geotechnical testing. It's labeled and marked and shipped either to our offices or to a laboratory that we use.
Q Okay. Is a piece of paper, a document called a log, kept at that point in time?
A Yes.
Q Is that what's called a fill log?
A Yes.
Q Were those done with respect to the 18 borings that we discussed yesterday?
A Yes, they were.
Q And you mentioned that at some point the samples were sent to a lab for observation and testing; is that right?
A For testing. That's correct.
Q Okay. What happens during that particular phase?
A Well -- and maybe I shouldn't have corrected your use of the term "observation." The first thing

Page 381

that happens is in our shop, when we are doing the geology and the geotechnical work, a professional -- a geologist and an engineer -- in this case myself and Gregg Adams, looked at every sample. We logged the sample, because ultimately we're responsible for the log. We concur or don't concur with what was logged in the field. It's much harder to log things in the field than it is in a controlled setting, in an office or laboratory. And we then mark up that log with our professional observations. And from that, we make laboratory assignments to send to a soils laboratory for testing primarily based on where the geotechnical engineer needs that kind of testing.

Q Does this process lead to the development of a final boring log?

A Yes. Once we have our draft log and we then get the results from the lab, we -- and sometimes it's not just a one-time thing. Sometimes we may get a confusing result or something where we actually record or assign some additional tests and we may go back and forth two or three times, but ultimately we end up with a final version of the log which then becomes the log. That is the log that incorporates all of the information that's at our hand.

Q Is that the log that eventually works its way

Page 382

into the permit application?

A Yes, it is.

Q Were there logs provided for each of the 18 wells that were done during the 2004 time frame --

A Yes.

Q -- for borings?

A Yes, there were.

Q Were the logs -- were boring logs for the prior 67 borings provided with this permit application?

A I believe they all were, yes.

Q Now, with respect to the 18 that were done in 2004, how many of those 18 were done using a push tube type of method?

A The first 10 were sampled -- I think all of them were Shelby tubes pushed to refusal and then cored.

Q Can you explain this concept of "push to refusal"?

A As we were discussing a little bit ago, when you have a Shelby tube and you're pushing it by -- effectively hydraulics from the drilling rig, you're pushing the sample into the ground and the soil sample is coming up inside of that. At some point the density of the material and the friction that it encounters, you reach a point where you can no longer push it with the drilling rig, and that's known as the point of refusal.

Page 383

Q And then what do you do when you hit the point of refusal?

A Then you go to some other sampling method.

Q And at Sunset Farms for these 18 borings, what did you do there?

A For the first 10, we cored. And the second eight, we simply logged those with cuttings from the beginning. I don't think there was any Shelby tubes associated with any of those.

Q And with those first 10 recorded, did you use some sort of rotary method?

A Yes.

Q And then was it wet or dry, by the way?

A It was wet. We used drilling water.

Q Which means what?

A Which means that in order to have a high -- a rotary device, you introduce some sort of either a liquid or air to both cool the friction -- the heat generated by friction and to remove the cuttings from the bottom of the hole or any debris from the bottom of the hole. In this case, we used water as we record.

Q So is it fair to say that with respect to the first 10 that there was a continuous sample of soil that came about as a result of the boring process?

A Yes.

Page 384

Q What about the second eight? What sort of method was used for those borings?

A The second eight were drilled with a tricone -- as we described in the application -- with a tricone bit. And that's also a -- it's been referred to by others as a wash rotary. That's one way to refer to it. But it's using drilling mud to advance using a bit that grinds up the material into small pieces, and then the drilling mud or the water recirculates and brings those cuttings to the surface.

Q Okay. Now, I believe your testimony was that you did submit a boring plan to the agency for approval; is that correct?

A I did.

Q Can you re-explain very briefly what that process was, because I think we had a correction in your testimony yesterday. I would like to make that clear for the record, about the process of submitting that and getting it approved.

A Yeah. We submitted a boring plan in this case because the original application that we had envisioned was going to include a lateral expansion and deepening of part of the undeveloped area of the site. And so the rules require you submit a boring plan. We did so. We did so based on our interpretation of the -- that we

Page 385

were expanding into a 14-acre area. We went ahead and began to drill, as is often the case. There is no required time limit by the agency to give us an answer on that, so we frequently proceed.
Q Let me interrupt you here briefly.
A Okay.
Q At the time you submitted the boring plan, there was some sort of lateral expansion contemplated; is that correct?
A Yes.
Q Were there any other potential changes that might have required additional borings?
A Yes. There was a deepening of the part -- of the undeveloped part of the site, which was a few cells adjacent to the lateral -- proposed lateral expansion.
Q And is that why the boring plan was submitted, those two potential changes to the landfill?
A That's why the boring plan that we submitted was submitted. I think the rules actually require you to submit a boring plan even if you're not planning on drilling, and I've done that in the past, but, yes, that's what this plan was.
Q You did the 18 borings, correct?
A Yes, we did.
Q At some point did the plans for the expansion

Page 386

change?
A Yes. I don't remember the exact date, but it was prior to the submittal of the permit application. The lateral expansion and deepening was decided by BFI that it would not occur.
Q In your experience -- that leaves us with a vertical expansion only, correct?
A That's correct.
Q In your experience does TCEQ or TCEQ's regulations require any additional borings from an applicant who is going vertical only?
A In my experience, no.
Q And why is that?
A Because if you're going vertical only, the area that -- and typically that means that you've developed your landfill. There's not any room to drill any more borings without having to drill through waste.
And that's what I think. I'm not sure what the agency's interpretation of that would be, but that's why I think they would not require it.
Q There were a total of 85 borings -- as we sit here today, a total of 85 borings have been done at this site, correct?
A Yes.
Q And they're included in the application,

Page 387

correct?
A Yes, sir.
Q Based on those 85 borings, do you believe that the site is well characterized geologically?
A Yes, I do.
Q And hydrogeologically?
A Yes, I do.
Q Let's carve out the eight borings that were done using the wash rotary method. Okay? That leaves us with 77 borings; is that correct?
A That's correct.
Q Based on those 77 borings, do you believe that the site has been adequately characterized geologically?
A Yes, I do.
Q And hydrogeologically?
A Yes, I do.
Q Let's carve out the other 10 that were done in 2004. That gets us back to the original 67 borings. Okay?
A Okay. Yes, sir.
Q Based on those 67, do you believe the site has been adequately characterized?
A Yes.
Q Both geologically and hydrogeologically?
A Yes.

Page 388

Q If Mr. Chandler were to testify that in his opinion the site was adequately characterized just using the 67 original borings, would you agree with that?
A Yes, I would.
MR. CARLSON: Judge, may I approach?
JUDGE NEWCHURCH: Yes, you may.
MR. CARLSON: For the record, I'm handing Mr. Snyder a copy of the 2006 version of the rules.
Judge, do you have a copy with you or I could hand you --
JUDGE NEWCHURCH: That would be good.
MR. BLACKBURN: You can use mine, Your Honor.
JUDGE NEWCHURCH: Great. Thank you.
MR. CARLSON: March 2006.
MR. BLACKBURN: I'm sorry. This is the new ones or the old ones?
MR. CARLSON: The ones that are applicable to this.
MR. BLACKBURN: Okay. That's what I've got.
Q (BY MR. CARLSON) Mr. Snyder, could you turn to Section 30 TAC 330.56(d)(5)(A). It's the provision that we looked at yesterday.
A I'm there.

Page 389

Q It's under the subheading "Subsurface Investigation Report," correct?
A Yes.
Q Yesterday you were asked some questions about a sentence in the middle, and I'm just going to read it into the record briefly. It says: Each boring must be presented in the form of a log that contains at a minimum the boring number, surface elevation, and location coordinates, and a columnar section with text showing the elevation of all contacts between soil and log layers, a description of each layer using the unified soil classification, color, degree of compaction, and moisture content.
Do you see that?
A Yes, I did.
Q Did I read that correctly?
A Yes, you did.
Q I would like to focus your attention on the last phrase there after the last semicolon, particularly the phrase "and moisture content."
A Okay.
Q What is your interpretation of what sort of information has to be included in the subsurface investigation report of this application pertaining to moisture content?

Page 390

A As I was trying to say yesterday when I was being asked questions about that, I believe that that part of the rule is directing you to identify moisture content under the category of the text which is in the columnar section. And as I was pointing out that we had moisture content and degree of compaction, where appropriate, listed in the text of the columnar section, and that's why I believe the logs are in accordance with the rule.
Q I'd like ask Madam Court Reporter to hand you a copy of an exhibit that was previously marked as TJFA-4. It's the boring logs for the EB-1 through EB-18.
A Okay.
Q Now, looking at the very first page of TJFA-4, it says, "Log of Boring No. EB-1"; is that correct?
A Yes, sir.
Q And that was one of the 18 additional borings that was done in 2004?
A Yes, it was.
Q If you will look with me at the first entry under the term "Material Discretion" -- "Description" in the widest column. Do you see that?
A Yes, sir.
Q Could you read that into the record, please.
A "Clay (CH), dark brownish gray, stiff, moist, tiny iron nods, shell material, trace gypsum."

Page 391

Q And focusing on the word "moist," do you believe that at least that entry conforms with 330.56(d)(5)(A) in terms of the description of moisture content?
A That is consistent with what I believe is responsive to that requirement in the rule, yes.
Q All right. Now, if you will look in the second-to-the-left column under the word "Samples."
Do you see that?
A Yes, sir.
Q It has the letters "NR" right near the No. 15.
A Yes.
Q Do you see that?
A Yes.
Q What does the "NR" mean?
A Typically that stands for no recovery. And that also would be the place of refusal.
Q Okay. So getting back to our prior conversation, that means at some point whatever drilling or coring method was used hit a point of nonrefusal, right?
A Yes.
Q And what method was used at this -- down to this 15-foot depth?

Page 392

A Shelby tubes.
Q Okay. And using a Shelby-tube method, can you actually get a sample that would let you know the moisture content of the soils?
A Yes.
Q Something you could report in this boring log?
A Yes.
Q What drilling or coring method was used below this point of nonrefusal?
A We cored using drilling mud or drilling water, which means after that point we would not have made any notations of moisture content of the soil because you couldn't know that because you've already poured water and drilling mud all over it.
Q Are you saying it would be a meaningless notation?
A I'm saying it would be a notation you wouldn't make.
Q Okay. Is this practice reflected in the boring log here with these types of boring methods consistent with your understanding about what other professionals in Texas that are doing this sort of work would do?
A I think as we've discussed, there's a wide range of what different professionals do, but I think this is in general accordance, yes.

Page 393

MR. CARLSON: Judge, may I approach?
JUDGE NEWCHURCH: Yes, sir.
(Discussion off the record)
MR. CARLSON: Prior to this, the BFI exhibits also had the initials of the witness. So it's -- the numbering sequence is going to be hard to follow. So let's make this BFI-1.
(Exhibit BFI No. 1 marked).
Q (BY MR. CARLSON) Mr. Snyder, I've handed you a document that's been marked as BFI-1. Could you identify the document for the record?
A This is a document that contains several pages that are excerpts from a geology report completed by TJFA's witnesses Dr. Kier and Pierce Chandler on the 121 Regional Disposal Facility, the North Texas Municipal Water District.
Q In your professional career, have you become generally familiar with that project and this application?
A Generally.
Q Did you review and rely on the 121 of the North Texas application in connection with your preparation of the Sunset Farms application?
A No, I didn't.
Q Did you review and rely on the 121 application

Page 394

for the purposes of preparing your prefiled testimony?
A No, I didn't.
Q Could you please turn to the second page of BFI-1?
A Okay.
Q The document indicates that it was technically complete on May 24th of 2002, correct?
A Yes.
Q Whose signature and seal is on the bottom left-hand corner?
A Dr. Kier. Robert S. Kier.
Q And is that the gentleman that's in the hearing room today?
A Yes, he is.
Q And whose signature and seal is on the right-hand side of this page?
A Pierce L. Chandler, Jr.
Q And the document reflects that the geology report was prepared by Dr. Kier, correct?
A Yes.
Q And that the geotechnical report was prepared by Mr. Chandler; is that correct?
A It does reflect that.
Q Could you turn to the next page, which is Bates labeled on the bottom APP 00974?

Page 395

A That's actually the -- two pages.
Q Is it? I'm sorry. It's Page 27 of the report. Do you see that?
A Yes, sir.
Q In the first paragraph, about five lines down, there's a line that reads: "A total of forty borings were drilled on the 121 RDF site."
Did I read that correctly?
A Yes. That's what it says.
Q And then a little bit further down, about five lines up from the bottom of that paragraph, it says: "Twenty of the borings were rotary cored and the core logged in the field and in the office. The other twenty borings were either air or water rotary drilled and the cuttings from the borehole logged."
Did I read that correctly?
A Yes, you did.
Q Okay. Do you know if the 121 site was a greenfield site at this point in time?
A It's my understanding that it was a greenfield site and it is now owned and operated.
Q Is it your understanding a total of 40 borings were done in connection with this application?
A Based on this, that's what I believe.
Q And getting back to our discussion on types of

Page 396

borings, half of these appear to have been done using some sort of coring system; is that correct?
A Yes.
Q And the other half were done using some sort of rotary system with cuttings as the by-product; is that correct?
A That's correct.
Q If you will turn to the next page after Page 27 or APP 974, what is that document?
A This is a log of Boring B-1.
Q For the 121 site, correct?
A Yes.
Q Okay. Does it indicate at the bottom -- whose names are at the bottom of this particular boring log?
A There's a title block starting on the left, "Phillips & Phillips.," and then in the middle, it's "Pierce L. Chandler, Jr., P.E.," and then "Robert S. Kier Consulting" on the right.
Q What type of boring method was used according to this document?
A Wash rotary.
Q And that's in the upper left-hand corner?
A Yes.
Q Okay. And then getting back to the Soil/Rock Description, the wide column in the middle, do you see

Page 397

that?
A Yes.
Q Do you see any reference to descriptions of moisture levels in that?
A No, I don't.
Q What about the columns on the right that have some sort of categories for soil properties? Do you see those?
A Yes.
Q Do you see the one that says Moisture Content?
A Yes.
Q Is there any entry for moisture content on that boring?
A No.
Q If you will, turn a couple of more pages into the Exhibit BFI-1 to the log of Boring B-2.
A Okay.
Q What type of boring method does the log indicate was used for Boring No. B-2 at North Texas 121?
A Air rotary/core.
Q Looking again at the wide column in the middle, the Soil/Rock Description category, do you see any description of moisture content in any of those entries?
A I do not.
Q What about columns on the right, talking with

Page 398

specifically one that says moisture content? Is there any reference to a moisture content in those columns?
A The column is blank.
Q Same question for Boring No. 3. If I ask you the same questions, would your answer be the same, no description of moisture content and nothing in the -- no numbers for the moisture content column?
A Yes, with the exception that the type of boring was wash rotary, so it would be similar to my answers for B-1.
Q Do you know roughly how many acres the 121 site is?
A I don't know how many acres are in the permit boundary. I think that I read in their document that the waste disposal footprint was approximately 450 acres.
Q And at least the document we looked at indicates that 40 borings were done, correct?
A Yes.
Q How many borings per acre or acres per boring does that compute to?
A That would be about one for every 11 acres.
Q Okay. Now, Sunset Farms, how big is the Sunset Farms facility?
A Approximately 350 acres.

Page 399

Q And if we take the number 85 borings and divide that in, how many borings per acre or acres per boring does that compute to?
A Well, without a calculator in front of me, somewhere around one for every five acres, something like that.
Q All right. And even if we carve out the 18 borings from 2004, so we divide 67 into that number, roughly how many borings per acre or acres per boring does that compute to?
A About one every five or six, I guess.
Q There were more borings -- there were less -- strike that.
There were less acres per boring at Sunset Farms for each boring on average by a factor of almost two to one than acres per boring at 121; is that a correct statement?
A I believe that's correct.
Q Have you had an occasion to look at the TDSL application permit?
A I have.
Q Have you had an opportunity to look at the boring information for that particular application and site?
A Yes.

Page 400

Q Do you know how many borings were performed in connection with its original permit application?
A The original permit application, I believe there were 34 borings done.
Q And do you know how big of a site the TDSL site is?
A I think it's approximately the same size as Sunset Farms, about 340 or -50 acres.
Q Doing the same math, how many acres per boring or borings per acre does that compute to?
A That would be about one every 10 acres.
Q So, again, we have on a per-acre basis roughly twice as many borings at Sunset Farms than at TDSL, correct?
A Yes.
Q Could you please look at TJFA-8? It's the cross-sections.
A Okay.
Q Let me ask you a preliminary question: Did you prepare these cross-sections?
A I prepared in the packet provided as Exhibit 8. I did not prepare the ones signed by Brian Olson, the first one. I believe all of the rest of them, I prepared. I'll double-check that real quick. Yes.
Q Let me turn you to the third cross-section.

Page 401

It's the geologic cross-section AA prime, Bates labeled APP 000709.
A Okay.
Q Do you recall when Mr. Renbarger was asking you some questions about the dash double-dotted line on this document?
A Yes.
Q What does that line represent, or what was it intended to represent, Mr. Snyder?
A As I started to mention I think in my earlier testimony, the geologic cross-sections are constructed to include lots of different data from lots of different times. They include where it crosses it, where the proposed excavation or existing might be. So you don't know whether it's there or not without reading the notes. It includes the borings. It includes the well locations, and it includes a general water level.
And in this case, if you will read the note, it says approximate water level -- the purpose of that -- many places in the application where more accurate water level data is used. This was an attempt on my part to generally show -- in its original condition show the TCEQ and the reviewer roughly where does groundwater occur at this site.
Q All right. Will you flip to the next page, the

Page 402

B prime cross-section, APP 007000 -- APP 000710?
A Okay.
Q Actually, let's flip one more to the APP 000711.
A Okay.
Q Now, this cross-section has the same dashed and dotted line, correct?
A Yes.
Q Let me ask you: Is that line -- does that reflect -- or was it intended to reflect leachate level within the landfill?
A Absolutely not.
Q What does it reflect?
A I think -- I think that it -- first of all, in its basic form, it's nothing more than the projection of a potentiometric map for that date, a potentiometric surface map, that I believe had been previously submitted to the agency in a groundwater report.
Q When you're saying "that date," what date are you referring to?
A In this case, December 1999.
Q Do you know if there was even any landfill operations going on at the time, in December of 1999, in this particular area on the left-hand side?
A The data that I've looked at, excavation plans,

Page 403

aerial photos, those kinds of things, suggest that on c to c' there actually was landfilling going on about in that area. As you move northward -- I know that in October of 1998, for instance, there was no excavation in the northwestern part of the site. By some time in the middle of 2000, there was excavation and the liner either being placed or had been placed. I couldn't tell. I could only see from the contours that that was true.
Q This potentiometric surface that you're talking about, is that a measured surface across this site or is there some sort of inference that's being made here?
A The only places where the data was measured is in the site monitoring wells that are around the perimeters of the site. As I suggested earlier, this is a projection of the potentiometric map that had been drawn, which is a contour of those perimeter water levels, and that is inferred to be the potentiometric surface of the water at that point that would be under the landfill flowing beneath the landfill.
Q A lot of us lay folks around here -- we've been talking about potentiometric surfaces. What is a potentiometric surface?
A I'm going to give you a definition that's probably not a textbook definition. In an unconfined

Page 404

aquifer, it might actually be the top of the water level. In a confined aquifer, where you actually confine all of the water in a formation, but it is under more pressure, it is the surface to which that water would rise if you had an access to the water with a penetration.
Q In a landfill, a lined landfill, is that a confined structure?
A Well, in this case, I believe that the facility -- that the lined area has confined the groundwater that in this case is flowing beneath the landfill.
Q So if there's a potentiometric surface that would in theory run through the landfill -- are you following me so far --
A Okay.
Q -- is that reflective of water or leachate levels inside the landfill?
A Absolutely not.
Q If I went to the top of the landfill under that scenario and drilled through the liner of the landfill, what would happen to the water level or the water underneath the landfill?
A Our projection is -- and it is a projection because it hasn't been measured. Our projection is it

Page 405

would rise roughly to that level that we've projected the liner to.
Q And that would be -- let me ask you this: What is a piezometer?
A A piezometer is a well that is intended to -- and there's all kinds of piezometers, but a piezometer is a well intended to measure the water level in that well from groundwater.
Q So if I drilled this hypothetical hole through the landfill and into the groundwater and it rose up, would I use a piezometer to measure that water level?
A Either that or you would have a device -- a transducer that would measure the pressure from an electronic device.
Q And so just to clear up a couple of definitions. What does the phrase "water level" or "groundwater level" mean?
A It is a reflection of where we know groundwater to be. And in general terms, it's the water that is outside of the landfill.
Q What does the term "leachate level" mean?
A Leachate level would be specifically referring to liquid that is inside of the landfill.
Q They are not synonymous terms, are they?
A Generally not.

Page 406

Q Could you please look at TJFA-9, please?
A Okay.
Q Do you recall questions and answers -- or, excuse me, do you recall Mr. Renbarger's questions about TJFA-9?
A Yes, I do.
Q I'd like to refer you to the third page of TJFA-9, the chart.
A Okay.
Q Based on your understanding and experience of landfills, are the numbers reflected on this chart reflective of leachate on the bottom liner of the landfill? Or "indicative" is a better word, I think.
A No.
Q Why not?
A I think I explained a little bit earlier that when you drill a well -- an extraction well, you are sinking a hole that has a vacuum in it through the waste and perforations that allow any liquid that you might encounter by that hole, by that pipe, to enter that pipe so that any leachate, liquid in the landfill, that might be perched on daily cover soil layers or other relatively impervious types of waste, they're allowed to enter the borehole. So it is not at all uncommon when you have an extraction system for either that or gas

Page 407

condensate that forms in that hole to collect in that hole and to either -- for a variety of reasons it can collect temporarily in that. And quite often, operators have to extract that from their wells in order to keep their gas field operating efficiently.
Q In your experience is that true at landfills other than at Sunset Farms?
A I'm not -- every landfill that I know that has a gas collection and control system has had this happen routinely.
Q Even landfills that have Subtitle D liner systems with leachate collection systems?
A Certainly.
Q Could you turn to TJFA-10, please, Mr. Snyder.
A Okay.
Q And I'll just briefly go through this.
How many wells -- based on this document and your understanding of the document, how many monitoring wells at the Applied Materials site were actually the subject of this study?
A Well, the study originally included the sampling of that that sampled all of them, and based on the results, as Mr. Renbarger pointed out and as the report suggests, that there were elevated T0Cs in three of those wells. That was the subject of the additional

Page 408

sampling, I believe -- or additional testing.
Q In the original samples, were any Appendix 1 constituents found in any well?
A No, sir.
Q Were any Appendix 2 constituents found in any well?
A No, sir.
Q What is the purpose of Appendix 1 and 2? Does that apply to solid waste facilities?
A Yes. As I mentioned earlier, those were parts of the groundwater monitoring scheme that was put into place for Subtitle D that included a detection component and then an assessment component, which was if you detected one of the likely compounds that we might find in the landfill, that you then further delineate to make sure that we don't have additional potentially related compounds.
Q And none of those constituents were found in this July 2002 sampling at Applied Materials according to this?
A That's correct.
Q Do you know what the Applied Materials site is, what they do there?
A I've been told that they manufacture or are related to the manufacture of microchips.

Page 409

Q It's an industrial site?
A An industrial site.
Q Can you turn to Page 6, please?
A Okay.
Q Could you read the bottom of the last -- or the last sentence of the second paragraph, please?
A Starting with the word "of"?
Q "The concentrations of," talking about the full paragraph.
A Yes. I think I'm not on the same place as you are.
Q I'm on Page 6, Bates label T 49480, the last sentence of the first full paragraph.
A Oh, I'm sorry. I was reading the last sentence.
The last sentence of the first full paragraph says: "The concentrations of TICs are highly uncertain and could be orders of magnitude higher or lower than the actual concentration."
Q All right. Flipping the page to Page 7, could you read the last sentence of the second full paragraph?
A "A 'top ten' library search for SVOCs" --
Q I'm sorry. The last sentence of the second full paragraph on Page 7 begins with the words "The identity..."

Page 410

A Oh, I'm sorry.
"The identity and reported concentrations of these TICs are highly uncertain."
Q The fifth page of TJFA-10 is a plan view or a map; is that correct?
A Yes.
MR. RENBARGER: Excuse me. Mr. Carlson, where are you referring?
MR. CARLSON: The fifth page of TJFA-10, Bates label T 49476, Figure 1-1.
MR. RENBARGER: Thank you.
Q (BY MR. CARLSON) How many monitoring wells are shown on this particular figure, Mr. Snyder?
A By my count, eight.
Q All right. Based on your knowledge of BFI -- the location of BFI site with respect to Applied Materials site, how many of these monitoring wells would be downgradient from the Sunset Farms site?
A Two.
Q Which ones?
A MW-3A and MW-4.
Q Were either MW-3A or MW-4 the subject of a follow-up testing that's reflected in this report?
A I believe not. I believe the TOC levels were below any regulatory limit in those wells.

Page 411

Q With respect to MW-1A, that's not downgradient of Sunset Farms; is that correct?
A I believe that it's not.
Q Same thing with MW-5?
A MW-5 is not.
Q Do you know what the prior uses -- historic uses of the property down in the area of MW-5, MW-7, MW-8 was?
A In their report they detailed there were a couple of other commercial-type facilities, including a body shop.
Q Let's talk about MW-2. Do you see that?
A Yes, sir.
Q Located in the south center portion of the property, right?
A Yes.
Q As the crow flies, using the key here, how far would that be from the BFI facility?
A Well, without a scale, somewhere more than a thousand feet.
Q Do you see the scale in the upper right-hand corner?
A What I mean is I haven't measured it exactly, but approximately a little more than a thousand feet.
Q Would it be fair to say it's over 2,000 feet

Page 412

according to this?
A I don't think it's that far.
Q We'll say over a thousand feet.
What's the -- based on your understanding of this -- the geology and hydrogeology in this area, what's the typical flow, the groundwater velocity flow in this area?
A Based on the on-site data at Sunset Farms, I calculate to be around six feet per year. I think others have calculated it somewhere around 10. Somewhere between 5 and 10 feet per year I think would be a normal calculation for the groundwater flow velocity into Taylor.
Q Using that number and assuming that it's a thousand feet, just hypothetically, from MW-2 to Giles Lane, how long would it take for groundwater to flow between those two distances?
A If you use 10 feet a year, it would be more than a hundred years.
Q And how long has the Sunset Farms site been in operation?
A Twenty years --
Q Since 1982, correct?
A -- plus or minus. Yeah.
MR. CARLSON: Judge, if you can give me

Page 413

just a few more minutes, I think I can wrap it up before lunch.

JUDGE NEWCHURCH: Okay. Off the record.

(Off the record)

MR. CARLSON: All right. Judge, I think we're ready.

JUDGE NEWCHURCH: Back on the record.

Q (BY MR. CARLSON) Mr. Snyder, you were asked questions earlier today about the spacing of the proposed monitor wells, the 32 wells. What would be the maximum distance between any of the two wells being proposed?

A Designed to be no greater than 600 feet.

Q Have you calculated the average distance between those 32 wells?

A Yeah. Generally I calculated one time and it averages a little less than 500 feet between wells.

Q Now, as we sit here today, the application is not subject to the new Subtitle J provision; is that correct?

A The application is not.

Q Because there's a pending application?

A Yes.

Q At some point this facility would have to comply with Subchapter J; is that correct?

Page 414

A Yes, sir.

Q And will the proposed system that you've -- the system that you've proposed in the application comply with those rules?

A I believe that it will.

Q You were asked a few questions by Mr. Blackburn about supposed leaks in the liner.

Do you recall those questions?

A Yes.

Q Are you aware of any sort of study -- geologic study that one could do to actually determine -- I'm not talking about groundwater monitoring stuff -- to actually physically determine if there's a leak in a liner system?

A None that I can think of.

Q Are you aware of anybody that goes down and pokes holes in an existing liner?

A No, not intentionally.

Q Any sort of drilling into a liner to determine its integrity?

A Not that I'm aware of.

Q Not a good practice, is it?

A I would think not.

Q Counsel for OPIC asked you a few questions about the general site geology. Do you recall those?

Page 415

A Yes. Uh-huh.

Q And the landfill is located in the Taylor marl; is that correct?

A Yes.

Q What's your experience with landfills in the Taylor marl? How much have you had?

A Well, partly because it's such a good formation to put a landfill in because of its low permeability clay characteristics, there are lots of landfills in the state of Texas in the Taylor marl or other similar materials. I've worked on landfills from North Texas, Skyline, Ellis County Disposal. I've been involved, while I was at the regulatory agency, in the evaluation of the Lacy-Lakeview Landfill near Waco. I'm familiar, obviously, with Sunset Farms and to some degree with Austin Community Landfill. I have visited and have been generally familiar with the geologic characterization at the TDSL Landfill site southeast of Austin and the Comal County Landfill, which is in -- part in the Taylor or similar clay.

Q You discussed the weather and unweathered soils and interface between the two, right?

A Yes.

Q And where is the -- strike that.

With respect to the Travis County

Page 416

landfills -- let's talk about Sunset Farms, Austin Community, and the TDS facility in Creedmoor -- do you have an opinion about whether the soils are relatively similar soil conditions between those three facilities?

A Yeah. I think they're very familiar. I think in my prefiled testimony I mentioned that -- in looking at the original borings at TDSL, that the average depth to the top of the unweathered was very similar to the average depth here at Sunset Farms.

Q Okay. What about the shallow hydrogeology? Same thing?

A Very similar.

Q How would you describe the Sunset Farms site in terms of your degree of the complexity of its geology?

A Compared to?

Q Just in general.

A I think you would have to say that it's a fairly straightforward, uncomplicated geology, stratigraphically.

Q And how would you describe the Sunset Farms site in terms of the complexity of its hydrogeology?

A I think it's fairly simple.

MR. CARLSON: I pass the witness.

JUDGE NEWCHURCH: Recross, let's see. I'm trying to remember our order now.

Mr. Terrill?
MR. TERRILL: I'll pass, Your Honor.
JUDGE NEWCHURCH: Ms. Noelke?
MS. NOELKE: I pass, Your Honor.
JUDGE NEWCHURCH: Mr. Moore?
MR. MOORE: I pass.
JUDGE NEWCHURCH: Ms. Mann?
MS. MANN: I just have one quick question.

RECROSS-EXAMINATION

BY MS. MANN:

Q I want to make sure I understand something you said in response to a question on redirect. Had this application been -- strike that.

When you were coming up with a boring plan, would you have had -- needed a boring plan at all if this had been a vertical expansion plan from the beginning?

A I think that I would -- because the rules say that you should submit a boring plan, I would have likely submitted a boring plan, but it would not have proposed any additional borings.

Q Because it would be a solely vertical expansion?

A Yes.

MS. MANN: Okay. That's all I have.

JUDGE NEWCHURCH: Any from the Executive Director?
MR. SHEPHERD: The ED passes.
JUDGE NEWCHURCH: Mr. Renbarger?
MR. RENBARGER: Let's see. It depends on how long you want to go before we break for lunch.
JUDGE NEWCHURCH: Do you have quite a bit?
MR. RENBARGER: I've -- I don't have a great deal. I've got some.
JUDGE NEWCHURCH: Let's break now.
Mr. Snyder, you don't have anything pressing right after the lunch hour, do you?
THE WITNESS: I think this is my most pressing matter, Your Honor.
JUDGE NEWCHURCH: You're a good man. We'll break until 1:30.
(Recess: 12:30 p.m. to 2:01 p.m.)

AFTERNOON SESSION
WEDNESDAY, JANUARY 21, 2009
(2:00 p.m.)

JUDGE NEWCHURCH: Let's go back on the record. It's shortly after 1:00 p.m. (sic). First of all, I forgot to mention, this was concerning the deposition on written questions that was a prelude for Exhibit 10. Mr. Renbarger, you had offered that at my suggestion, really.

MR. RENBARGER: That is correct, Judge.

JUDGE NEWCHURCH: And I think I admitted it. I intended to admit it, but I failed to say that on the record. So that's admitted. But, nevertheless, 10 is not admitted still based on the objection to 10.

(Exhibit TJFA No. 11 admitted)

MR. RENBARGER: I understand.

JUDGE NEWCHURCH: That's where we are with that.

We switched some microphones around so maybe people can hear a little better.

Are there preliminary matters this afternoon? Let's go back to redirect -- we were ready for recross at this point.

MR. RENBARGER: We were ready for recross.

PRESENTATION ON BEHALF OF
BFI WASTE SYSTEMS OF NORTH AMERICA, INC.
(CONTINUED)

JOHN MICHAEL SNYDER,

having been previously sworn, continued to testify as follows:

RECROSS-EXAMINATION

BY MR. RENBARGER:

Q Good afternoon, Mr. Snyder.

A Hello.

Q I see keeping with the Judge's comments that your priorities are correct and you are available for this afternoon for recross, right?

A Yes, sir.

Q Fine. During Mr. Carlson's redirect, I think he kind of started off talking about some of the distinctions or differences between geologists and geotech engineers' roles with regard to a permitting application, correct?

A Yes, I did.

Q Do you remember that testimony?

A Yes, sir.

Q And while I greatly respect that there are differences between each professional fields and endeavors, isn't it a fact, though, Mr. Snyder, that

Page 421

Mr. Adams, the geotech engineer here, did rely on some of the results from the boring plan that was conducted with this application?
A I think that's true.
Q So he needed the results of those to perform some of his geotechnical engineering with regard to the application, correct?
A Yes, sir.
Q With that being the case then, though, isn't it true, Mr. Snyder, that because this information needed to be of a quality that was useful to a geotechnical engineer, that indeed the boring plan needed to be conducted in accordance with those higher standards of care?
MR. CARLSON: Objection; form. I don't know what the higher standard of care he's talking about is.
JUDGE NEWCHURCH: Did you want to respond?
MR. RENBARGER: I'll rephrase.
JUDGE NEWCHURCH: Okay.
Q (BY MR. RENBARGER) Yesterday when we went over a number of technical references, I believe you indicated that those were much more appropriate with discussions with a geotechnical engineer, correct?
A Yes, sir.

Page 422

Q And those technical references specifically referred to different kinds of quality, if you will, or different kinds of field exploration methods necessary to meet the data needs of geotechnical engineering, correct?
A Yes.
Q So I think my question is this: That being the case, shouldn't the information gathered through the boring plan not only meet the requirements for purposes of your geology reviews but also requirements for the geotechnical engineering part?
A The geotechnical engineer exercised his professional discretion in requesting how borings be drilled and what information he used to have lab-tested, and used that information in the way that he -- that he needed.
Q That may well be the case, but that wasn't my question.
My question was: Shouldn't the quality of the information stemming from the boring plan be of such a quality for it to be useful to a geotechnical engineer for his purposes in preparation of the application?
A I think my answer still is that the borings that the geotechnical engineer wanted to be drilled and tested the way he needed, they were done in that manner.

Page 423

Q I still don't think you answered my question, Mr. Snyder.
A Okay.
Q I'll try one more time.
Given that the information from the boring plan is also relied upon and used by a geotechnical engineer, should it not be of the quality useful to a geotechnical engineer for his purposes in preparation of the application?
A I apologize, but I don't think I can answer that question any better than I already have, which is the geotechnical engineer had as much control as he wanted about what information he believed he needed to design. So from that standpoint, yes.
Q Then your answer is yes?
A My answer is yes with the qualification that I said.
Q Fine.
JUDGE NEWCHURCH: So you're really saying yes and the geotechnical engineer thought that these methods met those standards. Is that what you're saying?
THE WITNESS: I'm sorry. I didn't hear the last part.
JUDGE NEWCHURCH: You're saying yes, and

Page 424

the geotechnical engineer found that the information met his standards. Is that what you're saying?
THE WITNESS: Yes, I am saying that.
JUDGE NEWCHURCH: Okay. And we'll find out more about that later on when another witness takes the stand.
Q (BY MR. RENBARGER) Mr. Snyder, when you were discussing with Mr. Carlson the boring logs, which I think are part of TJFA Exhibit 4, I believe you indicated when you were talking about the different kinds of drilling methods and the different kinds of sampling methods that indeed a sampling method involved evaluation of cuttings, did you not?
A Yes, for certain borings I did.
Q For certain borings.
And do you think, again, that cuttings are an appropriate sampling method for purposes of subsurface site characterizations?
A In some cases, including this, yes, I do.
Q I believe you also mentioned, Mr. Synder, that during the course of the implementation of the actual field drilling covered by the boring plan that there were either a geologist or an engineer present; is that right?
A Yes, sir.

Page 425

Q Were you present during all of the borings, the EB-1 through EB-18 borings?
A I was not present for all of the borings.
Q How many were you present for, if you can recall?
A I went to the site twice during the site exploration. Actually, three times. I went twice during the first 10 borings and one more time when we did the cuttings boring in July. So there were a total of three times that I was there. I don't know how many borings that entailed.
Q But you don't know how many borings that entailed?
A Huh-uh.
Q Was Mr. Adams present during the boring?
A He was present -- as I recall, he was present for one of the times when we were drilling the original 10 borings.
Q But do you know how many of those 10 borings he actually physically was on site observing?
A I do not. I don't remember.
Q I believe you indicated that at least someone was present either from Biggs & Mathews or under their control during the boring and the initial logging of the borings, right?

Page 426

A That's correct.
Q Who is Doug Jones?
A He's a geologist that works for my firm.
Q B&E?
A B&E, yes.
Q What about Mike Brown?
A Mike Brown is a geologist that used to work for us when I was at EMCON for many years. He was working -- after I left EMCON, when we were still doing this work, he was still working for them. And I hired him on a contract to be there for us on this -- for the beginning of this job. They could only spare him for about a week so that's why he was just there for the first part of this.
Q Were either Mr. Jones or Mr. Brown present during all 18 of the borings?
A Yes.
Q In your redirect examination you discussed the need for a boring plan for purposes of a vertical expansion of an existing landfill. Do you recall that?
A Yes.
Q Did I understand your testimony correctly for you to say that you did not really think that one was needed for a vertical expansion?
A I don't think I rendered an opinion about

Page 427

whether it was needed. Well, no, I did. I rendered an opinion that I think the rules require it.
Q And did you not also suggest that in your personal belief that it was not necessary?
A I think that the opinion that I rendered was that had we started out doing a vertical expansion that the existing characterization would have been sufficient and, therefore, no additional borings may have been needed.
Q But as you sit here today, you know of nothing in the old MSW rules to suggest that one could forgo a boring plan altogether if they were doing a vertical expansion, do you?
A No, but I have had cases where we did not have to drill any additional borings.
Q So your answer is no?
A Yes.
Q Thank you.
So with respect to the new MSW rules, are you aware of any rule in the new MSW rules related to boring plans that would essentially waive the requirement of a boring plan if it was essentially a vertical expansion?
A Off the top of my head, I don't think that part of the rules have changed.

Page 428

Q Mr. Carlson went through a description of the total number of borings that had taken place at the site, both prior to your boring plan as well as an earlier boring plan, and it indicated that you could carve out -- I believe the comment was you could carve out all 18 of the borings on your boring plan, leaving the original 67, and that would still be adequate; is that your opinion?
A Yes. I think that's what I just rendered with you again just a moment ago.
Q If that is the case, then would you either agree or stipulate to agree to delete all references of your boring plan from the application?
MR. CARLSON: Objection. I'm not going to have this witness stipulate to anything on behalf of the client.
JUDGE NEWCHURCH: Do you have a response?
MR. RENBARGER: I'll rephrase the question.
JUDGE NEWCHURCH: Okay. Let's try that.
Q (BY MR. RENBARGER) Mr. Snyder, if the 18 borings conducted under your plan in your view are not technically necessary for purposes of characterizing this site, then is the only reason they are in the application is because the rules require the presence of a boring plan?

Page 429

A No, I don't think that's the only reason they're in the application. We did the borings and utilized them in the characterization. The fact that they weren't necessary doesn't mean that they weren't helpful.
Q I believe also you went over Rule 330.56(d)(5)(A) with Mr. Carlson, correct?
A Yes, sir.
Q And did I understand your opinion on that rule to indicate that -- with regard to the boring logs, that the boring log requirements to identify moisture content is appropriately -- is appropriately logged in on the columnar column, I believe is how you say it, indication on each boring log; is that right?
A I think what we were trying to say -- what I was trying to say here was that the reference that we went over in my cross-examination with you yesterday where we referred directly to that piece, that the discussion of degree of compaction and moisture content in that context was about the textual description. I don't think that I was saying that if there were lab tests that did moisture content that they didn't need to go on the logs, but it was that that you and I had talked about on Tuesday.
Q All right. Well, let's take a look at TJFA

Page 430

No. 4 for just a moment, please.
A Okay.
Q I believe Mr. Carlson went over Boring Log EB-1 found on Page 518 of the application, didn't he?
A Yes, sir.
Q And did I understand this correctly that your understanding from the standpoint of where this moisture information should be, should be in the column that is identified as the material description; is that right?
A I think that what I was responding to with TJFA-4 and that log was the particular part that has a columnar section with text showing.
Q Correct. And if I'm looking at the right thing, I'm looking at the column that is identified as Material Description.
A That is the column.
Q And that is the column for the narrative description, correct?
A Yes, sir.
Q And on EB-1, I believe Mr. Carlson went through and noted at the very top of that on the first entry: Clay is dark brownish, gray, stiff, moist, tiny iron nodules, shell material. And that is the moisture that you're referring to in your interpretation, correct?
A Yes.

Page 431

Q Okay. I direct your attention to EB-3, which is on Page 522.
A Okay.
Q Under the column for material description for EB-3, do you see any indication in the narrative that discusses anything to do with moisture?
A No.
Q How about on EB-5, on Page 526 of the exhibit?
A No.
Q What about EB-7 on Page 531 of the exhibit?
A No, except I would like to amend my statement about each of those. If you will look at the description --
Q Perhaps Counsel can let you do that, perhaps, on recross or re-redirect, perhaps. I'm still trying to move along here.
A Okay.
Q How about on EB-9, on Page 536 of the exhibit? Any descriptions in the material description of the narrative having to do with moisture?
A No.
Q I believe Mr. Carlson handed out an exhibit marked as BFI-1. Do you have that handy?
A Yes, sir.
Q And as I understood it, one of the criticisms

Page 432

that Mr. Carlson was offering through your testimony was looking at the boring logs -- about the last five or six pages of that exhibit, that apparently in these boring logs do not either reflect any contents of moisture or compactness or things of that nature, correct?
A I would like to slightly correct what you just said.
Q Please.
A It was not our intent nor my intent to criticize. We were just making an observation. I don't have any criticisms of their log.
Q Is your observation that they contain no entries for moisture or compactness on those logs?
A That is my observation.
Q Okay.
JUDGE NEWCHURCH: Just to be clear, I show BFI-1 as never having been offered.
MR. CARLSON: That was intentional, Your Honor. I'm going to offer it through another witness.
JUDGE NEWCHURCH: That's what I thought. I'm just making sure.
Q (BY MR. RENBARGER) Now, Mr. Snyder have you ever reviewed the boring plan that was approved for the 121 RDF facility?
A In general terms, I'm familiar with it. It was

Page 433

included in their application, and I reviewed their application briefly.
Q Did you happen to note in the boring plan that was approved for 121 RDF that the use of wash borings was not for the purposes of sampling?
MR. CARLSON: Objection; it assumes facts not in evidence.
JUDGE NEWCHURCH: I'm sorry. Say again.
MR. CARLSON: It assumes facts not in evidence.
MR. RENBARGER: The witness said he reviewed it. I'm just asking in his review did he notice that.
JUDGE NEWCHURCH: That seems like a fair question. Objection overruled.
A I noticed in the text of their geology report that it said that the samples were -- cuttings were taken and logged.
Q (BY MR. RENBARGER) Did you happen to notice anywhere in your review of that boring plan that the purpose of the wash borings was mainly just to drill holes for the use of other geophysical instruments to then do samples?
A I am aware that they did do other geophysiological logging in their holes, yes.

Page 434

Q So it would not be fair, would it, to represent the boring logs contained in BFI-1 as to reflect that that was the kind of sampling that was conducted for purpose of site characterization of the 121 RDF, right?
A Well, I think it's fair because they actually did log the samples. They logged them, and they're here. They're in the log.
Q I'm not disputing they logged them. I was talking about the purpose of the borings themselves.
A Then let me ask you to re-ask the question. I thought you asked about their logging.
Q I was not asking about their logging. I was asking about the use of the wash borings for purposes of creating drill holes through which later other types of geophysical instruments would be dropped down into the hole for purposes of sampling and evaluation of the subsurface.
A I'm aware that that's what they did, yes.
Q Okay. And are you also not aware that that practice is an accepted practice under 330.56(d)(5)(B)?
A I'm very aware of that.
Q Were you also aware that the 121 RFD -- RDF, excuse me, facility is located in a geological formation known as the Austin chalk?
A Yes, sir.

Page 435

Q And that's very different geological formation than the Taylor marl, isn't it?
A It's different. I'm not sure that it's very different.
Q We could probably debate that ad nauseam, but I think I'll leave that alone.
Mr. Carlson discussed with you some terms. I believe one of them was "water level" and "groundwater level." Do you recall that testimony?
A Yes.
Q And I believe he also discussed the word "leachate," as well, correct?
A Yes.
Q And if I remember how you described leachate in response to his question, it's basically referring to water that's inside the landfill, right?
A Yes.
Q Okay. And I believe there was some discussion that there had not been any artificial penetrations of the landfill for the purposes of measuring leachate; is that right?
MR. CARLSON: Objection.
A I don't think I testified to that.
Q (BY MR. RENBARGER) I misstated that. Strike that.

Page 436

With regard to water inside the landfill in the waste mass itself, the fact remains that TJFA Exhibit No. 9, which we went over at some length the other day, that exhibit does at least reflect there are levels of water inside the landfill, does it not?
A The levels that it reflects are the level of liquid that are in the wells, the extraction wells.
Q And the wells are inside the landfills, correct?
A That's true.
Q Thank you.
Isn't it true, Mr. Snyder, that there have not been a detection of any Appendix 1 constituents during the detection monitoring of the BFI Landfill except more recently at MW-30?
A I think MW-30, MW-9, and MW-16 all have detections, all in the southwest corner.
Q But the detections at MW-30 is the first detections that were significantly significant and required moving on to assessment monitoring, correct?
A As far as I know.
Q And if I understood the testimony elicited by Mr. Carlson with regard to TJFA-10, talking about the Applied Materials facility, I think he emphasized that neither Appendix 1 or Appendix 2 detections had taken

Page 437

place based on that report, correct?
A I think that's what the report said.
Q Okay.
MR. RENBARGER: I'll pass the witness with that.
JUDGE NEWCHURCH: Mr. Blackburn?
MR. BLACKBURN: Will you give me just a second?
JUDGE NEWCHURCH: Yes, sir.
Off the record.
(Off the record)
MR. BLACKBURN: I'm ready.
JUDGE NEWCHURCH: Back on the record, please.

RECROSS-EXAMINATION

BY MR. BLACKBURN:
Q I'd like you to get the Exhibit TJFA No. 8, please, Mr. Snyder.
A Okay.
Q And I would like for you to turn to Page 711, and then I'm also going to refer you to 712.
What I'm interested in is the water level that is shown on the left-hand side of the diagram on Page 711. Coming in from the left-hand boundary, it looks like there's a monitoring well.

Page 438

And I can't read the number on that. Can you read the number? Is that 12?
A I think it's 17.
Q Okay. MW-17 is the indicated thing being near the property line. Do you see that?
A Yes, sir.
Q And then there's a hard line that comes down roughly to elevation about -- I don't know, 617 or something like that. Do you see what I'm talking about? Solid black line that is almost vertical that comes down from MW-17?
A Yes.
Q What does that depict?
A That is the approximate excavation grade.
Q Okay. And then the line continues, and there's a sign that says Approximate Excavation. Do you see that?
A Yes, sir.
Q Okay. And then above that, there is the little inverted triangle that has the -- that is associated with, I guess, a dash-dotted line. Do you see that?
A Yes.
Q What does that inverted triangle indicate?
A That is the potentiometric surface. As I explained earlier, the potentiometric surface from

Page 439

December of 1999, and it's projected on to this line of section approximately.
Q Okay. So it could be off just a little bit. Is that what you mean by approximate?
A Yes.
Q Now, it looks to me like your dotted line goes up, then across, and then comes down. Do you see that?
A Which part are you looking at? I'm sorry.
Q On the left-hand side starting over sort of at MW-19, that dash and then dotted line coming across at Foot 200 and 400 and 600. From 200 to 600 it goes up. Do you see that?
A Yes.
Q Then it's relatively flat from, what is that, 600 to a thousand? Go past a thousand and then it begins to go down again.
A Yes. That's about right.
Q And my question is: Would you agree with me that indicates groundwater mounding?
A Well, I would say that what that indicates is that is the shape of the potentiometric surface that was depicted on the December 1999 potentiometric surface map.
Q Okay. And I repeat: Would you agree with me that that indicates mounding?

Page 440

Well, let me go back. What is mounding? What is your understanding of what mounding is?
A I guess I would rather you tell me what your understanding of mounding is. What are you asking me about?
Q I'm asking you if the water appears to be, at least from a potentiometric surface standpoint, sort of stacked up at that point.
A There is a groundwater divide at this site, and that divide has been reflected at almost every potentiometric surface map where groundwater flows to the west and flows to the east on the other side of it. And to me that's what it represents.
Q Okay. So you think it's a groundwater divide as opposed to a mound?
A Depending on what you're referring to as mound. If you're describing the shape, it is shaped like that.
Q Okay. Now, if you would, turn to 712.
A Okay.
Q Do you find that same pattern of mounding, divide, whatever, on that left-hand side?
A Yes, sir.
Q Now, is that also the location of where you said that the monitoring wells have detected contaminants at the boundary line?

Page 441

MR. CARLSON: Judge, just for the record, I think 712 and 711 are the same page.
MR. BLACKBURN: Well, that might be one reason they're the same. Sorry.
Q (BY MR. BLACKBURN) How about 713? That's the one I meant to go to.
MR. BLACKBURN: Thank you, John.
A I'm sorry. Could you repeat the question?
Q (BY MR. BLACKBURN) Is the mound similarly -- mound or whatever we decided that -- watershed, divide, can you find that also on Page 713?
A Yes. Although, it's much more subdued there.
Q But, nonetheless, it is there?
A There is a divide there.
Q Now, my question is in terms of the -- you indicated that detection monitoring had identified contamination -- my word, not yours -- in the southwest corner. Would this be -- would that be roughly in the location, for example, of where this mound, high spot, watershed divide is found?
A In fact, it was MW-30, which is right on there.
Q And MW-30 is, in fact, shown on 713, right?
A Yes, sir.
Q And is there a liner at this location in the landfill?

Page 442

A Yes, sir, there is.
Q Would one explanation of the potentiometric surface being higher at this location be that there is a leak in the liner?
A I don't think so.
Q I'm not asking if it was the truth. I'm asking might one explanation be?
A I guess if you're asking me for an explanation, that's not one that I would include in my explanation.
Q I understand. But if you're looking at a list of possibilities, certainly it would be a possibility that a leakage would explain that elevated potentiometric surface, right?
MR. CARLSON: Objection; asked and answered.
JUDGE NEWCHURCH: It sounds like the witness has answered it twice, so I'm inclined to sustain the objection unless you can help me understand why this question is different.
MR. BLACKBURN: I probably can't.
JUDGE NEWCHURCH: Okay. Objection sustained.
MR. BLACKBURN: And I'll pass the witness.
JUDGE NEWCHURCH: Thank you.
All right. I haven't listened really

Page 443

closely to make sure we were within the scope, but this is Round 3 if you have more direct.
MR. CARLSON: I do. And I believe it's going to be completely within the scope of the last two.
JUDGE NEWCHURCH: Okay.
FURTHER REDIRECT EXAMINATION
BY MR. CARLSON:
Q. Regarding TJFA-4, Mr. Snyder --
A Yes.
Q -- Mr. Renbarger asked you a couple of questions as he was taking a trip through there about moisture and moisture descriptions, and it sounded to me like you wanted to complete an answer. Do you remember the question and answer?
A Yes, I do.
Q You're doing better than me because your notes are better. I believe you wanted to provide an explanation regarding descriptions of moisture within the descriptive column of those various borings.
A I did.
Q And what was that explanation that you wanted to provide?
A The explanation was -- I believe he asked me on certain logs about whether or not there was a description of water. The implication would be that a

Page 444

description needed to say there was no water in this sample, which of course we don't do it that way. What we did is we make a note in our notes and remarks saying we didn't identify any water until we introduced water to start coring. That's all I wanted to say.
Q Okay. Now, regarding Borings EB-11 through 18, the eight borings that were done using the wash rotary method, in your experience is there a value from a hydrogeological standpoint from doing that sort of boring?
A Yes.
Q And what is that?
A Well, in a fairly simple geology, like we see here, and the manner in which we did it, I think that I can give a pretty close approximation or pretty close determination of where the weathered and the unweathered section was because I had multiple other borings to look at.
Had we been doing this with no other borings, we would not have used that methodology, but we already had a general -- really a pretty specific understanding of where that was, and that's what we were using those borings for.
Q In your experience, can a trained professional determine when or where that weathered/unweathered

Page 445

interface occurs by looking at the cuttings?
A In this material with prior knowledge of roughly where to expect it, I think you can.
Q What sort of things would you see to indicate that you hit that interface?
A Well, one of the things that we noticed at this site, and I've noticed it at other sites as well when we're drilling in this, is that part of the unweathered formation -- part of the characteristics of the unweathered formation is that it is less -- or not at all weathered. It's a little harder, it is not always void of but very few fractures. And when you're drilling through this, the drillers tell me, and I have observed, that you can absolutely tell when you get to that dense -- that denser material.
And what happens is a lot of things. The rig will almost start chattering and bouncing as it hits that, assuming you're using the same drilling weights and the same other methodologies as you get there. You can tell when it gets harder.
Q To your knowledge, did that sort of stuff happen here?
A Yes, it did.
MR. RENBARGER: Judge, if I may add, I am not sure we got into that in our previous interrogation

Page 446

of the witness. I think we're going beyond the scope of what we did.
MR. CARLSON: There was some discussion, I believe, with the value or lack of value of cuttings with respect to the 121 site, and I was just trying to get some information from this witness about the potential value of cuttings from a geologic/hydrogeologic investigation.
MR. RENBARGER: I certainly have no objection about cuttings. I think my objection more likely goes along the line of we're talking about different drilling methodologies, different kinds of things people do, what they hear, what they listen for, any number of things like that, which I think we're getting a little far afield there.
JUDGE NEWCHURCH: It's close enough.
MR. RENBARGER: It's close enough?
JUDGE NEWCHURCH: So your objection is overruled.
MR. CARLSON: Thank you, Judge.
Just a few more questions.
Q (BY MR. CARLSON) Mr. Snyder, you were asked some questions, I believe by Mr. Renbarger, about the level of leachate inside or in the context of -- let me make sure I get the -- is it TJFA-9, I believe -- oh,

Page 447

I'm sorry. Could you pull TJFA-8, please?
A Excuse me. Which TJFA --
Q No, no, no. I just said 8. I'm looking for the -- I believe it's TJFA-8. Could you pull out TJFA-9, please?
A Yes. I have it.
Q Mr. Renbarger, in this last line of questions, asked you some questions about the levels of liquids inside a landfill that may or may not be reflected in these landfill gas extraction wells. Do you recall those questions?
A Yes.
Q These extraction wells, what are they? Are they pipes that go down into the landfill?
A Yes. I think we talked a little earlier there. They're pipes that have perforations in them that allows the gas to collect in the well so that it can be pumped out.
Q How big of a pipe are we talking about? Is it a foot wide, six inches wide, two inches wide in diameter? I'm talking about in diameter.
A Close to a foot. I'm not really sure exactly at this site what they are. I don't think they're small diameter. I think they're larger diameter pipes.
Q Does six inches sound about right?

Page 448

A I really don't know.
Q With respect to liquid in those pipes, in your opinion is liquid inside the pipe reflective of the level of leachate inside the landfill that's above the bottom liner?
A No. I believe it's reflective of leachate in the pipe that has collected in the pipe.
Q Okay. And then with respect to Mr. Blackburn's questions on the cross-sections -- and I would like to point you to APP 000711 and 712 in TJFA-8 -- or 711 and 713.
A Okay.
Q I just want to make sure that I understand that the record is clear.
That dashed and dotted line that has the little black inverted carat, if you will, above it, on the left-hand side -- do you see where I'm looking at?
A Yes, sir.
Q What does that represent?
A Outside the landfill, it represents a measured groundwater level. Where it is projected across the landfill, it represents the -- our projection of what the pressure -- the potentiometric surface is in the water that's below the landfill.
Q And to understand the potentiometric surface a

Page 449

little bit, I'm going to ask you a couple of questions about the basic geology here. I believe that your testimony was that there is a weathered layer over an unweathered layer; is that correct?
A Yes.
Q And what is the basic contour? How does that weathered unlayered -- weathered/unweathered layer fit within the context of the site topography?
A In general terms, the weathered/unweathered surface or contact will reflect or mimic the topography. It's an effect of weathering that comes from the surface, and by its nature it's related to the distance from the surface.
Q To put it another way, the weathered/unweathered interface tends to mimic the natural contour, the natural topography; is that correct?
A Yes.
Q Okay. What about groundwater? Forget that there's a landfill any place now. What does the groundwater in areas like this tend to do in terms of whether or not it mimics or not the weathered/unweathered interface?
A In most places it mimics it.
Q Is the potentiometric surface shown on APP 711,

Page 450

is that reflective of this tendency to mimic the weathered/unweathered interface?
A Somewhat.
Q In any event, it's not intended to show that there's any mounding of leachate inside this landfill; is that correct?
A It was definitely not intended to, because in that part of the landfill, we have leachate collection systems which keep the leachate pumped down. And definitely there's not 30 or 40 feet of leachate in that side of the landfill.
Q And carving aside what it was intended to show or not, is it indicative in your mind, regardless of whether or not you intended it, of any mounding of leachate inside this landfill?
A No, sir.
MR. CARLSON: Pass the witness.
JUDGE NEWCHURCH: Who has cross-examination? Anyone? That's it?
Thank you, Mr. Snyder.
THE WITNESS: Thank you.
JUDGE NEWCHURCH: You are excused.
Off the record while we change witnesses.
(Off the record)
JUDGE NEWCHURCH: And, first of all, let's

Page 451

recognize BFI's additional counsel.
MR. MOORE: My name is John Moore. I'm with Lloyd-Gosselink and I'm here on behalf of BFI.
JUDGE NEWCHURCH: And, Mr. Moore, is BFI ready to call to the stand their next witness?
MR. MOORE: Yes. Our next witness is Dr. Shari Libicki.
JUDGE NEWCHURCH: Dr. Libicki, you'll need to take the oath, if you will. Mercifully, The Constitution does not mandate a particular wording, so we're okay.
THE WITNESS: Okay.
(Witness sworn)
JUDGE NEWCHURCH: Mr. Moore.
SHARI BETH LIBICKI, Ph.D.,
having been first duly sworn, testified as follows:
DIRECT EXAMINATION
BY MR. MOORE:
Q Good afternoon, Dr. Libicki. Could you again state your name for the record. And in your case, I'm going to ask you to spell your name for the court reporter.
A I'm Shari Beth Libicki, L-i-b-i-c-k-i.
Q And what is your current occupation?
A I'm a principal in the global air quality

Page 452

practice area leader, ENVIRON Corporation.
Q What is your connection with BFI's application for expansion of its landfill at Sunset Farms?
A I've been looking at issues around odor and odor control for about two and a half years now.
Q Did you write any portion of the application for expansion of the Sunset Farms Landfill?
A I did not.
Q Did you prepare prefiled testimony for this proceeding, Dr. Libicki?
A I did.
Q And I believe if you look in the box next to you, you will find -- or it may be in front of you -- a collection of testimony. And I would like to ask you to identify Exhibit SL-1.
A That's the prefiled testimony that I wrote.
Q Do you have any changes or corrections that you would like to make to that testimony at this time?
A I do not.
Q Could you also look in the next binder, and you will see Exhibits SL-2 through SL-12.
A Here?
Q Yes. It should be in Volume 3.
No, I'm sorry. It's to the left.
A Yes, I have it now.

Page 453

Q Could you thumb through those exhibits, SL-2 through SL-12, and just please briefly describe what those are?
A SL-2 is my curriculum vitae.
SL-3 is the narrative portion of the East Travis County Landfill Monitoring Event, TCEQ Strike Team, from December of 2002.
SL-4 is the Travis County Landfill Odor/Gas Emissions Study by URS.
SL-5 is the follow-up recommendations for Phases II and III from URS.
SL-6 is the GCCS diagram.
SL-7 is the Total Tons by Waste Type for both Sunset Farms and the Waste Management of Texas ACL site.
SL-8 is a Monthly Odor Comparison as a function of time.
SL-9 is the Frequency of Complaints by day function of time.
SL-10 is a series of graphs showing odor complaints visually so that you can see the number of complaints visually easily on the maps.
SL-11 is the agreed -- agreed order by -- with BFI and TCEQ.
And SL-12 is a similar Agreed Order between

Page 454

WMT and the TCEQ.
And I believe that's it.
Q Dr. Libicki, do you adopt your prefiled testimony here today as if you had given it all live before the Court today?
A Yes, I do.
Q Thank you, Dr. Libicki.
MR. MOORE: Your Honor, at this point the Applicant submits Dr. Libicki's prefiled testimony and all of the exhibits pursuant to the prior rulings on objections.
JUDGE NEWCHURCH: Okay. So I don't remember off the top of my head if there were prior rulings or agreements. But in any event, they've been conformed to those, if there were any.
MR. MOORE: And they have.
JUDGE NEWCHURCH: Okay. Is there further objection to SL-1 through 12?
MR. HEAD: No objection.
JUDGE NEWCHURCH: And they are all admitted subject to the prior rulings and agreements.
(Exhibit BFI Nos. SL-1 through SL-12 admitted)
MR. MOORE: And I pass the witness.
JUDGE NEWCHURCH: Cross-examination,

Page 455

Mr. Terrill?
MR. TERRILL: I have no questions, Your Honor.
JUDGE NEWCHURCH: Austin?
MS. NOELKE: No questions, Your Honor.
JUDGE NEWCHURCH: Travis County?
MR. MORSE: No questions.
MR. SHEPHERD: The Executive Director passes.
JUDGE NEWCHURCH: Okay. Thank you. Ms. Mann?
CROSS-EXAMINATION
BY MS. MANN:
Q I have -- good afternoon, Dr. Libicki. I'm Christina Mann with the Public Interest Office Counsel at TCEQ, and I just have a few questions based on your prefiled testimony.
And on Page 16 of your prefiled, you state that -- or you agree that waste haul trucks were probably not a potential cause of the odors.
Do you recall that general testimony?
A Yes, I do.
Q Because of the route that the waste haul trucks typically take to the facilities, correct?
A Yes.

Page 456

Q What route is that?
A In particular, it's what route it's not.
Q Okay.
A And they don't typically go along Blue Goose Road.
Q Okay.
A And that's -- it is in between where the odors are experienced in the landfill.
Q Okay. You also discussed earlier in testimony that misters can be placed near the working face of the landfill to help control odors. What kind of device is a mister and how does it work to control odors?
A A mister is a device that sprays very fine droplets of air -- of water into the air. And the idea behind a mister is that it would capture odorous materials in the fine mist.
Q And the mister doesn't include any sort of deodorizing agent; it's just fine water?
A They can have deodorizing agents. It's my understanding that they don't have them at the Sunset Farms Landfill. They can also have some other types of agents that are designed to help break down odors.
Q Okay. And so would it be fair to say that you haven't seen how the misters work at Sunset Farms; is that correct?

Page 457

A I've seen the misters in operation at Sunset Farms.
Q Okay. And can you tell if they're working about as well as misters typically work to control odor?
A It's really hard to say. They're supposed to be more efficacious in the very early mornings, and that's not when I was there.
Q How many times have you visited the Sunset Farms facility?
A I've been to the Sunset Farms facility once.
Q What was the date?
A It was in mid-September. I can find the date if you need it.
Q It was warm?
A It was warm.
Q How -- why would a landfill recirculate leachate, and how would that work?
A As to why a landfill would recirculate leachate, that's really out of my area of expertise.
Q How does the recirculation of leachate contribute to odors?
A Leachate itself can contribute to odors if it in itself is odoriferous and if it's exposed. There are theories that when you increase the amount of water in a landfill, which leachate recirculation can do, that you

Page 458

also increase the amount of anaerobic digestion, thereby increasing gas.
Q What is liquid waste stabilization?
A Liquid waste stabilization is when waste that are -- have too much liquid in them to go into the landfill effectively are stabilized, essentially.
Q And is sludge removed that can be deposited in a landfill, or do they let waste settle through the liquid?
A You know, I'm not that familiar with the process.
Q But, basically, it's a cause of odor because it's liquid waste sitting around?
A Again, any process that has odors in it can be the source of odors.
Q On Page 19 of your testimony at Line 14, there was an acronym "NSPS." Is that an air quality acronym?
A Yes.
Q Is it New Source Performance Standard?
A That's what it is.
Q So you testified that it's your opinion that landfill gases -- the release of landfill gases was probably the cause of the major odor episodes that resulted in the agreed order; is that correct?
A That's correct.

Page 459

Q And how are landfill gases formed?
A Landfill gases are formed as a result of the anaerobic degradation of organic materials and sometimes inorganic materials in the waste.
Q And how are they released from the landfill?
A At one point in time before there were the standard gas collection systems, they were simply released because they caused pressure. And the pressure caused the gases to be released. With the advent of state-of-the-art gas collection systems, ideally they're not released because they're collected by the landfill gas collection systems.
Q And so is a crack in a capped cell exactly what it sounds like, a properly sealed cell that is not receiving waste anymore? Would that be final cover -- or a final covered cell?
A I'm sorry. Did you say properly or improperly?
Q Well, a properly -- or a sealed cell that has a crack in it would be -- it sounds like it's exactly what it sounds like.
A It's any kind of breach in a system that is intended to contain gas.
Q Okay. So when we're talking about a capped cell, are we talking about a final cap, a final cover?

Page 460

A You can be talking about interim, as well. Normally when we talk about cracks, it is final cover, but you can talk about breach in a normal cover as well.
Q Okay. And so it's your understanding that the gas collection system has been improved since the major odor episode?
A That's right. There's evidence and documentation in the record.
Q You have some testimony about odor sensitivity of individuals around Page 30 of your prefiled. And do you -- there isn't any testimony in here about it, but I would assume that -- well, would it be true that a person that would have higher odor sensitivity, would you assume that they would be more likely to make a complaint? In other words, is there some sort of correlation between odor sensitivity and likelihood of complaints?
A That's what the literature found is that when people had been previously exposed to odors and therefore -- typically in a situation where they resented it -- when the odors came back, they tended to complain at much lower levels.
Q Much lower levels?
A That's correct.
Q Do you mean when the odor was at a lower level

Page 461

or they made fewer complaints?
A They complained when the odor was at a lower level than the people who had not experienced the odor previously did.
MS. MANN: I have no further questions.
JUDGE NEWCHURCH: Mr. Shepherd, still no questions?
MR. SHEPHERD: Still no questions. ED passes.
JUDGE NEWCHURCH: Okay. And Mr. Head?
CROSS-EXAMINATION
BY MR. HEAD:
Q Good afternoon, Dr. Libicki.
A Good afternoon.
Q My name is J.D. Head. In response to questions from the Public Interest Counsel, you talked about the study that showed that people who had experienced odors at a high level at one time, later on, even though they were lower odor levels, they believed they were still experiencing odor. And you mention that on Page 30 of your prefiled. You said there's an example in the literature. Who conducted that study?
A When I say there's an example in the literature, I said really it's mentioned in the literature, and I would have to look it up.

Page 462

Q So as you sit here today, you can't give us a citation?
A As I sit here today, I can't give you the citation.
Q Thank you.
And you were also asked a question on Page 16, on another issue, but this is with treatment. You had visited the Sunset Farms Landfill one time and that was, I think, in September 2008. You testified it was a hot day. You indicated that at the working face operations that Sunset Farms uses empty waste bins to surround the working face and this helps mix the air near the working face before it's released.
How is that accomplished, this mixing of air with the waste bins?
A So it's a well-known phenomena that if you put blockages to air flow between the source of the air and where it's going, that the air, in order to get past that blockage, has to actually butt up against them. And since it can't get through them, it will actually come back. And so what the air does is it mixes a little bit and it eventually goes over the blockade. It's the same phenomenon that's used with wind fences, anything like that.
Q And you've testified that you have reviewed I

Page 463

think the site operating plan in the application, which a component of that was the odor management plan, and you've reviewed Attachment 14, the landfill gas collection system, and Attachment 15, the leachate collection system. Anywhere in those portions of the application that you reviewed did you find anything about utilizing waste bins for odor control?
A I don't believe I discussed it.
Q You were hired in two and a half years ago, roughly 2006. Who contacted you?
A I believe my first contact was with Mr. Gosselink.
Q And have you worked with Mr. Gosselink before?
A I have worked with Mr. Gosselink before.
Q Have you -- when you worked with Mr. Gosselink before, was it on behalf of BFI or Allied?
A It was on behalf of BFI.
Q And have you testified on behalf of Allied or BFI in any contested case proceedings regarding landfills in Texas?
A I have not.
Q Have you testified on behalf of BFI or Allied regarding any landfill odor issues anywhere in the United States?
A The word "contested hearing," I'm not sure I've

Page 464

heard that word outside of Texas. So...
Q When I say "contested hearing," have you -- well, let me ask the question. Today we're testifying. Have you -- in other proceedings are you providing comments on an application for what's known as a notice-and-comment type hearing?
A Again, I think the terminology is different. I have presented at public hearings and at agency hearings for BFI elsewhere.
Q And how many BFI/Allied landfill projects have you worked on?
A I have worked on two others where I testified or spoke in a public meeting or hearings.
Q And forget the testifying. How many other -- how many BFI Landfill projects have you had any involvement with to be testifying or consulting or assisting on the application?
A That would be two outside of Texas, I think, and two inside of Texas.
Q And which of the -- aside --
A Two others. I'm sorry.
Q Aside from the Sunset Farms Landfill, which other BFI landfills have you had any involvement with in Texas?
A I've consulted on the McCarty Road Landfill and

Page 465

the Blue Ridge Landfill.
Q Thank you.
You're a chemical engineer, correct?
A That's correct.
Q And a Ph.D., and you have expertise in air quality, fate and transport, movement of landfill gas; is that correct?
A That's correct.
Q Okay. With regard to a gas collection and control system, have you ever designed a gas collection and control system?
A I have not.
Q Do you have the expertise to design a gas collection and control system?
A I have the expertise to specify one but not to design one.
Q Okay. And have you ever designed a leachate collection system?
A I have not.
Q And do you have the expertise to design a leachate collection system?
A No, I do not.
Q You could spec it but could not design one?
A I would even stay away from spec-ing when we're talking about leachate systems.

Page 466

Q Is it within your realm of experience as to how a gas collection and control system functions to control odors?
A Yes, it is within my realm of experience.
Q Can you describe how it functions, for the Court?
A The landfill gas itself has odors. When it's put under a vacuum, the vacuum collects the landfill gas. By collecting the landfill gas and taking it away, it doesn't leak through the cap and therefore doesn't cause odors.
Q Now, is -- in a typical MSW landfill -- and when I say "MSW," you understand I'm saying municipal solid waste as opposed to industrial? In a MSW landfill, is landfill gas generated throughout the entirety of the landfill?
A Landfill gas is generated by waste that's decaying. So to the extent that the waste is of the age to decay, it will generate landfill gas. And landfill gas will be generated where the gas is of the appropriate age.
Q So -- and that's where I'm trying to go. The age of the waste, that has something to do with the ability for the waste to decay; is that correct?
A The type of decay activity that is going on in

Page 467

the landfill area is a function of, among other things, the age of the landfill waste.
Q Is it a fact that the older the waste, the larger generation of gas?
A No. It -- once the waste gets sufficiently old, it doesn't generate at all anymore.
Q So, for instance, once you have a closed landfill you may have a gas collection and control system operating, but after 20 or 30 years there would no longer be any generation?
A It's, again, function of landfill location and specifics of the landfill site as to how long that time is, but after a certain period of time there will no longer be landfill gas generated.
Q Now, if you have -- before the landfill has its final cap, it's in the -- I think you used the term "interim condition" and you're having infiltration of rainwater, is that a -- will that create landfill gas?
A Rainwater in and of itself will create landfill gas, but if the waste is under the right conditions, then rainfall can aid in the creation of landfill gas.
Q And what are the right conditions for the waste to have that creation?
A The waste has to have the organic matter in it to create landfill gas.

Page 468

Q So after a certain time the organic matter is eaten away and it no longer creates gas?
A At some point everything that's going to decay has decayed, and there's no more potential for gas generation.
Q You can tell I'm not a mechanical engineer, can you not? You don't need to answer that. To your knowledge, with -- strike that.
What are the primary components of a gas collection and control system?
A The primary components of a gas collection and control system are the gas collection wells, the headers, the fans, and some kind of control device.
Q And the wells themselves, are they placed vertically or horizontally in a landfill?
A In most cases they're placed vertically. Sometimes there are lateral wells depending on the landfill design.
Q And, to your knowledge, how are the extraction wells placed at the Sunset Farms Landfill?
A It's my understanding at the Sunset Farms that they're all vertical wells with lateral collectors.
Q How deep should the extraction wells be drilled vis-a-vis the bottom of the landfill?
A It's a function of what's going on in the

Page 469

landfill. Because in certain locations there may be water at the bottom of the landfill, typically pre-Subtitle D landfills. And in those locations you can't drill them below the water level. In other locations, the landfill can collect as close to the bottom as it can.

Q So in the -- and you're aware that the Sunset Farms Landfill has a roughly 90-acre pre-Subtitle D cells?

A I was aware that there was a pre-Subtitle D area, yes.

Q And so it's your testimony that -- is it your testimony that if there is water in the pre-Subtitle D cells, you don't want to drill your extraction wells into that water?

A My testimony is that typically when there's water in the bottom of Subtitle D landfills, you don't put the wells into the water. But I don't know what is actually happening here.

Q And why would you not want to put the extraction wells in the water?

A Simply because they won't be able to pull gas through the water.

Q So if hypothetically you had in the pre-Subtitle D area of this landfill, you had extraction

Page 470

wells covered with five, seven feet of watering screen, would you believe those extraction wells to be operating efficiently?

A Could you ask your question one more time?

Q Let me try that again. That's probably poorly worded.

I think you testified previously that if you have water in your extraction well, that that impedes the ability of it to collect the gas.

A It's not water in the extraction well, per se. It's being able to collect gas through water that can be difficult.

Q So if you -- and as I understand these extraction wells, they're screened; is that correct?

A That's correct.

Q And if you have -- if you're screened to an elevation, and you have six feet of water on top of that screen, is it your testimony that's going to make it more difficult to extract the gas?

A So my testimony is in the general case, gas flows easier when there's not water intervening.

Q Here it is. Now, on Page 10 of your testimony -- feel free to read along. You -- it's a section called Potential Sources and Control of Landfill-Related Odors, which starts on Line 11 on

Page 471

Page 10.

As I read your testimony, you have six potential odor sources at a MSW landfill. You've got the haul trucks. You have disturbed green waste/composting piles, the working face, leachate collection treatment systems, cracks in capped cells, which you talked about with the Public Interest Counsel, leaking gas wells and gas collection systems that either have poor coverage or are not operating properly.

Is the -- if you have a landfill with a pre-Subtitle D cell and there is no leachate collection system, is that a potential odor-generating condition?

A Right. So later in the testimony, I talk a lot about the fact that not only does the landfill gas not have to be collected properly, but it has to actually get out somewhere. And it's actually not an odor issue until the landfill gas gets out. So even if that section of the landfill may not -- may not have its gas collected ideally, it has to actually escape the landfill before it becomes an odor problem.

Q I'm trying to understand. If hypothetically you have a -- cells in the landfill with 30 feet of leachate, are you -- is it your testimony that that would not be a potential odor causing -- a cause of odor?

Page 472

A Right. So it's my testimony that if you have 30 feet of leachate in the landfill that the gas may not be being collected by a particular well as it would be if it were dry, but it also may not escape the landfill collection systems because it would likely go up and then get picked up otherwise.

JUDGE NEWCHURCH: Up but still within the cell? Is that what you're saying?

THE WITNESS: I'm sorry?

JUDGE NEWCHURCH: Up and still within the landfill cell, is that --

THE WITNESS: That's correct. You can imagine it would be like something stuck in the water that generates bubbles, right? The bubbles go straight up through the water, and that's what they would do in a landfill, too.

JUDGE NEWCHURCH: Okay.

Q (By Mr. Head) And you did an analysis of the famous 2001, 2003 odor event in your prefiled testimony, correct?

A I'm not sure what you mean by "analysis."

Q You rendered an opinion as to what you believed to be the cause of the odor conditions in 2001, 2003?

A That's correct.

Q And as I recall your testimony, it was that a

Page 473

failure -- failure malfunctioning, not proper functioning of the gas collection and control systems, I think, at both the Sunset Farms and the adjacent Waste Management Landfill; is that correct?

A That's correct. That's based on my review of the record that was made at the time.

Q And as I understood your testimony, you pointed towards C&D waste, construction and demolition waste, and large amounts of what I think you refer to as wallboard that had been received at both of those landfills. Do you recall that?

A When you say "pointed at" --

Q Let me see if I can find that. I'm not trying to trick you.

A I --

Q I just don't have a photographic memory of where you said that, but here we go. Go to Page 21 of your prefiled.

Actually, I think it would be better to go to Page 20 at the very top. You were asked a question: "As part of your analysis, did you also consider the types of wastes that were being accepted at Sunset Farms and Austin Community Landfill prior to and at the time of the period of significant numbers of odor complaints?"

Page 474

And you said, "Yes."

And on Line 8, 9, you start talking about construction and demolition and rainfall events.

And then turning the page on 21, the question is: "Why is it significant that landfills were accepting C&D waste?"

And that's where you got into the discussion of wallboard.

And as I understand your testimony under anaerobic conditions, the calcium sulphate, which is the component of the wallboards, can produce hydrogen sulfide.

And I think your testimony is -- and tell me if I'm wrong -- that the two rainfall events that you noted in November of 2001 when all that rain entered these landfills and hit the C&D waste, particularly wallboard, it created all of this hydrogen sulfide and you had the rotten egg smell.

A Right. So the hydrogen sulfide is the odorant -- the primary odorant in the gas. So a -- landfill gas was created and the hydrogen sulfide potentially created by the wallboard would potentially make that gas more odorous.

Q Right. And then you, I think, went on to say at the bottom of 21 starting on Line 22, you say: "The

Page 475

large amount of rain in November 2001 fed the biological reaction that, within a couple of months, resulted in generation of a large amount of landfill gas at Sunset Farms that contained hydrogen sulfide."

Correct?

A That's correct.

Q All right. My question is to you: Hypothetically I have an existing landfill, and I'm going to go do a vertical expansion on that existing landfill, and I take large amounts of C&D waste combined with wallboard, and we have 10-inch rains. As I read your testimony, it would take a matter of months to start generating this hydrogen sulfide rotten egg smell gas?

A Uh-huh.

Q Is that correct?

A That's correct.

Q Now, have you ever been in a landfill when there's the installation of these gas collection and control systems? You've seen the systems?

A In other words, have I ever seen the system installed?

Q Yes.

A Yes.

Q And after they're installed, you have a header

Page 476

or some component that's sticking out of the top, a vent, correct?

A They're usually not vented. They're actually connected to other collection devices.

Q But there is a pump that comes out of the top of the landfill connected to the extraction well?

A There -- it depends on the design of the system. There's typically some methodology to get the air to move.

Q You did review Attachment 14?

A I did.

Q And I am assuming you looked at the schematics and the designs of these extraction wells?

A I did.

Q And you do see that there is -- let me just get to it.

There are monitoring ports and control valves that are above the surface of the landfill?

A That's typically the case.

Q All right. Now, my question is, if -- and right now we have 85 percent, roughly, coverage of the landfill with gas collection and control system. Would you agree with that?

A I would have to look at it. That's not a number I know off the top of my head.

Page 477

Q Fair enough. I'll indicate to you that there's testimony to that effect in the record.

Now, if you have an area that has waste fill and you're going to expand, isn't it a fact that you're going to be putting the waste on top of that area, you're going to have to decommission that existing extraction well underlying where you're going to be putting in your new waste lift?

A I've talked to Matt Stutz about that, and that's not what he indicated. He indicated that there's a couple of ways of ensuring that well continues operation while the additional waste is going on on the top of it.

Q When additional waste is added to the landfill, how much -- how much time passes before you will install your extraction well in that new waste?

A Right. Again, I would have to defer to Matt Stutz on the details of it, but it's my understanding that in many cases they're installed almost immediately, as in going with the system as soon as it's finished.

Q If you installed -- one of the purposes of the gas collection and control system is to actually create gas to energy, correct?

A Yeah. And, actually, can I amend my last

Page 478

answer for a second?

Q Yes, you may.

A In the world of landfill gas, "immediately" means something along the range of two years.

Q Okay.

A Because the waste won't degrade before that time.

Q Thanks for the amendment because that's what Mr. Stutz' testimony said.

You consulted landfills and permit applications, correct -- landfill companies and permit applications?

A Yes, I have.

Q And you've testified for landfill companies in litigation?

A I don't think I've ever been an expert witness in litigation for landfill companies, per se. Wait. No, no. It's true. I have. It was a hazardous waste landfill.

Q Okay. You indicated on Page 4 that you have given testimony on odors from landfills.

A That's correct.

Q How many times have you testified on odors from a landfill?

A Again, when I used it here, I used it including

Page 479

at public hearings where I was sworn in. So that would be --

Q So were you subject to cross-examination when you indicate that you offered opinions of an expert witness in those proceedings?

A I was subject to questioning by the administrative body, but not by an adverse party, per se.

Q And you also indicated in your prefiled that you did a testimony on subsurface landfill gas transport. Now, was that in a contested case hearing like today, or is that more in a public hearing form?

A That was actually in -- that was in the one litigation case that I referred to earlier.

Q And were you retained as an expert in that litigation case?

A Actually, I had been working on the landfill gas issues prior to being retained as an expert in that case.

Q Who was the client that you were working for in that case?

A The client was a large landfill in California called the BKK Landfill.

Q Was this a permanent-type hearing, or was this civil litigation where someone wanted money for

Page 480

nuisance?

A This was a toxic tort associated with the landfill itself.

Q And what was the substance of your testimony in that toxic tort case?

A The testimony was fairly specialized. It was detailed how landfill gas moves in the subsurface. And in this case this was a fractured subsurface. So in this case there was a discussion about how a fractured subsurface leads to preferential gas movement pathways.

Q And who prevailed?

A I think it settled.

Q They typically do.

When you had your site visit in September of 2008, what was the size of the working face on your visit?

A I didn't measure the size of the working face.

Q You've been to many landfills in the course of your work with landfills. Did it appear large to you?

A It looked, roughly, like most of the other landfills I've seen, bearing in mind that most landfills I work on are in California.

Q And from an odor-control standpoint, do you believe it appropriate for a landfill operator to remove daily cover from the working face to continue filling

Page 481

operations the following day?
A I don't know that I have ever been asked about that. I've never really considered that.
Q I'm asking you to consider it.
A I would have to think about it for a while.
Q How long do you need?
A You know, I don't really need --
MR. MOORE: Maybe you could be a little more clear about what you mean by removing daily cover and what amount. Give her some specifics and she might be able to give you a more specific response, if that's an objection.
JUDGE NEWCHURCH: It's a suggestion. Do you want to rephrase your question or not? And if you don't, you need to repeat it, because I sort of --
MR. HEAD: Let me try this again. And if it doesn't work, maybe John or I or Dr. Libicki will end up somewhere in the process.
JUDGE NEWCHURCH: All right.
Q (BY MR. HEAD) From an odor-control standpoint, do you believe it appropriate for a landfill operator to remove daily cover from the working face at the end of the day to continue filling operations the following day?
MR. MOORE: I'm going to object to the

Page 482

extent it might contain facts that are not in evidence. And I guess a clarification of whether he is suggesting that that is what happens at this particular landfill might be useful to avoid my objection.
MR. HEAD: It's a hypothetical. A hypothetical. And I think the way I phrased both times was hypothetical.
JUDGE NEWCHURCH: Hypothetical. All right. Okay.
A Let me make sure I understand your hypothetical.
Q (BY MR. HEAD) Okay.
A People are -- landfill -- the landfill is filled for the day. They've put on daily cover. They come back the next morning, they scrape off the daily cover, and they put new waste on top of the existing waste.
Q Yes.
A Okay.
MR. MOORE: Objection, Your Honor. I don't think that is consistent with the facts regarding this.
MR. HEAD: We're talking about a hypothetical. I'm sorry to interrupt you.
MR. MOORE: Okay.
MR. HEAD: This -- no one is saying this is

Page 483

a fact. I'm asking her a hypothetical question. And she's giving, I think, a hypothetical answer.
JUDGE NEWCHURCH: So ultimately other evidence might show. And you're saying that there is no such evidence, but that is what a hypothetical question is for. So your objection is overruled.
MR. MOORE: Thank you, Your Honor.
A So there are situations where alternative daily cover is used and that alternative daily cover is removed actually prior to the landfilling itself.
I'm not sure I have ever really evaluated the odor issues associated with that.
Q (BY MR. HEAD) On your visit on that hot June day -- hot September day, 2008, were there any birds or vultures on the working face?
A Not being a vector person, I don't know as how I'd pay a lot of attention to it, so I couldn't tell you.
Q Okay. When you went to the facility, was that the first time that you interviewed the two gentlemen that you -- Emmett Moore and the other gentleman that you mentioned?
A Everett Moore?
Q Everett Moore.
A Michael Stuart?

Page 484

Q Yes. Very good.
A Yes, that's the first time I spoke with them when I went on that day, and I believe I testified that it was warm, not hot.
Q Fair enough. And how long was your time at the landfill?
A I think I was there on the order of three hours.
Q And you also mentioned in your testimony that you interviewed Matt Stutz.
A That's correct.
Q Was that a phone interview?
A I've spoken with Mr. Stutz a number of times.
Q Have you met with him personally?
A I have.
Q And as I understand your testimony, Mr. Stutz has explained the landfill gas collection system to you.
A He's certainly explained aspects of it that I've asked about.
Q Do you have personal knowledge that the gas collection and control systems at the Sunset Farms Landfill is functioning properly at this time?
A When we say "personal knowledge," could you --
Q Personal.
Well, I mean, are you aware of whether

Page 485

there's problems with it where it's not controlling gas, that the headers are full of leachate, that the -- hypothetically, the extraction wells are full of leachate? Have you looked at the actual performance of the system?
A During the time that I was there, the odors were controlled at the landfill, and I think I put that in my prefiled testimony.
Q Okay.
A Which is evidence that the landfill gas collection systems were working well at that time.
Q Can landfill gas migrate laterally?
A Yes.
Q Can it migrate -- can it move -- can it go horizontally as well? I mean --
A Landfill gas will go anywhere where the pressure is lower.
Q Anywhere it's lower?
And what causes the pressure to become lower?
A Well, for example, the vacuum on the gas collection system causes lower pressure, and that's the principle that it works under.
MR. HEAD: I don't want to talk about washer borings with you, so I'm going to pass the

Page 486

witness.
JUDGE NEWCHURCH: Mr. Blackburn.
CROSS-EXAMINATION
BY MR. BLACKBURN:
Q Good afternoon, Dr. Libicki.
Is it Libicki, Libicki?
A Any way you like.
Q Did I see that you are on the faculty at Stanford?
A That's correct.
Q What is your appointment?
A It's a lecturer.
Q And that's not a tenured position?
A That's correct.
Q And how many courses do you teach?
A I teach one course a year.
Q And in what department do you work?
A In the department of chemical engineering.
Q Now, as a part of the work that you undertook, it's my understanding that you only visited the landfill on one occasion?
A That's correct.
Q And it was for three hours?
A That's correct.
Q I presume that BFI knew you were coming; is

Page 487

that correct?
A I believe they did.
Q And I believe the testimony is that there were boxes that were placed around the operating face that you have identified in your testimony that they were useful in minimizing odors; is that correct?
A Just so we're all clear on the word "boxes," these are these rolloff bins, the large blue bins in the BFI's case that you see.
Yes, they're useful.
Q Right.
And so are you basing your opinion about the generation of odors from that landfill on that visit?
A That's a piece of my -- what I'm basing my opinion on, but certainly not the whole thing.
Q Did you conduct any other type of site investigation?
A Again, I conducted literature investigation and evaluation. I don't know what "site investigation" means in this context.
Q It means did you, for example -- well, for example, did you try to contact any of the residents living nearby to inquire about their experiences with odors?

Page 488

A I did not.
Q You do seem to rely upon the presentation -- or at least the reporting of odors to the agency as an indicator of the severity of the odors; is that correct?
A That's correct.
Q You're making the assumption that that is a proper representation of the strength of the odor; is that correct?
A I'm making the assumption that the reporting is a proper representation of the odors. I don't know about the strength, because sometimes they put strength down when they report, and sometimes they don't.
Q Have you at all ever inquired about the pattern of citizens when they're exposed to a continuing source of odors over a period of time as to whether they will continue to report odor violations or not?
A In other words, are you asking whether people stop reporting odor violations after a period of time?
Q Yeah, out of frustration, for example.
A I suppose that's a very individual pattern of behavior.
Q But my question is: Do you have any knowledge about that?
A Are you speaking in this particular case, or are you talking about the general case?

Page 489

Q Both. Either.
A In this particular case, there are some people who say they're frustrated, in the odor complaints that I've read. And they have asked the question, you know, certainly in the e-mails whether it's worth reporting. That being said, they seem to keep reporting, so I'm not quite sure how to read that.
Q Okay.
A In the general case, I don't think I've ever seen a study on it.
Q Right. But you're making an assumption about it, are you not?
A I'm making the assumption that the odor complaints are representative of the odors at the site as they're perceived by the people.
Q There's no basis for that, is there? I mean, there's no literature basis for it?
A It's a pretty standard methodology to use in all sorts of odor evaluations because it helps both the agency and the -- and anybody evaluating it to understand the odors, because odors are impossible really to measure alternatively other than by people reporting them.
Q But what about talking to people? I mean, that's another source of information, isn't it?

Page 490

A Right. So the reason one relies on odor reports rather than talking to people is that people's recollection in terms of timing and duration tends to fade. And so what you really want to know when you're dealing with odor issues is when the odor is reported, how strong it was, what the timing is, what the conditions are.
And those things are critical because if you don't know those things, trying to relate it to a particular source is impossible. So if you talk to somebody and they have a log -- a detailed log of when they smelled it and what happened, that's great, but that's the very rare exception and not the rule.
Q Did you ask any of the citizens if they kept logs of odors?
A Again, I did not talk to the citizens.
Q Have you looked at the prefiled testimony in this case?
A I have.
Q Are you aware that there is at least one log that's been put forward as evidence?
A I saw a map of odor complaints that was put forth as evidence.
Q Okay. Did you consider that in your prefiled testimony?

Page 491

A I compared it to the odor complaints that I have, and they're generally in the same location. Although, they're slightly different.
Q But my question is: Did you see a log?
A I don't recall seeing a log.
Q Are you familiar with the concept called downwash and Gaussian dispersion modeling?
A Yes.
Q What is "downwash"?
A Downwash is when there's an elevated source and there's a -- typically a building near the elevated source. The elevated source -- the emissions from the elevated source will go past the building. There's a Bernoulli effect beyond the building, which creates a little bit of a vacuum, and it pulls down the plume.
Q Isn't it true that an elevated landfill with an operating face at height would have a downwash effect on the downwind side of the landfill?
A No, not at all.
Q The Bernoulli effect would not at all be in effect? Is that what you're saying?
A No. I'm saying it's not an elevated source. It's actually a ground-level source. What you have when you have landfill sources and the way that they are simulated in the literature is that they're considered

Page 492

to be ground-level sources and the emissions would tend to stay on the ground and disperse on the ground as if it were any kind of ground-level source.
Q But if it was, in fact, 70 to 100 feet above the ground surface, are you saying it would still be a ground-surface source?
A That's the terminology we use, although it may not sound like what it sounds to you. But if you have a hill and you have landfill gas emissions from the top of the hill, they will tend to slide down the hill and disperse. So downwashes doesn't make any sense here.
Q If it were coming from the other side of the hill, if the wind -- if you had your hill --
A Right.
Q -- your operating face on the -- say the wind is coming from, say, south to north, the operating face is on the south side, there is essentially a slope behind it, and it comes over and down, it would be a downwash effect, would it not?
A Right. So what I'm talking about is actually saying that the emissions would stay close to the hill.
What you're talking about is the emissions would stay close to the hill. So --
Q We're saying the same thing?
A -- it's just the physics isn't quite right in

Page 493

terms of downwash. But at the end of the day, we're talking about the same phenomena.
Q But an elevated source, the emissions would follow the slope back down to the area to the north or to the south, whichever way is downwind?
A The emissions would follow the terrain. They're considered terrain-following emissions, not downwash, and they would tend to follow the terrain and disperse. So they would follow the terrain and get more and more dilute as we go downwind.
Q And do you know where Harris Branch is?
A I do.
Q And would you agree that with the prevailing southerly winds that Harris Branch is downwind?
A Actually, the prevailing winds push most of the -- and we're going to have to be careful when we talk about the prevailing winds, but the prevailing winds I have seen in the application push it slightly to the west. Winds go in all directions, but the main winds push slightly to the west of the more developed area.
Q Do you know where Evelyn Remmert lives?
A I would have to look it up.
Q So the answer is no?
A As I sit here right now, I do not.

Page 494

Q Do you know where Evan Williams' property is?
A As I sit here right now, no.
Q Do you know where the Barr Mansion is?
A I do.
Q Is it to the west?
A And you have to excuse my hesitation. I think in terms of landfill north because it's slightly askewed to the north/south boundary. So when I talk about north and south, please let me do landfill north rather than true north. Does that make sense?
Q I'm not sure I know what you mean.
A In other words, the north arrow is a little bit tilted on this landfill, and so it's easier for me to think of the northern boundary of the landfill being a straight east/west line, which it really isn't. So I'm going to --
Q I think that's approximate.
A -- so I'm going to talk about landfill north.
Q Okay.
A Just to be specific.
So the Barr Mansion is to the west.
Q Of landfill north?
A Correct.
Q So they would be downwind and in the direction of the predominant wind?

Page 495

A It's, again, that the predominant winds tend to go between the developed area that is to the landfill north and the developed area that is to the landfill east.
Q Now, I believe that you talked about how on the one day that you were here you didn't detect any odors.
A I think what I said is that there was a faint odor -- in my testimony -- on Blue Goose Road.
Q And that was with the odor abatement boxes around that are not part of the normal operating procedure, correct?
A That was as the landfill was operating that day and the boxes were there.
Q And how much do you get paid on an hourly basis?
A For this case, $245 an hour, I think.
Q And how much have you billed on this case?
A I think it's under $20,000, but I'm not positive.
Q Now, on Page 10, you identify, I think, six sources of potential odors from the landfill; is that correct?
A I'm sorry. I was not on my testimony, which is why I wasn't there on Page 10.
That's correct.

Page 496

Q Are you aware when the landfill began to be elevated above ground surface?
A In terms of timing? No, I'm not.
Q There was a complaint period between 2001 and 2003.
A I'm aware of that.
Q Are you aware of when the landfill began to come above the surface and to be elevated?
A No, I don't know that.
Q So would it be fair to say you didn't consider that as a possible source of odor?
A Again, because landfill odors tend to be ground-following, it wouldn't make a huge amount of difference.
Q Now, was it your testimony that when you were at the site, the Austin Community Landfill was a source of odor?
A While I was at the site, I was at the landfill south side of the site and the wind was coming from the Austin Community Landfill and there were operations at the Austin Community Landfill. And there appeared to be a source of odors on the Sunset Farms Landfill on the landfill southern part of the site.
Q Well, there will be a hearing coming up over the Austin Community Landfill shortly if you would like

Page 497

to come back and testify.
(Laughter)
(Discussion off the record)
Q (BY MR. BLACKBURN) Now, you report --
JUDGE NEWCHURCH: Mr. Blackburn, I'm going to interrupt. We're probably due for a break. Do you have much more?
MR. BLACKBURN: Enough that a break would be appropriate.
JUDGE NEWCHURCH: Let's do that. Ten minutes, then. Off the record.
(Recess: 3:47 p.m. to 4:02 p.m.)
JUDGE NEWCHURCH: Let's go back on the record.
And Mr. Blackburn?
Q (BY MR. BLACKBURN) Right. I'd, again, like you to turn to Page 30 of your report. And I believe Mr. Head asked you a question about this, but I would just like to follow up a little bit.
Starting on Line 15, you talk about an example in the literature where there's a strong source of odor that had been abated and, then, that subsequently people, apparently, reported concerns about odors that were less strong than those that they had initially been concerned about. Is that roughly

Page 498

correct?
A Right. I think what I said is that the proportion of individuals annoyed by odors, among those that had been previously exposed to the odor, reported odors more than those who had not been previously exposed to the annoying odors.
Q And is the purpose of your putting this in your expert report to suggest that the odor reports that were made adjacent to Sunset Farms were basically following this same concept of behavior?
A Yes. It's to suggest that when you have a significant odor event -- and I don't think there's much dispute that the odor event in 2002-2003 was a sufficient odor event -- that people that have been exposed to that are frustrated and will be more easily annoyed by subsequent odors.
Q And now you're saying it was your intention to suggest as opposed to opine?
MR. MOORE: Objection; form, Your Honor. I think it's argumentative.
MR. BLACKBURN: I'm just trying to clarify what she meant by the word "suggest."
JUDGE NEWCHURCH: I think it's okay to clarify. Objection overruled.
A You know, I apologize. I'm not quite sure I

Page 499

understand the difference between "suggest" and "opine." I think it is what it is. There is literature to state that this is a phenomena. It's an understandable phenomena. It is relevant because there was a substantial odor event here, and that's why it's in the report.
Q (BY MR. BLACKBURN) Now, is that in the chemical engineering literature?
A It's in the odor literature, which is certainly an aspect to the chemical engineering literature.
Q But you can't give us the source of it as you're sitting here today?
A You know, I thought I had the source here in my report, and it's not, and I apologize for that.
Q So we can't cross-examine you about that source or anything like that?
A You know, I have it. I do not have it at my hand right now.
Q Is it a psychological source?
A It's a source designed to help evaluate landfill odors. And again, it talks about how to distinguish and how people understand the odors and how annoying they are. I don't -- certainly there's aspects of psychology in there.
Q And are you a psychologist?

Page 500

A I am not a psychologist.
Q But it seems to me that if you were trying to apply this concept to this situation that you should talk to the people that have made the complaints subsequent to the major event. I mean, does that not seem reasonable?
A I'm not sure relative to this issue what that would involve. "Excuse me. Are you more annoyed because you were previously exposed?"
I'm not understanding how that would work.
Q First of all, were these people that report said subsequent events previously exposed?
A I think at least some of them were, and I tracked that back through the complaints.
Q And how many of those would that be?
A I don't know, which is why I didn't make a quantitative evaluation here. I just simply said the phenomena exists.
Q But you made no attempt to discriminate among those that complained later as to whether they had been previously exposed or if they were newly moved to the area?
A Actually, I did some evaluation that didn't make it into the report simply because it -- it didn't say anything interesting.

Page 501

Q Was it quantitative?
A It's hard to get quantitative information here.
Q It's hard without talking to people, isn't it?
MR. MOORE: Objection; argumentative.
JUDGE NEWCHURCH: Sustained.
MR. BLACKBURN: Pass the witness.
JUDGE NEWCHURCH: Is there any redirect?
MR. MOORE: Yes, Your Honor.
REDIRECT EXAMINATION
BY MR. MOORE:
Q Dr. Libicki, I believe it was Mr. Head's questioning that points out the few instances where you've been involved in landfill cases here in Texas, very few, and a couple of others from out of state.
Could you just describe generally what percentage of your practice in your professional career is dedicated to BFI, first, and then to landfills in general?
A So we're talking about over 20 years. I would say that certainly less than 10 percent over my 20 years and probably more like less than 5 percent. But that's just a hard number.
Q That's landfills as a group?
A That is landfills as a group.
Q And something significantly smaller than that

Page 502

as it relates to BFI and its affiliates?
A I don't know about significantly. Most of my landfill work has been for BFI.
Q Well, then, what is the other 90 percent? Could you explain to the Court what is the general nature of your practice and how you expend your energies?
A Right. So my training is in air emissions, air dispersion, and chemical fate and transport. And what that means is that I do all sorts of work where that's a relevant issue.
And so I have situation right now where we're doing greenhouse gas emissions from new residential developments, for example, because those are gas emissions. I'm working on a case where I'm looking at the compliance requirements for a series of glass furnaces because glass furnaces emit air pollutants. I'm working on a few cases where I'm looking at the dispersions of toxic air pollutants from a variety of facilities.
I think that's a broad-brush of what I typically do. And, of course, landfill work as well.
Q And I know I've committed to have you out of here at a reasonable amount of time tonight, but where is it you are going and what are you going to be working

Page 503

on?
A So my next project is in Israel. And I'm going to be going on Sunday, because I'm testifying in court on international air quality standards. Because I'm ENVIRON Corp.'s quality practice area leader, so I have to understand air quality standards across the world, not just in the United States.
Q If you gave up all of your BFI Landfill work and affiliates of BFI Landfill work today, would you still be very busy?
A Yes.
Q Dr. Libicki, I think you made it clear that you didn't know what the bottom of the gas -- the elevation of the bottom of the gas wells was relative to any bottom liners at the Sunset Farms Landfill. Did I understand that correct?
A That's correct.
Q Are there a number of other reasons why you might find liquid within a gas well boring, other than that it is extended into water?
A Sure. I mean, there's well known -- there's gas condensate that is taken out of gas when it's collected and that certainly might collect, too.
Q I think you were also clear that you didn't participate in the design or installation of any of the

Page 504

gas wells themselves at the Sunset Farms Landfill?
A That's correct.
Q And who did that work?
A I understand it was done by Matt Stutz.
Q And, to your knowledge, will Mr. Stutz be testifying in this case?
A That's my understanding.
Q If you have your testimony there in front of you, I would like for you to turn to Page 10, Line 11. You were asked questions about this by both Mr. Head and Mr. Blackburn, and find the part where you identify six areas -- or six general sources of odor that you always look for when you go and start an investigation of a landfill case.
Do I have that correctly stated?
A That's correct.
Q In looking at Item 4, could you tell me what that item reads?
A Right. That's all about when leachate has the potential to be exposed to air. So when leachate is transferred after it's collected, when it's being disposed of, when it's being treated, that's not leachate in the landfill, per se, but it's when the leachate is being pulled out of the landfill.
Q And to read it as you have it on your

Page 505

testimony, Item 4 is Leachate Collection/Treatment Systems. Did I get that right?
A That's correct.
Q As you have not designed or installed any of the gas wells that are currently operating there, it's not your role to try and design or operate or conduct the filling around and over the top of areas that are already subject to gas collection; is that correct?
A That's correct.
Q And I believe you testified in response to questions from Mr. Head that it's your understanding that it's not necessary to decommission those wells when the working face and additional fill moves over the top of an existing gas well?
A That was my understanding from Matt Stutz.
Q So really we should be asking Mr. Stutz about that entire line of questions?
A That would be good.
Q I would like to ask you a couple of questions about daily cover. Is it your understanding that landfills around the country use a variety of forms of cover for their daily cover?
A Yes, it is.
Q And what would be the standard cover?
A The standard daily cover is 6 inches of dirt.

Page 506

Q And are there alternative daily covers?
A There are.
Q Can you give me some examples of that?
A Sure. They include tarps. They include ground-up green waste. They might include some types of foams. They might include shredder waste.
Q You mentioned tarps. In the instance of tarps, I assume that the operator might go out and pull a tarp up over the working face at night. Everybody goes home. You come back the next morning. You pull that tarp completely off, exposing the working face as it existed before the tarp was drawn across it; is that correct?
A That's my understanding of how that works.
Q Okay. Is your understanding the same is true when you apply the old standard of 6 inches of soil over it for daily cover?
A The same is true.
Q Can you remove the entire thing and expose the working face just as it was the day before?
A I think it would be hard to do because you might wind up exposing waste.
Q To your knowledge, have you been informed as to whether the operators at Sunset Farms removed all of the waste -- all of the soil, I'm sorry, the daily cover, or do they leave some there so that the waste is not

Page 507

exposed?
A My understanding is that they leave some there.
Q And is it also your understanding that in this instance at the Sunset Farms Landfill that the landfill has committed not to use any form of alternative daily cover and they have not sought authorization to use any form of alternative daily cover?
A That's my understanding.
Q Based on your study of the historic gas issues -- or I'm sorry, historic odor issues and your visit to the site where you observed current potential odors, is it your opinion that the greater potential odor problem arises from the landfill gas or from the working face?
A Well, it is my opinion that the future potential odors are likely from landfill gas. Although, the working face has to be managed properly as well.
Q Okay. And, again, the issue of the landfill gas control, whether it will be operated in the future, is sort of dependent on the efforts of Mr. Stutz and the efforts of BFI?
A That's correct. But it's dependent on more than that, because there are requirements for monitoring the landfill gas collection system to ensure that it operates properly. So it's simply not up to their

Page 508

discretion.
Q Let me ask you a little bit off base. Can you tell the difference between an odor coming from landfill gas at the landfill and the odor of working face odors?
A They're different. In terms of how well I can tell a difference is a big function of what's being landfilled.
Q Do you think that most of the people around the country are even as sophisticated or able to distinguish between those two odors as you are?
A No.
Q Dr. Libicki, there was quite a bit of questioning about the complaints that people made and whether you had paid sufficient attention to them. And I would like to ask you, just as a general question first: What was it that you did -- how did you go about investigating the prior complaints regarding landfill odors back in the 2001 to 2003 time period?
A Well, there were a couple of things that we did. And when I say "we," me and staff working for me. We looked at the database itself that was provided to us and we looked at the paper copies of complaints. And one of the first things we did was spot-check to make sure the paper copies of complaints were properly reflected in the database. That's important.

Page 509

The second thing that we did is we looked, actually, through the paper copies themselves to make sure we understood the tenor of the complaints, what kind of duration they were, how people characterized them. Again, I don't think we read every one of the complaints, but we certainly read a great number of them.

Q You said you were provided an odor complaint database. Do you know who originated that database?

A I believe it's Barry Kalda.

Q Do you know what Mr. Kalda's position is?

A Oh, I don't have the title here with me right now.

Q Is he an employee of TCEQ?

A That's my understanding.

Q In their field office?

A That's my understanding.

Q Okay. And in addition to forms that were specifically promulgated by the Commission that had been filled out by Mr. Kalda, there were also a large number of e-mail complaints in that file and other places that you have reviewed; is that correct?

A That's correct.

MR. MOORE: May I approach, Your Honor?

JUDGE NEWCHURCH: Yes, sir.

Page 510

MR. MOORE: I would like to have the court reporter mark this as BFI-2, I believe is where we are.

(Exhibit BFI No. 2 marked).

Q (BY MR. MOORE) Could you identify that document, please?

A Yeah. This is an e-mail from Barry Kalda to Mr. Martinez.

Q And what is the significance of this particular e-mail?

A The significance of the particular e-mail is that he asks them -- he asked Mr. Martinez to "Please continue following the" -- "please consider following the procedure outlined in the protocol I previously e-mailed you and log in your odor complaints and call us immediately when you smell the landfills so we can come out and corroborate your observations."

Q Does this e-mail indicate to you that Mr. Kalda was seriously considering the complaints that he was receiving regarding e-mails?

MR. BLACKBURN: Objection; calls for speculation.

JUDGE NEWCHURCH: Do you have a response?

MR. MOORE: I think -- well, I'll ask her to read portions of this into the record if that would be easier.

Page 511

JUDGE NEWCHURCH: So you're going to withdraw your question?

MR. MOORE: I'll withdraw the question and rephrase.

Q (BY MR. MOORE) If you could look at the second paragraph that begins "Dear Mr. Martinez: To protect your confidentiality," and just read that sentence for me.

MR. BLACKBURN: Wait. I'm sorry, Your Honor, is this being offered as an exhibit? It's one thing to read from something, but if it has no evidentiary value and it's not being offered into evidence, I don't think it's appropriate to read from it.

MR. MOORE: I would be happy to lay a little more predicate if that would make Mr. Blackburn happy.

JUDGE NEWCHURCH: Okay. Do you want to offer this or not?

MR. MOORE: I'm not sure that I'll need to, but I'll keep that option open.

JUDGE NEWCHURCH: Okay. Well, then, go to another question, then.

MR. BLACKBURN: I'm sorry. I object to reading from a document that's --

Page 512

JUDGE NEWCHURCH: That objection is sustained at this point. Go ahead.

Q (BY MR. MOORE) Dr. Libicki, is this one of the documents that you relied upon in formulating your opinions concerning the odor issues of the Sunset Farms Landfill?

A Yes, it is.

Q Is it specifically relevant to the manner in which you considered the relevance and the accuracy of complaints made to the TCEQ regarding odor?

A Yes, it is.

Q Is it also relevant to the opinions that you formed regarding Mr. Kalda's response and the possible frustration that the citizens might have been feeling as to the response of their e-mails and complaints received by the TCEQ?

A Could you ask me that one more time?

Q I doubt it.

Is this relevant to your -- the opinions you formed regarding Mr. Kalda's response to the complaints and also to whatever frustration the local citizens may have legitimately or not legitimately felt as they were going through the complaint process and experiencing this odor happenstance?

A Yes.

Page 513

MR. MOORE: On that basis, Your Honor, I would like to continue with my questioning regarding the content of this e-mail.

JUDGE NEWCHURCH: Proceed.

Q (BY MR. MOORE) Would you please read into the record the second paragraph after "Dear Mr. Martinez"?

A "To protect your confidentiality, I have removed your name and exact address when I have forwarded your complaints to the landfill operators. I believe the landfill operators are truly trying to rectify any problems the neighbors are observing. This is evident by their willingness to meet with any and all complainants."

Q Could you read, then, the second -- next paragraph beginning "In the meantime..."

A "In the meantime, please consider following the procedures outlined in the protocol I previously e-mailed you of logging your odor complaints and calling us immediately when you smell the landfills so we can come out and corroborate your observations."

MR. MOORE: Your Honor, may my paralegal approach with our next exhibit to save a little time?

JUDGE NEWCHURCH: Yes, sir.

(Exhibit BFI No. 3 marked)

Q (BY MR. MOORE) Dr. Libicki, could you please

Page 514

identify what's now been marked as Exhibit BFI-3?

A It's a TCEQ Complaint Report, Incident No. 64778.

Q And can you tell us generally what is going on here. What does this represent to us?

A What this represents is how responsive the TCEQ was to actual odor complaints. And it's difficult to corroborate an odor complaint if one is not fairly responsive. And this is just an example of the responsiveness where Mr. Kalda apparently received a complaint at 11:48 p.m. on a Friday night and went out to the site and arrived at approximately 1:00 in the morning early Saturday morning. And by the time he arrived, he didn't smell an odor. And he called the complainant after arriving and the complainant said that the odor was gone.

MR. MOORE: We have one more, Your Honor.

(Exhibit BFI No. 4 marked)

Q (BY MR. MOORE) I think you now have before you what's been marked as BFI Exhibit 4.

A That's correct.

Q Could you please describe that document and tell us why you think it's relevant to your opinions today?

A This is again a series of e-mails. But the one

Page 515

that's interesting to me is from Barry Kalda to Mr. Martinez describing how they're asking the citizens to actually collect evidence for me, and there's a relevant paragraph that it would be easier for me to read it to explain it. Is that --

Q I would ask the witness to read that phrase.

A Okay. He says: "The lag time between odor reports and our on-site response can be frustrating, since many times the odor is gone by the time our investigators have arrived. Recognizing that our resources are limited and the fact that our investigators can't possibly be everywhere, the Texas Legislature has given the TCEQ the authority to accept Citizens Collected Evidence (CCE) and for us to consider this evidence in our investigations. I have attached a copy of our odor complaint investigation procedure so you can log your observations in a manner that we can use. Ideally, we will be able to corroborate your observations so that we can confirm a pattern that will help us determine if the odor's frequency, intensity, duration, and offensiveness are such that a nuisance violation could successfully be prosecuted."

Q Thank you. And I have one more document that's not a complaint, per se.

MR. MOORE: If I could ask the reporter,

Page 516

did I duplicate a BFI-2 from Mr. Snyder's testimony?

THE REPORTER: No.

MR. MOORE: It was just BFI-1? So we're still in sequence?

THE REPORTER: We are. That's what I have.

(Exhibit BFI No. 5 marked)

Q (BY MR. MOORE) Dr. Libicki, you have now been handed what's been identified as BFI-5, and is this the document that was referenced in the last e-mail that you were discussing, BFI-4?

A Yeah. There was no attachment to the e-mail that I had, but the title is the same so I presume it's the same.

Q And what is this document?

A This is the TCEQ Odor Complaint Investigation Procedures. It's a very clear document explaining how the TCEQ evaluates the odor, judges it to be a violation, and how they classify them.

Q And based upon --

MS. MANN: Your Honor, I'm not sure that I would call this an objection, but this e-mail is from 2005 and this document is from September 2007. I'm not sure how they can possibly be the same document. Maybe it's an updated version. I don't know, but I would --

MR. BLACKBURN: I was planning to

Page 517

cross-examine on that point in a bit.
JUDGE NEWCHURCH: Okay. I haven't yet heard an objection yet. You might want --
MS. MANN: Well, it hasn't been offered yet. I suppose I should --
JUDGE NEWCHURCH: Yeah. If there is no objection, then we're going to move forward.
MS. MANN: Okay. I'll withdraw it.
JUDGE NEWCHURCH: Mr. Moore?
Q (BY MR. MOORE) Dr. Libicki, is it possible that there have been a variety of iterations of this document over time?
MR. BLACKBURN: Objection; speculation. She doesn't have a clue.
JUDGE NEWCHURCH: Well, we don't know that. And if she does --
MR. MOORE: Your Honor, I would like for her to respond.
MR. BLACKBURN: She doesn't know.
JUDGE NEWCHURCH: Mr. Blackburn and Mr. Moore, please.
Dr. Libicki, if you know, please answer. If you don't know, please answer that you do not know.
A The title is identical. I would presume that it's the second version because of the identical title,

Page 518

but I do not know for sure.
Q (BY MR. MOORE) Based on your review of BFI-4, the e-mail that references a document entitled "Odor Complaint Investigation Procedures," do you believe that there was a comparable document available to the citizens as referenced in that e-mail at the time?
MR. BLACKBURN: Again, object; calls for speculation.
JUDGE NEWCHURCH: Sustained.
Q (BY MR. MOORE) In the BFI Document 4, BFI-4, what is the document that Mr. Kalda provides to the citizens titled?
A I'm sorry.
Q The title of the document that you read when you were referring back to --
A It says Odor Complaint Investigation Procedures.
Q Okay. Based on your review of these complaint forms, have you formed an opinion whether Mr. Kalda was diligently trying to respond to the complaints that he was receiving in the period 2001 to 2003?
MR. BLACKBURN: Objection. It's beyond her expertise as to whether Mr. Kalda is diligently doing his job as a TCEQ employee. She's not offered it. She's here as an odor expert.

Page 519

MR. MOORE: Your Honor, I asked a question in --
JUDGE NEWCHURCH: Just a second. You're talking over one another.
MR. MOORE: Okay.
JUDGE NEWCHURCH: Mr. Blackburn, are you through with your objection?
MR. BLACKBURN: Yes, I am, Your Honor.
JUDGE NEWCHURCH: Mr. Moore, your response?
MR. MOORE: Your Honor, I think he opened the door and was making basic allegations that Mr. Kalda was not doing his job and that the witnesses were frustrated by the ability of TCEQ to respond, and those opinions were not out of her expertise that he was asking for.
MR. BLACKBURN: I was not doing that at all, Your Honor.
JUDGE NEWCHURCH: I don't remember any reference to Mr. Kalda.
MR. BLACKBURN: I made no reference to Mr. Kalda.
JUDGE NEWCHURCH: I remember questions about frustration.
MR. MOORE: Well, I will amend that to say in regard to the complaint processes with TCEQ without

Page 520

regard to Mr. Kalda specifically.
MR. BLACKBURN: And again it calls for speculation on her part.
JUDGE NEWCHURCH: So your question is whether or not she has an opinion concerning Mr. -- the TCEQ's diligence in investigating complaint procedures.
And your objection, Mr. Blackburn, is that this witness has no expertise concerning what is diligent behavior by public employees with those responsibilities?
MR. BLACKBURN: Correct.
JUDGE NEWCHURCH: I haven't heard anything in the evidence concerning her qualifications that would indicate she's got expertise in that area. So it's sustained for now.
You might want to try and show that she has some expertise.
Q (BY MR. MOORE) Dr. Libicki, in your 20 years of experience in investigating odor and air issues, have you had occasion to review complaints and how they've been handled by State or local agencies?
A Yes, I have.
Q And in this case, did you have occasion to review the complaint forms of the TCEQ as they existed at the field office, including the compilations thereof

Page 521

made by Mr. Kalda?
A I reviewed compilations of complaints made by Mr. Kalda. And, in addition, I reviewed a number of forms -- a number of e-mails that looked like this. As to the forms, I have reviewed some of the forms as well.
Q And, in fact, the document BFI-3, which I believe you have before you, was one of those forms; is that correct?
A That's correct.
Q And do you recall some questioning by Mr. Blackburn regarding -- or some testimony that you made in response to questioning by Mr. Blackburn regarding the frustration of people that lived in the vicinity of the Sunset Farms Landfill were feeling back when they may not have been getting the appropriate -- what they believed to be the appropriate responses from the TCEQ on the complaint?
A You know, Mr. Blackburn talked about frustration.
Q I believe that was your words in response to his question. We can go back to the --
A I would have to go back to look at the record to see the exact words.
MR. MOORE: Your Honor, I would like to pursue this line of questioning without that, but if we

Page 522

need to, I guess I'll wait for Mr. Blackburn to object.
JUDGE NEWCHURCH: I have not heard objections, so I think you should continue on.
MR. BLACKBURN: Although, he is poised.
Q (BY MR. MOORE) Dr. Libicki, do you believe that these exhibits, BFI-2, -3, and -4, are these the basis of your opinion that the TCEQ was working diligently to respond to complaints that it was receiving regarding odors in the vicinity of the northeast landfills in the period 2001 to 2003?
A So these e-mails actually described TCEQ soliciting odor complaints. And because they were soliciting odor complaints, it gave me greater belief that the odor complaints were, in fact, a reasonable representation of when odors were being sensed.
MR. MOORE: I would like to offer Exhibits BFI-2, -3, and -4 into evidence.
JUDGE NEWCHURCH: Any objection?
MR. BLACKBURN: No objection.
JUDGE NEWCHURCH: 2, 3, and 4 are all admitted.
(Exhibit BFI Nos. 2 through 4 admitted)
Q (BY MR. MOORE) Dr. Libicki, you have beside you a copy of the application that's at issue in this proceeding, and if you're able to find Volume 1 there --

Page 523

and if not, our paralegal, Mr. Jimenez, will assist you.
A (Finding document.)
Q Dr. Libicki, I hope you have before you the application turned to what's been marked Bates No. APP 000033; is that correct?
A Almost. Yes, I have that.
Q And can you tell us what that document is?
A That is a general site map.
Q And --
A 32 you said, right?
Q Oh, no. 033. I may have said that, but I want you to look at 33.
A Oh, yes. It's a wind rose.
Q Okay. Is that a wind rose, to your knowledge, of the Sunset Farms Landfill vicinity?
A It is.
Q I would like for you to then turn a couple of pages past that to 36.
A Okay, 36.
Q And is that a general location map of the vicinity of the Sunset Farms Landfill?
A It is.
Q Can you find on that map where the Harris Branch subdivision is generally? And if you can identify some of the streets in there to help us get

Page 524

oriented, that would be helpful.
A Oh, it's -- I actually have to go to a second map to be able to do that. I think I want -- yes.
You know what? I'm afraid I don't have the map here that actually identifies that for me. That's still in my offices.
Q Okay. But you have filed several exhibits with your testimony, including the plot map of the areas of odor complaints.
A That's correct.
Q You're welcome to refer to one of those if that will help you. I believe they are to your left, as well.
A Right. It's generally to the northeast of the landfill.
Q Can you also find where the Barr Mansion is by a street intersection?
A Right. Again, generally to the west of the landfill.
Q Almost due west of the north corner of the landfill?
A That's my understanding.
Q In comparison of the wind rose that you were previously looking at, Document Page 33, how did the prevailing winds blow relative to the Harris Branch

Page 525

Landfill -- Harris Branch development and the Barr Mansion?
A So relative to the BFI Landfill, the prevailing winds blow to the west of the Harris Branch subdivision and essentially to the east of the ranch. They tend to cut up through that area that is not terribly developed at this point, and similarly come back down across Waste Management and Travis County Landfill.
Q So that would be almost perpendicular to a line directly toward either the Harris Branch subdivision or the Barr Mansion?
A Yes. I was just drawing that line in my head. Yes.
Q Mr. Blackburn asked you some questions about -- and I'm not sure I got this down right -- downwash and diversion modeling. Did I get that right? You recognized the term when he brought it up.
A Right. Forget the inversion (sic) part. And then yes.
Q Downwash modeling?
A Correct.
Q And if I understood your testimony correctly, you don't believe that's a factor in this instance, and what we really have is a land-hugging phenomenon where the wind washes over the landfill and carries with it

Page 526

whatever odors might be present adjacent to the land until it is dispersed?
A That's correct. If they were downwashing, the emissions would actually be even more dilute.
Q Okay. And if the landfill were even higher, then would it similarly be more dilute?
A If the landfill were higher and if they were downwashed -- which doesn't exist at the landfill -- then, yes, it would be more dilute.
Q And how do the boxes, the roll-offs fit into all of that?
A The boxes simply increase the dispersion of the emissions as they're coming down the hill.
Q Dr. Libicki, most of the questioning, as I have noted from Mr. Head and Mr. Blackburn, concerned the odors of the past and past -- from whatever source. Could you tell me how you believe that the landfill would be able to function going forward as regard to odor avoidance?
A I think the landfill will be able to function well because there are regulations in place that require the constant monitoring of landfill gas.
MR. MOORE: I'll pass the witness.
JUDGE NEWCHURCH: Recross? I see shaking heads, shaking heads.

Page 527

Ms. Mann?
RECROSS-EXAMINATION
BY MS. MANN:
Q We've been mainly talking about complaints received by TCEQ. Did you have access to or review any of -- let me rephrase?
Does BFI have a complaint in-take system that they keep in-house that you were able to have access to?
A I believe they do have a complaint system in-house. We used the TCEQ logs as being more comprehensive.
Q So did you review anything that BFI had that would be separate from TCEQ?
A I think when we looked at it originally we realized it didn't have the breath of the BFI logs -- of the TCEQ logs.
MS. MANN: No further questions.
JUDGE NEWCHURCH: Mr. Shepherd?
MR. SHEPHERD: No questions.
JUDGE NEWCHURCH: Mr. Head?
MR. HEAD: Yes.
RECROSS-EXAMINATION
BY MR. HEAD:
Q Dr. Libicki, you refer to the wind rose in

Page 528

0000333 of the application and -- with reference to Harris Branch. Turning to Page 11 of your prefiled, is it not your testimony that "Odors are less noticeable if they're dispersed by winds. As a result, still conditions, when there is little wind dispersal, are favorable conditions for increased odors"?
A That's correct.
Q So if you had still conditions, that might well impact the surrounding neighborhood, correct?
A So still conditions are what we call calm winds, and they're about 5 percent of the total winds in this wind rose.
Q I think there was a question on redirect about water condensate in extraction wells. Hypothetically, if you had a 32-foot extraction well with 12 feet of leachate, do you believe that would be an effectively functioning extraction well?
A So in your hypothetical, you have a 35-foot well?
Q No, I have a well -- my hypothetical, I have a well -- depth of the well from the ground surface 30 -- 23.21 feet.
A Okay.
Q And the portion of the well covered by the water, hypothetically, is 11.55 feet. Would you

Page 529

consider that amount of water in an extraction well to significantly impact the efficacy of the well?
A I do want to make sure I understand your hypothetical, because I thought there was a 35 in there somewhere.
Q No, I misspoke.
A So you have a 22-foot well?
Q 23.
A Half of which is submerged in water?
Q Correct.
A The well would function effectively in the area where it is not submerged in water.
Q So the uppermost half would function?
A That's correct.
Q Would you expect -- would you expect if you had 12 feet of liquid in the well for that to be condensate?
A Hypothetically speaking, gas condensate is typically fairly small compared to the overall depth of the landfill, so I would not expect that to be condensate.
Q Okay. Could you get from the court reporter BFI-3?
A Yes, I have it now.
Q And that is a 9/16/2005 TCEQ complaint, correct?

Page 530

A That's correct.
Q And as I recall the comments, the complainant notified the agency at 11:48 that there was odor. By 1:00 a.m., the TCEQ inspector arrived, didn't find -- didn't smell any odor. He called the complainant. The TCEQ called the complainant five minutes after arriving and let him know that he didn't detect the odor. And evidentially the complainant acknowledged there was no odor at that time.
In your vast experience in the odor world, is it possible to have a transient odor from a landfill for a one-hour period?
A Oh, absolutely.
MR. HEAD: Pass the witness.
JUDGE NEWCHURCH: Before we go on, Mr. Moore, just to make sure I'm not overlooking something, you did not offer BFI-5, correct?
MR. MOORE: That's correct.
JUDGE NEWCHURCH: Okay. Just making sure. Mr. Blackburn.
RECROSS-EXAMINATION
BY MR. BLACKBURN:
Q With regard to the wind rose, do you have any data or documentation about what the distribution of wind is in the evening or in the nighttime period as

Page 531

opposed to the daytime period?
A I don't.
Q And would you agree with me that most of the odor complaints that you investigated and the files that you reviewed, most of those were for the evening hours, say starting about 5:00 o'clock and going into the evening and perhaps early morning but not during the midst of the day, for the most part?
A Certainly without having done an accounting of it, that would appear to be the case as I reviewed it. And that's actually typical for odor complaints in general.
Q There are more likely to be inversion conditions, there are more likely to be conditions favorable for essentially the gas to remain at the surface during the nighttime, correct?
A That's not exactly the rationale usually. There's two reasons that odor complaints tend to come in evening and early morning and that is that people are at home and they are awake. And you need those two phenomena, the people at home and awake, in order to get an odor complaint. In addition, winds tend to be slower at night.
Q Are you familiar at all with inversion conditions in Austin, for example, air stability

Page 532

classes, things like that?
A Sure.
Q Have you looked at that data?
A I have not looked at that data as it relates here.
Q And wouldn't it be relevant whether, in fact, there were more prevalent sort of inversion conditions in the evening or not?
A Again, it would simply be typical of nearly any odor conditions. The winds are slower at night and that they have a tendency -- people are at home and they're awake.
Q Would it be fair to say that the reason the boxes were effective from an odor abatement standpoint is that they generated downwash?
A Again, it's the mixing that was required to get over the boxes. But, yes, the fact that they generated downwash helped with the mixing somewhat.
MR. BLACKBURN: Thank you. No further questions.
JUDGE NEWCHURCH: Mr. Moore, anything more?
MR. MOORE: Just a couple.
FURTHER REDIRECT EXAMINATION
BY MR. MOORE:
Q Dr. Libicki, you had an opportunity to meet

Page 533

with Mr. Moore that was -- that is the operator of the landfill; is that correct?
A That's correct.
Q And you had an opportunity to observe the operations of the landfill under the currently applicable site operating plan; is that correct?
A That's correct.
Q Do you have an opinion about whether the landfill will be able to comply with the regulations of the Texas Commission on Environmental Quality regarding odor control as it goes forward with operations under the expanded permit?
MR. BLACKBURN: Object. That was beyond the scope of the re-recross, or whatever we say.
JUDGE NEWCHURCH: Whatever round we're on. Do you have a response?
MR. MOORE: Yeah. My response is that the recross went into areas of transient air emissions and different conditions during the days, and I think that it's all tied back into what is it that the rules require. And I want to know in light of those factors, will this landfill, given the transient odor and the variable wind conditions, be able to satisfy the rules.
JUDGE NEWCHURCH: You've lost me. So I'm going to sustain the objection.

Page 534

MR. MOORE: Fair enough.
I have no further questions.
JUDGE NEWCHURCH: Okay. There was one attempt at one question and it didn't go anywhere, so I think we're done.
Dr. Libicki, thank you for your service. You're excused.
And we're going to recess until tomorrow. Let's go off the record briefly to talk about scheduling.
(Discussion off the record)
JUDGE NEWCHURCH: And we're back on at 4:52.
Mr. Carlson, you brought to my attention on an exhibit that's previously been admitted -- and this is Mr. Snyder's Exhibit JS-1, his prefiled testimony. And on Page 11 on the first line, there's a reference to a series of appendices and one of them is 4H. And you're saying that you now realize that's a typographical error and it should be 4I?
MR. CARLSON: That's correct, Judge.
JUDGE NEWCHURCH: And there's another typographical error concerning the APP numbers. Could you tell me what those are?
MR. CARLSON: Yes, Your Honor.

Page 535

On Page 11 of JS-1, Line 3, there are some Bates numbers that say APP 000818 to APP 000824. And that should be struck -- or stricken and the Bates references should be APP 000825 to APP 000853.
JUDGE NEWCHURCH: And while we were off the record, I think the parties were able to stipulate that this is a clerical error that should be corrected on the official exhibit. And there are shaking heads. So the parties shall stipulate. So let the official exhibit be altered to correct those typographical errors.
MR. CARLSON: Thank you, Judge. That's perfect.
JUDGE NEWCHURCH: And we were talking about tomorrow. Mr. Adams will be your first witness tomorrow?
MR. CARLSON: Adams is first in order. He will be here first thing in the morning. Our next witness after Mr. Adams is Kevin Carel. And then the next witness in order is Mr. Matt Stutz, and he'll be around tomorrow.
And I would like to know from the parties, obviously, if they think we can go further from that, then we can make arrangements to have Mr. Lewis, who is next in order, to be available and ready later in the afternoon.

Page 536

JUDGE NEWCHURCH: Do the parties think we'll get beyond those three witnesses tomorrow?
MR. RENBARGER: It is possible we may reach Mr. Lewis, Judge.
JUDGE NEWCHURCH: Okay. So can you have Mr. Lewis available, then?
MR. CARLSON: We can, Your Honor.
JUDGE NEWCHURCH: Okay. Then the parties should be ready for cross on Adams, Stutz, and Lewis tomorrow.
And I think we're ready to recess. Is there anything else? We will reconvene tomorrow at 9:00 a.m.
(Proceedings recessed at 4:55 p.m.)