IN THE MATTER OF AN ARBITRATION BEFORE A TRIBUNAL CONSTITUTED
IN ACCORDANCE WITH THE TREATY BETWEEN THE U.S.A. AND THE REPUBLIC OF ECUADOR CONCERNING THE ENCOURAGEMENT AND RECIPROCAL PROTECTION OF INVESTMENT, SIGNED AUGUST 27, 1993 (THE "TREATY")

and

THE UNCITRAL ARBITRATION RULES 1976

In the Matter of Arbitration Between:	
CHEVRON CORPORATION (U.S.A.), TEXACO PETROLEUM COMPANY (U.S.A.), Claimants,	PCA Case No. 2009-23
and	
THE REPUBLIC OF ECUADOR, Respondent.	Volume 6

TRACK 2 HEARING
ESPECIALLY CONFIDENTIAL:
NOT TO BE PUBLICLY DISCLOSED BY PROCEDURAL ORDER NO. 29

Tuesday, April 28, 2015

The World Bank
700 18th Street, N.W.
J Building
Conference Room JB1-080
Washington, D.C. 20003

The Hearing in the above-entitled matter convened at 9:30 a.m. before:

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DR. HORACIO GRIGERA NAÓN, Arbitrator

PROFESSOR VAUGHAN LOWE, Q.C., Arbitrator

Registry, Permanent Court of Arbitration:

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P R O C E E D I N G S

PRESIDENT VEEDER: Let's start Day 6 of this Hearing.

Unless there are matters by way of housekeeping, let's continue with the cross-examination of this Witness.

MR. WHITE: Thank you, Mr. Veeder.

J. CHRISTOPHER RACICH, RESPONDENT'S WITNESS, RESUMED

CONTINUED CROSS-EXAMINATION

BY MR. WHITE:

Q. I want to take you back to the 105 documents that Mr. Lynch testified about in relation to drafting non-Chevron orders for Mr. Zambrano. Do you know what I'm talking about?

A. Yes.

Q. Now, and I think we--I want to just go over this quickly because we talked about it a little bit yesterday. Your opinion is that because the user name on those--the user name on the computer that was used to create those documents originally was dot, and Mr. Guerra's computer user name when it was imaged was Estación, that you say those Orders weren't prepared on Mr. Guerra's computer; is that right?

A. I don't think I said they weren't prepared. I said they weren't originally created.

Q. Okay. And I think you said yesterday, but I want

09:30 to make sure I understood you correctly, that there may have been a document that was created on the computer with the user name dot that was used as a template for Orders--for those drafts, and those drafts could have been prepared on Mr. Guerra's computer from the original template that came from dot; is that right?

A. That's possible.

Q. Okay. And you would agree, right, that in your experience historic files like these templates are often used for future files, and the reason to do that is so that formatting and templating will remain the same; is that right?

A. That's possible. I've seen documents used as templates before.

Q. Well, let's go to your 2014 Report, November 2014 Report; if you still have the binder that I gave you yesterday, that's behind Tab 3. I do.

I want to take you back to Paragraph 60, which is on Page 15.

And in this paragraph, you're talking about a document that found its way onto Mr. Zambrano's computer, and you're suggesting that that may have been a template document that Mr. Zambrano was using to create new documents; right?

A. It's possible, yes.

Q. And then I want to focus your attention on the last sentence. You say: "In my experience, historic files like this are often used as templates for future files so that formatting boilerplate language remains the same."
That's your opinion; right?
A. Yes, that's possible, yes.
Q. Okay. And you say "often." Right?
A. Yes.
Q. Okay. And that may very well be what happened with Mr. Guerra getting the template that had dot and then using it to prepare Draft Orders.
A. That's possible. I don't know one way or the other.
Q. Now, let's look at if you still have Mr. Lynch's slides from yesterday or if you can follow on the screen.
A. I'll follow on the screen.
Q. Okay. I want to take you to Slide 3 from Mr. Lynch's presentation. Slide 3.
Now, you were here when Mr. Lynch presented this slide; right?
A. I was.
Q. And you've offered no analysis or opinion to contradict what Mr. Lynch has said concerning the dates these documents were last saved on Mr. Guerra's computer versus the dates on which the corresponding Orders were

issued by Mr. Zambrano; right?
A. I don't believe there is any evidence that these documents were last saved on Mr. Guerra's computer.
Q. The user name--this is the 105--
A. Oh, the 105, I apologize. I apologize. I see, okay.
Q. We have a smaller number of pictures on here?
A. Right.
Q. But so those, you haven't offered any opinion or analysis to contradict Mr. Lynch's testimony concerning the Last Saved Dates on Mr. Guerra's computer of these documents versus the dates when these corresponding Orders were issued by Mr. Zambrano; right?
A. No.
Q. And then if we go on to Slide 5 of Mr. Lynch's presentation, this is where Mr. Lynch described files being saved to thumb drives, Mr. Guerra's shipping documents by TAME, and then the Orders or the documents being created on Mr. Zambrano's computers--computer--and then the Orders being issued.
You haven't offered any opinion or analysis to contradict that testimony by Mr. Lynch; right?
A. No.
Q. No, you haven't offered any opinion or analysis to contradict Mr. Lynch?

A. Correct.
Q. Now, at the time you prepared your December 2013 Report, you had not reviewed Mr. Zambrano's RICO testimony; right?
A. That's correct.
Q. But you reviewed it now; right?
A. Yes.
Q. And were you aware, when you prepared your First Report in December 2013, that Mr. Zambrano had testified in the RICO proceedings?
A. I don't know. I don't think so, but I don't know.
Q. In any event, you weren't aware when you wrote that report, but you are aware now that Mr. Zambrano acknowledged that Mr. Guerra drafted Orders for him and shipped them to him by TAME?
A. I believe that's my understanding, yes.
Q. And you're aware that Mr. Guerra testified basically to the same effect?
A. For Orders outside the Ecuadorian Judgment, the Lago Agrio, I believe that's the case. I believe that was his testimony. I could be wrong.
Q. And you haven't seen any forensic evidence that would contradict that testimony by either Mr. Guerra or Mr. Zambrano?
A. Which testimony in particular?

Q. I'm talking about testimony from Mr. Guerra and Mr. Zambrano that, with respect to Orders outside the Chevron Case, Mr. Guerra prepared drafts, used TAME to ship them to Mr. Zambrano, and Mr. Zambrano issued the Orders.
A. Not from a forensic point of view, no.
Q. Thank you.
I want to turn to another topic now. One of the things that you have done in your analysis in formulating your opinion is to take different documents and to compare their text; is that right?
A. Yes.
Q. So, for example, with the December 21 Providencias, you compared that with the December 28th Providencias?
A. Yes.
Q. And then you compared both of those documents to the Final Judgment?
A. Yes.
Q. And you drew conclusions from that comparison?
A. Yes.
Q. Okay. I want to look back to your December 2013 Report that's behind Tab 1. I want to take you to Page 9, and it's Paragraph 27.
Do you recall what you said there?
A. Yes.

Q. I want to take you to the second sentence of that paragraph. You were criticizing Mr. Lynch for comparing documents, the text of documents, on the grounds that that's not an application of forensic science. That was your criticism of Mr. Lynch?

A. I'm not sure it was a criticism. It was just a statement that the software and the process he used was really just comparing words from a forensic point of view. It wasn't a specialized--it wasn't a specialized science.

Q. Let's look at Paragraph 28, then. It said, "The comparison done by Mr. Lynch is akin to simply reading two documents, identifying similarities and differences between the documents. Doesn't require any forensic ability."

That was what you said?

A. Yes.

Q. But that's exactly what you did with the Providencias documents you found on Mr. Zambrano's computer; right?

A. Yes.

Q. Thank you.

I want to move on to talk about USB Devices now. You said that there was no evidence that a document was copied from a USB Device to either of the Zambrano Computers; is that right?

A. Can you point me to where I said that?

Q. Yeah. Let's look at your November 2014 Report, which is behind Tab 3. And it's Paragraph 7 that I have in mind.

I'm sorry, I should identify the timeframe between October 2010 and February 2011. You said there's no evidence that any document was copied from a USB Device to any of the Zambrano Computers. I'm sorry, and used to create any part of the Lago Agrio Judgment.

A. Yes, and used to create the Lago Agrio Judgment, yes.

Q. Okay. Sorry, that's a little more precise formulation of what you said.

PRESIDENT VEEDER: Just before you go on, as yesterday, it's important to speak a little bit more slowly both of you, and to leave gaps for the interpreters to interpret.

MR. WHITE: Understood, thank you.

BY MR. WHITE:

Q. You would agree, Mr. Racich, that during the period when you say the Judgment was being drafted, this October 2010 to February 2011 period, 13 USB Devices were attached to the Zambrano Computers; right?

A. I believe that's the case.

Q. Let's now go to Mr. Lynch's August 2014 Report, and that's behind Tab 6 in your notebook. Let's go to

Page 36, Table 6. And this is a table that lists the USB Device that were used during the period October 2010 to March 2011.

PRESIDENT VEEDER: Let's just pause. Is the table reference right?

MR. WHITE: I'm sorry, Table 23 under heading Number 6. My apologies.

BY MR. WHITE:

Q. Do you have that in front of you, sir?

A. I do.

Q. This is a list of USB Devices used during the period October 2010 through March 2011; is that right?

A. Yes.

Q. Okay. Now, you haven't received all of the 13 USB Devices that were connect to the Zambrano Computers during this period of time, have you?

A. No.

Q. There are USB Devices that neither you nor Mr. Lynch had access to; right?

A. Yes.

Q. I want to look at the time period when these USB Devices were being connected.

So, Providencias was created on October 11, 2010; right?

A. Yes.

Q. And on October 12th, the next day, a USB Device was connected; right?

A. Yes.

Q. And then between that date, October 12th and December 21st, how many USB Devices were connected to the Zambrano Computers?

A. At least seven.

Q. In the period between December 21st and December 28th, two more USB devices were connected; right?

A. Including the 28th, yes.

Q. And then prior to the January--you've identified another document besides Providencias, Caso Texaco. Caso Texaco--between the time you recovered Judgment text and Caso Texaco from December 28th, 2010, there were a further three USB Device connections shown here; right?

A. Could you give me those dates again?

Q. Yeah, I'm talking about the period after December 28th when you recovered a period of Providencias, and I think it's January 19th when you recovered a version of Caso Texaco that had Judgment text. You've got the timeline?

A. Yes.

Q. There is a further three USBs connections recorded here.

A. Yes.

09:10 Q. Now, when I asked you about the period between October 12 and December 21st, you said at least seven connections. That's because there could have been more; right?
A. It's possible. I would have to look at both the first and the last to be sure of what evidence we have, but--so, with what the forensic evidence that we know we have the first and the last attachment, and that's what we can show and we can prove, and there may be certain other information with regards to, say, link files, local host information that we can look at as well. So I would have to look at all of those factors to see what our window is.
Q. Okay. So, looking at this table, you know that these connections occurred and there may have been more?
A. It's possible. I would have to look at all the information, and I don't have that at the top of my head.
Q. Okay. And if one of the USB Devices that you haven't seen that was connected had Judgment text on it, you wouldn't know that, would you?
A. I don't have any way to know that at this point.
Q. Okay. Now, you did some analysis of what might have been on those USB Devices in your November 2014 Report, so I would like to take you there. That again is behind Tab 3 in the notebook, and I would like to take you to Paragraph 60, again. I want to see if we can understand

09:45 at a high level what you're saying here.
You're saying that you can look at the names of the files on these USB Devices and draw some conclusions about what the contents are; right?
A. As Mr. Lynch said in his testimony, we can make some inferences. We don't know for sure exactly what's in the data without the data itself, but we can infer.
Q. Okay. Let's go back to Mr. Lynch's August 2014 Report--sorry that we're jumping around a little bit, but it's behind Tab 6--and take a look at the file names. Let's go to Page 37. I'll get the table name right this time. It's Table 24.
This is where we see file names from documents that were connected to--sorry, from documents that came from USB Devices that were connected to Mr. Zambrano's computers; right?
A. Well, to be technically accurate, these are documents that were opened from--documents that existed on USB Devices that were opened on Mr. Zambrano's computers while the USB Device was attached.
Q. Okay. And if you do that, what you just described, it's possible you can open the USB Device, you can copy text from a document that's on it, paste it into a document, pre-existing document, on the computer, close the document that you opened from the USB Device, removed the

09:46 USB Device, and you won't know the contents of the document that was on the USB device from which the text was copied; isn't that right?
A. We would need access to the USB Device to be certain, but as you say, we don't have that, and have no evidence of that one way or the another.
Q. Okay. So, I just want to be clear, if somebody at Mr. Zambrano's computer plugged in one of these USB Devices, opened one of the documents that's listed here, copied text out of that document, pasted it into a document that was already on the Zambrano Computer, closed the document on the USB Device, unplugged the USB Device, we wouldn't know what the text was in the document that was on the USB Device; right?
A. We would need access to the USB Device itself in order to definitively determine that.
Q. Okay. So, what we've got here and what you looked at was the names of the files--right?--and I just want to ask you if you agree with me that if we look down to the file with the Create time of November 9th, 2010, at 20:20 hours, the document name there is Pinocho1.doc; right?
A. I apologize. I left my glasses in my bag.
Q. It's on the screen there.
A. That might be a little better.
Yes, I can see that.

09:48 Q. Would you like to take a break and get your glasses, would that help?
A. If it I could take a minute, I know exactly where they are.
PRESIDENT VEEDER: Take your time, of course.
THE WITNESS: I apologize.
MR. WHITE: I don't want you to be without your glasses.
(Pause.)
THE WITNESS: Thank you very much. Okay.
BY MR. WHITE:
Q. I was drawing your attention to the document with the name "Pinocho1.doc." You can't draw any conclusions from the file name as to what was in the content of that document, can you?
A. No.
Q. Okay. And similarly, if we go down four lines, we see KKKK.docx. You can't draw any conclusions about what's in that document, can you?
A. Not from the name. You can see the dates, the Last Modified Dates of those, though. For the Pinocho1 I'm looking, the Last Modified Date was September 11, 2010.
Q. Okay. Got it.
One thing you can tell from the name, though, is one is a .doc file and one is a .docx file. Those are Word

documents; right?
A. Yes.
Q. Just like Providencias?
A. Yes.
Q. And just like Caso Texaco?
Just one other I wanted to look at, if we go down two more from the KKKK document, we have Documento1; right?
A. Yes.
Q. And you can't tell anything from that file name other than the fact that it's a Word document like Providencias and Caso Texaco; right?
A. Well, in this case, it's a doc file and the Providencias and Caso Texaco are docx files, so it's slightly different but they are Word--Office documents.
Q. Let's turn from that now to the discussion of internet history, and I would like to go to Slide 14, if you have your slide deck from yesterday. I want to look at Slide 14.
A. I actually don't have the slide, I apologize.
Q. This is Mr. Racich's, yes.
So, I want to look at Slide 14 about internet history. Your first bullet point there is the recovered internet history reveals legal research and translation Web sites. Do you recall that?
A. Yes.

Q. But to be clear, you didn't recover any evidence of visits to legal research sites during the period from October 2010 to February 2011, other than one visit or some visits to fielweb; right?
A. I believe those are the ones we could establish exact dates and times.
Q. Okay. But you didn't have any evidence of visits to other legal research sites during the time period October 2010 to February 2011; right?
A. Not all the entries had date and time stamps. The ones that we did have, the fielweb was the only on with a particular date and time stamp.
Q. Okay. And fielweb, you agree, can't be used to access the English language cases that were or to locate the English language cases that were found in the December 21st Providencias; right?
A. I don't know. I didn't do any analysis as to what documents were available in there.
Q. Okay. Now, let's go to your November 2014 Report. Again, that's behind Tab 3. And I would like to take you to Paragraph 49, and that's on Page 13.
This is where you say it's normal that old internet history is deleted but cookies remain; right?
A. They can remain, yes.
Q. You didn't find any cookies or any internet

history that showed visits to legal research sites other than fielweb during this period, October 2010, you say, through March 2011; right?
A. We didn't have any metadata fields available with dates and times that showed that, no.
Q. You say in the third sentence, this is the first cookie you found, and that's at January 11, 2012; right?
A. There is a cookie for the "lexisweb.com," if that's what you're referring to.
Q. And that's 11 months after--almost 11 months after the Judgment was issued; right?
A. That's what the metadata of that particular cookie file shows, yes.
Q. Okay. The next one you identify is on May 31st, 2012, more than a year after the Judgment was issued?
A. Yes.
Q. Now, let's talk about--let's talk about visits to translation Web sites. You testify about this in Paragraph 50; right?
A. Yes.
Q. Okay. And you talk about--the first one, "traducegratis.com." The only evidence you found of visits to that site happened in 2009; right?
A. Yes.

Q. Okay. You identify later in that paragraph a visit to a Web site "windowslivetranslator.com" on January 4th, 2011; right?
A. Yes.
Q. But that is after the English language authorities appeared in the December 21st Providencias; right?
A. With regards to the one draft that we--the snapshots that we were able to recover, there were, my understanding is that there were--there was some case law in that draft.
Q. Right. English language case law on December 21st, and that's before the January 4th visit that you found to windowslivetranslator?
A. Yes.
Q. I want to turn to a different topic now. This is the SATJE records. And if you go to Tab 7(a) of Mr. Lynch's--well, it's Tab 7(a), it's an exhibit to Mr. Lynch's Report from January of this year. Have you reviewed that exhibit?
A. Tab 7(a)?
Q. Tab 7.
A. It says Exhibit 1?
Q. Yes.
What's in here is first a translation of some documents followed by the original Spanish-language

documents, so you will see the translation, then there's the certification from Merrill Corporation, and then the next page is where I want to take you.

So, if you go through the English-language translation, you will come at the end of that to a certification that says "Merrill Corporation" on it.

A. Okay. Got it.

Q. And did you review these documents before you prepared your March 2015 Report?

A. I believe--these were attachments to Mr. Lynch's Report?

Q. They were.

A. Yeah, then I read them.

Q. And you saw that these have official Government seals from a Government department in Ecuador; right?

A. I don't know one way or the other. I presume that they are official seals.

Q. Okay. What I would like to do now is look at your SATJE information. It's Exhibit Respondent 1348, and it's behind Tab 17 in this binder.

A. I'm glad I have my glasses.

Q. I'm glad I have a screen.

So, this is behind Tab 17 in the binder, and it's Exhibit Respondent's 1348.

This is what you exhibited to your Report in

support of your conclusion that the Judgment was uploaded from one of Mr. Zambrano's computers; right?

A. Yes.

Q. Okay. This doesn't have any official Government seals on it, does it?

A. This was an electronic copy, no.

Q. Okay. Where did you get this?

A. I was provided this by counsel.

Q. And what's your basis for thinking that these are official records from the SATJE system?

A. I was told by counsel that these were the exports of the logs of the SATJE system--exported logs of the SATJE system.

Q. Okay. And you don't explain in your Report anywhere how counsel, or whoever obtained these from the SATJE system, how they went about obtaining them for you, did you?

A. I did not.

Q. Okay. I want to go now to--I want to go now to your most recent report from March of this year. I believe it's behind Tab 4 in your binder. I want to go to Paragraph 18 and pick back up on a point about the internet history.

You say that the internet history is necessarily incomplete; right?

A. Typically, yes.

Q. Yeah. So--and so you don't know whether somebody using Mr. Zambrano's computers was visiting file sharing sites like Dropbox?

A. There is no evidence of it.

Q. Just like there is no evidence of legal research sites during this period, but it's possible in your view?

A. Correct. There is no evidence, but it is possible.

Q. All right. And you also don't know whether somebody on Mr. Zambrano's computer was visiting e-mail addresses like--e-mail sites like Hotmail, and downloading attachments or copying text out of attachments?

A. Can you rephrase that question?

Q. Yeah.

If the internet history is incomplete, as you suggest, it's possible that somebody on one of Mr. Zambrano's computers could have logged in to Hotmail and found a document or found text in an e-mail and cut and pasted it into Providencias and you wouldn't know that.

A. Those are two different things. The internet history itself wouldn't necessarily remove the process of downloading a document, so if you downloaded a document, the document would, in fact, be created on the local machine. So, in order to get information out of a

document, it would be saved on the local computer, and there would--or could--be evidence of that.

As far as content of an e-mail, the internet history wouldn't tell us that one way or the other whether or not that occurred, but again, there is no evidence about that.

Q. Right. So, okay, fair point about downloading a document. What if you just cut and pasted text? Then you wouldn't--the internet history wouldn't tell you that; right?

A. No, the internet history would not tell us that.

Q. Okay. Now, I wanted to look at some of the internet history that you did recover--oh, yeah, sorry, one other question.

Hotmail allows you to open a document without downloading it; right?

A. You can preview certain types of documents. It's possible.

Q. Yeah. And you could cut and paste text out of one of those preview documents?

A. I don't think you can cut and paste document text from that.

Q. But you can copy and paste?

A. I believe so.

Q. All right. Well, looking at your Paragraph 18 on

10:03 Page 5 of the most recent report, you've identified a Web site here where there were multiple visits--multiple hits, you call it--and that is Live.com; right? The log-in page on Live.com; right?
A. Yes.
Q. And this is an internet hit you got on Mr. Zambrano's computer?
A. Yes.
Q. And that is the log-in page or can be used as the log-in page to access Hotmail; right?
A. Yes.
Q. So, the user of Mr. Zambrano's computer was, we know from the internet history, going to the log-in page for Hotmail; right?
A. Yes.
Q. And if we go to the next page, top of Page 6, you show a hit count of 14 on January 7th, 2011; right?
A. Yes.
Q. And then you see a hit count of 29 on January 13th, 2011; right?
A. Yes.
Q. That means that, at a minimum, somebody using the Zambrano Computers had gone to the log-in page of Hotmail 14 times at least by January 7th, 2011, and a further 15 times by January 13th; right?

10:04 A. Yes. The hit count indicates an incremental hitting of that page.
Q. So, during this period in early January 2011, a month before the Judgment was issued, somebody on Mr. Zambrano's computer was logging in to Hotmail; right?
A. Yes.
Q. All right. Now, did you recover the contents of any e-mails that were opened from Hotmail on Mr. Zambrano's computer during this time?
A. No.
Q. No. Now, one of the things that you've raised in this report concerning Mr. Guerra's internet history is that you found similar visits to Hotmail; right?
A. Yes.
Q. And you say that that's--the fact that that's there and you can't find the e-mails, that's evidence that somebody was deleting e-mails on Mr. Guerra's computer; that's what you said, right?
A. It's a little different. What we were able to do is recover fragments of the Hotmail messages themselves that, the content, the body is no longer available on the computer. And, as Mr. Lynch said, these types of e-mails aren't really--they're not really designed to be stored permanently, but parts of them are downloaded into the internet history. We didn't find any--any examples of

10:05 fragments like that on the Zambrano Computers.
Q. Did you do that kind of recovery exercise on Mr. Zambrano's computers?
A. I believe we pulled--we did the same process for all three computers, yes.
Q. And the fact that you didn't find fragments on Mr. Zambrano's computer, that doesn't mean that somebody wasn't opening e-mails on that computer; right?
A. It doesn't, but again, it doesn't mean that definitively, but we have no evidence one way or the other. All we--we do have evidence of that on Mr. Guerra's machine but we don't have it on Mr. Zambrano's machine.
As you said, there is a log-in, there is evidence that someone went to the log-in a number times, but there is no evidence of what e-mail was opened, if any at all, from what we have here.
Q. Okay. So, all you're saying there is that you know that whoever logged into Hotmail on Mr. Guerra's computer was able to see some e-mails, but you don't--all you have on Mr. Zambrano's computer is that somebody went 29 times to log in to Hotmail but you didn't recover any e-mail fragments?
A. That's correct.
Q. Okay. So, as far as you can tell, if somebody actually found any e-mails in the 29 times they logged into

10:06 Hotmail from Mr. Zambrano's computers, records of what those e-mails said are not there; right?
A. We don't have any evidence of that at all.
Q. Okay. Now, turning to Mr. Guerra's e-mails, if whoever was visiting the Hotmail site on Mr. Guerra's computer simply visited Hotmail, opened their in-box, looked at e-mails, read e-mails, maybe even replied to e-mails, those e-mails wouldn't be stored locally on the computer in the ordinary course, would they?
A. As discrete files, some of the data would be available in the "pagefilesys." There likely could be information that would be stored there for at least a finite period of time. But as far as maintaining a database outside of logging in to some sort of client, there is no evidence that that occurred on Mr. Guerra's machine.
Q. Let's simplify this. What you saw on Mr. Guerra's machine is fully consistent with somebody who just opened e-mails and closed them without ever taking active steps to delete them from the computer; right?
A. As far as user? I don't think I ever said that the user actively deleted it. I said that they were deleted.
Q. You're saying that they were physically present on the computer and somebody went in and deleted them?

A. No, I said that they--that there were fragments and information that were there, and then as we--when we received the Guerra image, those weren't there anymore as active data.
Q. That doesn't mean that somebody went in and deliberately deleted e-mail content; right?
A. No, I didn't say--I don't believe I said that.
Q. Thank you. Now, you said that you found no evidence of e-mails between Guerra and the Lago Agrio Plaintiffs' lawyers; right?
A. Yes.
Q. That doesn't mean that there weren't any e-mails between Guerra and the Lago Agrio Plaintiffs' lawyers. It just means you didn't find any on this computer.
A. All I can go on is what the data has. I don't have any information to show that that information existed.
Q. Yeah. But you don't--but you can't conclude to a reasonable degree of certainty that that never happened; right?
A. No, but I can conclude to a reasonable degree of scientific certainty that it's not there.
Q. It's not there, but you don't know that it was never there?
A. There is no evidence to it.
Q. Yeah. There is no evidence that it was there, but

you can't exclude that it was there; right?
A. I just don't have any evidence one way or the other. I have that it's not there.
Q. Okay. Let's look at Exhibit 2 to your March 2015 Report, and this is slip-sheeted in the binders because it's a native document that we're going to have to go into on the screen.
A. Okay.
Q. Okay. And let's go to the Hotmail Web mail fragments here. This is an exhibit you prepared; right?
A. Yes.
Q. Okay. Let's go to File Record 32.
Okay? Again, this is information that you prepared and put in your exhibit?
A. Yes.
Q. Okay. Now, if we right click on this and go to View Source, that's the Code behind the e-mails; right?
A. It's the HTML/XML information there, yes.
Q. Okay. And down the right-hand side you--we see Numbers 1, 2, 3, 4; right?
A. Yes.
Q. I want to go down to Line 1815. Okay. And ask Jamie to highlight--yeah--the name that the cursor is on right now.
Do you see that?

A. I do.
Q. Okay. That's a Gmail e-mail address; right?
A. Yes.
Q. And that says "SDonziger@Gmail.com"; right?
A. Yes.
Q. Okay. That's Mr. Donziger's e-mail address; right?
A. I would have to go back and look, but I believe that's correct.
Q. Well, when you searched to see if there were records of any e-mails to and from the Lago Agrio Plaintiffs' lawyers you had a list of e-mail addresses you were searching; right?
A. Yes.
Q. Okay. And that's one of them; right?
A. That's an e-mail address, yes.
Q. Okay. And did you find this when you were doing your searches?
A. I can't--I don't know. I don't--I honestly don't know.
Q. Okay. Well, we can close out this part of the program, and I want to look at another file record. I want to go to File Record 226. Okay. And this one--Jamie, if you'll just Control-F and do a search for DONZ.
Okay. We find in this file record another

reference to the e-mail address, to an e-mail address SDonziger@Gmail.com; right? Mr. Donziger's e-mail address?
A. Yes.
Q. Okay. And would it surprise you to know--I'm not going to go through the exercise, but if we do this multiple times, you'll find multiple references here?
A. That's possible.
Q. Did you find these references when you were doing your searches?
A. I can't recall sitting here. I can't imagine that the searching--we used NK Search Tool to do it. It would have pulled this up.
MR. WHITE: Thank you, sir.
Mr. Veeder, if we took a five-minute break, we might be able to shorten this and wrap things up.
PRESIDENT VEEDER: Never fails. Five-minute break.
MR. WHITE: Thank you.
(Brief recess.)
PRESIDENT VEEDER: Let's resume.
MR. WHITE: Thank you, sir.
BY MR. WHITE:
Q. Mr. Racich, I want to take you to another one of these very large documents that we need to put on the screen, and that is Exhibit 21 from Mr. Lynch's August 2014

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Report.

You recognize this; this is the internet history from Mr. Zambrano's Old Computer?

A. That might help. Yes.

Q. Okay. What I want to take you to is Page 1104. This is about halfway through the document, which is why we don't have it all printed. Page 1104, I want to take you to an entry on January 12th, 2010, which we'll highlight here. And you may be able to see it easier on the screen that's in front of you rather than the big screen.

But that's an access to Hotmail; right?

A. Yes. Yes, it appears to be.

Q. Okay. And that's at 5:33 in the evening on January 12, 2011; right?

A. Yes.

Q. Okay. Now, I want to take you down two minutes later to 5:35 that same day and highlight the entry we see there.

Do you see that?

A. Yes.

Q. That shows that somebody on Mr. Zambrano's Old Computer opened the document Caso Texaco at 5:35 that day; right?

A. Yes, that's the Old Computer, and there are a number of documents that were opened in quick succession

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after that.

Q. Right. So, at 5:33 on January 12th, somebody on Mr. Zambrano's Old Computer opens Hotmail, and two minutes later they open Caso Texaco; right?

A. Yes.

Q. Now, just so that we're oriented in time here, that is--that's the 12th of January 2011. The 19th of January 2011 is the date on which you recovered a version of Caso Texaco that had Judgment text in it; right?

A. Yes.

Q. Thank you, Mr. Racich.

I want to move from here to the discussion of OSession logs. We can go to it if you need to, but I just ask you if you recall that in your November 2014 Report you criticize Mr. Lynch's reliance on OSession logs on the grounds that those logs are unreliable.

A. No. It was more along the lines that Mr. Lynch didn't provide any support for the fact that they said what he said they said.

Q. Well, let's look at your November 2014 Report, then, and I want to take you to Paragraphs 72 and 73. This is behind Tab 3 in the notebook. Page 18. And at the end of Paragraph 73 it's where you say: "In my experience the log entries have been inconsistent (if they were are created at all) on various computers I've analyzed."

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A. Yes.

Q. That was your opinion in November of 2014; right?

A. Yes.

Q. In your March 2015 Report you relied on the OSessions logs; right?

A. To the fact that they're within the context that they're available, yes.

Q. So, you think that they're sufficiently reliable for purpose of the analysis you did in March of this year?

A. For the purposes that I relied on them, yes.

Q. And that's actually the subject of Slide 10 of your presentation from yesterday; right?

A. Yes.

Q. So, let's go to Slide 10.

And you're saying that there is consistent--consistent Microsoft Office--sorry--Microsoft Word use between October 2010 and February 2011. That's the point you're making; correct?

A. Yes.

Q. And the reason that you do this is found in your March 2015 Report at Paragraph 23, so let's go behind Tab 4.

Sorry. That's where you describe what's in your slide. Where I want to take you now is to Paragraph 9 of the March 2015 Report.

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And this is where you're using the OSession logs. You're using it to draw this comparison between two scenarios. One is a scenario where Mr. Zambrano's assistant writes the Judgment. The other is that a third party writes the Judgment and gives it to Mr. Zambrano immediately before he issued it on February 14, 2011. Do you recall that?

A. Yes.

Q. And that second scenario about a third party giving it to Mr. Zambrano right before it's issued, you say that didn't happen because of your analysis of the OSession logs; right?

A. Well, with regard to the OSession, what I was talking about with the fact that they're not necessarily complete is they're not a--there are instances on different types of operating--well, not operating system, different versions of Microsoft Office that are installed where the OSessions are not available at all or the fact that there are instances where the OSessions aren't complete due to the fact that they are not saved and recorded. As we described at least two instances where Microsoft Office was crashed or where Microsoft Office has issues which are not necessarily recorded in the OSessions.

Q. We've moved on from that point, Mr. Racich. Maybe it would be helpful if we go to Paragraph 23 of this

Report. This is under the heading where you discuss OSession logs.

You say that there would be unreasonably long periods of use in Microsoft Word during this period in early February 2011, if somebody had given a copy of the Judgment to Mr. Zambrano at that point in time. That's what you're using OSession logs for in your Report; right?

A. Yes.

Q. And that's to refute the scenario you described in Paragraph 9 that some third party gave Mr. Zambrano a copy of the Judgment right before it was issued; right?

A. Again, it's what evidence we have. This is the evidence that we do have.

Q. Here's where I'm going with this, Mr. Racich.

That's a straw man argument; right? Nobody from the Claimants--Mr. Lynch--nobody has ever suggested that somebody gave a pre-printed or pre-drafted copy of the Judgment to Mr. Zambrano right before it was issued and then it was uploaded to SATJE; right?

A. I don't know one way or the other.

Q. Okay. Let's talk about--sorry, one more thing on the OSession logs. Let's go to Mr. Lynch's January 2015 Report that's behind Tab 7. Let's go to Page 20.

Now, you described in your Report that there was near constant use--this is on your Slide 10--consistent

Microsoft Word use between October 2010 and February 2011; right?

A. Yes.

Q. When we talk about the edit time for Providencias, I want to focus on the period between December 21 and December 28, 2010.

A. Okay.

Q. And you've suggested that the edit time in Providencias between December 21 and December 28, 2010, may not tell the full story of when Judgment text was being drafted because there could have been drafting going on in other documents; is that your testimony?

A. That's possible, yes.

Q. So, I want to focus in on that period and the issue of whether drafting was going on in other documents that's not reflected in the edit time of Providencias between December 21, 2010, and December 28, 2010.

Now, these two paragraphs are where Mr. Lynch describes--

A. I'm sorry, which paragraphs?

Q. The two paragraphs at the bottom of Page 20.

A. Thank you.

Q. Mr. Lynch sets out the edit time for Providencias as 17.4 hours during the Christmas week of 2010; right?

A. I believe that's correct.

Q. Now, if somebody was working in a Microsoft Office document other than Providencias, that would be reflected in the OSession logs; right?

A. Barring some sort of issue where it wasn't recorded, yes.

Q. Okay. And the only time that Microsoft Word was active, that the OSession logs show that Microsoft Word was active on the Old Computer during Christmas week of 2010 is aside from the edit time of Providencias, the total amount of time is 52 minutes; right?

A. Can you repeat that? I apologize.

Q. Yeah.

So, Microsoft Word--sorry, Providencias has an edit time of 17.4 hours between December 21 and December 28, 2010; right?

A. Yes.

Q. Okay. And that's the Christmas week; right?

A. Yes.

Q. Okay. And the OSession logs show that Microsoft Word was opened during that period for a total of 18.3 hours; right?

A. I'd have to go back to be sure, but that sounds about right.

Q. Okay. And what that tells us is that, if somebody was working in another Word document during the Christmas

week of 2010 on Mr. Zambrano's Old Computer, for whatever purpose, and they were outside Providencias, they were only doing it for less than an hour; right?

A. That's the minimum amount of time based on the OSessions, so the OSessions could be incomplete, but with regards to--that's our minimum.

Q. They're only incomplete if something unusual happened; right?

A. If something happened. I don't know if it's usual or not. Microsoft Word unfortunately crashes a lot for me, but if there is a crash on Microsoft Word, that would necessarily limit the OSessions.

Q. And you have no evidence that there was a crash of Microsoft Word during the Christmas week of 2010 on Mr. Zambrano's computer, do you?

A. Well, we know it happened twice or at least we suspect it happened twice based on the temporary files that were saved and not deleted but once on the 21st and once on the 28th.

Q. Okay. But between these dates, you don't have any evidence that that happened?

A. We don't have any other instance like that between those time frames.

Q. All right. I want to talk about the edit time in Providencias, Mr. Racich.

Edit time is a type of metadata; right?
A. Yes.
Q. It shows us the amount of time a document was open on a computer?
A. Yes.
Q. And you saw Mr. Lynch's demonstration yesterday--
A. I apologize. It shows the amount of time the document was open and then saved.
Q. Okay.
A. With a change.
Q. Okay. But any changes that were made that weren't saved wouldn't be reflected in the document; right?
A. Correct.
Q. Okay. So, edit time is the maximum amount of time a person could spend actively working in the document and then saving it; right?
A. In general. I can think of some exceptions to that, but in general, it's a fairly good indicator of that.
Q. But it's not the minimum amount of time; right? You could have a document open in Microsoft Word and the edit time accrues while you have no activity going on in the document?
A. It begins to toll when the document starts to be opened.
Q. Yeah. In other words, you can have edit time

accruing in a document, getting higher in a document, while nobody is actually actively working in the document; right?
A. That's possible.
Q. Now, it happens a lot; right? I mean, people open a document, they type text into it or cut and paste text into it, or whatever they are doing, they get up and go do something else, they come back and do some more work, and then they Save it, the time they spent doing something else, that's recorded as edit time; right?
A. It continues to toll as time goes by.
Q. Yes. So, the time spent doing something else in the hypothetical I just gave you, the edit time is accruing; right?
A. In the hypothetical you gave, yes.
Q. Okay. Now, Providencias was first opened on Mr. Zambrano's computer on--first created on Mr. Zambrano's computer on October 11, 2010; right?
A. That's what the metadata indicates.
Q. And that's the Old Computer; right?
A. Yes.
Q. Okay. Let's look at Mr. Lynch's August 2014 Report, which you may still have open--I'm sorry, it is Tab 6.
Let's go to Page 28, and that's Table 8. Table 8 I wanted to take you to. That's the metadata--and that is

metadata from the recovered versions of Providencias; right?
A. Yes, that Mr. Lynch recovered, yes.
Q. Yeah. So, this is where we get from Document 11 the file created on October 11, 2010; right?
A. Yes.
Q. And then we can see the Author name CPJS, that's where we get that it's the Old Computer?
A. Yes.
Q. And then that document is Last Saved By CPJS; right?
A. Yes.
Q. And then the Last Saved Date is December 21st, 2010; right? So, that's the December 21st version of Providencias.
A. Yes.
Q. Now, the total edit time we get here from the creation of this document on Mr. Zambrano's computer until December 21st is 2,107 minutes; right?
A. Yes.
Q. That's 35 hours? Approximately?
A. My math is awful, but yes, I believe that's approximately correct.
Q. Okay. So, the most any of time anybody spent typing any text or cutting and pasting any text into that

document is around 35 hours; right?
A. On this particular document, yes.
Q. Yeah. Now, that document had 81 pages of text; right?
A. Yes.
Q. So, if Mr. Zambrano was dictating text to Ms. Calva for this period October--from the Create Date to the Last Saved Date, that's less time spent dictating than one 40-hour work week; right?
A. As far as the timing goes, the 35 hours is less than one 40-hour work week.
Q. Yeah. So, over the course of ten weeks approximately, you've got less than a 40-hour work week's worth of actual activity in this document?
A. In this particular document.
Q. Yeah. Now, in your November 2014 Report--we can go there if you need to--you say that text was created at a rate of one page per day if the work was evenly spaced; right?
A. Yes.
Q. That works out to--if we make your assumption, that works out to less than 30 minutes a day of dictation; right?
A. I'll take your word for that on that one.
Q. Okay. Now, you're aware that Mr. Zambrano and

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10:38 Ms. Calva, the assistant, both testified that they didn't start working on the Judgment until mid-November 2011--sorry, 2010; right?
A. I don't recall off the top of my head. I would have to go back to the testimony.
Q. Okay. Well, assume with me for a minute that that's true. The period between October 11 and the mid-November start time of their work, any edit time that was accrued then, any Saves that accrued then, obviously wouldn't be Judgment text; right?
A. I don't know. All I can say is that the document was created on October 11th, and by December 21st, it had the 42 percent of the Judgment in it.
And I apologize.
As to when it was put in there, I don't know specifically.
Q. You don't have any evidence that there was Judgment text in Providencias prior to mid-November 2010; right?
A. I don't have any evidence one way or the other when the data--when the text of the document, when it was placed in. All I know is that, prior to the--it happened before December 21st of 2010.
Q. And so, you can't say it happened before December 1st?

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10:39 A. No, or after. I can't say one way or the other.
Q. Okay. And another date I want to give you is December 17th. You don't have any evidence that there is any Judgment text in Providencias as of December 17th; right?
A. We don't have any evidence other than the snapshots that we have.
Q. Okay. And that's another way of saying there is no evidence of any Judgment text in Providencias prior to December 17th, 2010?
A. Can you repeat the question?
Q. Yeah.
I want to be clear, I want to make sure the Transcript is clear. Your testimony is that there is no evidence that there was any Judgment text in Providencias as of December 17th, 2010?
A. What I can say is that the document as of the 21st had the data from the--had the Judgment--the amount of Judgment text that was in it as of December 21st. I can't, nor can anyone else I believe determine exactly when the data was put in there. We don't have evidence of that one way or the other. We do have evidence of when it existed within the bounds of certain snapshots.
Q. Mr. Racich, I'm going to ask you this again because it's important. You don't have any evidence that

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10:41 there was any Judgment text in Providencias as of December 17th, 2010? Yes or no.
A. We don't know one way or the other.
Q. So you have no evidence of Judgment text in Providencias as of December 17th?
A. We only have the snapshots that we have as of December 21st and December 28th, and March 4th.
Q. Mr. Racich, that's not an answer to the question I'm asking. The question I'm asking is, as of December 17th, 2010, you've got no evidence that there was any Judgment text in Providencias?
A. Again, what we have are our snapshots in time. Where we have evidence as to when the data was there are in our snapshots.
Q. That's what you do have. I'm asking you about what you don't have. What you don't have is evidence of Judgment text in Providencias as of December 17th--
MR. EWING: Mr. President, I would object. This is asked and answered I think three, maybe four times.
PRESIDENT VEEDER: I think we're getting a difficulty between the question and the answer, but my colleague is going to clarify with a question from the Tribunal's perspective.
ARBITRATOR LOWE: It's simply that I hear a clear answer from the Witness, and I don't understand the

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10:42 distinction that's leading you to ask the question again. I wonder if in case this distinction should become important later on, you can make it clearer.
MR. WHITE: Yes, it's simply this. I'm asking the question to confirm that there is no Judgment text--that there is no evidence of Judgment text in Providencias on December 17th. What the Witness is not doing is not answering what wasn't there. He's saying what was there on December 21st. I don't think the Transcript is clear.
ARBITRATOR LOWE: Well, isn't he saying that that's the only evidence that he has?
MR. WHITE: If that's clear to the Tribunal, I can move on from this question.
PRESIDENT VEEDER: I think you've made your point, and we'll come back to what it is later.
MR. WHITE: Thank you, Mr. President.
BY MR. WHITE:
Q. Now, given the testimony you've just given, it's possible, consistent with the forensic evidence you've seen that all of the Judgment text that appears in Providencias on December 21st could have been cut and pasted into that document in the days immediately preceding December 21st, or, indeed, on December 21st; correct?
A. It's possible, but there is no evidence of it.
Q. Okay. Now, hypothetically, if I wanted to--if I

received a document with Judgment text, and I wanted--on December 21st or 20th or 19th--and I wanted to create the impression that that document may have been on the computer prior to those dates, and I wanted to have it in a document that had some edit time in it and multiple Saves, I could go back, look at an old file on my computer and simply cut and paste the text that I wanted in the document into that document, and you would see what you're seeing in the December 21st Providencias: A document that was created a few months before, multiple Saves, and a chunk of Judgment text; right?

A. So, I just want to be clear with the hypothetical. You're talking about opening the document that existed previously, presumably this October 11th document.

Q. Yep.

A. Opening it and to give the impression that it had been worked on prior to copying and pasting--I don't think the evidence supports that in this case.

Q. Yeah. I'm not asking whether you have evidence that says that happened. I'm asking if it could have happened consistent with the evidence you see.

A. I don't--okay.

Q. So--so, the scenario is: Somebody wants to create the impression that there has been work done, there has been Saves on a document, that they--the text of which they

get in mid- to late-December 2010, they can just go back and find an old file on the computer, open it up, dump the Judgment text into it, and it will look like what you see here, a document that was opened a few months ago, multiple Saves, and some edit time; right?

A. I think there is another datapoint that's here that doesn't support that.

Q. I'm asking you to confine yourself to the hypothetical that I'm giving you.

A. And I appreciate that. I'm saying that you asked if whether or not the evidence that we have here supports that theory, and I don't believe so.

There is evidence--and I know in my last Report, in Exhibit 3, I believe it was, it shows that the Providencias.doc was opened hundreds of times over the lifespan of the document between October 11th and that--what I'm choking on is that when that--when that entry, the internet history entry that shows that, indicates, that's not consistent with someone opening a document hundreds of times. That's not consistent with someone doing a--open up to sort of fake people out that they were working on the document.

Q. Let's go about this another way, Mr. Racich.

Are you aware that Providencia is the Spanish word for order?

A. I am.

Q. And the Spanish word for judgment is Sentencia?

A. I am.

Q. Okay. And that Providencias with an S is plural; right?

A. Yes.

Q. It means Orders?

A. Yes.

Q. Okay. Now, you said earlier that you can look at the title that somebody gives a document and draw some conclusions about what they put in the document; right?

A. It's possible. You can infer.

Q. Yeah. And using that inference, wouldn't you infer that when somebody creates a document called Providencias, they're intending to put Orders in it, but if they were going to put a judgment in it, they'd call it Sentencia?

A. I can't tell as far as specifically. I said you can infer, but what people have as a matter of habit, I don't know.

Q. Yeah, but it would be a logical inference that when you're looking at a document that says Providencias, when you open it up, you're going to find Orders; right?

A. Again, it depends on who is writing the Order and/or Judgment.

Q. And that's an inference you're not prepared to draw?

A. No, not here.

Q. Okay. And you're aware that October 11, the Create Date of Providencias, are you aware that that's the date that Mr. Zambrano came back on to the case?

A. I may have--I may have known that.

Q. Are you aware that he issued an Order that day?

A. No, I was not.

Q. Okay. Well, with that in mind, coming back to my hypothetical, if Mr. Zambrano wanted to create the impression that he had been working on Judgment texts and Providencias for a period of months, he could go back to a document called "Providencias"--not Sentencia--in which he had been working on Orders, which there are multiple Saves and there's some edit time--and he could cut and paste Judgment text into that document, and it would appear that that document had had Judgment--may have had Judgment text for a period of time and that it may have been edited and Saved multiple times.

A. What we have here is--the only datapoints that we have evidence of is that the Ecuadorian Judgment existed in this Providencias, and it's a particular Providencias in a particular folder structure.

And we have two instances, one where it's been

opened on the Old Computer, one where it's been opened on the New Computer. On the Old Computer it's been opened in excess of 400 times between the lifespan of the document, October 11th, and--again, the latter date is where I'm tripping. I can't remember what that latter date is--and on the New Computer we have at least 39 or 40 times the same document in that particular location being opened.

And the only information we have at present is that the Ecuadorian Judgment, or parts of it, existed in that document as of December 21st, the 28th, presumably February 1st as information got up to the SATJE Logs, and then the March 4th date, and then some dates after that.

So, with the datapoints that we have, we have a document being opened hundreds of times between--on the lifespan of the document in that particular location, and the information that we have is the content is, in fact, parts of the Ecuadorian Judgment. That's the only datasets points that we have.

Q. And if Mr. Zambrano was opening Providencias and doing whatever he was doing with Orders in that document in October before he says he was working on the Judgment and making Saves, you've got no way to know that that didn't happen; right?

A. I can only point to the datapoints that I do have.

Q. Okay. All right. So, let's turn to--back to

Mr. Lynch's slides from yesterday, and let's look at Slide Number 18, if you would, Mr. Racich.

You agree that the edit time on the December 21st, 2010 Providencias was 35.12 hours; right?

A. As of December 21st, yes.

Q. Yeah. And that at that point there were 81 pages of Judgment text; right?

A. I believe that's correct.

Q. Okay. Now, Mr. Lynch says 94 percent of this text is unchanged in the Final Judgment. Did you do any analysis to determine whether that was correct or not?

A. I think I validated it, and it seemed--appeared to be correct.

Q. So, you agree with the 94 percent of the text as unchanged in the Final Judgment?

A. I believe so.

Q. Okay. And you would agree that if we assume that every minute that Providencias was opened was spent typing, text was entered at this rate at approximately 26 minutes per page?

A. Give or take, yeah, I believe that sounds correct.

Q. Let's go to the December 28th Providencias. That's reflected on Slide 19.

And you would agree that the additional text that came in between December 21st and December 28th, the edit

time during that period was 17.43 hours?

A. Yes.

Q. And during that period of time, 38 additional pages of Judgment text were entered?

A. I believe that's correct.

Q. And did you validate that 96 percent of the text is unchanged in the Final Judgment?

A. I believe so.

Q. And if we assume that every minute that Providencias was opened during that time period somebody was typing in it, the text was entered at a rate of less than 30 minutes a page?

A. I believe so.

MR. WHITE: Could we just take a moment.

(Pause.)

MR. WHITE: I have no further questions at this time.

PRESIDENT VEEDER: Thank you very much.

It may be good to take our mid-morning break now but it depends on how long your re-examination might be.

MR. EWING: I would appreciate taking a mid-morning break.

PRESIDENT VEEDER: Then it would be appreciated. Let's take 15 minutes. We'll come back at 10 past 11:00. Again, please don't discuss the case or your testimony.

THE WITNESS: Of course.

(Brief recess.)

PRESIDENT VEEDER: Just before we start the redirect, Mr. White, we had a question for you. You told us that Ms. Calva had testified during the RICO proceeding in New York. We have a reference to the direct testimony C-2387 when she made a sworn declaration, and C-2458, exhibited in these proceedings. But did she also subject herself to a deposition, and was she cross-examined?

MR. WHITE: This is Ms. Calva?

PRESIDENT VEEDER: Yes.

MR. WHITE: It's my understanding she submitted a declaration but that she wasn't either deposed or cross-examined.

MR. BISHOP: She did not show up at the RICO Hearing, and so she was not cross-examined and she was not deposed.

PRESIDENT VEEDER: You need to explain that because I'm looking at her direct testimony at C-2387. That's simply a document put in without the witness attending the trial?

MR. BISHOP: That's correct. She put in a declaration, a RICO Declaration, but then she did not come to the Hearing, and so she was not cross-examined and was not deposed.

PRESIDENT VEEDER: Is that because she couldn't get a visa?

MR. BISHOP: I doubt it, but I don't know the answer to that.

PRESIDENT VEEDER: There is some story in the Transcript that we can see, but we haven't got to the bottom of it.

We can come back to it later, but she didn't actually testify in New York?

MR. BISHOP: That's correct.

PRESIDENT VEEDER: Thank you very much.

MR. PATE: There is a story in the Transcript as I recall.

PRESIDENT VEEDER: At some stage give us the reference, but I think there are quite a few stories in this case.

Again, just for planning purposes--we're not tying you down. Just give us some idea of how long you might be.

MR. EWING: I expect to be less than 15 minutes or less. It should be short.

PRESIDENT VEEDER: You could be as long as you like.

MR. EWING: I will try to give it 15 minutes or less.

REDIRECT EXAMINATION

BY MR. EWING:

Q. Mr. Racich, are you aware that Providencias--one of the meanings for Providencia is also Sentencia?

A. Even after six years of Spanish, I don't believe I ever got into the legal parts of it, so I'm not sure.

Q. So, you don't know if it you typed Providencias into Word Sentencia comes up as one of the meanings?

A. I don't know.

Q. Earlier, Mr. White asked you some questions about cookies and internet history.

A. Yes.

Q. And if you could turn to--sorry.

And you mentioned other evidence of visits in the internet history that did not include dates.

A. Yes.

Q. Do you remember that?

A. Yes.

Q. What do you mean by the fact that those entries did not include dates? What does that tell you?

A. There are certain types of internet history redirects being one as well as other instances of items that are recorded in the internet history that don't have the date field populated, so what we can say is that the internet history itself shows that those particular sites are where the objects are that are being accessed--they

were accessed, but we don't have a specific date as to when it occurred.

Q. And in your Report from November 7, 2014, at Paragraph 49, you listed a series of Web sites that were visited that don't have dates, including LEXIS, and a few others, Cervantesvirtual, Googlebooks and then an Ecuadorian legal research Web site, but those don't have dates.

What does that tell you about those particular entries?

A. What we have is that they were visited at some point, but we can't pinpoint the exact moment in time that occurred.

Q. And do you know how often they were visited?

A. I'd have to look to see if there was a hit count on those particular files, but I don't believe so from this.

Q. And would the same be true of any other sites that are listed around this section of your Report about undated entries?

A. Yes.

Q. Moving to a different subject, you did an analysis on Mr. Guerra's computer to extract all of the HTML fragments of e-mail; correct?

A. Yes.

Q. And that was an exhibit in your Report that they pulled up for you earlier; correct?

A. The March report, yes.

Q. And it was a long list of fragments that you found?

A. Yes.

Q. Do you remember approximately how many there were?

A. At least a hundred, if I recall.

Q. Now, I don't have that in front of me, so I can't pull it up for you.

Did you do that same analysis on Mr. Zambrano's computer?

A. I can't recall. I can't recall right now. I don't know if we did that exact analysis.

Q. Did you look for HTML fragments like you found on Mr. Guerra's computer?

A. I believe we did.

Q. And did you find any on Mr. Zambrano's computer?

A. I don't believe we did. We used the same tool, Internet Evidence Finder in this case. I don't believe we did.

Q. Mr. White also took you to two entries in--from Mr. Guerra's e-mails that included a Donziger e-mail address. Do you remember that?

A. Yes.

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11:18 Q. The first one was Record 31. That was an e-mail address from Mr. Donziger; right?
A. Yes.
Q. Was that an e-mail from Mr. Donziger?
A. Looking at the text that was surrounding it, it was some part of code. There was no content that appeared there. It was just an e-mail address itself.
Again, I only looked at it for the belief period of time that it was on the screen, but there didn't appear to be any content associated around that.
And just so we're clear, what the tool does is it attempts to find the beginning of where the fragments that it can interpret are, and then attempts to find the end. It's not always that great at finding the end result of where the content stops, and so, subsequently, there's sometimes a lot of garbage, a lot of extra stuff that's put in, and it makes an attempt to interpret it, but the HTML--the format of HTML is what it's really trying to extract.
MR. EWING: And would it assist the Tribunal to have these exhibits up while we talk about them?
PRESIDENT VEEDER: Yes.
MR. EWING: Would you kindly put those up? We don't have those on our--
PRESIDENT VEEDER: Maybe not now, but it might be

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11:20 useful to have a screenshot of those page or pages.
MR. WHITE: Certainly.
BY MR. EWING:
Q. Thirty-two.
Before you do that, looking at this page, Mr. Racich, do you see Mr. Donziger's e-mail anywhere?
A. Not within the content here.
Q. And when you view the source of this e-mail, what is that showing you?
A. It's showing me underlying HTML code plus whatever the software Internet Evidence Finder extracted out in its attempt to reconstruct these fragments of e-mail.
Q. So, now if we view the source behind this page, you went down to Donziger, is there anything in here that indicates to you that this is an actual e-mail?
A. No, it's just an e-mail address. And you can see around it, you can see "eatyourshare.live.com." You can see it says RPL@hotmail.com, Facebook Mail.com. These are just addresses that exist in this chunk of text.
Q. And if we pull up record 226, please.
Could you go back to the index.
So, on the typed column for record 226, what is that?
A. The software interprets this as a contact list, so when it attempted to reconstruct the page, this is the

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11:22 contacts that was extracted from the fragment.
Q. And if we look at that fragment itself, and Mr. Donziger's e-mail address is in there somewhere, what is this? Would you agree with the software that this is a list of contacts?
A. It appears to be. It looks like it has the names and the e-mail addresses and certain other metadata information about particular contacts. Presumably from a Hotmail account here.
Q. But again, this is a contact list on Mr. Guerra's computer; right?
A. That's my--yes.
Q. And neither of these documents is an e-mail?
A. No, not from what I'm seeing, no.
ARBITRATOR GRIGERA NAÓN: Excuse me, if you look at the line above, there is the full name of Mr. Donziger. Does that have any relevance in respect of what we are addressing now?
THE WITNESS: So, what it looks like--and I'd have to do more analysis to see exactly how it's broken up, but what it appears is that there are different fields, meaning entries in the contact database, and you've got a name field. It looks like possibly a unique ID field, and then at least the e-mail address itself, and then it moves to the next step. So, it looks like essentially a list of

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11:24 both the name and the e-mail address for each of these contacts.
PRESIDENT VEEDER: It's misspelled. Does that mean anything?
THE WITNESS: It means that there is a bad speller.
PRESIDENT VEEDER: Okay.
ARBITRATOR LOWE: What did you search through the materials which were sent to you for the name of Mr. Donziger? Did you also search under the misspelling of his name?
THE WITNESS: I don't believe I did.
BY MR. EWING:
Q. Mr. Racich, when you receive an e-mail from someone through a program like Hotmail, is that person's address added to your--let me step back.
When you send an e-mail to someone like Steven Dozinger (sic), is that person's e-mail added to your contact list?
A. Typically it is.
Q. So, that would be automatically added?
A. Typically, it is.
Q. And if I receive an e-mail from someone, is that e-mail added to my contact list?
A. Not by default, unless you do a reply.

By default, it is, and otherwise you'd be adding huge numbers of spam e-mails. The e-mail addresses would be added to your contacts on a continuous basis.

Q. So, if I e-mailed you for the first time and you had an e-mail from me, from Greg Ewing, and you replied to that, you would expect that my name and e-mail address would be in your contact list as I spelled them; correct?

A. Typically.

Q. If in this case, would you expect--let me take a step back. In this case, Steven Dozinger (sic) is misspelled. Does that indicate to you anything about where this e-mail came from, whether it be from Mr. Guerra, Mr. Donziger or someone else?

A. Well, if you've got the e-mail address which is the "SDonziger@Gmail.com," and you have a misspelled name, so that either means that that an e-mail came in that had that as the contact name and was replied to with that misspelling; or it indicates, which I think is more likely, that someone typed in the e-mail address and as far as who the person was, they misspelled the name. I would think that's the likely explanation unless someone has a habit of not having their name correctly on their e-mail, I think that's the most likely explanation.

Q. So, the two choices are either Mr. Guerra misspelled Mr. Donziger's name or Mr. Donziger misspelled

his own name?

A. Well, whoever sent the e-mail address, let's say, but yes.

Q. Thank you for putting this up. I think we're done with it for now.

Towards the end of your cross-examination by Mr. White, he asked you a hypothetical; and in his hypothetical, Mr. Zambrano created an order on October 11, 2010, when he took the bench; correct?

A. Yes.

Q. And then sometime around February 14, 2011, he used that same document to paste the Judgment text into it.

A. I don't think I have a hypothetical said that date, but at some point I think it was the December 21st date that there was text was being added to the document. That was in the hypothetical.

Q. Okay. So, the hypothetical--I guess to make it a little more generic, is the question of whether in a sense Mr. Zambrano could spoof or fake the computer or you and Mr. Lynch into thinking that this document started on his computer on October 11, 2010, and finished on February 14 or March 4th as a complete document, that he could--that he would use that to fake us all out.

A. I think that was the purpose of the hypothetical.

Q. We have heard Mr. Lynch recovered three snapshots

or temporary files of the Judgment in between October 11th--between October 11th and March 4th; correct?

A. Yes.

Q. Where did those temporary files come from?

A. They were tilde files. There was one card file meaning that the file was carved from unallocated space, what Mr. Lynch did in type validated but actually used his numbering system because it made more sense to look at what he was doing. It looked for the header of the document file.

And we talked about this with regards to the books. We basically looked for the book without the index, and were able to pull out the data of the book, and that's the--that was one of the instances, and then we had I believe it was two tilde files, so they're essentially temporary files that when Microsoft Office opened the document or PowerPoint or what have you in this case, a document, what Microsoft Word does is it creates a temporary file with content that it could save information to, so if Microsoft Word crashes, which unfortunately happens, it will allow you to recover certain information about what you were working on. In this particular case, those documents were maintained on the computer, and subsequently we were able to recover data from them.

Q. So, the tilde files, who creates those?

A. Microsoft Word does.

Q. And are they typically visible on a computer?

A. If you know where to look, you can find them, but the user doesn't typically have the ability to see them.

Q. So, these are not versions of the file that Mr. Zambrano purposefully saved. They're just we happen to have found them. Is that what you're trying to say?

A. Yes. I mean, in fact, we're very fortunate. This doesn't happen as often as I would like from as a forensic examiner point of view; when you're analyzing documents, it was very fortunate to find snapshots like this over the course of time.

Q. And looking at Mr. Lynch's Table 23 of his--I'm sorry--of the metadata for the Providencias document--

A. Which report was this?

Q. This is his August 15, 2014 Report.

A. And you said Table 23?

Q. I have the wrong table number.

In his Tables 7 and 8 on Page 28 of Mr. Lynch's August 15, 2014 Report.

A. Yes.

Q. And looking at the metadata for these files, is there anything else here that indicates that this document was opened--sorry, which contradict the hypothetical that Mr. White had presented?

11:33 A. Again, these, as we just discussed, are temporary files that Microsoft Word creates during the process of editing a document, so for someone to do this, they would have to know that this temporary file was--as a hypothetical, as someone trying to game the system, so to speak, someone would have to know that these temporary files were, in fact, being created, know that they were going to be maintained and then know they were going to be recoverable. To be frank, the easier thing to do is to not have them there at all.

Q. When you looked at--do you address this in your Reports at all?

A. In what way?

Q. You didn't address this hypothetical; right?

A. Not my reports, no.

Q. Is there a reason why you didn't?

A. A combination of things. One, it doesn't seem plausible from a realistic point of view, as well as the fact that there's evidence that the document was--the Providencias document living in this particular path is opened hundreds of times over the lifespan of the document. That's not consistent with someone opening up a document and copying data in at the last minute.

Q. And you mentioned that it's opened hundreds of times. Are you just looking at Table 8, or is there

11:34 something else you're referring to?

A. I seem to recall an exhibit that my last report in Exhibit 3 there's a list of internet history, and that shows how often the Providencias, at least in specific moments in time, had been opened on the Old Computer and the New Computer.

Q. And you talked about that in your Report?

A. Yes.

Q. And if you could turn to Paragraph 33 of your November 7, 2014 Report.

A. Which paragraph? I apologize.

Q. Paragraph 33. Page 9 of your November report.

A. Yes.

Q. Is this what you're referring to?

A. Yes.

Q. And how does Paragraph 33 coincide with the information you see in Table 8 of Mr. Lynch's Report?

A. What it tells us is all we have are the snapshots in time. We have this December 21st snapshot in time, the 28th snapshot in time. What we have is that we can't tell exactly definitively whether or not the content of the text was copied on to Mr. Zambrano's computer or any other--we don't have any evidence to show that this came from any other location. All we have is the data points that we have.

11:36 Q. But you--okay.

MR. EWING: No further questions.

PRESIDENT VEEDER: We have no questions, and so you may leave the table, but we need to discuss with counsel where we go from now as regards the expert testimony. So, please stay in the room, but you're no longer a witness, and we thank you for coming to assist the Tribunal.

THE WITNESS: I will do. Thank you.

(Witness steps down.)

PRESIDENT VEEDER: Well, we've come to the end of the expert testimony on these particular issues. We've had the Expert of the Tribunal listening and following testimony as she has already been studying the written materials, and the question is whether we make further use of the Expert to the Tribunal by enlarging her existing Terms of Reference. Those Terms of Reference were limited to taking part at this Hearing on an informed basis. What we'd like to invite the Parties to do is to consider whether we should do that, and if we should, what additional Terms of Reference we would have to specify in such terms of reference? We don't ask you to respond straight away. She'll be here until 2:00 tomorrow, but we would like to resolve this particular matter before 2:00.

Is that a possibility for the Claimants? We ask

11:38 the Claimants first.

All we're asking at the moment is that you consider it. You don't have to respond formally.

MR. BISHOP: Yes, we will consider it. We will discuss it this evening and come back with our position tomorrow, if that's all right.

PRESIDENT VEEDER: Thank you.

And the Respondent?

MR. EWING: Mr. President, not surprisingly, we think it's a great idea. We will also consider it and get back to her tomorrow--get back to you tomorrow.

PRESIDENT VEEDER: What we'd like you to do is to consider it obviously separately, but if you can consider it together to see if you can agree or if you disagree, why you disagree, and facilitate ourselves tomorrow morning, but we'd like, as I said, to get an order settled if we do make an order before 2:00 tomorrow.

MR. EWING: Of course.

PRESIDENT VEEDER: Thank you. Well, we'll move on to the next witness.

MR. WHITE: President Veeder, before we do that, to tie up some loose ends on the Experts, one is that the Tribunal asked for exhibit numbers to Mr. Lynch's--for the other exhibit numbers for Mr. Lynch's RICO testimony. They're Claimants' 2383--that's trial testimony--and

2457--that's deposition transcript. So, 2383 and 2457 from Claimants Exhibits for the Transcript.

The second item is that we had Mr. Lynch take screenshots of materials that he used in his opening or his direct presentation yesterday. We have those now and can hand them up.

PRESIDENT VEEDER: I think we've just been given them. They've been marked C-2154, and it consists of three pages.

MR. WHITE: That's correct. But there is also an additional item there. It consists of two items.

And then the third item is there were some materials that were used during Mr. Racich's cross-examination that we should hand up. We don't have those ready yet, but we will provide them separately.

PRESIDENT VEEDER: I have just been given C-2516 and C-2515.

MR. WHITE: Yes, those are the items from Mr. Lynch's presentation yesterday.

PRESIDENT VEEDER: I see.

MR. WHITE: There were some items that were used with Mr. Racich yesterday afternoon and this morning where we were working with native files, and we'll provide screenshots of those as soon as we can get those together.

PRESIDENT VEEDER: We'll come back to those later

when you print them out.

MR. WHITE: Yes.

PRESIDENT VEEDER: For the moment, can we ask the Respondent. Do you have any objection to these exhibits going in as C-2154, C-2515 and C-2516?

MR. EWING: We don't have any objections to them as demonstratives from Mr. Lynch's presentation.

PRESIDENT VEEDER: Thank you very much. We'll admit them with these references, and we'll come back to the other documents later.

MR. WHITE: Thank you.

PRESIDENT VEEDER: Anything else before the next witness?

MR. WHITE: No, sir.

PRESIDENT VEEDER: Anything else from the Respondent? Nothing else?

MR. EWING: Not at this time.

PRESIDENT VEEDER: Let's go to the next witness.

JOHN A. CONNOR, CLAIMANTS' WITNESS, CALLED

PRESIDENT VEEDER: Mr. Connor, you will find somewhere on the table a form of words on a declaration. And if you're willing to do so, we'd ask you to state your full name and then to read the words of the Declaration.

THE WITNESS: Yes, sir.

John Anthony Connor.

I solemnly declare upon my honor and conscience that I speak the truth, the whole truth, and nothing but the truth, and that my statement will be in accordance with my sincere belief.

PRESIDENT VEEDER: Thank you.

There will first be questions from the Claimants.

MS. RENFROE: Thank you, Mr. President, Members of the Tribunal.

DIRECT EXAMINATION

BY MS. RENFROE:

Q. Mr. Connor, we are now moving from the forensic portion of this Track 2 Hearing to the environmental discussion; and, with that transition, would you please tell this Tribunal what your role was in the Lago Case and the subject matter of your testimony today?

A. Yes, I was one of the Judicial Experts on behalf of Chevron in the Lago Agrio Case, and I also wrote reports in response to Mr. Cabrera's Reports.

Q. And what will be the subject matter of your testimony today?

A. I'll be talking about the environmental remediation work that was done by TexPet as well as the current environmental conditions in the block and the issues those posed with regard to human health.

Q. Have you prepared four reports for this

arbitration case?

A. Yes.

Q. Specifically your Report of September 2010?

A. That's correct.

Q. June 2013?

A. Yes.

Q. May of 2014?

A. Yes.

Q. And January of 2015?

A. Yes.

Q. And are those reports sitting--a copy of those Reports sitting on the table there? Can you confirm those are your Reports?

A. Yes, they are.

Q. Have you provided any corrections to those Reports?

A. Yes, I have.

Q. And have you provided or prepared an errata sheet documenting those corrections?

A. Yes, there are a number of minor corrections.

Q. All right. Now, with those corrections, do these Reports accurately and completely contain your testimony and the opinions you have formed about your work in this case?

A. Yes, they do.

Q. Have you prepared a presentation to help explain your testimony to the Tribunal?

A. Yes.

MS. RENFROE: With the permission of the Tribunal, may Mr. Connor proceed with his presentation?

PRESIDENT VEEDER: Of course.

BY MS. RENFROE:

Q. Thank you, Mr. Connor.

A. Hello. I'm John Connor. I think you know that by now, and I'm very pleased to be here to talk to you about the work that I've done over the past 12 years in the former Petroecuador-Texaco Concession. As you know, I was one of the JI Experts that worked on the Cabrera case and I worked on this as well.

What I'm going to be talking about today is the data. There have been thousands of environmental samples collected and analyzed at facilities throughout the former Concession area. What I'm going to talk about is what those data tell us with regard to the TexPet Remediation Project, the current environmental conditions, and health risks posed, if any, to the good people that work and live in this area.

At the same time, to the degree I can, I'm going to try to help you understand why two groups of experts have looked at the same data and come up with what seem to

be completely opposite conclusions. At least I'll do my best in that regard.

A bit about my background. I'm an environmental engineer with 35 years of experience in this field. I'm the President of a company called GSI Environmental. We're a company that works around the world doing the type of work that's exactly what we're going to be talking about today. That's environmental investigation, environmental risk assessment, and environmental remediation of pollution impacts. We've worked for a lot of industrial companies around the world, and we also worked for a lot of--oh, I'm sorry.

PRESIDENT VEEDER: My fault. I should have warned you that every word is being written down in English, but it's also being interpreted into Spanish and written.

THE WITNESS: I talked to you about that earlier. I will slow down.

PRESIDENT VEEDER: You have to slow down a lot. And again, we have to remind people not to overspeak because they can't translate and transcribe simultaneous speech.

THE WITNESS: Okay. We have also worked for State oil companies such as Petroamazonas or Petroecuador in various countries, and one of the things our company does a lot of is research and development. It's mostly for

Government organizations, and it involves developing improved methods for investigation of sites, for assessment of risks, and for remediation of those sites.

Today, I'm going to talk about five issues that have been documented in my Reports, and I'm going to go through these opinions now and remind you of what my findings have been.

First is the TexPet remedial action program of '95 to '98. The data show that that program was completed in accordance with specifications spelled out in the Remedial Action Plan, RAP, the RAP.

Second, the Judicial Inspections that were conducted in 2003 to 2009. The results of those Judicial Inspections showed that the RAP had been properly implemented but there were limited non-RAP impacts that remained to be addressed and by non-RAP impacts I mean issues that weren't included in the RAP and had not yet been addressed.

The Ecuador Experts, and by Ecuador Experts, I mean the Parties that have been--working in this BIT proceeding, have done additional work in 2013 to 2015, and I will show you that the work that they have collected is in good agreement with the prior work by the Chevron Experts in the Judicial Inspection. Certain limited impacts remain to be addressed under the current

regulations.

Finally, health risk--next, I should say. The health risks, the data that we have show that, yes, there are impacts to be addressed but these impacts do not pose a risk to public health in this area.

And finally, the Judgment. The Judgment is not in agreement with the data that was collected at these sites. And I will point that out as I go through my presentation.

Let's start with the TexPet remedial action program.

The TexPet remedial action program begins in 1995 with a settlement agreement which is signed by the Parties in May of that year. Under that Agreement, TexPet is assigned work at 157 sites, one or more tasks at each site. And those tasks included pit remediation at 108 of those sites, cleanup of soils and spills at 27 sites, plugging and abandonment of wells, repair tank dikes and installation of produced water equipment at a number of other sites. Based on that general Scope of Work, a Remedial Action Plan is issued in September 1995. A Remedial Action Plan, often called a RAP, RAP, is a standard part of our field. What it does, it says what you're going to do, how you are going to do it, and how do you know it's done right.

It's very similar to a skilled contractor working

at your home who is going to fix this door and paint it this color. Well, this particular Remedial Action Plan tells TexPet that they're going to work at these sites and remediate these pits. I believe that Ms. Renfroe showed you a list, one of the tables from the Remedial Action Plan which gives a very specific list of the pits that are to be remediated and those lists were signed and initialed by all the Parties.

There are also reasons why pits weren't included in the RAP. Well, you could go to a site that was on the list of the Settlement Agreement but it would remain in place because it wasn't assigned to TexPet. Those reasons are listed on this slide.

I will talk about the latter two reasons. Pits constructed or closed after June 30, 1990, that would be pits that were closed by Petroecuador after the operations had transferred from TexPet to Petroecuador. If they had been closed by Petroecuador, TexPet was not required to re-enter and remediate those pits.

(Pause.)

A. The HBT Agra audit of 1993 and the Fugro audit of 1992 tell us that there were a large quantity of pits that were closed by Petroecuador between 1990 and 1992 by covering them with earth. Those pits--and we will see some of them today, were not assigned to TexPet.

Pits that were closed before June 30, 1990, were also addressed in the RAP. Those pits that had been properly remediated and had no visible impacts at that time were not assigned to TexPet. Some of them were, and during the course of the RAP, more pits were assigned, a total of 25 pits were added to the RAP during the course of its implementation.

Let's look on the ground to see what the RAP really means when you measure it against a site, so here we see an aerial satellite image of the Shushufindi 45A well site. In the center of the area I put a white dotted line around the platform it's called. It's a large area of pavement, of gravel, impacted gravel and rock, and there is a symbol in there that indicates the well, the oil well itself. At this site at the time of the RAP, there were four pits present at the site. Two of these pits were assigned to TexPet for remediation, Pits 3 and 1A, and they were called RAP pits. And then two of the pits were not assigned to TexPet. TexPet was not required to remediate these pits. These were pits specifically called out as non-RAP pits for some of the reasons you saw on the prior slide.

And in addition, any other conditions that may have existed at that time or in the future at this site were not assigned to TexPet. TexPet's assignment for its

work was Pit 3 and Pit 1A and nothing beyond that.

Well, the RAP didn't just tell TexPet what they needed to clean up. They told TexPet how they needed to clean up. And here in this diagram I show you an eight step process that was spelled out in the RAP document. I discussed this in my Reports and for the interest of time, I won't repeat it here. I will just point to you one of the eight steps. That's Step Number 6, and that slide we see representatives from Universidad Central of Quito who were contracted to come to the site and before the pit was remediated and closed, to test that remediated material, to see if it in the laboratory met the cleanup criteria upon which the Parties had agreed in the RAP.

Now, at this time in Ecuador, there were no regulations in place that mandated specific cleanup criteria. Those are concentration limits in the soil. Consequently, the Parties, as many other Parties did at that time, agreed among themselves in a contract what those cleanup criteria would be.

The team from Universidad Central collected those samples, they analyzed them in their laboratory. If they met those standards, the remediation was finished and the pit was backfilled. If they didn't, further work was needed.

This process was carefully overseen by

representatives of the Government of Ecuador. Inspectors from the Ministry of Energy and Mines, Petroecuador and Petroproducción visited these sites at critical junctures and the course of their work, was documented in a series of Actas or Declarations that memorialized their findings.

There is three types of Actas. First, RAT Actas. These were the day to day observations of the inspectors, if they noted deficiencies in the work or things that needed to be improved, they recorded those in those Actas. As you review those Actas, you will recognize the vigorous oversight and the attention paid to detail to see that this work was done right. When it was done right, it was memorialized in an approval Acta. These were issued piece by piece for different sets of pits. Each one that came out would say these sites are finished, this dozen pits are finished, until eventually all the work was finished, and it was memorialized in a Final Acta issued in September 1998 and signed by all the Parties saying the work had been done, it had been done satisfactorily, and the project was finished.

We now jump to 2003 to 2009, when a process called Judicial Inspections is undertaken in the Lago Agrio Case. I was one of the Experts in that case. And as an expert, we were asked to address three technical issues:

First, was the TexPet remediation program properly

completed?

Secondly, what are the environmental conditions today?

And, third, do those conditions pose a potential risk to human health?

As part of our work, we received a set of instructions from the Lago Court, and these instructions were called the Court Terms of Reference, and I will tell you some of the important things it told us about how to do our job.

First, we were instructed to respond to the questions by each Party. Chevron's representatives would pose questions, the Plaintiffs' representatives would pose questions, and we were to faithfully make our effort to respond to those.

In addition, we were instructed by the Court to follow the jointly developed sampling analysis plans. These plans specified that we use certain standard scientific Protocols to collect samples and analyze them in the lab, specific methods that were to be used and the Parties have agreed upon. The Chevron Experts and I, myself, followed these.

There has been a lot of talk about Pre-Inspections, and let me explain some of that. Pre-Inspections were done by both Parties. They were done

by Chevron and they were done by the Plaintiffs. And why were they done? They were essential to doing the work of the Judicial Inspection. These were complex sites. Texaco hadn't been at these sites for over 20 years approximately, and there was a lot of work that needed to be done in a very short amount of time. In order for us to do Judicial Inspections efforts to complete that work, both sides needed to have background information, and that background information was collected in a process called Pre-Inspection.

The assignment of the Pre-Inspection team included general site layout, locating closed pits and open pits and spills, locating drinking water resources so they could be sampled and locating any surface water bodies near the site.

At the top of this page, I show the Chevron PI sampling team at Shushufindi 21 well site in January 2004, and the bottom right-hand corner, there are some other important photos. Those are photos taken at the Shushufindi Norte production station during the time of Judicial Inspection. I was the designated Expert on behalf of Chevron at that location.

The designated Expert on behalf of the Plaintiffs was Oscar Davila, and at the time of that inspection, Oscar Davila and his team had conducted a very thorough

reconnaissance of the site and they had identified areas of interest, areas where there could be environmental impacts that they thought warranted investigation. They marked these with the colored flags we see on this site.

I also worked with Charles Calmbacher as a Plaintiffs' Expert and José Robalino. And in each case, when I arrived at the site, those gentlemen had conducted very thorough reconnaissance. Their own Pre-Inspection because they needed that information just as we did.

Let me explain something about the Pre-Inspections that I believe is important to understand because these terms have been used and I believe they have been misunderstood. I'm going to talk about the concept of perimeter sampling as it was done in the Pre-Inspection. We call this step-out sampling or perimeter sampling, and let's get an understanding of the task of the Pre-Inspection team. Here is some information about the Pre-Inspection at the Shushufindi 21 well site.

When the Pre-Inspection team came to the site, they had only a crude sketch such as this to understand where the former remediated pits were. These are pits that had been removed, cleaned, compacted and vegetated, and they were very difficult to see or find. Consequently, the process that would be followed would be, first, to estimate where that pit might be on the ground, and then to go to

that suspected location and attempt to drill a boring into that pit, that former pit and find it.

You can find these materials by looking at the soil that comes out of that boring. Remediated material is a clay material with a dark stain and a petroleum odor, and sometimes it has an oil sheen. If they saw that, they knew that they were in the pit. Then they would do what's called step-out borings, and here is an example. They step away and drill another hole, and they step away and drill another hole. I show those as two and three on this diagram. If they get out of the material and they see clean soil without the oil stain, they know they found the edge of the pit, and here I've illustrated, they now have confidence at least on one side of the pit.

This process is conducted in the other directions until they believe that they have located and confirmed the location of that remediated pit. That's the work that you see being done on the video that was shown during the Ecuador opening. That's what the gentlemen are conducting. It can be a frustrating process because it can be difficult to find the edge of those pits, but when they do find them, those green dots are reported to the Judicial Inspection Expert so that that person also can efficiently find the pit and sample that pit during the Judicial Inspection itself.

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12:05 There have been a number of suggestions that the work done by the Chevron Judicial Inspection teams and the Pre-Inspection teams was untoward, it was designed to hide the pits, to find clean areas and avoid the contaminated areas. I can tell you as a person that conducted this work in conjunction with other environmental professionals, that is absolutely, absolutely not true.

In my 2013 Report, I provided you with this table, and I have a copy of it here with me. It's several pages long, and what I have done is lined up the features of the Pre-Inspections with the features of the Judicial Inspections to show you that when there was a problem found in the Pre-Inspection, it was investigated in the Judicial Inspection, and it was reported in that report, either Judicial Inspection Report or the Rebuttal Report. Those data were presented. And that's very important. It's very important because the data show--regardless of what has been said that, in fact, the work was done properly and faithfully.

I hope that sets this aside, but if there are questions from the representatives of Ecuador, I'm happy to discuss that, certainly.

Now we're at the Judicial Inspection itself. I'm there with my sampling team, the Plaintiffs' Expert is there with their sampling team, the Judge is there with the

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12:06 representatives of both Chevron and the Plaintiffs, and questions are posed. Again those questions: Was the remediation proper, what are the current conditions, are there human health risks? And to answer those questions on a site-specific basis, it's required of both Parties to collect samples. We worked together, we worked openly, we see each other working, we sign our sampling reports.

What work did we do? The Chevron sampling team commonly conducted this type of sampling.

First, RAP pits, if they were present, were sampled to determine if they met the standards. Perimeter soil samples were collected to determine if the impacts that were on the site extended beyond it. These perimeter samples weren't always perfect. Different experts did different degrees, but in whole they were sufficient to tell us that the impacts we found on the property did not extend beyond that area.

Drinking water sample--drinking water wells that were in the area were sampled. Surface water was sampled that was nearby. And if requested by the Court, the non-RAP pits were also sampled and tested. The documents regarding and memorializing this includes the JI Acta itself, the JI Report put out by the Expert, and in some cases a companion Rebuttal Report, such that the JI Report and Rebuttal Report need to be observed in concert to

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12:07 understand the full scope of the work.

Well, what do we find? First, was the TexPet RAP satisfactorily completed? The Chevron JI Experts drilled, sampled, and tested 59 RAP pits at 56 JI sites; and, in those cases, they found that a pit that had looked like the image on the left-hand side of the screen in 1995 today at the time of the JI looked like the image on the right-hand side of the screen.

The material, the pit had been treated and solidified and capped and revegetated according to the eight step process. And samples removed from inside that pit of the remediated material met the RAP criteria based on laboratory tests.

What do these pits look like underground? Under ground, these pits are filled with soil, with compacted soil, very much like the soil that surrounds them. At the base of that former pit, you will find what we call remediated material. These were the oily sediments in the pit that have been mixed with soil and cementing agent to form a solid mass, a solid firm mass that has a petroleum stain and odor and perhaps a sheen but will not release its petroleum to the environment.

Atop this remedial material was placed a clay soil cover of between half a meter to 1.5 meters thick, and on top of that, top soil to support vegetation.

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12:09 So, when you see these sites, that's what's under ground. It is a former pit that's filled with compacted solidified material.

When we went to these sites, we found that the remediated pits that were listed in the RAP had been faithfully remediated. But we also saw at that time many non-RAP pits that still had not been addressed by Petroecuador. Now, since that time, many of those have been addressed. Petroecuador initiated a remediation program in 2007, and they have remediated hundreds of pits in this area. This is one of the issues that I pointed out that are in conflict with the Judgment. Regardless of how you estimate the number of pits, you need to recognize that that number is diminishing on a daily basis. TexPet remediated many of those pits, and Petroecuador has remediated many pits, but the Judgment does not consider the fact that many of these pits have been treated and are not present, and do not require further remediation.

Let's move on.

In the Judicial Inspection, we were also asked to sample the environment and determine what those environmental conditions were at that time. I'm going to talk about several environmental media such as soil. This plot shows the results of 1,007 soil samples that were collected during the Judicial Inspection process and

analyzed by TexPet by the methods in the sampling analysis plan. These results show that 93 percent of those samples met the international criteria in effect at the time.

And if we take that same data and we compare it to current Ecuadorian criteria for soil cleanup, criteria that were issued in 2001, 87 percent meet those criteria.

What does this tell us? It tells us, as I've said in my Reports, that there are limited areas that require attention today. They're not RAP areas. They were areas that were excluded from the RAP, but there are limited areas, as we've said throughout our Reports that do require attention to meet current standards.

Drinking water, another medium. Drinking water was perhaps the most important medium that we sampled and tested with regard to human health. Why? Because people drink this water. And if there is contamination in that water, it is a direct issue for human health. I'm showing you in this image a typical hand-dug water well that was found in rural areas at houses. The image on the right-hand side is a 1 meter diameter hole that's hand dug to a depth of approximately six to 8 meters below ground. It stays open on its own because it's dug into clay soils.

On the left-hand side, we see a typical structure and a bucket that's lowered into the well to extract the water.

There is one other important thing to note about this well. That is lacks a sanitary seal. There is no seal to prevent surface water and rain water from entering this well and carrying with it vegetative debris and animal waste. And that presents a serious problem with regard to bacterial contamination.

520 samples were collected of drinking water from throughout the Concession Area during the Judicial Inspection. And what did we find in those data? 99 percent of those samples that were collected at every site met World Health Organization and U.S. EPA drinking water criteria. In preparing that same data, the current Ecuadorian drinking water criteria, 98 percent met. There are not impacts, widespread impacts, from oilfield operations on drinking water in this area, not by TexPet, not by Petroecuador.

But as we see on the far right-hand side, there are impacts from fecal coliform that are associated with animal waste contamination of those wells. This is a serious health problem.

There is one other very important thing with regard to the Judgment. During the Judicial Inspection process, Chevron sampled 31 public water supply systems throughout the Concession Area. These are deeper wells that pump water and distribute it to local communities,

many people, in the city such as Sacha and Shushufindi and others. 100 percent of those public water supply systems met drinking water criteria for petroleum compounds, 100 percent. They were not impacted by TexPet, they are not impacted by Petroecuador. But the Judgment has stated that TexPet is to pay $150 million to replace all of these systems. These systems do not need to be replaced.

Surface water was another medium that we sampled at the sites during the Judicial Inspection. At the top right-hand side, I show you a typical stream that you may see when you visit these sites. They are near many of the well sites. It's a shallow stream, perhaps one to two meters wide, usually 30 centimeters deep. When these were present, they were sampled. Again, the results under WHO and U.S. EPA, 99 percent of those streams met those criteria--of those samples, I should say. And similarly they meet the criteria of today that published in Ecuador after 2003.

There is a small number of surface water samples that don't, and each of those was associated with an active wastewater discharge by Petroecuador that occurred at three or four sites.

Let's move on to today. 2013 to 2014--'15, excuse me. Ecuador Experts have returned to these--some of these same sites to validate or check the work that was done by

Chevron during the Judicial Inspections. There has been a very active exchange, a very complex exchange of information between the two groups of experts. And as I mentioned before, I suspect the Tribunal is faced with the quandary of determining why two groups of experts are looking at the same data and saying very different things.

In my most recent reports, I made an effort to simplify this discussion by putting these discussions into two categories. One, the things that we agree upon and, two, the things that we don't agree upon.

What do we agree about? We agree that there are unaddressed non-RAP pits and spills that still require remediation today to meet the current Ecuadorian standards. There is no disagreement among the Parties. Those areas, whether they're spills or pits or contaminated sediments, need to be addressed to meet those standards. But we disagree on everything outside those areas.

And to help you understand the basis for that disagreement, I'm going to talk about three different concepts, three different factors, that may help clarify that disagreement. I'm going to talk about TexPet-only sites, I'm going to talk about the applicable criteria used by the Parties, and I'm going to talk about the extent of impacts and migration.

Let's start with TexPet-only sites.

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12:16 This is a chart from my Report of 2015. It's Exhibit A, and there are a great many of documents that are provided in Appendix C to support this. This is directed towards the issue of TexPet-only sites.

Okay. And so is this slide. On this diagram, I have summarized the information as little dots. On the left-hand column, I've listed all the sites that were investigated by the Ecuador Experts. And incidentally, the sites that I've highlighted in yellow are the only sites that were in the Judicial Inspection and that could have been considered by the Lago Court.

Then, across the top, I have listed different activities that could change the environmental conditions at a site. Oil spills that have occurred. Pit closure remediation by Petroecuador changes the pit count. Workovers. Workovers are the repair of a well in which the equipment from the well is removed and it can generate oily waste materials. If it's properly handled, it has no Environmental Impact. But if it's not, it can have an Environmental Impact. And flares.

Let's look at some examples of this. And why do we care? Why do we care that this may have happened? Because, under the Judgment, it is assumed that any conditions that are observed today are the responsibility of TexPet. And many of those conditions that exist today

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12:17 are not--they're not associated with TexPet operations, but they're associated with operations that have happened over the past 25 years.

Here is three examples. This is a pipeline spill that was observed in March 2006 at the time of the Judicial Inspection at the Guanta 6 well site. That is a flow line that carries the oil and water from the well to the central station. It ruptured and resulted in a large oil stain on the ground in the surrounding area. Just below that, on the left-hand side is what I observed at the Lago Agrio 1 well site in January of 2004. There had been a workover of this well immediately before my arrival. The equipment had been removed from the well, and a lot of oily waste was generated. It wasn't properly contained. Rather, it was placed in an open excavation and covered with dirt. This is not a proper environmental management or workover, and it does result in Environmental Impact.

The right-hand side, it illustrates a flare upset that occurred due to an operator error at the Aguarico production station by a Petroecuador employee on November 2005 during the Judicial Inspection. In this image we see crude oil emanating under great pressure from the gas flare. This is a very unusual and a very dangerous condition, and it also creates some Environmental Impact, clearly, as this oil spreads across a large area on the

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12:19 ground.

I observed this same condition at most of the 18 production stations that I visited at that time.

Oops--ah, there it is. Sorry. Another important factor is the expansion of the field. This is an active productive oilfield, and it has changed dramatically since 1990. This is not the same oilfield that TexPet left. For an example of that, I'm showing you the Shushufindi 13 well site as it looked in 1990, and that's how it looked when I visited that well site in 2004 as well. But now in 2013, we can see that that well platform has been dramatically expanded. There are new oil wells, there is new equipment, it is not the same oilfield as it was long ago. And there I've superimposed the old well platform, so you can see the difference.

Another big, important factor with regard to understanding the provenance of current Environmental Impacts is the issue of pits closed by Petroecuador after June 1990. I'm showing you an aerial image of the Lago Agrio 2 well site, Pit Number 3. The Ecuador Experts understood that this pit was associated with activities by TexPet, that it had been closed by TexPet before June 1990. But the actual data, the photographic evidence, show us that's not correct.

Here is an aerial image from September 1985, and

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12:20 we can see Pit 3 as a large black area with the yellow dots around it to the north of the platform. There's that same pit still there in July 1990, and note that this is the month immediately after the transfer of operations from TexPet to Petroecuador.

Now another image, here in October 1991, the same area. What do we see? The area has been scarified of vegetation and overlain with soil. This is comparable to the report from HBT Agra and Fugro in their audits that noted that this had occurred at many sites, and it had also occurred at this site. So, when we look at this data at this site, when you visit this site in the coming month, you should understand that, in fact, that pit was not closed by TexPet. It was closed by Petroecuador.

Another factor that helps explain the difference between the two Parties' conclusions is applicable criteria. Applicable criteria are numerical concentration limits in a soil. A chemical concentration below that limit is not contaminated. A chemical concentration above that limit is and needs to be remediated. They're much akin to speed limits. If I'm driving under the speed limit, I'm fine. If I'm driving over the speed limit, something has to change.

Well, criteria of this nature were issued for soil remediation at oilfield sites by the Government of Ecuador

12:22 in 2001. It was called Decree 1215 or the RAOH Rule, and it was specific to the hydrocarbon industry. And that regulation set forth remediation standards for three categories of lands use. Why three categories of land use? Well, again, it's similar to a speed limit. We have different speed limits for residential streets than we have for commercial streets or major highways. In the same way, it's understood under this regulation, and similar regulations around the world, that different levels of petroleum in the ground are tolerable for different uses. For an industrial use in Ecuador, TPH, or Total Petroleum Hydrocarbon in soil, cannot exceed 4,000. If it does, it needs to be remediated. For agricultural use, the limit is 2,500. And for sensitive ecosystems, the limit is 1,000.

A sensitive ecosystem under the regulation is a designated wildlife preserve or park, and it's designated under a complex--under a very set process by the Ministry of the Environment. There are no sensitive ecosystems at any of the sites that you'll be considering in this BIT process, at none of the JI sites and at none of the sites sampled by the Ecuador Experts.

So, those are the limits that are being used by every oil company in Ecuador today. They're the limits that are approved by the Government of Ecuador on every remediation site. But they are not the limits that were

12:23 used by the Ecuador Experts in their evaluation of Environmental Impacts at these sites.

Rather, the Ecuador Experts have indicated that a site is impacted if there is detectable oil in the soil. This is akin to say that any car that is moving is speeding. There is no tolerance for car movement. There is no tolerance for oil in the soil. And this is very different from what's being used by all other oil companies, including Petroecuador and Petroamazonas today, and approved by the Government. It's 100 to 400 times lower. This is not reasonable.

And the Judgment makes the same mistake. The Judgment imposes a limit of 100. And that's not the limit that's being used by the other Parties in Ecuador and results in unnecessary remediation.

Unnecessary remediation. Let's look at what happens when we apply the correct criteria. This is an example of a figure from the June 2014 Report by the Ecuador Experts. And it plots chemical concentrations on this map. You can see those points, and I'm going to circle them here in yellow. If they are detected, remember, they're considered contaminated, they're considered a problem.

But what if we apply the actual remediation criteria that is used by Petroecuador, Petroamazonas, and

12:25 the Government of Ecuador at all other locations, including these? We find that only one of those locations actually exceeds a true TPH limit for agricultural soils. Only one of those areas requires action. It's a very limited problem, not a widespread problem.

So, if we all apply the same criteria as all other Operators, we don't have a disagreement in this group. We don't have a disagreement between the two groups of experts.

My final category to help explain the disagreements, the extent of impacts and whether or not they are migrating and getting worse over time. Let's look at that.

What I found by looking carefully and comparing the information between Chevron's JI Experts and the Ecuador Experts at the sites where both of those Parties conducted sampling is that the data agree. The data are in pretty good agreement.

And why is this important? In the reports, the Ecuador Experts have expressed concerns about the reliability of the Chevron data, that the laboratory methods were not reliable, that the sampling methods were not reliable. But then the test comes down, if Parties go out to the sites and find similar results, then those results are reliable. Let's look at that.

12:26 What I'm showing you here is a set of six pie charts, and they're in three columns: Soils on the left-hand side, outside of pits; groundwater sampling locations outside of pits; and drinking water. Both Parties went to these same sites and conducted sampling. Both Chevron and the Ecuador Experts find the same frequency of soil problems, 87 to 88 percent. Are there some areas that need to be addressed? Yes. There are some localized spills and other issues that require attention.

Are there groundwater issues that need to be addressed? There are some limited areas that do, but the vast majority do not.

And drinking water. All of the drinking water samples collected by both Parties met drinking water criteria in Ecuador today. The few locations where we do find soil impacts are in close proximity to the pits. So the data tell us--both Parties' data tell us--that we do not have widespread pervasive impacts in this area.

Let's look at this from another perspective. Delineation. Lots of talk about delineation and the reliability of Chevron's delineation. What I found by comparing the data at the six sites where both Parties did analyses is that data lines up very well.

Here is an example. On the left-hand side I have the Chevron sampling results for the Shushufindi 25 well

12:27 site for soils and sediments. On the right-hand side I have the more recent data collected by the Ecuador Experts. And if we put these together, we can see that the red points, points that exceed the current regulatory criteria of Ecuador, and the green points, the points that don't, align very well. Both Parties found that there are sediments in that stream near this site that require attention under the current Ecuador regulations. But outside of that, the soils are clean.

So, both Parties have gone to these sites, and we can show, going site by site, that there is generally very close agreement between the places where we found problems and the places that we didn't. There are some exceptions, there are places where there are differences, but in general they are in good agreement.

Now, the question of migration. Is this problem getting worse over time, or is it not? The Parties don't seem to agree about that.

Now, if there is a problem of migration, the most likely place for that to happen would be an open unremediated pit. This is one example here. And let's look inside--where, if we had x-ray vision, what would we see in this pit? Well, you may have the chance to see some pits like this when you go there, and this is what you can expect to see. On the surface of the pit is a semi-solid

12:29 tarry material. It's weathered oil that's floating on that surface. At the edge of the pit it may have dried to form an asphaltic solid, but in the center of the pit, it will be an oily rubbery material. If you put a stick into this, it will come out coated with oily goo.

Now, underneath that is rainwater. This oil is floating atop rainwater, and that rainwater is held within that pond. Why? Because the soils in this area are predominantly clay, and they will hold water. If this was sand, the water would drain out, but it doesn't drain out because it's predominantly clay. At the bottom of that pit you'll find oily sediments. If you stir those with a stick, oil droplets will rise to the surface. That's what's in those pits.

Now, does that material migrate in the environment? There are many scientific reasons why we will say no, but for me the acid test is, did we observe it? Can we find it outside those pits? I will talk about two lines of evidence that are very important in that regard.

The first that I put on here, you will see the white dotted line around the pit. That is from the Woodward-Clyde Remediation Report of 2000 where they note that when they remediated these pits, when they dig into them and they empty them out, they would find some penetration of the oil into the adjacent soils, typically

12:30 on the order of half a meter. Very limited penetration. And they would remove that when they remediated it.

Also, both Parties, Chevron and the Ecuador Experts, have completed soil borings in close proximity to those pits, and those soil borings have shown that the concentrated oily material that's in these pits has not moved from those pits. That's very important.

I'm going to address now two calculations that are presented by the Ecuador Experts and that you saw in the opening of this session last week. They're calculations that suggest to the Ecuador Experts that there are widespread impacts, that there is a lot of oil outside the pits throughout the Concession Area. This is the first of those calculations. This is a diagram that shows what they understood to happen when TexPet was in operation and it processed the produced water from the oil wells. In this diagram we see oily water coming out of a separator vessel going into a pit, and then pouring out on to a stream and causing a large oil slick. There is oil coming out and causing an oil slick. And the estimate is that there are 1.2 million kilograms of oil in the stream.

Well, again, I think the important thing here is for us to look at the data. What do the data really tell us about this operation?

Now, the Ecuador Experts relied on three reports

12:32 where different parties went to the different production stations and measured that water as it came out of that facility into the stream. That was a common practice at that time. The actual management of that produced water--that's water that comes out with the oil and needs to be separated from the oil--the actual management of that produced water is depicted in this diagram. It goes through a series of treatment cells to try to remove as much oil as possible before it is discharged to a stream.

The three sampling episodes that were conducted showed the following: That there was no free oil that was exiting from those ponds, and that 90 percent of those samples met current Ecuador criteria for discharge to a stream, 20 milligrams per liter. Why is 20 milligrams per liter acceptable? It's acceptable because we know that discharging water of that nature will not impact the water quality of a stream. And we also know that because in each of those three studies, additional samples were taken downstream 500 meters to determine if there were impacts. No impacts were detected.

Consequently, there is not an impact from that produced water generation, and we confirmed that during Judicial Inspection. There is no oil slick that was released.

You also saw this image in the opening by Ecuador.

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12:33 And the--based on a rather complex statistical calculation by the Ecuador Experts, they have concluded that there is an enormous amount of oil outside of the oil pits in the Concession Area. An enormous amount equivalent to six of the Exxon Valdez. Six. Well, this is rather astounding, and I'm going to go through this calculation and determine and show you that it's not correct.

And I don't mean to be disrespectful in any manner, and if I have that tone, I apologize in advance, but I feel that it is important for us to understand the veracity of these calculations.

So, let's first put this in perspective, and then I will go through the data.

If under this understanding there are--98 percent of the oil is outside the pits. So, that means that, on average, when I go to a site and I see an oil pit, there will be 50 oil pits of oil spread around the site. I inspected all these sites. The Ecuador--the Plaintiffs' Experts inspected all these sites. The local residents inspected all these sites. We didn't see anything of that nature. What we found were very limited impacts. So, how did we get from a very limited impact to an enormous amount of oil? I will try to explain that.

And maybe you will hear from the gentlemen from Ecuador's side more about this this week.

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12:34 Okay. The methodology that was employed was to sort all the data from all the sites into three buckets: A bucket where all the data that were sampled, soil data from zero to 50 meters around the site, 50 to 100 meters around the site, and 100 to 200 meters around the site. There were 37 well sites. They had that data. For each of those rings, the data were averaged and they were considered to be representative of all 322 sites. And then those averages were multiplied by the 322 sites and added up to six Exxon Valdezes.

I'm going to go through just one of the rings. I'm going to go through the bucket of data from 100 to 200 meters to help you understand what's wrong with this calculation.

Okay. For the 100 to 200-meter radius, there are only seven well sites in the database that have data in the 100 to 200-meter ring. Of those seven sites, only one site has any samples that exceed the current Ecuador criteria. One site. And that site is Sacha 13. So, how did we get from one site with perhaps five barrels of oil spilled on the ground, to 240,000 barrels throughout the Concession Area? Let's try to figure that out.

Now, the Sacha 13 site is a site about which we know a lot. There was a Judicial Inspection conducted here in 2004, and in that Judicial Inspection, there were mapped

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12:36 and photographed and measured two oil spills. They're oil spills that had just occurred. One was on a platform--I've labeled that as Petroecuador oil spill A--and one was off the platform in an area where a pipeline had been vandalized and oil had run down to an adjacent stream--I've called that oil spill B. It had just happened under Petroecuador's watch by vandals--not their fault--shortly before the Judicial Inspection.

Now, these are photographed in the Judicial Inspection Report, they are mapped in the Judicial Inspection Report, and they were sampled by both Parties' experts.

Now, this data tells us very accurately how much oil is in that soil, and it's very limited. However, in the calculation by the Ecuador Experts, they understand that that oil, they assume that that oil, came from the pits. But we know it didn't come from the pits. It did not emanate from the pits. They were isolated limited problems. But in that calculation, the average concentrations that were observed at that location are applied to the entire ring. So, this assumes that those two oil spills were replicated throughout that entire ring, and we know they were not.

When this is rolled up across 322 sites, we arrive at the astounding figure, based on two small oil spills

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12:37 under Petroecuador's watch, of 220,000 barrels of oil. An Exxon Valdez. That site was one Exxon Valdez. There are a lot of mathematical reasons that I could go through with you. I'm happy to answer questions from you or the Ecuador Parties about that. But I will just say that that oil exists only in that calculation.

Human health risk. Are there risk posed to human health? Now, I've told you that there are conditions that require response today. And in my 2010 Report, I take all the data--the Chevron data, the Plaintiffs' data, Mr. Cabrera's data--and I have analyzed that to determine if it poses a human health risk. My finding was that if you apply the approved methods and factors that are approved by regulatory agencies and health institutions around the world, the answer is no. Yes, there are some problems. They do not pose a health risk. In the interest of time, I'm not going to explain this, but I'm happy to talk about it further, if you have questions.

Finally, the Lago Agrio Judgment. In the course of my presentation today, I have tried to identify conflicts between the Judgment and the actual conditions at this site, and I just want to address one final factor. That is, the statement in the Ecuador Experts' Report that the Judgment was reasonable. Now, I find that they do not have the technical basis in their reports to make that

statement. And why do I say that?
Well, here is a chart where I've listed each of the very specific categories of damages and the very specific costs that are presented in the Judgment.
Let's look at one--two important aspects of that. For four of those categories, there is no technical support provided. There is no reason for those costs. So, it's not possible to find something reasonable when there is no reason to assess. There is no technical basis to be able to say that's reasonable. For three of the categories, there are reasons presented, but there is no analysis in these reports that showed that those reasons are reasonable. In fact, those values aren't discussed at all.
So, my conclusion is not only that the Ecuador--the Lago Agrio Judgment does not comport with the facts, there is also no basis provided to call it reasonable.
That summarizes my presentation. I've talked about each of these issues. I won't repeat them for you. In the interest of time, I thank you for the opportunity. I will answer your questions, and I welcome questions from the representatives of Ecuador.
Thank you.
PRESIDENT VEEDER: Do the Claimants have any further direct examination?

MS. RENFROE: We do not, Mr. President.
PRESIDENT VEEDER: Before we turn to the cross-examination, it might be useful to have a lunch break, or do you dispute that?
MR. EWING: I do not dispute that.
PRESIDENT VEEDER: I didn't think you would.
Let's come back at 20 to 2:00.
We ask you not to discuss the case or your testimony until you come back before the Tribunal.
THE WITNESS: Yes, sir. Thank you.
(Whereupon, at 12:40 p.m., the Hearing was adjourned until 1:40 p.m., the same day.)

AFTERNOON SESSION
(Discussion off the record.)
PRESIDENT VEEDER: Let's resume.
There will now be questions from the Respondent.
CROSS-EXAMINATION
BY MR. EWING:
Q. Good afternoon, Mr. Connor. As you know, since we met before, my name is Greg Ewing, and I will be conducting the cross-examination today. Welcome to D.C.
A. Thank you.
Q. You will probably notice that I will try and pause after you give an answer, trying to listen to the Spanish interpreters just to explain my awkward staring at you while I wait for them.
So, we'll try and keep things slow for that purpose.
A. Yeah, and I'm going to try to repair my relationship with the Court Reporters and the translators as well.
Q. They're both very gracious, so I think we'll be okay.
Mr. Connor, you have a Master's of science in civil engineering; correct?
A. Yes.
Q. And you graduated in 1979?

A. From graduate school, yes.
Q. And then you began working in 1980?
A. Yes.
Q. And then you started GSI in 1986; is that correct?
A. Correct.
Q. And were you the President of GSI as of 1986?
A. Yes.
Q. And GSI has been working on oil field remediation for approximately 29 years; is that right?
A. Working on oil field projects and many other types of projects during that period of time, yes.
Q. When did you personally begin to work for Texaco?
A. Well, as a consultant on their projects, I believe the--let me think. I think, if I remember correctly, I think some of the first projects were remediation projects for Texaco in New Jersey, and it would have been in the 1990s.
Q. Is that when GSI started working for Texaco as consultants?
A. Yes.
Q. And when did you personally begin consulting for Chevron?
A. The first project directly for Chevron would have been, I think, around 1998 or 2000--actually around 2000, when there was an acquisition. I'm not sure what actually

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01:48 the business relationship is, but I was working on a project with Texaco, and the two entities created--then it became Chevron. I'm not sure what the legal aspects of that are, but that would have been the first project with Chevron directly that I recall.

Q. So, you've been working with them since--with Chevron since 19--since 2000, approximately?

A. Well, on and off, with different people within that corporation, I have done projects on and off during that period of time, yes.

Q. And you told us this morning that you're an expert in the Lago Agrio Litigation for the Judicial Inspections; correct?

A. That's correct.

Q. And you were appointed by Chevron in those--

A. I think that may be the right terminology. I was nominated by Chevron for that position. I was the Expert on behalf of Chevron in that process for five of the Judicial Inspections.

Q. And Chevron paid all of your expenses during that time?

A. Yes.

You know, we charged for our services and the expenses, and just as we charge anyone else, yes, they did pay us.

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01:49 Q. And Chevron paid for you to inspect the sites in the Pre-Inspections?

A. Yes, all the work that we performed on that project was paid by the client.

Q. And Chevron paid you to write the playbooks that you put together before the Judicial Inspections; is that right?

A. Our staff compiled those playbooks, and so the work that we contributed to those Pre-Inspection reports, we were compensated for that work.

Q. And you coordinated with Chevron about when the Pre-Inspections would take place and who would go; correct?

A. No, that's not correct.

Q. Do you know who made those decisions?

A. No, I wasn't involved in the management of that Pre-Inspection process. There were certain members of our staff who were involved, but in terms of the scheduling and management of that work, I wasn't involved in that. And I don't think that direction came out of our organization.

Q. Who was involved in that?

A. From our organization?

Q. From GSI.

A. See, there were three individuals, if I recall correctly. There was Dr. David Adamson, there was Mr. Jim McDade, and there was Roberto Landazuri, and that would be

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01:51 spelled L-A-N-D-A-Z-U-R-I.

There may have been other people at certain times, but those were the names that I recall at this time.

Q. You said a moment ago that the scheduling of the Pre-Inspections did not come out of your organization. Does that mean that it came from Chevron?

A. You know, I don't know exactly how those were organized. It wasn't organized by our office.

Q. Was there anyone else who may have organized it, other than Chevron?

A. There were a number of other companies and consultants that were part of that effort. I don't know how exactly those were organized or scheduled.

Q. What other companies were involved in the effort to do Pre-Inspections?

A. There was ENTRIX Consultants, who has an office in Quito, and they provided much of the manpower for the fieldwork in that effort.

There were other companies that collected the aerial imagery and satellite imagery to help the team locate the historical features of the site.

There was another company called URS that was related to Woodward-Clyde, the original remediation contractor, that had the responsibility to organize all the historical information with regard to the remediation

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01:52 project, that they would go through those files and provide that.

There was a contractor to ENTRIX out of Quito who conducted the interviews of the local residents.

Those are the ones I can recall offhand.

Q. Okay.

A. And there was a laboratory; STL Laboratory was involved, and they had a facility, a temporary facility they built in Lago Agrio to accommodate the collection of samples and transport to their offices in the U.S.

Q. You mentioned earlier that you would say the correct term is that you were nominated by Chevron. Does that mean that you would consider yourself to have been working for the Judge in the Lago Agrio Case?

A. I guess the way I would answer that, Mr. Ewing, is that in all cases as an expert, you are to conduct your work as an independent technical entity, that you are to evaluate the data for what the data say, regardless of who is paying your bill.

And I think it's a difficult task, but it's a very important task. It's a task on which I made a lot of effort in my career. I think it's a challenge, but you have to--that has to be a real focus.

No, the Judge--the Judge was--when I say "nominated," that was the technical terminology used there.

01:54 The Parties would both put forward the nomination, and the Judge would swear you in to abide by the strictures of the Court and to do your best to be objective in your analysis.
Q. Would you say that you have been successful in being independent, despite Chevron having paid all of your expenses and bills for all of this work?
A. Yes.
Q. Did you view your role as an assistant to the Judge, then?
A. No, we were not--we were not assistants to the Judge. We were independent of the Judge. We received the Judge's instructions, but we were not accessories to the Court by any means. We were separate entities. We were independently asked to prepare our Reports, and both Parties, both the Plaintiffs' experts and the Chevron experts, would submit their Reports to the Court to be considered by the Court, and their settling Experts, as they were called.
Q. And you wrote five Judicial Inspection Reports during your time in the Lago Agrio Litigation; is that correct?
A. That's correct.
Q. You wrote one at Sacha 6, Sacha 21, Shushufindi Sur, Shushufindi Norte, and Sacha Central Production Station?

01:55 A. That's correct.
Q. And you submitted a JI report for each of these five sites; correct?
A. That's right.
Q. And the Rebuttal Report?
A. No, I didn't write Rebuttal Reports, and I don't believe the--no, I didn't write Rebuttal Reports.
Q. And Chevron appointed or nominated three experts in total from GSI to conduct Judicial Inspections; right?
A. Just two.
Q. It was you, Mr. Bianchi?
A. Yes, Gino Bianchi--
(Overlapping speakers.)
THE WITNESS: Excuse me. You got that?
COURT REPORTER: No.
BY MR. EWING:
Q. Let me just rephrase. And this is not meant to be a memory test, so I'll just make this more straightforward.
Chevron appointed you, Mr. Bianchi, and Mr. Baca as Judicial Inspection experts from GSI; right?
A. Well, this will maybe correct the facts on that.
Ernesto Baca and I both were appointed both as experts on behalf of Chevron in that process. We were both employees of GSI Environmental at the time. Mr. Bianchi was not with GSI at that time. He was with a separate

01:57 organization called Geomatrix.
Q. And Mr. Bianchi has since joined GSI?
A. Yes, some years after that time.
Q. Did GSI perform all of the support work for Chevron's appointed experts during the Lago Agrio trial?
A. There was some portions of support work, administrative work, that was provided by GSI to all the experts, and they had to do with shipping of equipment, organization of the laboratory work and the attendant appurtenances of that, development of an electronic database and a geographical information system where the information would be compiled and made available to those experts as they saw fit to use.
Q. And there were 56 Judicial Inspections conducted during the Lago Agrio Litigation?
A. Yes.
Q. And 45 of those were conducted by party-appointed or party-nominated experts; is that right?
A. Yes, originally it was scheduled for there to be originally 122, but the courts terminated that process after 45. And after that point in time, the Chevron experts were not allowed to participate, so that the Judicial Inspections during which Chevron experts collected data and wrote reports was limited to 45.
Q. Let's just make sure to clarify that. The first

01:58 45 Judicial Inspections were conducted by party-nominated experts, an expert from the Lago Agrio Plaintiffs and an expert from Chevron; correct?
A. That's right.
Q. And then each side wrote a report, a Judicial Inspection Report; correct?
A. Yes.
Q. After those 45 were completed, there were 11 court-appointed Judicial Inspections; correct?
A. That's right.
Q. And you said that Chevron was not allowed to participate in those?
A. Chevron was--after the original--the original process was, as I understood it as one of the experts, there was a list of 122 sites that were submitted to the Court by the two Parties at which Judicial Inspections would be conducted, and at which both sides would nominate an Expert for participation as you described. Both experts would write a report and submit it. And then there was a group of other experts that were appointed by the Court independent of the two Parties that were called "Settling Experts." There were five persons in that role. They were charged with responsibility of receiving both of those Reports and evaluating them and making their technical recommendation to the Court. That occurred only one time.

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That was at the Sacha 53 well site. And after that time, during which the settling exerts agreed with the findings of Mr. Baca, that process was terminated, so there--

Q. If I can just stop you right there, Mr. Connor, we will be definitely talking about Sacha 53, and we will talk about the Settling Experts. I would like to talk to you about the 11 Judicial Inspections that occurred after the 45 because that is what made the final 56, and this was not intended to be a contentious point.

A. Oh, I was just trying to clarify for you the multiple roles of the different types of experts that were involved, but I'd certainly be happy to talk about the last 11.

Q. You'd agree with me, though, that there were 11 party-appointed--say it again.

You would agree with me, though, that there were 11 court-appointed Judicial Inspections that occurred after the 45 party-appointed Judicial Inspections?

A. Yeah, in your terminology, yes, that's correct.

Q. What would you call those 11?

A. Well, we call them the court experts, but I think you'd call the Court--all the experts technically speaking were court-appointed, but after those last 11, the two Parties did not have their nominated expert. It was just one expert selected by the Court, to my understanding.

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Q. So, there were a total of 45 Judicial Inspection reports that were submitted by Chevron-nominated experts?

A. That's correct.

Q. And Mr. Baca performed 12 of those?

A. You know, I don't know how many Ernie did, but he did a number of them, yes.

Q. Mr. Baca did 12 of those. Do you have any reason to disagree with me on that?

A. No, I just don't know what his total number was.

Q. And Mr. Bianchi did 13?

A. That may be correct as well.

Q. And he is now a Vice President of GSI. Your testimony is he was not at the time; is that correct?

A. No. He joined GSI after Geomatrix was acquired by a different company some years later, and now he is a member of our organization, yes.

Q. And you did five Judicial Inspection Reports?

A. Correct.

Q. So, you are here today partly to explain and defend your Reports in this proceeding and to explain and defend your Reports in the Judicial Inspections?

A. I wouldn't characterize it that way. In the BIT proceeding, I have looked at all the data collected by all Parties, both the nominated Experts from Chevron and those from the Plaintiffs and those of Mr. Cabrera. And so, in

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my Reports, I discuss all that. It's a comprehensive analysis. It's not a defense or a discussion of any single JI Report.

Q. In 2007, when Chevron entered into settlement negotiations with the Lago Agrio Plaintiffs, you went to Boulder, Colorado, with Ms. McMillen for those negotiations; is that correct?

A. I wasn't aware that they were settlement negotiations at that time. I was asked by Chevron to go meet with Mr. Doug Beltman and Ms. Ann Maest at the office of Stratus in Boulder, Colorado, and I did that. And I provided them a summary of the information that we had compiled during the Judicial Inspections, and we talked about that. But I wasn't knowledgeable as to what legal discussions were under way at that time.

Q. Was there anyone else in the room when the four of you met?

A. No, I don't believe so. It was just the four people.

Q. So, you don't remember a meeting that happened December 19th, 2007, where you attended with Ms. McMillen and the two representatives from Stratus as a part of settlement negotiations?

A. Well, maybe we're not understanding each other.

I did attend a meeting at the Stratus office in

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Boulder, Colorado, and that may have been the time, but I'm not aware that that was involved with settlement proceedings. I have no knowledge of that. I was asked to meet with those persons and discuss our technical findings and exchange information, and that's what we did.

Q. But it's your testimony today that there was no one else there?

A. You know, Mr. Ewing, I don't recall that there was anybody else in the room. I recall that it was the four of us.

Q. And if there had been an independent settlement negotiator, you would probably recall that, wouldn't you?

A. There was no such person. I'm certain of that.

Q. So, you conducted your Pre-Inspection visits in December 2003; is that right?

A. The first visits were in December 2003, and they were related to the Controller General's charge that the remediation program had never happened. I conducted additional site visits in 2004, but it wasn't until some time after the first quarter of 2004 that it was indicated that those visits would also relate to the Judicial Inspection process for the Lago Agrio Plaintiffs' case.

Q. By December 2003, the Lago Agrio Litigation had been filed; correct?

A. That's my understanding, yes.

Q. What other dates did you conduct a Pre-Inspection other than December 2003 and January 2004?
A. If you look in my 2010 Expert Report--and I have it here--there is a list of every Pre-Inspection that was done by any Party on behalf of Chevron of any sort. I will give you the table number for reference.
It lists out who was involved in the Pre-Inspection and when it was conducted.
Q. And this is in your 2010 Report?
A. Yes.
I will find it. Here it is.
It is Table (2)(c) of my Report of 3rd September 2010; and, in this table, there is a three page table, you will find every oilfield listed, every site at that oilfield, and it will list the dates on which different Parties visited the site and whether that inspection was a PI--which it says Pre-Inspection--or JI--which it says Judicial Inspection--and all of those dates are listed there. You can see when I visited the site and when other Parties visited the sites as it's recorded here.
Q. And was this information disclosed to the Lago Agrio Court?
A. This particular table, is that what you're referring to?

Q. This particular information.
A. The information that was given to the Lago Agrio Court was confined to that that was collected during the Judicial Inspections themselves. I don't believe there is any mystery that the Parties were conducting Pre-Inspections. That was acknowledged during the Judicial Inspections themselves. It was acknowledged in correspondence between the Court and Chevron.
I don't believe that this particular table was submitted in that proceeding. It was submitted in this proceeding.
Q. So, it's your testimony today that both Parties conducted Pre-Inspections and the Court was well-aware of those pre-inspections; is that right?
A. That was my understanding. I know that both Parties--I know that both Parties conducted Pre-Inspections, and it was--to answer that, I provided it in my 2014 Report--let me pull that up--I can give you the citations there--a list of the dialogue in the Actas where the Pre-Inspections are discussed with the Judge, and, for example, identifying the flagging, et cetera.
I can find that for you, just a minute. Here it is. Yeah. You will find that--some of those excerpts that I provided you in my May 7th, 2014 Report, Section 5.2 Pages 35 to 37, and then attached in one of those

attachments is a more complete text of those specific Actas. So, these were documents prepared during the Judicial Inspection that recorded all the statements by the different Parties. And you will see in these examples how the identification of different flagging and marking left by the Plaintiffs' Experts were discussed and acknowledged and openly aware to all Parties, as was the fact that the Chevron Experts' Parties had visited there, too.
Q. Did Chevron put flags on their sampling locations?
A. No, we didn't put flags on the sampling locations because, after the first Judicial Inspection at Sacha 6 that I conducted, the Court had instructed the Parties not to the disturb the sites, not to change the appearance of the sites, not to cut the vegetation, not to leave flaggings, not to leave markings, and we abided by that.
Q. So, as Ms. Renfroe asked you earlier, you submitted four Reports in this arbitration; is that right?
A. Yes.
Q. Okay. And according to your August 2013 Report, TexPet drilled 344 or operated 344 sites; is that right?
A. The records I have indicate that, as of June 1990, there were 344 different types of oilfield facilities in the Concession at that time.
Q. And at least 322 of those were wells; is that correct?

A. That is my understanding, yes.
Q. Mr. Connor, would you turn to Tab 6 in the binder that we have provided you, the large binder.
A. It is large.
Q. Yes.
A. Tab 6.
BY MR. EWING:
Q. Unfortunately, it's not the only one either. But, for now, we will stick with that.
A. Okay. Is it large binder Number 1?
Q. Yes, large Number 1.
And this is RLA-308, and it's Ecuadorian law from October 21st, 1921.
Were you aware of the Ecuadorian law in effect at the time the TexPet Consortium Agreement was signed provided that oil Operators had the "right of use for purposes or commercial use and in the necessary quantity lands, waters without depriving them of their qualities of potability and purity and without affecting fishing." Were you aware of that?
MS. RENFROE: Pardon me, Mr. President, I'll level an objection that this is a question of a legal nature. The question seems to call for a legal conclusion of a non-legal expert.
PRESIDENT VEEDER: Well, the objection is correct,

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but I suspect you're asking simply if he knows its effect.
MR. EWING: That's correct.
PRESIDENT VEEDER: Then please proceed, but it certainly won't be understood as a legal conclusion or a legal answer.
BY MR. EWING:
Q. And I don't ask you to make legal conclusions today. Please.
A. Not making any legal conclusion, no, I'm not aware of what the laws were that surrounded those activities at that time. There is similar language in the Concession Agreement between the Government and TexPet from what I've seen. But my evaluation was really of the practices and the regulations that apply. I haven't offered opinions on the legal context of those activities.
Q. You said that your evaluation was of the practices and the regulations that apply. What do you mean by "and the regulations that apply"?
A. I mean two different things.
In the analysis that I presented in my Reports, starting with the 2010 Report and then explained further in the other three Reports, I have evaluated the operations of the TexPet organization in Ecuador with regard to the prevailing standards of that time in other countries as well as with Latin America, and I have also considered

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their operations in the context of the prevailing regulatory standards in that country and elsewhere to see if they were consistent in that manner.
Q. Did you evaluate TexPet's practices as they related to the 1921 Hydrocarbons Law?
A. No, I did not. I evaluated them with regard to the prevailing standards for Environmental Protection as applied by industrial organizations throughout the world and in Ecuador at that time.
Q. But assuming with me for a moment the legal conclusion that this was in effect--and I'm not asking you to actually--we're not making a legal conclusion based on that, but assuming it's in effect, wouldn't it have been most appropriate for you to compare TexPet's operations with Ecuadorian law?
MS. RENFROE: I'll renew my objection. The question assumes a hypothetical, and it assumes a legal interpretation of a law that this Witness has already explained he did not consider and was not familiar with.
PRESIDENT VEEDER: Where are you going with this? You've taken it as far as you can.
MR. EWING: My understanding from what his answer was, is that he just said he evaluated TexPet's practices in accord with laws other than that in place in Ecuador, and now the screen has gone off.

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PRESIDENT VEEDER: You mustn't talk. You will find it goes on. I think you asked whether it would have been more appropriate for you to compare TexPet's operations with Ecuadorian law.
MR. EWING: He says "I have evaluated the operations of the TexPet organization in Ecuador with regard to the prevailing standards of that time in other countries as well as with Latin America."
Mr. President, I will just move on and just simplify this all.
PRESIDENT VEEDER: You may move on. You made your point.
BY MR. EWING:
Q. Would you turn to Page 3 of your June 2013 Report, please.
A. Is that in the binder there?
Q. It is in the binder, you can also find it in the spiral-bound version that Claimants have provided to you.
A. 2013?
Q. Correct. It is Tab 13 in our binder?
A. Okay. 2013. Page 3.
Yes, I'm there.
MS. RENFROE: Did you say Page 3?
MR. EWING: Correct. Page 3 of his 2013 Report.
It is Tab 13. Sorry, it's not actually in the

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binder. If you would--
PRESIDENT VEEDER: That's why we can't find Tab 13.
MR. EWING: It's not quite large enough.
If you could look at the spiral-bound one, it's the same. My apologies for that.
BY MR. EWING:
Q. Do you see where you say: "Visual inspections, soil sampling, and laboratory analysis of oil composition, residual saturation characteristics and leeching potential of over 1400 soil samples show that the petroleum remaining in soils and pits as of 2004 to 2009 was highly weathered except in areas of recent spills or discharges by Petroecuador"?
A. Yes.
Q. And turning to Page 22 of the same Report, in the middle of little Section VI.
A. Yes.
Q. Do you see where you state that "these data showed the residual hydrocarbons to consist of insoluble resins and asphaltenes that are immobile in the soil matrix. LBG suggests that these petroleum residuals could migrate to impact groundwater, surface water, or other land areas beyond the well platform, which is physically impossible"? Do you see that?

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A. Yes.
Q. Is that still your opinion today?
A. Yes, it is, and I can explain that if you wish.
Q. We will get to that.
So, would it be fair to say that you are concluding in these two paragraphs and in your Reports that the hydrocarbons remaining from TexPet's operations are immobile because "only the heavier end portions persist."
A. No, not completely.
Q. You said here that the data show--these data showed the residual hydrocarbons consist of insoluble resins and asphaltenes. What are resins?
A. Resins are components of the crude oil spectrum that are in the heavier ranged carbon range above C-30, and the asphaltenes are particulates that exist as colloids within that mixture. These are characteristic of the--I should say this, there are four different fractions that were analyzed: The saturated, the aromatics, the resins and the asphaltenes on all the oil samples that were collected, and the residuals that were found were principally in the resins and asphaltenes spectrum with aromatics and saturateds principally absent.
Q. So, would it then be fair to say that you conclude that the hydrocarbons remaining, the residual hydrocarbons, from TexPet's operations are immobile because only the

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heavier end portions persist along with the asphaltenes?
A. No, that would not be correct.
Q. What other portions remain in addition to the asphaltenes and resins?
A. Well, the reason your Statement is not correct is that the oil composition is only one factor in the mobility of those materials within the environment, and I list a number of other factors throughout this Report and into the citations that you present here that affect the ability of that material to move within the environment.
Q. So, looking just at these data that you are referring to in VI, Section VI here, are there any other portions of the residual hydrocarbons that you are leaving out of your sentence?
A. There are the--the ability of that material to move is characterized by the soil leachate tests and the residual saturation tests. As I state other where, these materials are found that principally consist of asphaltenes and resins as two of the characteristic components of the crude oil. As documented in the Reports, there are some diesel range organics that still remain in those materials, but they're not soluble as demonstrated by leaching tests. The primary composition is resins and asphaltenes, and the analysis of those remaining materials by means of leachate tests and residual saturation tests demonstrated their

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immobility.
Q. At the end of this Paragraph VI you rely on an article by O'Reilly and Thorsen that was published in 2010. That was titled "Impact of Crude Oil Weathering on the Calculated Effective Solubility of Aromatic Compounds: Evaluation of Soils from Ecuadorian Oilfields." Is that correct?
A. Yes, that's one of the citations that I present here, correct.
Q. And that citation supports your conclusion that the residual hydrocarbons, it is physically impossible for them to be mobile in the soil matrix?
A. It's particularly related to the leachate potential of those residual hydrocarbons. I don't rely on that document to characterize the degree of weathering. I only rely on it, along with the article by Dr. Newell, to evaluate the leaching effects of that material, how much can it leach. So, not only is it theoretically not reasonable for that material to leach into the soil, but hundreds or thousands of leachate tests had supported that theoretical finding.
Q. And when you're referring to "leachate tests," you're referring to the TCLP test?
A. That was the test that was conducted principally in this matter, and that's a test, for the benefit of the

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panel, the leachate is much like the fluid that forms in your cup when you drip in a tea bag. So, if you have a soil and you put it in water, some of that material in the soil will dissolve into the water, and that's called leachate.
Sorry for the interruption, Mr. Ewing.
Q. We're okay so far.
Did you know that Chevron funded that O'Reilly paper?
A. The O'Reilly paper indicates that at the end of the text.
Q. That Chevron funded it?
A. That's what it says. I wasn't aware of what their arrangements were when they wrote the report, but the paper discloses that within the body of the text.
Q. And the paper also discloses that Chevron provided the data for the paper; correct?
A. I don't recall if they say that, but that's my understanding, yes.
Q. I apologize. We don't have a binder. We had some printing problems this morning, which is why we only have two of our large--or one large binder. We'll put this on the screen for now.
PRESIDENT VEEDER: Can I just say that we are very grateful to both sides for this incredibly efficient

bundling system. It's been very helpful to us. If it goes wrong once, don't worry about it.

MR. EWING: Thank you. We are doing our best, as I know Claimants are as well.

BY MR. EWING:

Q. My apologies, Mr. Connor. Here are the acknowledgments in that paper. So, they've--Chevron funded it and provided the raw data for it.

Did you know that Chevron also commented on it?

A. No, I wasn't party to the communication between the authors and Chevron.

Q. And that Ms. McMillen actually provided comments on it?

A. No, I wasn't party to that communication.

Q. And the Newell paper that you referred to from 2005, that's Charles Newell, Dr. Newell; right?

A. Correct.

Q. And he is a Vice President at GSI?

A. Yes.

Q. And he was at the time?

A. Yes.

Q. So, the only sources you have here are a paper by GSI and a paper funded and edited by Chevron?

A. No, that's not correct. If you read the paper by Chuck Newell, you will see that he signs--he cites a number

of research papers that were conducted by various Parties to support his analysis of residual saturation. His analysis is more of a profile of what those other papers say. And if we pull up that report, I can point those out to you.

Q. And we may get to the report--I don't know if we'll need to get into the details of it--but would you agree then that it's an acceptable practice to cite to and rely on reports that amalgamate and bring together a series of other reports?

A. Or, in that you're referring to the report by Dr. Newell?

Q. Is that a--generally, the idea that Dr. Newell has brought together research papers conducted by various Parties and presented them in his single paper--is that a normal and acceptable practice in your field?

A. The work product by Dr. Newell in this case was a report written for Chevron for this matter which addressed the residual saturation characteristic of the clayey soil in that region based on samples that I collected and sent to the laboratory. Dr. Newell then cites to a number of different papers by different academic researchers to evaluate that data and arrive at a conservative estimate of the holding capacity of the soil which we call "residual saturation." That's the ability of the soil as a sponge to

retain an oil before that oil becomes mobile.

And I think yes, that's a completely appropriate manner, that if you do scientific work, you certainly need to consider the context and the research done by others in order to arrive at an informed decision.

Q. The point of this Section VI on Page 22 of your 2013 Report, though, is to say that the residual hydrocarbons are immobile and cannot migrate to the surrounding land and water resources.

A. The specific purpose of that paragraph is to respond to the prior report by the Ecuador Experts and to more specifically focus in on one technical element, a technical element that is discussed more broadly in my other reports. And in this particular paragraph, if you read this whole section, you will see that what I'm presenting is a response to the Ecuador Experts noting that they had failed to consider certain scientific principles.

And the inability of that material to move is not simply dependent on the scientific theories that are presented by Dr. Newell and by Dr. O'Reilly. It's more completely related to the additional information, that same paragraph, of the hundreds if not thousands of analyses conducted on every soil sample that contained hydrocarbons collected during the Judicial Inspections to determine if those hydrocarbons, whatever their composition, were mobile

within the environment. And the conclusion of those thousands of analyses were they were not.

And my critique at this point in this document was that those data, which are very important, had not been duly considered in the conclusions drawn in the Ecuador Experts' Reports at that time.

Q. Mr. Connor, I will try to be very specific with my questions, if you could try and focus on those questions in your response. What you're saying in Section VI here is that LBG's conclusion that the TexPet residual hydrocarbons can migrate and pose a risk of impacts; you are saying that is wrong?

A. I'm saying that the tests that we had conducted indicated that the materials that remained within the closed pits and the other materials we tested within soils were not mobile within the environment given their composition. That's what we're saying, yes.

Q. So, you disagree with LBG that TexPet residual hydrocarbons can migrate and pose a risk of impact on the surrounding land and water resources?

A. I guess the point of difference is whether or not they migrate, whether or not they spread. There are some material that remain from the TexPet era, pits that were not included in the RAP, and there are new problems that have occurred after that era. Our findings are that those

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materials are not spreading. They're relatively static within the environment. If there is a pit that has liquid material in it, it hasn't exited that pit, nor is it likely to do so. And that relates to a number of different factors that I point to here and encourage the Ecuador Experts to consider the body of that data.

Q. So, you disagree with LBG?

A. Yes.

Q. Thank you.

Your basic premise, then, is that liquid crude oil, which would be mobile crude oil, must be--must not be TexPet's residual hydrocarbons; correct?

A. No, that's not my testimony.

Q. So, if there is liquid crude oil, do you believe that could be left from TexPet?

A. I just to want clarify our terminology here.

I do think you can have liquid weathered crude oil that, under certain circumstances, can remain within the environment, and it could date from the era when TexPet was the Operator for the Consortium. All the liquid crude oil in this area is not of recent vintage or old vintage.

The earlier statement that you pointed out in which I stated that all of the oil was highly weathered except those associated with very recent spills from Petroecuador, by "very recent spills," I mean spills

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perhaps within one month. Weathering occurs very rapidly in that environment. And only in those few places where we did encounter fresh crude oil spills, those were crude oil spills associated with recent operations. Crude oil spills that were older could not be time stamped because it's not clear when they had happened.

But yes, you can have liquid crude oil, weathered crude oil, that's not mobile within the environment, within the environment in which it's located, regardless of its age.

Q. Are you saying that I could have liquid crude oil and, therefore, it couldn't be mobile, similarly to I have liquid water in my bottle but it's not currently mobile outside of this bottle; is that what you're trying to say?

A. That may be an apt analogy. So, here we have water in a bottle, and the water doesn't come out, and my hands are dry. This is very much akin to the pits that I showed you, and you'll see them, too, Mr. Ewing, if you haven't had the opportunity to visit the Concession Area. There were pits excavated in clay that were not included in the RAP and still remain. As I described, there is gooey material on the surface and there's oil-laden sediments at the bottom. You can't extract liquid material from those. In all cases, it's quite weathered. It is not capable of moving through the pores in a clayey soil any more than

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this water can move through the plastic liner around it.

And that's--I think that's a relatively good analogy that you've made.

Q. If the pits are dug into sand, would that allow the liquid petroleum to migrate?

A. It would have a different potential to migrate. You--certain oils, depending on their viscosity, will move more easily through larger-pored soil, so a sandier gravelly soil, yes, it can move more freely through that. A clayey soil, no. A silty sand or a clayey sand, no.

Q. So, you specified, in the diagrams you showed us earlier this morning, pits that are lined in clayey soil is, I think, the description on your slides. The fact that it's clayey is integral to your conclusion; correct?

A. It's--I think the actual statement on the slide is it's principally clayey soil, and by "clayey," I mean that it has clay as a principal component. The geotechnical analyses of porous soils--by that I mean sand or gravel--have long since showed that if the clay fraction exceeds 10 percent, then the effective permeability of that material is like a clay, because all the pores have been blocked by the clay. So, a clayey soil will uniformly exhibit a low permeability. By low permeability, it means it's resistant to water movement and resistant to oil movement. That's why I use the term "clayey." It

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indicates a soil whose clayey content is greater than 10 percent by dry weight.

Q. So, your opinion--so, your opinion is that the pits in Ecuador are equivalent to these water bottles that we have in terms of their ability to contain the oil that's put into them?

A. I would say that functionally, in terms of the work that we did, we did not find significant migration beyond the boundaries of those pits.

They're not exactly the same because as the--those are made out of soil, and--which is different from plastic--and as observed in the Woodward-Clyde report, I showed you a diagram, there is some permeation of the oil a short distance into those soils that was observed. But there is no permeation or migration at any significant or measurable distance. Samples--core soils that were taken only a few meters away did not encounter that oil.

Q. And if I took this bottle and I stuck a knife in it and pulled it out, you would agree with me that the water would come out; right?

A. Yes, it would come out. But that wouldn't happen in clayey soil because clay is very plastic.

Q. So, if I took--

A. By that I mean deformable. Do you understand that difference? Yeah. It doesn't have--I guess the difference

is what you call catastrophic failure. This is the reason we don't use plastic tanks at refineries. Because when a plastic vessel ruptures, it ruptures completely. Soil vessels such as ponds have long been used because they have the characteristic of resisting catastrophic failure. They're very plastic and moldable, and that's one of the advantages of earthen pits compared to plastic bottles.

Q. But you would agree with me, if there are roots through the clayey soils, or cracks in the clayey soils, that those would also be avenues for the water or oil to get out just like a knife in the side of my bottle?

A. No, it won't be like a knife in the side of your bottle because it doesn't cause a catastrophic failure, the soil.

But roots and small fractures do provide an avenue for movement of the oil through the soil because they serve to create a larger pore, and a larger pore space allows the oil to enter. That was observed in the case by--in the report that you see from Woodward-Clyde who did the remediation, they did note that via tree roots and others, you would see a short movement over a short distance, I should say, of the oil into the surrounding soils. However, they did not observe significant migration, and neither did the data that's been collected today by any Party.

Q. So, just to make sure I understand, and this is clear, your opinion is that there may be liquid crude oil from TexPet's operations, but that that crude oil is contained within these pits?

A. To be more specific about that, it's not always contained within the pits, and we should refer to this as a hypothetical. I can't testify, Mr. Ewing, that the crude oils that we find either when it's sediments or unremediated pits, I can't testify that those are necessarily associated with TexPet's period of operation. They may be. I don't know. But in the investigations that we have conducted, I don't recall observing that these materials had migrated a significant distance outside these pits.

There is one instance that I recall in seeing a sample outside a pit, and that's at the Lago 2 well site. Some of the information that was collected by the Ecuador Experts, there is one location outside a pit where indicates that there has been a short distance migration. But in general, no, we haven't seen significant migration from these pits, and that's generally consistent with the data compiled by all Parties.

Q. When you referred to Ecuador Experts, do you mean LBG?

A. I believe in my Reports I identify a variety of

experts that I have referred to as "Ecuador Experts." It certainly includes Mr. Goldstein and Dr. Garvey associated with LBG, as well as Dr. Strauss and, I believe, Dr. Short. But my work is most responsive to Dr. Goldstein and Dr. Garvey, if it is Dr. Garvey. If it's not, I apologize.

Q. You've given Mr. Goldstein a promotion and Dr. Garvey a demotion, I think, but--

A. Let's strike that.

Q. They have stayed in their seats, so I think we're okay.

A. Yeah, I hope so.

MR. EWING: I'm about to move into, you know, a little bit further on this and it would be helpful to give out your binders. Could we take about 10 minutes' break?

PRESIDENT VEEDER: We can take 15, if you need it.

MR. EWING: We will be able to hand them out quicker but if you'd like to take a break, a full 15, I'm happy, or--

PRESIDENT VEEDER: We'll take a full 15, so we will start again at 3:00.

MR. EWING: Thank you.

PRESIDENT VEEDER: Again, please don't discuss the case as before.

(Brief recess.)

PRESIDENT VEEDER: Let's resume.

BY MR. EWING:

Q. Mr. Connor, we started this morning with your or this afternoon with your presentation in which you included two slides with pits lined by predominantly clayey soils and your conclusion that the oil contamination is not migrating. We've now established that root canals and cracks in that predominantly clayey soil could cause migration. Would you agree?

A. It's a question of scale. If you're talking about movement within a half a meter, for example, yes, that's been observed. There has been no migration on a larger scale of meters on the cases that I have observed to date.

Q. So, you have seen no evidence that the TexPet--let me start over.

You have seen no evidence that oil has migrated more than half a meter?

A. When you say, "migrated," where and how? With which? I'm not clear on specifically what you're asking.

Q. So, I'm looking at your Slide Number 37 from your presentation this morning.

A. Yes.

Q. And in that slide it's titled, "Weathered Oil Not Migrating."

Do you remember this slide?

A. Yes, I do.

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03:03 Q. And you have a picture, a diagram of a pit with various materials in it, including oily sediment, rainwater, and semi-solid tarry material, and from what you said this morning, I think your conclusion was the evidence shows that the contaminants in this pit have not migrated beyond .5 meters and the white line that you have drawn around that pit; is that correct?

A. I don't believe you have interpreted that exactly correctly. As I said during the presentation of the slide--and this is indicated on the documents referenced at the base of the slide--that dotted white Line as based represents the observation of the company that closed hundreds of pits during the TexPet remediation project, and their observation was that, yes, the soils bordering the pit did contain oil, and that commonly it would require scraping the walls of the pit about half a meter away.

Then my own observations, and based on all the data by all the Parties are that we have not observed oil to have migrated in terms of meters away from these pits, even the open unclosed pits as demonstrated by soil borings, and that is generally the case.

Q. So, you have not observed oil that has migrated more than one meter?

A. I can't say that, Mr. Ewing. I can say that the borings that were located in proximity to these pits, that

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03:05 were within meters of those pits, we have not observed oily impacts on those soils. Those borings are located different distances at different sites, but in combination with all those put together, we are not seeing lateral migration of oil through these soil types.

Q. And in your Statement referring to soil borings, are you including LBG's analysis in 2013 and 2014?

A. Yes, I am.

And I did note that there was one boring put in by LBG at the Lago 2 site that was a monitoring well that did detect hydrocarbons that suggest they had moved from a nearby pit called Pit 3A. It's not a great distance, but the data do indicate there has been some motion.

Q. How far had that contamination moved?

A. Well, I can't say that it had moved, but it was detected within some meters of the estimated boundaries of Pit 3A. Either--the pit boundaries are not known. They haven't been defined, but the boring did not appear to have been drilled through contaminated soil; and, therefore, by my estimation, would provide a more reliable estimate or measurement of the water; and in that location there is affected water by hydrocarbons. It appears it did not come from above; it must have come from a lateral location.

Q. You said one of the purposes of the Judicial Inspections was to delineate the pits; correct? And you

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03:07 stepped out from the center of the pit to find the edges of the pit; is that right?

A. Yes, there was a series of step-outs that were done in order to find the general location of that pit, in concert with historical aerial photographs and other evidence that might be available.

And then samples were taken beyond that footprint to determine if there had been lateral migration. The proximity of those borings to the edge of the pit were quite variable, but the observations were consistent, that we did not observe or I did not observe in that compilation of data that there was migration laterally from the pits such as that it would affect off-site areas.

Q. And there was a Judicial Inspection at Lago Agrio 2; correct?

A. Yes.

Q. So, Chevron would have delineated that pit; correct?

A. Chevron in that case, the Chevron Expert was asked during the Judicial Inspection to do perimeter samples around the site rather than the pits. That pit was identified during the Judicial Inspection, and the data from that are provided in the Judicial Inspection Rebuttal Report rather than the Judicial Inspection Report itself. So, that pit was identified but the specific boundaries of

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03:08 that pit were not the subject of the Judicial Inspection. Rather, perimeter borings, as they're termed, were placed to the north and south, east and west of the site per the Judgment of the judicial inspection Expert and in comply--as their Judgment as to how to meet the request of the Court.

Q. I think, Mr. Connor, you're trying to anticipate where I'm going with these questions. We will talk about in detail about Lago Agrio 2, but not right now. The question was: Did Chevron delineate the pit at Lago Agrio 2? And I understand your answer is no, because you understand that the Judge asked for site delineations, not pit delineations; is that correct?

A. Yes, I read the Acta for that site, and the specific request that was put forward by the representative for Chevron was for a site delineation; and normally that was the case, that it was more to evaluate the general site characteristics rather than individual pits. In some cases, the experts did do individual pits. They did not in that specific case.

Q. In addition to roots or fissures in clay being one way that contamination may migrate, depending on the distance, would you also agree that oil contamination can migrate out of pits by overtopping those pits?

A. Yes.

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Q. Would you also agree that the oil contamination can migrate if the pit walls fail?
A. If the pit walls fail for an open unremediated pit that contains liquid material.
Let me get my question a little more succinct. If you're talking about a geotechnical failure of the dike around the pit such that it ruptured and there was liquid material in there, yes, it could exit that pit and flow across the ground surface. Is that what you're asking?
Q. It is, but let me put that in lay terms.
If the walls of a pit break, the contents can come out; right?
A. Just to be clear for the purpose of the Members of the Tribunal, the pit has a subsurface and above-surface portions. The above-surface portion is surrounded by a dike, much like the country of The Netherlands, which you may be familiar with. If that dike breaks above surface, if the water level is above the base of that dike, those fluids can exit, and if there are liquid oils in that, it would exit as well.
Q. And if a pit had oil in it, and it was simply covered with dirt and then the dike broke, that oil could come out as well?
A. If--I guess the exception to that case, Mr. Ewing, is that once the pit is covered with dirt, there is no

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longer any physical extension of the dike above ground surface; it's been leveled. Therefore, there is no propensity for there to be a rupture of that physical feature above ground surface. Rather, that type of a failure would require a rupture of the subsurface surrounding clay material, which, from an engineering perspective, is not likely to occur because of earth pressure.
Therefore, I would not expect there to be that type of release, unless that release would occur above the ground surface, not below the ground surface.
Does that make sense?
Q. It makes sense, but it seems to be based on the assumption that pits are dug into a large flat level area. If a pit is dug into--next to the side of a hill, you no longer have--what did you call it? The ground tension or the ground strength to maintain it. You simply have a wall of your pit. Would you agree with me about that?
A. So, your hypothesis is that a pit is constructed at the edge of a steep incline, and if that incline were to fail, would the contents of the pit exit?
Q. Correct.
A. Yes, I would agree with that.
Q. And you are aware of examples where pits overtopped?

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A. Yes.
Q. And are you aware of examples of where Sand fractures and fissures allowed oil contamination to migrate?
A. In the Oriente region of the Concession?
Q. In the Oriente Region.
A. I observed one location where that had occurred that via Sand migration, and that was at the Shushufindi Norte production station during the Judicial Inspection that I described where I worked in concert with Mr. Davila. There is one pit there that had been recently constructed that contained fresh oil excavated into Sand in which there was seepage of that fresh oil.
Q. Are you aware of any studies--
A. And that was in the year--I'm sorry, I should specify. I believe it was in the Year 2004-2005. Sorry.
Q. Are you aware of any studies conducted by TexPet or Texaco identifying the soil type before the pits were dug?
A. No, I'm not aware of records of what investigations they did on the soils at the time, not that I had seen in this Concession Area.
Q. After TexPet or Texaco was leaving the Oriente, there were two audits conducted of TexPet's operations; correct?

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A. There were two audits conducted of the Concession operations because at that time TexPet had not been operating for two years, but yes, there were two audits conducted in the period of 1992 to 1993.
Q. So, when you clarify that TexPet had not been operating for two years, TexPet was still part of the Concession from 1990 to 1992; correct?
A. You know, I don't know what the legal arrangements were. I believe that is my understanding, but they no longer were operating. After June 30, 1990, all the information I reviewed indicates that Petroecuador became the sole operator of that facility, and TexPet was no longer involved in the day-to-day operations.
Q. The two audits, one was conducted by HBT Agra and one by Fugro-McClelland?
A. Yes.
Q. And HBT Agra's audit was a joint audit between TexPet and Petroecuador; correct?
A. That's my understanding, yes.
Q. And Fugro-McClelland was hired just by TexPet?
A. I believe that's correct.
Q. You described one of the purposes of the environmental audits of the former Concession Area was to characterize the current environmental conditions immediately after TexPet left in 1992 to 1993?

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A. Are you looking at a particular document that we could share?
Q. Of course. I wasn't particularly, but we can look at your 2010 Report, Paragraph 49.
A. Yes, I'm looking at that page now.
Q. And in your opinion, these audits, "represent a very thorough audit of oil field operations in the Concession." Correct?
A. Yes, and I explain in the paragraph what I mean by that. They inspected a very high percentage of the facilities in combination, 75 percent of the facilities, the audits that I have conducted of many other oil field facilities are commonly on the order of only 5 to 10 percent of the facilities, so these audits were exceptional in that regard.
Q. First, you just said that you typically inspect 5 to 10 percent of facilities. Is that what you just said?
A. Yes, that's what I just said.
Q. And based on that analysis of 5 to 10 percent of facilities, you were able to draw conclusions about the larger whole?
A. Those particular audits are regulatory compliance audits, and they are specifically designed in accordance with the protocols that were first developed in the early Nineties to be of adequate design to characterize the

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environmental management system of the organization and its ability to meet those regulations at the range of facilities. That's different from estimating a volume of impact. It's directed more towards--it's like an accounting audit. But normally in those, it's a 5 to 10 percent survey. These were very different.
Q. And what HBT Agra did was inspect, physically inspect, 50 percent of the well sites; is that right? And I'm just looking at the middle of that paragraph.
A. Yes, that's the understanding I had from reviewing their materials, correct.
Q. And that's 163 wells, according to your Report here?
A. Yes, that was the information I obtained from the report.
Q. Do you remember how many samples HBT Agra took to evaluate the 163 sites that they visited?
A. No, I don't recall.
Q. If you could turn to Tab 17. This is Page 6-21 of the HBT Agra report. It says here they took 196 samples.
A. What page, 621?
Q. 6-21.
PRESIDENT VEEDER: It's not that easy.
MR. EWING: Excuse me?
PRESIDENT VEEDER: Tab 17?

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MR. EWING: Tab 17. 6-21. So it's Page 21 of Section VI.
PRESIDENT VEEDER: The pagination is on the left-hand side.
Mr. Connor, have you got it?
THE WITNESS: Yes, I have it. Thank you.
BY MR. EWING:
Q. They took 196 samples; is that correct?
A. That's what the document says, yes.
Q. And that's just over one sample per site.
Let me save you the time. It's 1.2 samples per site.
A. I think it's about 1.2 samples per site. It is whatever amount that they judged necessary to reach their conclusions. And it was satisfactory to their sponsors of their work.
Q. And you remember reading that HBT Agra found that 95 percent of the soil samples exceeded background levels of oil contaminants?
A. I don't recall that specifically, but given that they were specifically sampling the observed spills, that would be consistent with their sampling practice.
Q. And this is on Page 6-22. On that page it also says that over half of the soil samples taken were above the 5,000 micrograms per gram standard they were using?

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A. That's correct. That's what it says.
Q. And 5,000 micrograms per gram, is that the same as 5,000-milligram per kilogram?
A. Yes.
Q. So, over half of the samples they took were above the 5,000-milligram per kilogram standard?
A. That's correct.
Q. And also on that page, they found that a wide variety of sampled areas contained oil and grease levels which exceed the criterion?
A. Correct.
Q. And that the "principal contaminant in analyzed soils is oil"--this is on Page 6-23--"and that mobile and toxic hydrocarbon compounds were also present"?
A. Where are you now on 6-23? Can you point me to the paragraph?
Q. It's on the screen. It starts: "In summary, the analytical data suggests or suggest."
A. Yes, that's correct. Their audit found that there were materials to be addressed, and they described that in their document.
Q. And could you please now turn to Tab 11, that's going to be in your first binder, just to keep you on your toes. And towards the bottom right you will see page numbers that start with CA-5, and we're most interested in

the 697, the last three numbers. This is Table 6-4.

And you understand this is the scoring system that HBT Agra used to rate the potential environmental impacts that they found?

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

Q. And under "high," it lists "pit containing oil is present. Contaminants appear to have migrated out of the pit."

Do you see that?

A. Yes, I see that.

Q. So, you would agree with me that where HBT Agra assigns a "high" rating, the auditors saw pits with oil present that had migrated out of the pits?

A. Yes, on the surface, if you read the report. They weren't drilling borings to find that. They had been overtopping those pits, and they were identified as things that need to be remediated, and subsequently were remediated as part of the Remedial Action Plan.

Q. Is it your testimony that all of the pits that HBT Agra found as "high" were remediated as part of the RAP?

A. No. The RAP was an agreement between the Parties, it listed a specific list of pits at specific sites and those were remediated in the RAP. Others that HBT Agra may have observed, if not included in the RAP, could remain after the RAP, some of them still do today.

Q. So, when you said they were identified as things that needed to be remediated and were subsequently remediated as part of the Remediation Action Plan, you meant that some of them were remediated by TexPet as a part of the RAP?

A. Yes. Only TexPet did the remediation. Petroecuador did not do their remediation until many years later with the inception of the PEPDA program. Petroecuador has undertaken an aggressive program to remediate pits that had been left to life out over 20 years.

Q. Again, I would ask you to try and constrain yourself to the questions.

Could you turn to the page that ends in 700, so it's CA-5 000700.

A. Yes, I see that.

Q. And at the bottom of the page, you can see there is an entry for Auca 1. It's A-U and then a one.

A. Yes.

Q. And it has a listing of "high"?

A. Correct.

Q. And in the comments for this site it says: "Well pad spill. Pit seepage."

A. Yes.

Q. And you would agree with me that given the rating

of "high" and the comments of "pit seepage," this means it was a pit containing oil seeping outside of the pit.

A. I think that would be consistent with their classification system, yes.

Q. And if you turn one page earlier, to 699, if you look at Shushufindi A 30, this is also classified as "high"; correct?

A. Yes.

Q. And again this would mean that there are pits containing oil that has migrated out of the pit?

A. Correct, due to overtopping or other events like that, but they weren't indicating a subsurface migration, they're not tagging these for remediation.

Q. To clarify, they're not indicating anything about how it's migrated; correct?

A. In that language they're not, but as you noted, that there were not an extensive number of soil samples taken, sufficient for their purposes and sufficient for their clients. However, they did not conduct borings around these pits, they made physical observations of the ground surface. So, accordingly, in the context of the Report, if you read it carefully, those observations indicate surface seepage which can occur and apparently did occur in these cases.

PRESIDENT VEEDER: Mind if I ask a question? The

first was in reference to pit seepage, and the second reference was to pit discharge. What's the difference, do you think was intended by the different terms?

THE WITNESS: I can answer that. I should be cautious. I will interpret it as I see it and not necessarily how they use the words.

A pit seepage would suggest that fluids were coming through the surrounding soil, they were seeping through it, much like cheese can sweat when you can see the fluid coming out of it. Whereas a discharge would be an overtopping, an actual fluid flow that would move over the top of the dike and flow as a liquid rather than seeping. Does that make sense?

PRESIDENT VEEDER: You tell me.

THE WITNESS: I think it does. So, one is a slow seepage through a soil face and the other is actually a fluid flow over the dike.

PRESIDENT VEEDER: Thank you very much.

BY MR. EWING:

Q. As President Veeder just pointed out, this says pits discharged to the stream, so the stream seems to have received some of the pit's contents. Would you agree with me?

A. Yes.

Q. And do you know if that stream was remediated

1382

during the RAP?
A. I would have to look to see. I'd have to look at the RAP records to see if that was addressed or not. There's a lot of sites in there. I can't recall offhand without checking. If it was assigned to TexPet, there were a number of remediations of that nature, but I don't recall if this specific site was on that list.
Q. So, you are testifying now that the RAP included a number of remediations of streams?
A. Yes.
Q. And you visited this site in December 2003; correct?
A. Which site?
Q. Shushufindi 30.
A. I would need to look at my list. I have it--would you mind if I looked in my Report on that chart? It says when I visited.
Q. You may look at any of your Reports at any point. Please.
A. Okay.
Yes.
As it says on Table 2(c) in my September 3rd, 2010 Report, I conducted a Pre-Inspection of this site in 2003, and I believe that would it have been December 2003.
Q. And do you remember whether you investigated this

1383

stream?
A. No, I don't remember that.
Q. I am just asking your memory. We will come back to it potentially later.
Turning back to the HBT Report, could you look down a little bit further, the Shushufindi B55.
A. Is that on the same Page 699?
Q. Correct.
A. Yes, I see that.
Q. And again, it says the rating is "high;" correct?
A. Yes.
Q. And again it says "pit seepage."
A. Correct.
Q. So, your understanding of pit seepage is that is oil contaminant that is coming out of the soil from that pit?
A. My understanding is that would be fluid seeping through the earthen dikes around the pit above surface such that you could visibly observe that. I think that's how I would interpret that. Although I'm not certain exactly what they mean by that.
Q. So, your understanding is that, let's say just for example, half of a pit will be below ground level, and then half of a pit will be dikes around the pit?
A. I don't know if it's half and half, but the

1384

standard construction was that, as the backhoe excavates the pits, the soils that are moved are placed around the pit in a dike to provide extra fluid capacity, so some portion is below ground, some portion is above ground.
Q. How thick are those walls of the dikes that they put around the pits?
A. I don't know. They appear quite variable, and I can't recall all of them. Some dikes would be a meter thick or more, and there could be some--there were some that were less.
One of the pits that I saw that remained open, the dikes were not always present in the non-RAP pits.
Q. So, at Shushufindi 55, your testimony is that the oil contamination has seeped through the dike walls based on what HBT Agra found?
A. I told you that that's my interpretation of their language, and it appears there is some release from that pit that they're recording.
Q. And we will come back to Shushufindi 55. And as you know, and I think as the Tribunal knows, we will be going there on a site visit. But for now, could you turn to Page 960 in the same document, so it is Tab 11 CA-5 000960.
And just so the Transcript is clear for the future, when we all go back to read this, this is

1385

Claimants' Exhibit C-13.
So, this is still a part of the HBT Agra Report from 1992 to 1993, and this table, F-5 is a description of contamination associated with well site pits.
Do you see that table?
A. Yes.
Q. And in the middle of the page, do you see their assessment that there are a total of 126 "yes" pits?
A. I don't think I'm following that. Do you have that highlighted on your screen?
Q. Yes.
A. It's on the middle of the page, total yes, I believe I do see that now.
Q. And their assessment, "there were 126 open or closed pits with evidence of oil in the pit and/or evidence of oil migrating beyond the confines of the pit."
Do you see that?
A. Yes, that's correct.
Q. And if you go down a few lines, do you see that the total number of pits is 202?
A. That's correct.
Q. So, in HBT Agra's analysis, that was primarily visual, they found 126 out of 202 pits had evidence of oil in the pit and/or migrating beyond the confines of the pit; would you agree?

1386

A. Yes, I would agree with that, with the caveat that given, as you pointed out, they were not drilling beneath the ground but these were observations at the ground surface. They saw that oil had overtopped or otherwise left the confines of that pit.

They did do other subsurface investigations, and they concluded that there was not significant migration subsurface. So, comparing to my work, we would discuss those latter observations, the subsurface. But on the surface, yes, they found materials had gone beyond the confines of the pit, in a number of circumstances.

Q. So, as far as you know, HBT Agra never used the backhoe to excavate or analyze any of these pits?

A. Yes, they did do backhoe tests, and they provided information for that.

Q. Wouldn't a backhoe test be subsurface analysis?

A. Yes, it is. And based on those backhoe tests they conclude that that have not observed significant subsurface migration or impacts on groundwater, and that's an important observation in their report. They do see pits that need attention. They do see materials on the surface outside the confines of that pit. But in whole, the conclusions that they raise or they come to, and I have explained those in my 2013 Report, are they do not have significant subsurface problems with these pits.

1387

Q. You see below here also that they found 50 pits with liquid oil confined to the pits; right?

A. Yes.

Q. And 43 of those where that oil waste had migrated beyond those open pits.

A. Are those the same pits, do you think? I'm not sure I'm reading that correctly.

Q. My understanding is that there are 76 total pits where oil had migrated beyond the open or closed pit.

Is that how you would read that?

A. No, I haven't looked at this table carefully enough to understand that.

Q. Take your time for a moment.

A. So, I--oh, you want me to look at it? Okay.

(Witness reviews document.)

A. Can I borrow a pen or a pencil? Or other stenographic device?

Q. Of course.

A. Hey, thank you.

Thanks, Professor.

(Pause.)

Q. Mr. Connor, I think we can agree that HBT Agra doesn't necessarily organize how we would have liked them to organize.

A. I'm sorry, Mr. Ewing. I can't quite figure out

1388

what they're doing with these numbers, but, you know, the numbers they present or what they say. So, I'm not quite sure if the 43 is part of the 50. I haven't been able to figure that out.

Q. So, they definitely, though, are saying that 50 have oil wastes confined in the pit, 43 have oil wastes in open pits where that oil has migrated beyond the confines of the pit, 33 have oil wastes in covered pits where the oil waste is present beyond the confines of a pit. That's what they're saying.

A. Oh, I see it. Yeah, yeah. The 33 and the 13 are the sum of all of the covered pits that they have seen. There is 46 of those. They talk about that early in the Report and they indicate that the majority of those were pits that were closed between '90 and '92, and that was what I was speaking about earlier in my presentation. So, those are--so, those two should be added to get the total number of covered pits.

Q. Right. And I wasn't asking about the total number of covered pits. I'm just asking, they're finding 43 open pits with oil migrating, 33 closed pits with oil migrating?

A. Correct.

Q. And this Report was submitted in 1994; right?

A. I believe the date is 1993. They submitted two different reports, one that had a Corrective Action Plan in

1389

it, and one that did not, and it's--they're hard to keep straight.

There is a final version that's submitted in 1997. So, the publication dates can be a bit confusing.

Q. Let's skip the publication date. This analysis, this review that they did was between 1992 and 1993; correct?

A. I believe that most of the site investigation work was in the Year 1992.

Q. And if you could turn back to page--it ends in 957. So, it's CA-5000957.

A. Yes.

Q. And do you see the entry here for Sacha 94?

A. Yes, I do.

Q. And there are two pits described in the table for Sacha 94; right?

A. Yes.

Q. And according to the key on this table, these pits have oily waste present in them. Do you see that?

A. Just a moment.

(Pause.)

Yes, that's correct.

Q. And in the column that says "oil condition, fluid/tar," at Sacha 94 they found fluid oil in them; right?

1390

A. That's what it says, yes.
Q. And that's not the only well site for well pits that we see on this table with fluid oil in them; correct?
A. Yes. They do contain fluid, as do the presently open pits.
Q. And you visited this site at least three times as a part of Chevron's Pre-Inspections. Do you remember that?
A. I did visit this site. I could refer to my Report to tell you the dates and how many times, if you wish.
Q. My understanding is that you visited on January 15th, 2004, May 27th, 2004, and July 27th, 2004. Do those sound approximately right?
A. I don't know when I visited the site.
Q. It was in 2004? You can look at your Report, Mr. Connor. Please.
A. Well, I'm just telling you, I mean, whenever I visited, I visited. I just don't remember the dates.
Q. Okay. And you were aware that TexPet shut in this well in 1986?
A. Am I aware as we sit here today? I may have been aware of that one time. I don't remember the details of this particular well site.
Q. And I put up here an excerpt from the clickable database that GSI prepared for Sacha 94, and this is an excerpt from the Fugro-McClelland report, Table 6.2, and

1391

this shows that this well was shut in on October 14th, 1986; right?
MS. RENFROE: Pardon me, Mr. Ewing, do you have a tab number?
MR. EWING: Tab 21.
MS. RENFROE: Thank you.
MR. EWING: You're welcome.
THE WITNESS: Sweet.
BY MR. EWING:
Q. Don't get too excited. It's not the whole clickable database.
A. The tab number again?
Q. 21.
And when a well is shut in, that means its production of oil stops; correct?
A. "Shut in" means that it's temporarily removed from service. It hasn't been plugged and abandoned, and it retains the capacity of being re-entered and used for a variety of different purposes. But it's shut-in at that time commonly would involve the placement of a plug to isolate the surface from the production zone, a temporary plug that can be removed.
Q. So, when a well is shut in, you would not expect oil to continue coming out of it unless someone came back and removed the plug; correct?

1392

A. If the shut-in has been properly implemented, no, you would not expect there to be continued production until such time as an operator decided to do so.
Q. And we can assume that TexPet would have properly shut in its wells?
A. I saw no evidence that they had not done that, but I did not assess that as part of my work.
Q. So, when HBT Agra auditors inspected Sacha 94 in 1992 and saw fluid oil, the well had stopped all oil production for approximately six years; is that correct?
A. If these numbers are correct, that would be correct. I can't speak to whether or not the information in the database is complete. But if we accept those numbers, yes, that would be approximately six years.
Q. So, accepting that Fugro-McClelland has an accurate date for when the well was shut in, and HBT Agra accurately recorded when they actually went there, that's a six-year period between the end of production and when the site was investigated; right?
A. Correct.
ARBITRATOR LOWE: Sorry, just a small point of clarification. The line above the line that you're referring to has two dashes in the box for the shut-in date. Could you just explain the significance of that? Is that a separate facility, or is it an aspect of the same

1393

well?
MR. EWING: I would be happy to explain, but I would also be happy to give it to Mr. Connor.
THE WITNESS: I'm glad to make you happy.
That refers to the same well, but it's two different actions taken at the same well. If you look at the different lines in that row, starting at the far left, you will see they're identical. Well Number Sacha 94, spud date--that means the date that the drilling commenced or the same date. Completion date is the same date. Last workover date. Everything is the same until you get to the date of the production method. At that well, the pump has been--a submersible pump has been replaced with a hydraulic pump in 1986. And shortly after that, the well is shut in.
So, yes, they do refer to the same well.
Q. And Mr. Connor, in your 2010 Report to this Tribunal, you listed the Judicial Inspection Reports as cited documents in your Report; is that correct?
A. I did cite a number of them, and I believe I put as many of them as I could in there. Yes, they were cited.
Q. But not all of those were actually submitted with your Report?
A. I don't know which of those were submitted with the Report.
Q. And did you rely on those reports in coming to

your conclusions in your 2010 Expert Report?
A. I relied on the entirety of the data that was compiled in those reports. I did review those reports for their conclusions. My conclusions were not wholly dependent on those reports. They were dependent on all of the data that was collected by the different Parties, including the Plaintiffs and Mr. Cabrera.
Q. And in your list of cited documents, Shushufindi 4 is the sixth from the top. And, to make this clear, it's Tab 5, and this is your 2010 Report at Page 81, and we have it up on the screen, if you would like to--it's easier that way.
A. Oh, this is the 2010 Report?
Q. Correct.
A. Yeah, I'll just look at my own copy then.
The page number again? Excuse me.
Q. Eighty-one.
A. Yes, I see that, and your--but I don't recall your question, Mr. Ewing. Excuse me.
Q. Sorry?
A. I didn't recall your question.
Q. Shushufindi 4 is listed at the top of this page; correct? Sixth from the top?
A. Page 81?
Q. Correct.

A. Oh, under the list of--it's not from the top of the page but under the reports by experts nominated on behalf of Chevron.
Yes, it's the sixth line under that heading.
Q. And this was not a RAP site?
A. I don't recall without looking at the list if it was or not.
Q. If you want to look at the list, or look at the site summary for this Shushufindi 4, it is Tab 20. And we put the excerpt on the screen.
And the Judicial Inspection Report submitted for this site was by Ernesto Baca. Do you remember that?
A. That's indicated in the index here, yes.
Q. And Mr. Baca worked for GSI at the time you wrote this Report?
A. Yes.
MS. RENFROE: Tab 20 pertains to a different site.
THE WITNESS: Yeah, I'm not finding it.
MR. EWING: It should say Shushufindi 4, unless our--
MS. RENFROE: Tab 20 says Sacha 94.
MR. EWING: Sorry, it is Tab 22.
Thank you, Tracie.
BY MR. EWING:
Q. Could we turn then to--we have excerpts of the

Judicial Inspection Report for Shushufindi 4 at Tab 23. I provided to you excerpts because, as I think you know, Mr. Connor, these Judicial Inspection Reports can be thousands of pages, and we already felt guilty enough about the number of pages that we have printed.
A. Okay.
Q. Mr. Baca finds--
MR. EWING: Actually, Mr. President, when--I don't remember when we started--when are we timed for a break? Do we want to go longer? Or should we stop for a break now?
PRESIDENT VEEDER: I was looking over to see who decides these things. I think you should have a break now. We'll take a break, but can we just say we are going to finish by 5:30 today?
MR. EWING: Yes, we can definitely finish by 5:30. I will probably have more questions than 5:30.
PRESIDENT VEEDER: Then we will continue tomorrow. I just didn't want a repetition of yesterday.
MR. EWING: 5:30 is perfect for us.
PRESIDENT VEEDER: We think 5:30 would be the latest.
MR. EWING: 5:30 is great.
PRESIDENT VEEDER: You will have more questions going over into tomorrow. Are you up to speed or behind or

ahead?
MR. EWING: I think we are up to speed, would be my expectation.
PRESIDENT VEEDER: Let's take ten minutes. And we will come back at ten minutes past 4:00.
(Brief recess.)
PRESIDENT VEEDER: Let's resume.
BY MR. EWING:
Q. Mr. Connor, would you turn to Tab 23, please. And this is the excerpts from Mr. Baca's Judicial Inspection Report of Shushufindi 4.
A. Yes, I'm there.
Q. And for our record, it is Exhibit R-954.
And do you see where he says in the description of the well site that the well produced until 1984. That means that it produced oil; is that correct?
A. Which page are you on, Mr. Ewing? I'm sorry if I wasn't paying adequate attention.
Q. I'm sure it was my fault for missing the page. Page Number 2. Page numbers are important.
He says the well produced until 1984. Do you see that?
A. Yes, I do.
Q. And when he says the well produced, he means the well produced oil until 1984; right?

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And then he said it was converted to an injection well for secondary recovery of petroleum crude; correct?
A. Yes, that's what he says.
Q. When he says, "converted to an injection well for secondary recovery," do you agree with me that that means that well changed from producing oil to injecting water into the ground to assist with production at other wells?
A. Correct.
Q. So, this well was not producing after 1984?
A. Not according to the information we have here.
Q. And you have no reason to believe that Mr. Baca was incorrect in his Judicial Inspection Report; right?
A. No, I have no reason to believe that he was incorrect.
Q. And then Mr. Baca says that--skipping one sentence--he says, in 1991, "the well site was abandoned and thus became an inactive well."
A. I think I've lost you.
Q. So, there is the sentence we're looking at--
A. Oh, I see it now.
Q. And then the well's name gets changed.
A. Yes.
Q. So, the well site was inactive from 1991 until at least 2005 when Mr. Baca wrote his Report; correct?
A. The well did not produce oil at that time. He's

1399

not saying there wasn't any other type of activity at all or use of the site, but it was not an active production, according to this information.
Q. Do you have any indication that there was use of the site that would cause contamination?
A. I haven't looked at the records to make that determination for this site.
Q. If Mr. Baca thought there was some other source for other contamination, wouldn't you expect he would have included it in his Report?
A. If he was aware of that information, I expect that he would have included it.
Q. And when Chevron conducted its PIs at the site--and if you could turn to Tab 24--this is the site summary for Shushufindi 4, and looking at Pit 1, the second sentence, "Chevron found that surface seeps of highly weathered crude oil were found on this former pit site."
Do you see that?
A. Oh, yes. It indicates above that that the owner himself had covered these pits with earth and then indicates that there was oil seeping through the surface there.
Q. And if we could, just to see Chevron's observations about Shushufindi 4, and then I have some questions for you about those, I have a video clip from the

1400

Pre-Inspection of Shushufindi 4.
(Video played.)
Q. In part from my own curiosity, what was this gentleman's name?
A. If I'm correct, I believe that's John Slocum, but the quality of the video and the outfit, I didn't quite recognize him for sure.
Q. That was my guess. I just have not been able to identify him in other videos.
Let's assume that's Mr. Slocum. His findings in the video coincide with what has been written here on this Report; correct?
A. I haven't read this very carefully, but in my recollection what they're saying here is, yes, this was a non-RAP pit that had not been remediated by Petroecuador, and the owner had covered them himself, and there were seeps coming through that soil cover.
Q. And this is at a well site that Mr. Baca had already found had not been producing oil since 1984; correct?
A. Yes.
Q. So, 20 years later, this well site is still seeping oil, according to Mr. Slocum, as he was standing there?
A. Yes. If you cover a pit with an earthen cover

1401

similar to the ones that I showed in my presentation, then the contents of that pit will seep up through the cover. If you properly remediate that pit and solidify it per the RAP specifications, that won't happen, but simply putting earth over a pit like this will allow those liquid contents to come out.
Q. For 20 years or more?
A. No, they're not--I guess, Mr. Ewing, the important thing to note in that regard is that when the property owner chooses to cover the pits, the oil is still in the pits 20 years later. It's still there. It hasn't gone away, and then he decides to cover it, and if it's not in solidified form, that cover will displace that oil, and the oil will seep out the top, just as it would in some of the pits that the Tribunal may have the opportunity to visit in the coming month.
Q. You testified earlier that in the Oriente weathering occurs quickly in a matter of approximately a month, I think you said?
A. I think I did say that. I talked about that a lot in the various reports that I've issued, that the volatile and soluble fraction of the oil may be gone within as little as a month. It certainly depends on the site-specific characteristics, but there is very rapid weathering to lose those fractions, and then there is

1402

slower weathering to convert to a principally resident asphaltene fraction. But those very light ends are lost rather quickly.

Q. So just to make sure this is clear, petroleum or crude oil is made up of varying length chains of hydrocarbons, C4, C6, C8, C10, C12, C14 and on up. And that's the number of carbons in these chains of carbon; correct?

A. Yes, except there is alkanes and aliphatics, some in a ring shape and some are in a straight line, but there are of different dimensions, yes.

Q. So, when oil is described, you're talking about fractions, or you're talking about the light ranges or the heavy ranges. When you referred to the light ranges, you tend to mean the ones that are C4, 6, 8 and 10; is that correct?

A. Yes, I think that's correct. Fractions of carbon, molecules that have less than 10 carbons would generally fall within the gasoline range organics, and that's a light end. Considered light, yes.

Q. And your testimony is the gasoline range or these light end carbons would disappear within one month within the Oriente?

A. They would disappear relatively quickly. I can't--my testimony is not that that will happen all the

1403

time within a month, but that the rates of volatilization and loss of that light fraction is so high as to make it difficult to date a sample within a month's time.

Q. So, just--

A. Pretty much like if you were pumping gas at the service station, that liquid that you spill on the ground, that's light end hydrocarbon. And the short amount of time after you spill it, it's gone. It's the same process that occurs when crude oil is in the environment and loses its light end--a little bit slower than that because it has to get out of the oil, but it loses that relatively quickly.

Q. And that's though when you're at the gas station, if you do spill or if someone else has spilled, that's the smell you can smell typically. Is that the volatile component of the gasoline; correct?

A. Yes, in that case, the smell would be associated with the volatiles. With the crude oil, the smell is more related to the thiol compounds which are a heavy sulphur compound, but with gasoline, yes, you're smelling the volatile compounds.

Q. And when you say "volatile," part of the definition of "volatile" is it's those aspects that can be released into the air?

A. In general, yes.

Q. Okay. So, you're saying that the volatile, the

1404

gasoline range organics typically will weather or disappear in a month, in or around a month?

A. Again, I wouldn't testify to it in a month. I'm saying that it happens relatively quickly if the material is exposed to the environment, particularly to the air. It will use its volatile fraction.

There were many samples that were taken in the pits, and there were trace level benzene measurements that were found in some of the open pits, but the composition of that oil was still consistent with the weathered oil. High concentrations of that material are indicative of relatively fresh oil, and those were seen at times as well.

Q. So just again clarify the technical terms, you said trace levels of benzene. Benzene is one of the components of the gasoline range of petroleum hydrocarbons; correct?

A. Yes.

Q. So, when we look at Mr. Slocum's report from Shushufindi 4, and he said on the video that they found oil seeps, and then when he did his analysis about two-thirds of the way through Pit one, it said one sample within the pit demonstrated TPH DRO of 5,200 milligrams per kilograms and TPH GRO of 24 milligrams per kilogram; right?

A. That's correct.

Q. So, this is a smaller amount of GRO, of the

1405

volatiles; correct?

A. Yes. The fresh crude oil, if I remember the numbers correctly in that field, contains on the Order of 20,000 parts per million of the light ends, the GROs. That's determined by a topping test where that will be removed. If I remember correctly, it's approximately 20 percent, so that 20,000 number in this case is diminished down to 24, so it's clearly a very significant loss of the light ends, although not a complete loss, most likely due to the water cap that was on that pit.

Q. And again, this is 20 years after this pit was shut in and no longer producing?

A. After the well was shut in.

Q. Correct. After the well was shut in?

A. Correct, that's right.

Q. In reality, this oil was probably put into this pit well before that, before the well was shut in; correct?

A. We don't know that for sure, but if it were from that well, it would have been before that time, yes.

Q. And you mentioned two things I'd like to come back to. One is that the pit that was covered and, therefore, you expected some of the GRO, the volatiles to still remain, and you mentioned that it would be covered by soil or by water. By covering a pit like this with soil or water, that removes the oxygen; correct?

A. The pit that has a soil or water cap on it, and a hydrocarbons source in it will see its oxygen consumed relatively quickly by aerobic bacteria, and after that time the anaerobic bacteria will dominate the digestion process for biodegrading the oil, so you would expect the oxygen to drop, Mr. Ewing, in a short amount of time.

Q. And I think you're anticipating my questions about bacteria again.

The question is, and I think you would agree with me, the oxygen would definitely drop when the pit is covered with soil or with water?

A. Well, just to be clear, if you have an open pit with oil in it, it's particularly in oily sediments, then you will have consumption of the oxygen relatively quickly, whether there is earth on top of it or not because the oxygen will only be replenished by diffusion. That's a very slow process, or by fresh rainwater falling in. But it would not be enough to sustain the aerobic bacterial process.

Q. And as a result of the fact that these pits are capped with water or soil, that's why you then are not surprised to see DRO of 5,000 or amounts of GRO in this pit?

A. Well, the GRO that's in the pit is decreased by a factor of 1,000-fold, but there certainly can be some

remnants of that light end hydrocarbons held up within those said sediments and oils in that pit, yes, but it's 1/1000th of what it was originally when placed in the pit, if I remember my numbers correctly.

Well, excuse me. No, it's more. The 20 percent is 220,000; 20,000 is only 2 percent, so that the original fraction of GRO in that material should have been on the Order of 200,000, and now it's 24, so that's 10,000 times smaller, and that's consistent with what we have observed when oil is placed in the open environment, so it's 1/10,000ths of its original light end composition, if I remember my numbers correctly.

Q. So, to come back to my question, if you have a pit that is covered with oil--rephrase that.

If you have a pit that is covered with soil, you agree with me that the oxygen will be quickly removed from that pit?

A. Yes, I believe the oxygen would be quickly removed, whether or not the pit was covered with soil.

Q. So, open or closed, oxygen will be removed from the pit?

A. It would be faster in this environment if it's covered because rainwater in this area brings in three meters a year, and rainwater is oxygen saturated. So, you would have faster depletion of the oxygen if you're covered

than if you're in an open pit.

Q. Mr. Connor, you reviewed all of the sites that LBG sampled during 2013 and 2014; right?

A. Yes.

Q. And you have reviewed all of the data specifically for the four sites that the Republic nominated for the upcoming site visits; correct?

A. Those are included among those 13 if I recall correctly, yes.

Q. Correct. The four are a subset of the 13?

A. Yes.

Q. So, your first answer, I guess, answers my second question as well. You're right.

A. I hope so.

Q. And you have included your conclusions on those sites in your Reports submitted after LBG's sampling was completed; correct?

A. Yes, the sampling by the Ecuador experts was in a number of phases, but I did submit reports after those phases of work.

Q. So, if we look at Page 35 of your 2015 Report, and you discuss Shushufindi 34, and you said, "it's an open non-RAP pit located northwest of the platform and has yet to be addressed by Petroecuador."

Do you see that?

A. Yes.

Q. And then looking at Appendix B--this is Tab 29 of your Report--sorry. This is Tab 29 of our binder or Appendix B of your Report?

A. Tab 29?

Q. It's Tab 29 in our binder.

A. Okay.

Q. If you would turn to Page 16.

A. Of Appendix B?

Q. Of Appendix B or Tab 29. They are the same.

And at the bottom of that page you see--you again describe the open non-RAP pit, "The undocumented pit can be clearly seen as early as 1975."

A. Yes, that was an aerial photograph that was located by Mr. Cabrera and included in his document, and then posted on the Petroecuador Web site, at which time that pit was first identified.

Q. The pit at Shushufindi 34, you're saying, was first identified in a Cabrera Report that was posted on the Petroecuador Web site?

A. Yes, Mr. Cabrera compiled--he did an aerial photography survey, and he compiled his list of identified pits. This particular pit was on that list. And then that list was used by Petroecuador. Sometime after that list was issued or actually in the same year, two pits were

closed at this site by Petroecuador, but that pit was not closed.

Q. Okay. So, if you could look at the images I have on the screen, these are from your Appendix C, the 1976 image is on the left, and the 1985 image is on the right. And in these images, we can see that the images--that the pit is clearly there in 1976; right?

A. Yes, you can see that.

Q. And in 1985 you can no longer see it; right?

A. It may be due to vegetation overgrowing, but you don't see it there at that time.

Q. So, in 1985, if I tried to walk to that pit, you're saying that it looks to be overgrown by the jungle?

A. I believe if you went to that pit today, you would see that it's surrounded by tall trees, unless they've been cleared by the landowner, but in this case I can't say for sure, Mr. Ewing, but you can see there's a lot of trees that have grown into a formerly cleared area. You can't say definitively whether the pit is still there or if it's just obscured by the canopy.

Q. I can tell you this is not how it looks today, but we will go to that when we take the Tribunal down there, and we will discuss the site more. But for now you would agree with me, though, that this pit is not evident in the aerial photography as of 1985?

A. In the 1985 photo, the pit is not discernible.

Q. And I don't think you mentioned it in your Report, but this well was shut in by TexPet in 1983 as well; correct?

A. I don't recall. I'd have to look at the records.

Q. Okay. And when LBG visited this site, they found the liquid crude and, in fact, you note on page 16 of your appendix that, "Ecuador experts claimed to have found free flowing, liquid oil just below the surface within the pit boundary."

A. I lost track of you there, Mr. Ewing. I apologize.

Q. On Page 16 you just repeat what Ecuador's experts had found, claimed to have found.

A. Yeah, I characterized--I actually quote a statement from their Report.

Q. And you say, "claimed to have found." Do you have any reason to believe that they didn't find it?

A. That word is just to characterize that this was their statement. They stated that. I don't have any reason to believe that that was not correct.

Q. And one of your explanations for why liquid crude is still found in this pit from 1976 is if this pit was not included in the TexPet RAP; is that correct?

A. Yes. If it had been in the TexPet RAP, it would

have been remediated as demonstrated by the other facilities that we visited.

Q. And you've seen the photos that LBG has taken at Shushufindi 34; correct?

A. I've seen some of them, yes.

Q. And just to refresh your memory, these should be coming up on the screen now. This is the open pit at Shushufindi 34 we will be visiting, and you can see there it is no longer covered by tall trees.

A. That's right. I believe it looks like the natural vegetation has been cleared and they planted papaya trees. That's what it looks like today. So the open non-RAP pit remains in place as they do at many sites.

Q. And do you dispute that these photos show liquid oil?

A. It's difficult to say from this photo, certainly you have groundwater in there and it looks very oily, whether or not that's oil or the droplets have coalesced, I can't say clearly without seeing it directly, but there is clear evidence that there is oily material in that location, yes.

Q. We will have a chance to see it in about a month's time, so we will come back to these when we're standing here, okay?

A. Okay.

Q. Let's move on from Shushufindi 34 and talk about Shushufindi 55, another site that we will be visiting and that LBG investigated.

In your 2015 Report, at Page 37, which should be the next page from where we just were, you were stating--

MS. RENFROE: Pardon me, we were just, and perhaps I'm lost, but we were just in B-16 in the Appendix B of the Report. Are you taking us to a different place in his Report?

MR. EWING: Yes, I am. Let me correct my relative references and make them absolute.

BY MR. EWING:

Q. If you could look into your January 2015 Report--this is Tab 19 of our binder, and we're looking at Page 37.

A. Yes.

Q. And this is your one-paragraph description of Shushufindi 55. Did you find that?

A. Yes, I have.

Q. And this is the same Shushufindi 55 where HBT Agra found that the pit was seeping oil, that we were discussing earlier. Do you remember that from about an hour ago?

A. No, I don't recall that, but that may be the same well. This is a non-RAP pit, it may be the same one that HBT Agra visited.

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Q. Would you like to go back to it, or would you like to take my word for it? We're still talking about Shushufindi 55?
A. I don't think we need to go back to it, Mr. Ewing, unless you prefer that I do that.
Q. No, I think that I'm right.
And you looked at Chevron's data and LBG's data for this site; correct?
A. Yes.
Q. And you concluded that, and I quote your third sentence, "sampling and testing at the Shushufindi 55 well site show a limited extent of impacts to wetland sediments beyond the foot print of the facility."
Do you see that?
A. Yes.
Q. And Mr. Cabrera also went to this site and sampled at this site; correct?
A. Correct.
Q. And did you include his results in forming your conclusion?
A. His results are not plotted on this map. The Chevron results that were collected at that time are plotted on this map.
Q. To be clear, we're not relying on those either at this point. We're just talking about Chevron and LBG

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results.
A. That's right.
And to be clear, in my risk assessment work presented in the 2010 Report, I did consider all of Mr. Cabrera's data and all of the Lago Plaintiffs' data but in the delineation of the sites, I have not included those data because they were not reliable for that purpose.
Q. Understood. You're anticipating a question I haven't asked yet, and I don't think I will ask.
So, did you include--sorry.
Could you turn now to Tab 25. And this is the URS Summary Report that was prepared for Chevron, and I think you said earlier that URS was tasked with collecting the historical documents about these various sites?
A. Specifically yes, specifically historical documents related to the remediation program, the TexPet remediation program, 1995 to 1998, but not the historical records on spills, et cetera. Those are presented on Exhibit A of my 2015 Report, Page 8.
Q. And we will get to your Report to deal with the spills in a moment. If we could just focus on the URS document first.
And looking at the third page, it has at the bottom "GSI_0398701."
Do you see that?

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A. Yes.
Q. And with this page's reference, we know that Shushufindi 55 was drilled in 1975; correct? It's in the second paragraph?
A. Yes, I see that.
Q. And that it was shut in on 1 January 1983; correct?
A. Yes, that's what it says.
Q. So, after 1983, again assuming TexPet actually shut it in when it says it shut it in--Shushufindi 55 did not produce any oil; right?
A. There is an oil spill that occurred after June 1990 at this site that's reported in my Report in the exhibit I just recently cited to you. And I would have to go into my records of Appendix C of my 2015 Report to get you the exact date that that occurred.
So, my understanding--hang on a second.
Q. And Mr. Connor, just to save you the trouble, I promise we will get to your Appendix C on Shushufindi 55 probably within the next 15 minutes, so if you could just focus on the questions.
A. Okay, Mr. Ewing. I apologize if that's frustrating you, but in answering your question, when you say there were no oilfield--there was no oil production and, therefore, inference that there would be no propensity

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for a spill to occur, that's actually not correct in this case, given that there were spills after that time, but I don't believe there was production based on this information, but there were other activities that contributed to oil spills. If I had to be more specific about that, I would have to look it up.
Q. Shushufindi 55 was not producing oil after 1983, according to this URS Summary, a Chevron-created document?
A. The document that URS put together indicates that's correct, yes.
Q. But it's your testimony that there is some future spill after 1990 at this site that may have contaminated the site?
A. Yes.
Q. Okay. It was abandoned in 1983 but it was not plugged and abandoned until 1996; correct?
A. Well, the proper term would be shut in and then plugged and abandoned. Sometimes I'm not sure of the language being used there, but in 1996, this well under the TexPet remediation program was formally plugged and abandoned, which would destroy the well and install permanent seals.
Q. So, after 1996, basically the top 100 feet of the well is filled with concrete; is that your understanding when it's plugged and abandoned?

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A. No, that's not correct.
Q. What is your understanding of what a plugged and abandoned well looks like?
A. The plug-and-abandonment design varies according to the producing formation. Concrete plugs are placed at various steps within the well to isolate the production zones from the surface and from other subsurface zones. The casing will be perforated and destroyed, and the cement will be squeezed out of that through the casing into the surrounding areas to completely seal the well. Those plugs would be placed at a variety of different depths according to the petroleum engineers' design.
But then at the surface, the casing is excavated and cut off to a depth that's below what's called plow depth such that anyone using the property or doing agriculture will not bump into that casing. There is a cement plug that's also placed at the surface there, although the depth of that plug would be variable based on the design. However, these wells are not plugged and abandoned simply by placing a concrete plug at the surface. It's a much more involved operation as I have described.
Q. And no one realized that this pit or this well had only been shut in in 1983 until the documents were reviewed in 1986, and it was actually finally plugged and abandoned; is that right?

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A. I guess I don't understand your question, Mr. Ewing.
Q. So, this well was not plugged and abandoned for 13 years after it was shut in; is that correct?
A. Oh, according to that data, yeah, that's very--that's not an uncommon phenomenon. That a well is an expensive piece of equipment and it may have other uses. It could be reactivated for oil, it could be used for Geophysical Surveys, it could be used for injection. Once a party determines that it doesn't have those uses, then it may be plugged and abandoned and permanently destroyed.
Q. If you turn to Page 4 of your Summary, and the pages are closest to the three rings, do you see the second paragraph where it says "surface soils were noted to be contaminated with degraded oil?"
A. Yes, I do see that.
Q. And at the end of the third paragraph, it says--or the middle of the third paragraph, "Hole Number 1," a hole that they dug during their investigation?
A. Oh, yeah.
Q. Do you see that?
A. Yes, I do.
Q. Was in an area of visible contamination and was 14 inches deep.
A. Yes, I see that.

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Q. And this information is coming from the remedial investigation that was conducted as part of the RAP; is that correct?
A. Correct.
Q. And they noted that spotty contamination was observed along the walls of that hole.
Do you see that?
A. Yes, that's right.
Q. And water was observed seeping from the sides with some oil floating on the water.
A. Yes, that's on the surface of the pad, and that's why this site was included in the RAP for remediation of that soil. The well was plugged and abandoned, and this soil was remediated as part of the RAP.
Q. So, it's your testimony that this soil that you're describing was remediated?
A. Yes. If you look in the records you will see that those two holes are drilled into the effective material on the pad, and then there is a hand sketch--it might be actually in this package. There is a hand sketch that will indicate the approximate area to be remediated, and the Parties would then come and do a soil stabilization.
Here it is. It is on Page 708. Yeah, this is a comment--it's easier to read on Page 707. It's pretty hard to read on either page.

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Q. It is difficult to read the maps.
A. But nevertheless, this is how they record it. They would drill these holes on the pad, identify the areas to be cleaned, and then include those in the RAP, and that's what was done here.
Q. So, when they're describing that Hole 2 also had contamination with seeping oil, your testimony is that that was remediated?
A. Yes, you could read the Remediation Report and see that's the case.
Q. Okay. If we turn to Page 9, which is that RI field sketch that you were referring to--actually, I jumped ahead too quickly.
Could we stay on Page 4 which is still the description.
A. Okay.
Q. And the last two lines here on Page 4 says: "The nearby stream was noted to have oil stains in several places and a sheen of oil. Fish were observed in the water."
Do you see that?
A. Yes.
Q. Is it your testimony that nearby stream was also remediated?
A. No, that is not my testimony. I believe that the

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Shushufindi 55 site was specifically tasked to TexPet for remediation of oil contaminated soils on the pad and plugging and abandonment of the well. And those were the tasks that they completed at this site. They did not address other aspects of this site.

Q. So, looking at this sketch that should be coming up on the screen, and hopefully it's a little easier to read there?

A. A little easier.

Q. A little easier.

At the bottom, just to orient ourselves, coming across the top left, do you see where it says "road"?

A. Can you point a cursor at it? Do you have the ability to do that?

Q. I'm glad you asked that.

A. Yes, I see that.

Oh, high-tech.

Q. So, the road comes across the top of this site; correct?

A. In this diagram, yes.

Q. In this diagram. And I understand that there is concern about the orientation of what's north and south. So, let's just call it top and bottom. I recognize that that might not be the north?

A. Yes, it's not the north.

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Q. So, the road is across the top of the diagram, and then the well is right about in the middle.

A. No, I can't read that very carefully, but let's go ahead and proceed on that assumption.

Q. The well is right there. I was just there a year-and-a-half ago. And then there is a large hill that has been placed here, and then over here in the remedial investigation, they have identified what looks to be a pit drawn on there, or a former pit.

A. Where is it you're looking?

Q. On the top right corner of the drawing.

A. The rectangle there?

Q. Yes, the rectangle?

A. Yes, that was a non-RAP pit that is located to the east of the platform.

Q. And then at the bottom right-hand corner of this drawing, can you read where it says "oil sheen on water"?

A. Yes, I can see that.

Q. Now you can see it even easier.

A. That's better, yes.

Q. And this is where during the remedial investigation they found that the oil contamination had impacted this stream.

A. They certainly found oil impacts in this stream, yes.

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Q. And do we need to--Fugro-McClelland found similar--had similar findings about this site, but for now in the interest of time I will move past Fugro-McClelland, since they basically duplicate HBT Agra, but you don't have to agree or disagree to that. I'm just going to skip ahead to save us some time.

A. I guess, just to be clear for the record, I think you said that they duplicate HBT Agra, right here we're looking at Woodward-Clyde's records; right? The document we're looking at I believe is by Woodward-Clyde.

Q. That's correct. We looked at the HBT Agra Report earlier.

A. Okay.

Q. Too much commentary for me just to say--I'm just going to skip a few questions.

If we turn to your Report, your 2015 Report, at Page 37, I think this is what you have wanted to talk about. On Page 37, you say, operating records show that Petroecuador has experienced at least one spill and closed one pit at this site since taking over operation of the site in June 1990.

Do you see that?

A. Yes.

Q. And this statement follows your conclusion that LBG has "not conducted sufficient sampling to determine the

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source of the limited sediment impacts or to assert that these limited impacts are the result of contaminant migration from the nearby closed pit."

Do you see that?

A. Yes, I see that.

Q. So, what you're saying here, if I understand this correctly, is that LBG has identified limited impacts, but you believe operating records show that those may be due to Petroecuador?

A. To be clear, I'm indicating there had been activities and known spills to have occurred at this site. Whether or not this particular incident is associated with that, I'm not stating that. What I am stating is that the conceptual model presented by the Ecuador Experts is not sustained in this case. That model or concept is that contaminants move from pits outward through the soil to contaminate the surrounding area. Yes, we have some impacts to a stream, but that does not--has not been demonstrated to be associated with that pit. Normally impacts to a stream are associated with flow line breaks or other overtopping events, not due to subsurface transport of oil from a pit as it was posited by the Ecuador Experts in what they call their conceptual site cross-section.

Q. And the fact that you are pointing to say that LBG's conceptual site model has not been proven is in these

operating records?
A. No.
Q. Where is the fact that you know that something has occurred at this site since 1990?
A. Well, okay, I guess those are two different questions. Your first question was, did I know that their conceptual site model was wrong because of the operating records? No, that's not why I know it's wrong.
The conceptual site model is a theoretical depiction of how chemicals move through earth. That's a different issue as to where those chemicals originated. Your second question, I believe, is how do I know there was a spill that occurred at this site? I know that because we reviewed hundreds of documents, and the specific document upon which that opinion depends is provided in Appendix C of my 2015 Report.
Q. Okay. So, the conceptual site model, let's put that aside because I was not intending to ask you about conceptual site models. We will come back to those as well. We have got a lot to cover.
The question I have is just about the operating records that you refer to. The purpose of offering that statement on Page 37 is to say the contamination is there, but it may not be TexPet's, it may be because of Petroecuador's activities; is that right?

A. No. In this case, I'm not saying that the oil found in that stream is associated with activities after 1990. I'm just making the point that the assumption that these sites are TexPet-only is once again not correct in this case, but that doesn't relate to the specific provenance of that oil stain in the swamp to the south of this facility.
Q. So, I don't see a reference to the operating records. I would assume that they would have been in Appendix B where you have a summary of the Shushufindi 55 well site environmental conditions, but I understand from what you're saying now is that they are in Appendix C; right?
A. That's correct, yeah.
Q. So, we will skip Appendix B and go right to Appendix C, and there are actually two appendices labeled C; correct?
A. I will have to look at the Report to answer that question.
Q. Here is an Appendix C.1 and Appendix C.2.
A. Then I would agree there are two appendices labeled C.
Q. And we have now moved on to Binder Number 3.
(Laughter.)
Q. It's an exciting moment.

MS. RENFROE: How many are there?
MR. EWING: I said there may or may not be four. There are currently four.
MS. RENFROE: Currently?
MR. EWING: I have four.
BY MR. EWING:
Q. Mr. Connor, I'm trying to give you all of the documentation. We had trouble at the deposition not having everything ready, so I went beyond to make sure we would have everything. So, I apologize for the number of binders.
But if you look at Appendix C.1, which is Tab Number 30, and we look down to Shushufindi--
A. Thanks, man. It's a gift.
Q. --55, which is on the second page.
A. C.1? Yes, it's on the first page of the table. Is that what you mean?
Q. Oh, sorry, yes. On the first page of the table.
And you list one spill, one pit closure or other remediation.
Do you see that?
A. Yes.
Q. And then there is a footnote that says "pit closure and other remediation includes pits, soils, and other site features for which analysis of aerial imagery

indicates that Petroecuador has remediated or otherwise closed that feature."
Is that correct?
A. That's correct.
Q. So, this doesn't tell us the documents that we need to look at. It just tabulates the results of your research; right?
A. You need to look at Appendix C.2 to see the list of documents.
Q. If you could turn to Tab 31, you will see Appendix C.2.
And before we get to Shushufindi 55, I just want to look at this first page for Aguarico 6--or, sorry, Aguarico 2--to understand what this collection of documents is.
I see quite a few documents here categorized by aerial photos, information about workovers, and then documents that were already submitted.
Do you see that?
A. Which page are you looking at? Are you looking at the first page, or--
Q. The first page.
A. Yes, I see that.
Q. And you include information about workovers like I said, and reports about work that was done by PEPDA or by

Ecuador or by other agencies of Ecuador. Production data. It's--this is all the information you have about this site.

A. It's all the information that got recorded on this table. There is a disk that's also attached with a large number of documents, but this was intended to be a inventory of those documents to facilitate searching of that disk. It may not be a complete inventory of the documents that were relied upon, but it was the best effort of the staff to make those accessible.

Q. So, looking at these aerial photographs, we've got approximately 12 from Aguarico 2, well status reports and tables, et cetera.

A. Yes, there's quite a few documents on that site.

Q. At the end it says a "video screenshot."

Do you see that?

A. Yes, I do.

Q. The bottom of this table, it says--the second row up it says "video screenshot."

A. Correct.

Q. Do you know what video that was taken from?

A. No, I don't. But you could find all those documents. They should be provided on the disk. It was provided with this.

Q. Okay. So, if we turn to Page 20 of 55, and if you look in the top left corner closest to the three rings?

A. You mean 20 of 35?

Q. Twenty of 35.

A. Okay.

Q. In your Report, you said: "Operational records provided support for the conclusion that Petroecuador has experienced at least one spill and conducted at least one pit closure since taking over operation of this site in 1990." Correct?

A. Correct.

Q. I don't see any operational records listed.

A. By "operational records," I mean the documents that are provided in Appendix C, and those include well status reports and spill records when they are available. But I used that term in a generic sense.

Q. So, when we looked at Aguarico 2 at the very beginning, you listed the well status reports, the pre-assessment findings, et cetera. But when I look at Shushufindi 55, I don't see any of those documents that you just referred to.

A. Yes, because those documents are associated with Aguarico 2.

Q. My question must not be clear.

If you look at the index, "document inventory," for site Shushufindi 55, Page 20 of 35 of your Appendix C.2, you told us in your 2015 Report that we would find

operating records that show that Petroecuador has experienced at least one spill and conducted at least one pit closure since taking over operation of this site in 1990. And my question to you is: I don't see those; am I missing them?

A. No, I believe these are the documents that were available, and I use "operating records," as I said, in a general sense. You may refer back to a footnote that you read earlier that said that remediation activities were sometimes in reports and sometimes determined from evaluation of aerial photos. Sometimes spills were characterized in that same way. I would have to go back through these documents to clarify that for you.

Q. So, your testimony is that the aerial photographs that you have included here would indicate where the spill--that there was a spill?

A. The aerial photos certainly indicate that the non-RAP pit was closed by Petroecuador, and the importance to me on that is that the pit count is reduced. I don't recall the basis for which the staff determined that there had been a spill at this site. I would have to confer with them on that.

Q. But sitting here today, you don't see any operating records that would indicate that there was one spill and one pit closure?

A. No. There--on that particular site, there aren't--as you define operating records, no, there are not those. They are not listed on this table.

Q. And I'm trying to use the term as you defined it in your Report, not how I'm defining it. I don't see any record here to support the conclusion that there was at least one spill and one closed pit post-1990.

A. Yes. I think if I explained it before, in the text I'm using "operating records" to refer to the types of documents that are presented in Appendix 6--Appendix C--and those include a variety of documents. In this particular case, on that site, we do not have--according to the table, we don't have actual spill reports, et cetera, or pit closure reports. But the aerial photos were certainly sufficient to demonstrate the closure of the pit. I can't tell you offhand the basis for the spill report, the spill indication, without reviewing those files.

Q. So, in Appendix C.1, your footnote on pit closures and other remediation should have been on spills as well?

A. No, I think it's clear as to what it states, that the pit remediation was clearly based on the aerial photos and other documentation.

Q. So, Appendix C.1 says that there was one spill at Shushufindi 55. Is it your testimony that that evidence is in those aerial photographs?

A. You know, as I said before, Mr. Ewing, I'm not sure what the basis was for the staff concluding that spill. I would to have to confer with them to understand that completely.

Q. And is that information that you would be able to obtain for us so that we could understand what your conclusion is from your Report? And what the support is for your conclusion?

A. The information should be provided on the CD that's with the file. If I was advised by counsel to do more research on that and provide you that, I certainly would do that.

But as we noted earlier it's not my opinion that that spill is the source of the sediment impacts in the swamp that we have been discussing. Only that these activities have occurred such that the environmental condition of the site is not what it was at the time of TexPet operations.

Q. And is that true for all 13 of LBG's report of sites? That you are not intending causation, you are just mentioning the fact that other activities have happened?

A. No, I can't say without reviewing it more carefully, Mr. Ewing, that there is not causative relationships. In some cases we know very clearly what the cause was of the impacts we observed. In other cases we

don't. We could go through each case and I could tell you what my findings were in that regard.

Q. But at Shushufindi 55, you're not testifying to what caused the contamination in the stream?

A. That's correct. And that's exactly the point I'm making in the text, that there is not information available to support a conclusion or a hypothesis of oil migration from a pit. And in fact, we don't know what the provenance of the oil contamination is. We know that it's been there for a while, but we don't know how it happened.

Q. So, you're saying that, despite the fact that HBT Agra in 1992 found that that stream was impacted and that Woodward-Clyde found in 1996 that that stream was impacted, we still can't say what else may have happened to impact that stream?

A. I don't think I followed that question.

Q. My understanding is that you--your conclusion is that LBG's experts have not proven that the contamination in the stream at Shushufindi 55 is the result of TexPet's operations. Is that your statement? That they have not made that conclusion?

A. No, that's not my statement. The statement is simply that the conceptual model of contaminant migration that was put forth in the Ecuador Experts' Reports has not been demonstrated at this site or at any other site. That

is not the mechanism whereby that stream was impacted, or is there data to support that. That's my statement. My statement isn't to the source or timing of that effect, it's only to the mechanism of those conditions.

Q. And I think you're again moving on to conceptual site models.

Let's move to another document.

Could you turn to Tab 32. And this is R-1237, and is GSI's summary of site-specific information for Shushufindi 55. And this was done in 2007, according to the date at the top left.

Do you see that?

A. Yes.

Q. And looking down the middle of the page, do you see where it says that no spills had been reported? Sorry, this is on the next page of the printed document. I apologize. Right in the middle, the left column says "spills," the description says "no spills reported."

Do you see that?

A. Yes, that's correct.

Q. So, as of 2007, GSI had not found any information about spills at this site.

A. In the records that we reviewed at that time, which were the HBT Agra Report and the Petroecuador records that were available cited there, there was not any

indication of a Spill Report. Correct.

Q. And if you turn to Tab 33, this is a page from Chevron's clickable database again, which is Exhibit R-938. And this is, again, information that Chevron and GSI have put together; is that right?

A. The clickable database would have been compiled by staff at GSI. I don't recall what involvement Chevron had in that. There were different parties that provided information that was compiled in that database by my staff.

Q. And do you see where it says "workover dates and procedures, no workover data available"?

A. Correct.

Q. And do you see where it says "Spill Report, no spill data available"?

A. Correct.

Q. So, again, as of 2007, you had found no evidence of workovers and no Spill Reports.

A. That's right.

Q. Until 2015, when you say that there had been spills and a pit remediation, and we just have the aerial photographs to determine that?

A. Mr. Ewing, the Petroecuador's pit Remediation Program initiated in 2007, after the date of this summary, and that pit has been remediated by Petroecuador. The basis for the spill--as I've said before, I'd have to look

at the records to see what that is based upon--is not the spill that contributed to the oil in the swamp to the south of the site.

Q. So, your testimony is that there must have been a pit that Petroecuador remediated after 2007 but before 2015 that accounts for your information in Appendix C.1?

A. Yes. They remediated that non-RAP pit at this site. You can see that on the aerial photographs.

We have incomplete documentation on the work that Petroecuador has conducted, but they have certainly closed many pits in the area, some of which are documented reports and some of which are clearly evidenced on aerial photographs.

There is a tool that I believe we provided you and to the Members of the Tribunal called the Farallon tool, and in that you will see a very useful collection of aerial photographs. As you click through those, you will see pits disappear as they're remediated by Petroecuador over time. And I would be happy to demonstrate that tool to you, if you're--if that's of interest to you, just to do that exercise.

Q. I'm sure that we will have an opportunity to look at that tool some more. Let's--we will potentially come back to these aerial photographs to see what they actually include.

The next set of questions I have is going to take us a little while, or hopefully not too long, but it's probably longer than six minutes. Would you rather end a little early or a little late, Mr. President?

PRESIDENT VEEDER: Well, just tell us first how things are going. Are you roughly where you want to be or are you taking more slowly than you imagined?

MR. EWING: I think that the afternoon went a little more slowly than I expected it to go. I will look at my outline this evening and see what I can cut out of it, but it did take longer to get where we needed to go.

PRESIDENT VEEDER: I think we'd better stop here, hadn't we? We will stop here and then we'll resume tomorrow.

What we would like to do is to start at 9:00 because we want to address the question of the Terms of Reference for the Tribunal Experts. If we could start at 9:00, it shouldn't take us more than a half an hour or so. So, if you could come back for 9:30, we'll resume our cross-examination then.

THE WITNESS: Oh, I'm sorry. I should be here at 9:30 or 9:00?

PRESIDENT VEEDER: 9:30.

THE WITNESS: 9:30.

PRESIDENT VEEDER: Nothing's to stop you coming at

9:00 if you want to, but don't come after 9:30.

THE WITNESS: I think 9:30 sounds just perfect.

PRESIDENT VEEDER: Okay. And again, please don't talk about the case--

THE WITNESS: Yes.

PRESIDENT VEEDER: Or your testimony to anyone until you come back before the Tribunal.

THE WITNESS: Yes, sir.

PRESIDENT VEEDER: Thank you.

SECRETARY DOE: Just before we do go, might I invite the Claimant to make the corrections to the exhibit numbers of the documents that were produced during Mr. Lynch's examination, that were indicated to me just before the break?

Do I understand correctly that it's C-2514, C-2515, C-2516 as the numbers appear on the documents that were handed out should, in fact, read C-2515, C-2516, and C-2517 respectively?

PRESIDENT VEEDER: Please speak in the mike and go on the record. What's happened is we cannot have duplicate exhibit numbers and we've got to sort this out now before it's too late.

MR. CALABRO: Yes. And that's the concern I'm here to address.

We errantly put into the record a duplicate

Number 2514. The two other exhibits that we put in earlier today, 2515 and 2516, should remain with the numbers that they were assigned. However, the document that we errantly assigned 2514 should become 2517. And we've sent an e-mail to that effect to both the Tribunal and the other Party.

PRESIDENT VEEDER: There is no objection, of course, from the Respondent?

MR. EWING: Of course not.

PRESIDENT VEEDER: Thank you.

Unless there is housekeeping we can attend to or we need to attend to now, we will adjourn until 9:00 tomorrow.

Anything from the Claimants?

MS. RENFROE: Nothing further, Mr. President.

PRESIDENT VEEDER: Respondent?

MR. EWING: Nothing. Thank you.

PRESIDENT VEEDER: Until 9:00 tomorrow. Thank you.

MR. EWING: Have a good night.

(Whereupon, at 5:27 p.m., the Hearing was adjourned until 9:00 a.m. the following day.)

CERTIFICATE OF REPORTER

I, David A. Kasdan, RDR-CRR, Court Reporter, do hereby certify that the foregoing proceedings were stenographically recorded by me and thereafter reduced to typewritten form by computer-assisted transcription under my direction and supervision; and that the foregoing transcript is a true and accurate record of the proceedings.

I further certify that I am neither counsel for, related to, nor employed by any of the parties to this action in this proceeding, nor financially or otherwise interested in the outcome of this litigation.

DAVID A. KASDAN