

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

- - - - -X
 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. :
 - - - - -X

TRACK 2 HEARING SHUSHUFINDI-55 SITE VISIT

Monday, June 8, 2015

Coca (Francisco de Orellana)
 Republic of Ecuador

The Shushufindi-55 Site Visit in the
 above-entitled matter convened at 1:44 p.m. before:

MR. V.V. VEEDER, Q.C., President

DR. HORACIO GRIGERA NAÓN, Arbitrator

PROFESSOR VAUGHAN LOWE, Q.C., Arbitrator

Additional Secretary:

MS. JESSICA WELLS

Registry, Permanent Court of Arbitration:

MR. MARTIN DOE, Registrar
Secretary of the Tribunal

Court Reporter:

MR. DAVID A. KASDAN
Registered Diplomat Reporter (RDR)
Certified Realtime Reporter (CRR)
Worldwide Reporting, LLP
529 14th Street, S.E.
Washington, D.C. 20003
United States of America
(202) 544-1903
info@wwreporting.com

APPEARANCES: (Continued)

On behalf of the Respondent:

DR. DIEGO GARCÍA CARRIÓN,
Attorney General
DRA. BLANCA GÓMEZ de la TORRE
Counsel, Attorney General's Office
DR. LUIS FELIPE AGUILAR
DRA. DANIELA PALACIOS
Procuraduría General del Estado
Robles 731 y Av. Amazonas
Quito, Ecuador

MR. ERIC W. BLOOM
MR. GREGORY L. EWING
MS. CHRISTINE M. WARING
MS. NICOLE Y. SILVER
Winston & Strawn, LLP
1700 K Street, N.W.
Washington, D.C. 20006
United States of America

MR. JOSÉ MANUEL GARCÍA REPRESA
Dechert LLP
32 rue Monceau
75008 Paris, France

Respondent's Site Visit Participants potentially
providing testimony:

DR. EDWARD A. GARVEY (LBG)

Respondent's Site Visit Participants not providing
testimony:

MR. SHANE McDONALD (LBG)

DR. HARLEE STRAUSS

APPEARANCES:

On behalf of the Claimants:

MR. R. DOAK BISHOP
MS. TRACIE RENFROE
MS. CAROL WOOD
MS. JAMIE M. MILLER
King & Spalding, LLP
1100 Louisiana Street, Suite 4000
Houston, Texas 77002
United States of America

Claimants' Site Visit Participants potentially
providing testimony:

MR. JOHN CONNOR (GSI)

DR. THOMAS E. McHUGH (GSI)

Claimants' Site Visit Participants not providing
testimony:

DR. GINO BIANCHI

MR. ERNIE BACA (GSI)

MS. DANIELLE KINGHAM (GSI)

MR. WILLIAN CHAVEZ (GSI)

C O N T E N T S

PAGE

FIRST ROUND OF ORAL PRESENTATIONS

ON BEHALF OF THE RESPONDENT:

By Mr. Ewing 213

By Dr. Garvey 227

ON BEHALF OF THE CLAIMANTS:

By Ms. Miller 242

By Mr. Connor 249

By Ms. Miller 259

By Mr. Connor 260

By Ms. Miller 263

By Dr. McHugh 264

By Ms. Miller 267

SECOND ROUND OF ORAL PRESENTATIONS:

ON BEHALF OF THE RESPONDENT:

By Mr. Ewing 271

By Dr. Garvey 274

By Mr. Ewing 278

By Dr. Garvey 282

By Mr. Ewing 284

QUESTIONS FROM THE TRIBUNAL

284

P R O C E E D I N G S

OPENING STATEMENT BY COUNSEL FOR RESPONDENT

MR. EWING: Good afternoon, Members of the Tribunal. We are now at Shushufindi-55, the third site on our Site Visit per the Protocol. Today, we'll be sitting here under this tent for a while, hopefully, as long as it's raining. And hopefully when it stops raining, we will walk to your left around where the yellow markings are and up on top of this hill behind me. From there we will then walk down to the stream to see the sedimentary area that LBG has sampled.

Just in case it's helpful, we are now at Shushufindi-55, south of where we just were from Aguatico-06, so we are here at Shushufindi-55. And again, we started out at Coca, and we will go back home the same way we came today. All right.

So, I want to explain why we chose this site. First, it's easy to trace the responsibility for what we see at this site. This, again, is a TexPet-only operated site. There has never been any Petroecuador operations at this site.

This site also allows us to see what does oil look like that is at least 32 years old. As I will get into, that is when this well was last producing.

So, it allows us to see what other sites would

and just soil samples and groundwater samples. There was no stream nearby that we were particularly focused on. At this site, we have a pit, which I will explain in a second, but we also have a stream that's behind you where those trees are. So it adds that level of complexity for you to understand what's going on at these sites.

And I think I mentioned this before, but many of the sites that we look at have streams nearby. Water is a necessary part of drilling, plus streams are pretty ubiquitous in the Amazon since it rains a lot.

And I mentioned at the last site about testimony from Dr. Hinchee. From Page 1975 of the Transcript for the Track 2 Merits Hearing, he said, which seems very appropriate right now, "Ecuador is a very wet, humid climate. There are many surface water features. Any time you have a spill you're going to be close to surface water. Spills often go across land and into creeks, streams, wetlands, and so part of many of these spill cleanups is--includes sediments," and that's Dr. Hinchee's testimony at Page 1975.

One question I want to start with for this site is why we focused on three of these sites which were not part of Judicial Inspection. So, Shushufindi-55, where we are now; Shushufindi-34, where we were yesterday; and Aguatico-06, where we were this morning, were not Judicial

look like that would have oil that's 32 years old or older. Is it asphalt, as Mr. Connor had said before, or is it simply still liquid and mobile? Does the clay prevent the oil from moving? At Aguatico-06, as Dr. Garvey said, we have the best possibility for preventing movement of oil in that clayey soil, and it did not prevent it from moving.

Is the oil so weathered that it's immobile? Ultimately, what we say is that Chevron's conclusions are just not true, and looking around you can see that for yourself.

This site is also important.

(Pause.)

MR. EWING: This site is also important because it allows us to--

(Pause.)

MR. EWING: This site shows us the variability of contamination in the streams, and Dr. Garvey will explain this much more. But, as he said at Aguatico-06, one sample just is not enough to characterize an area like a stream, like an estuary. It just is not adequate. And he'll explain that more why.

And this site I had mentioned this morning that the sites are originally planned to be reversed. Shushufindi-55 adds layer of complexity to Shushufindi-34. So, Shushufindi-34, we saw a pit with oil

Inspection sites. Lago Agrico-2 was, where we will be tomorrow, but the first three were not Judicial Inspection sites. And I think, as you asked this morning, I think you asked this morning, Shushufindi-55 was assessed by Cabrera, but it was not a part of the Judicial Inspections, and his Report was not considered, so this is really sort of a separate site, not a part of Judicial Inspections.

But the first point, as I mentioned earlier, is that all of these sites are included in various documentation that was submitted to the Court, and I mentioned the HBT-Agra Report, the Fugro-McClelland Report, the Woodward-Clyde Report. Those are just three examples of where information about all the sites in that Concession Area were submitted to the Court.

But potentially the more important reason, at least for purposes of this Site Visit, is that we are attempting to separate out the issues so that we can understand each of them separately, and that's when I refer to adding layers of complexity at each of these sites. So Shushufindi-34, we are going to start off with a simple site that would allow you to see how TexPet oil operation occurred and what would happen with the hidden pits. This allows us to look at streams and sediments. Aguatico-06 added the complexity of having multiple undocumented pits, streams, and sediments, a few more exposure pathways. And

1 in Lago Agrio-2 tomorrow, we'll add in--take all of that in
 2 a sense and give us some more complexity in terms of
 3 dividing out liability, because Lago Agrio-2 is the first
 4 site that we're going to look at where Petroecuador has
 5 extracted oil--and the rest of the sites--ask and they
 6 shall receive--the rest of the sites were TexPet only and
 7 for extraction of oil.

8 So, let me give you a quick intro to the history
 9 of this site, and I want to show you this aerial image.
 10 This is an aerial image of Shushufindi-55 in 1975, and
 11 there are a couple of things I want to point out.

12 First is this lighter area that's
 13 semi-rectangular--and just so you guys know what we're
 14 looking at, '75, and this should be Respondent's Tab
 15 Number 1. This lighter area in the middle is the platform,
 16 and we are currently sitting on the platform. The well was
 17 approximately where this darker spot is in the middle, and
 18 we are currently sitting--if you see right behind me,
 19 you're asking what this is. This marker, concrete steel
 20 2-C-02, is a marker of where the well originally was. When
 21 a well is plugged and abandoned, which is a complete and
 22 final non-reversible filling of the well with concrete at
 23 the end of a life of a well, you put a marker in like this.
 24 So, we are sitting in front of where the well used to be.
 25 So, that is right here.

1 MR. EWING: Yeah. And then the road at some point
 2 in the future and it curves around. There is a house that
 3 you will see over there, which is approximately here.

4 And you see in 1975--this is September--there's a
 5 house down here. That seems to be the house that's across
 6 the bridge where we just came in; and then 1976, in
 7 January, the next--I think it's Respondent's Tab
 8 Number 2--you'll see that another house is built here in
 9 approximately January 1976. So, since the beginning of
 10 this well, there have been at least two houses. They have
 11 now been expanded, and there are a series of barns and
 12 connected houses and buildings, it seems.

13 PRESIDENT VEEDER: Sorry to be a pain, but I'm
 14 looking at the 1990 photograph in the Claimants'
 15 mini-bundle, Page 13.

16 MR. EWING: Yes.

17 PRESIDENT VEEDER: It looks quite different. The
 18 road is--

19 MR. EWING: Can I--

20 PRESIDENT VEEDER: Yes, have a look.

21 MR. EWING: So, if you take this and put it here,
 22 you see the pit to the east; and the pit to the east, the
 23 road comes up from the south.

24 PRESIDENT VEEDER: Yes.

25 MR. EWING: And then in the 1990 image that you're

1 To the side--and this is to your left, you can see
 2 Chevron's yellow flags--is the location of the pit that was
 3 dug when this well was drilled. And this pit, like the one
 4 at Shushufindi-34 that we saw to the side of that site, the
 5 one that was likely below Aguarico-06, I mentioned how
 6 gravity was used to dispose of wastes. This was likely the
 7 reserve pit. It's really the only pit that is obvious on
 8 the aerial imagery, so it would have been where they put
 9 the debris from drilling and then where initial tests of
 10 the well may have gone. Initial produced water that came
 11 out, et cetera, would have gone into this pit. And again,
 12 that pit is off to your left marked by the yellow flags.

13 We'll talk about the size of that pit. We have
 14 some slight discrepancy with where Chevron has placed their
 15 flags, but suffice it to say, it's a rather large pit.
 16 It's about the size of the platform.

17 PRESIDENT VEEDER: Please help us with the roads.
 18 Have the roads changed?

19 MR. EWING: We drove in here. The road now
 20 continues on, but the road at the time did not, so we drove
 21 in from the south here, which is where we just came up.

22 PRESIDENT VEEDER: I see upside down.

23 MR. EWING: So, it's sort of facing the other
 24 direction.

25 PRESIDENT VEEDER: I get it.

1 looking at, the road does continue up through.

2 ARBITRATOR GRIGERA NAÓN: So, this is--

3 MR. EWING: No, other.

4 PRESIDENT VEEDER: None.

5 MR. EWING: Oh, sorry.

6 PRESIDENT VEEDER: That's north; right?

7 MR. EWING: Yes. If we do this, that may look
 8 more like what you're--

9 PRESIDENT VEEDER: But it doesn't, because it fits
 10 the wrong side of the road.

11 MR. EWING: I'm trying to orient with you without
 12 knowing what you're looking at. So, yes, when you have it
 13 like this, your pit is to the east--

14 PRESIDENT VEEDER: I get it, okay.

15 MR. EWING: --just like we're looking at.

16 ARBITRATOR GRIGERA NAÓN: Which year is this?

17 MR. EWING: This picture is from 1975.

18 ARBITRATOR GRIGERA NAÓN: Okay. And this one is
 19 1990?

20 MR. EWING: Yes, 1990.

21 ARBITRATOR GRIGERA NAÓN: All right.

22 MR. EWING: Okay. Okay, I think we're good.

23 So, there is primarily one pit here that we see to
 24 the left. This well, if you wanted to, you could
 25 read--they've welded it into the side of here--when it was

1 drilled. It was perforated or drilled in July of 1975, and
2 then it was abandoned in 1996. So, this well drilled in
3 1975, and it stopped production in approximately 1983. It
4 was shut in. From 1983 to 1996, it sat here untouched;
5 and, in 1996, it was part of the RAP. TexPet or
6 Woodward-Clyde, Chevron's contractor, came back and
7 abandoned it. So, oil stopped production at this site in
8 1983.

9 A few auditors have come to this site and looked
10 at it, and their Reports are in the Lago Record and in our
11 record. Fugro-McClelland came here. HBT-Agra came here,
12 and we'll talk about some of what they saw when we get up
13 to the next vantage point.

14 There were no pre-inspections here. This was not
15 a Judicial Inspection site, and there were no Judicial
16 Inspections with the Judge. Like I said, Cabrera did
17 sample.

18 When Cabrera sampled, Chevron also took some
19 samples. They called them the "Cabrera shadow team." I
20 think it was Mr. Bjorkman, Bjorn Bjorkman, who came here
21 and sampled either with Cabrera or following behind Cabrera
22 or seems to be some of these were taken a few days or weeks
23 later, and his results confirm what Cabrera found, and
24 those can be seen at Respondent's Tab 17 and 18.

25 And basically what they found is that this mound

1 MR. EWING: It's like we live in the city--showing
2 you the 1975 aerial image, and you can see the black
3 outline of the pit. And what both Parties tried to do,
4 what everyone is trying to do to understand these sites is
5 trying to assign locations to those aerial images, and it's
6 not an exact science, so I'm not suggesting there is any
7 malfeasance in the pit size. I just think we have a
8 slightly bigger idea of what this looks like based on our
9 assessments of the images.

10 Like I said, we are now looking over the pit, and
11 regardless of whose boundaries you look at, it's a large,
12 large area that was covered in, according, based on the
13 aerial images, a layer of oil.

14 One of the responses that Claimants have on this
15 site are basically two: One is that Petroecuador closed
16 this pit in June of 1990, and the second is that there was
17 a spill where LBG sampled and that that spill was a problem
18 and the reason for the contamination that LBG eventually
19 found, and I'd just like to address both of these in turn.

20 First, the evidence does not support either, but
21 if we look first at whether Petroecuador closed this pit,
22 you'll notice in Claimants' briefing and in their Site
23 Packet that they affirmatively say Petroecuador closed this
24 pit. You'll notice also there is no documentation or
25 citation for that because we don't know who closed this pit

1 that we're about to work walk on top of is an oily mound,
2 and what it seems to be is that the contents of the pit
3 were mounded up potentially to make more room in the pit or
4 otherwise to cover up the oily waste. But, when Cabrera
5 looked in this mound, he found it to be an oily mound. And
6 then both Cabrera and Mr. Bjorkman made observations of
7 sediment contamination in the stream, which we're going to
8 go see.

9 We won't see their observations. We'll see the
10 stream itself.

11 And there have been no workovers at this site.
12 So, really this is a TexPet-operated site since 1983--or
13 it's completed in 1983.

14 So, unless there are any questions, I'd like to
15 take us on a little walk to the top of the hill.

16 PRESIDENT VEEDER: Let's do the walk.

17 (Pause.)

18 MR. EWING: Okay. We are now sitting on top of
19 what has been described by the various auditors as an oily
20 mound. Again, it seems to have been--the contents of the
21 pit that you can see outlined by Chevron's yellow flags.
22 One note, as I mentioned below that we have some slight
23 discrepancy about the size of the pit and the exact
24 location, and I was showing that the 1975--

25 (Vehicles honking horns.)

1 for sure.

2 There is a chance that Petroecuador closed this
3 pit. It's possible. The pit is closed shortly after
4 TexPet stops as Operator, and when Petroecuador continues
5 on or takes over as Operator, but it was closed during the
6 period while TexPet was still a part of the Concession.
7 So, it's possible that Petroecuador took over operatorship
8 and immediately went out and closed pits. It's one of the
9 things that we have found, and you will see if you looked
10 at the charts that Ernie Baca was holding at Aguatico-06,
11 the numerous pits that there was a--closed after 1990, so
12 those were pits that, according to that Audit Report, had
13 been closed between June of 1990 and the end of 1992,
14 approximately when that audit was completed.

15 So, in that year-and-a-half, and maybe even expand
16 it to two years from the beginning of 1990, we see a large
17 number of pits get closed. So, yes, it's possible that
18 Petroecuador, the first thing they did was come in and
19 cover over some pits.

20 But there is also an equally good chance, if not a
21 better chance, that the pit was covered by TexPet in order
22 to minimize their liability as they were negotiating the
23 RAP and trying to--understanding that the auditors were
24 going to be coming, it seems that these pits suddenly
25 disappeared.

1 It's also possible that it was closed by the local
2 landowners. We have at least two families that live very
3 close here, and they may have just been fed up with having
4 an open pit that had been here for--1975 to 1990, so 25
5 years.

6 But what we do know about this pit that we're
7 looking at is that it was dug by TexPet, it was filled by
8 TexPet, and it was left open by TexPet, even after this
9 well was shut in in 1983.

10 So, regardless of who closed this pit, the point
11 is that the oil that was in this pit was put here by
12 TexPet, and, as the Lago Agrio Plaintiffs were allowed to,
13 the oil is what they were concerned about, not who covered
14 it. So, their suit was about who should clean up the oil
15 that is underlying this area.

16 Second, Claimants also claim that there was a
17 spill at this location. The background to that,
18 Petroecuador has gone through the Oriente and has attempted
19 to build a database of sources of contamination, and
20 they're looking at all of the old well sites to try and
21 identify what are the problems that they can really assess
22 what the issues are. And, as a part of that, Petroecuador
23 identified a spill--or they included it in their chart of
24 spills at this site.

25 When we took the coordinates for that spill, it's

1 identified that there was a pit, and Fugro-McClelland three
2 years before that had identified that there was a pit. So
3 their inspection must have been incredibly cursory to have
4 missed the pit. From our perspective, if you're looking
5 for this pit, the berms follow along the treeline behind
6 us. You can see it over here when you walk over there.
7 They're a little bit more eroded down, and then you can see
8 part of one, see the white chairs where Claimants will be
9 taking us. That's sitting on top of part of one of the
10 berms. And the aerial images seems to show that this is a
11 pit that is square on that side and then has a rounded or
12 concave middle, and we're sort of sitting in that concave
13 area.

14 So, what I would like to do now is to take you
15 down to where LBG sampled and turn the floor over to
16 Dr. Garvey to explain what LBG has found at this site and
17 what it means from an expert point of view.

18 PRESIDENT VEEDER: Okay.

19 (Pause.)

20 PRESIDENT VEEDER: Ready when you are.

21 DR. GARVEY: Okay. Good afternoon.

22 We've talked to you a little bit about Louis
23 Berger's investigation of this wetland behind us here and
24 what we found.

25 Just to briefly outline it, when we're talking

1 actually about here, and we had some orange flags here
2 earlier in the week, but they have now disappeared, but I
3 put them, and they were right there when we did the GPS
4 coordinates.

5 So, to think about this as a spill defies a bit of
6 reason, the idea being that if it were a recent spill, it
7 would have required someone to come from the road, bring
8 barrels of oil up here, dump them out, or drop barrels of
9 oil here and dump them out. It's just not a reasonable
10 idea of what has happened at this location, much less that
11 it would have affected where LBG sampled down in the
12 sediment and the swamps.

13 But moreover, what it appears that Petroecuador
14 has done is identified this as an ongoing source of
15 contamination and that, in a sense, this hill and mound is
16 spilling oil, and it's not a spill in the immediate sense;
17 but, in the long term, this is a source of contamination.
18 So, there is not a spill here that we have any record of.

19 This site, as I mentioned below, was included in
20 the RAP, and that's how the well was closed. When
21 Woodward-Clyde came here, they found no pit. So they came
22 in 1995, and they said there is nothing here. They clearly
23 didn't look at the aerial images. They didn't look at any
24 historical documents.

25 Two years before that, HBT-Agra in 1993 had

1 about the presence of oil in this wetland, the
2 heterogeneity of the contamination when we sampled here,
3 how quickly it changes from one value to another. We'll
4 talk a little bit too about the different methods that
5 we've used to quantify the chemistry here, and then why we
6 collected these what we call "co-located cores," cores that
7 are close to each other, and then finally put this in the
8 perspective of why we selected so many TexPet-only sites
9 for your field trip here.

10 So, to begin, then, we note the history of this
11 site. HBT and Fugro-McClelland found that oil was seeping
12 from the pit where we were just sitting. The required
13 Remedial Investigation found that the stream had been
14 contaminated. Cabrera had also found high levels of
15 contamination in the swamp behind me as well. Okay.

16 There's actually oil present in the swamp
17 currently. Shane McDonald, my associate here, has just
18 gone in and pulled us out a bucket of contaminated
19 sediment. I'll bring it up to you to have a look. You can
20 smell a little bit, but you can clearly see the sheening of
21 the oil on the surface. It's a significantly disturbed
22 sample; obviously, he dug it up from the bottom of a
23 streambed there, and you can see the oil on the surface.
24 So, this certainly is not as thick as what we've seen at
25 the other two sites, but it's still here. There's still

1 oil present in the contamination. And you can see its
2 effect on the surface there, the rainbow effect that it
3 causes. Okay. I will leave this here.

4 MR. EWING: If you want to leave it there, Jamie
5 wants to smell it, I think.

6 DR. GARVEY: Please.

7 MS. MILLER: Thank you.

8 PRESIDENT VEEDER: Do you want this?

9 MS. MILLER: I'm good. I'll use my nose. Thank
10 you.

11 DR. GARVEY: All right. All right. Very good.

12 So, anyway, the sediments in this swamp here are
13 still contaminated with oils that related to the TexPet
14 operations that occurred here. So, what we have here is
15 the opportunity to look at TexPet contamination in a wet
16 environment as opposed to the two sites we've seen before,
17 the pit and the swampy area, but it really wasn't as
18 saturated as this one is here. So, again, what we're
19 trying to look at here is what is the nature of TexPet
20 contamination at the present time. Is it still around? Is
21 it hardened? Does it become asphalt-like or is it still,
22 as I would argue for this bucket here, still available to
23 the environment, animals, plants, and whatever? And we
24 would conclude clearly from this bucket that it continues
25 to be contaminated and available.

1 are as high as 20:1, 25:1. Some of them are low as let's
2 say 50 percent difference in the value. So, it's as you
3 might expect, okay, the variability varies. Some places
4 vary a lot, some places only vary a little.

5 But really the point of this exercise is to bring
6 home to you the fact that this is a very heterogeneous
7 environment. It's hard to sample it. When you go out and
8 sample and you collect a few, you throw a few darts, what
9 do you get? Well, depends on how lucky you were. Maybe
10 you got some high values; maybe you got some low values.
11 If you are only throwing a very limited number of darts,
12 you run the risk of mischaracterizing what's going on. We
13 threw about 10 darts here. All right. And the average is
14 probably around 10,000, maybe 20,000 parts--maybe even
15 higher--maybe 30,000 parts per million overall.

16 But that's not my point here per se. I mean, it
17 is what we find in this particular swamp, but the purpose
18 of this exercise was not necessarily to simply to
19 characterize the absolute level of contamination in the
20 swamp but rather to characterize the kind of variability we
21 find in the environment. Why is that important? Because
22 Chevron has made it a point to try to characterize the
23 extent of their contamination with a very limited number of
24 points at each site, 5 points, 10 points, spread over a
25 very great area. This isn't that far apart. Maybe this is

1 Louis Berger found samples here between 1800 to
2 53,000 parts per million of TPH by our TEM method. If I
3 could have Respondent's Tab 4, 14, Page 1--excuse me.
4 That's it. Okay. What you see there are a bunch of double
5 diamonds. Okay. They represent what I call a "co-located
6 samples," two samples placed very close to each other,
7 separated only by about a meter. Okay. And the reason
8 that we do this is to see how the system varies on very
9 short distances, what kind of confidence can we place on an
10 individual sample when we collect it say, well how far can
11 we predict its neighbor? How well can we guess its
12 neighbor?

13 So, if we collect a bunch of these samples here
14 based on 8015--based on the TEM method and then we look a
15 meter over, we see that we can guess the value only to
16 about a factor of ten. So its neighbor, more often than
17 not, is ten times higher or ten times lower than the value
18 that we picked, that we originally--and not that we
19 originally selected it, but it's simply its nearest
20 neighbor. It doesn't matter which one we pick first. In
21 some instances you get the low one, the other one is ten
22 times higher. And you pick the high one, the other one is
23 ten times lower. Not always. Sometimes they match pretty
24 well. But on average as it turns out, it's about ten
25 times--about a ratio high over low of 10:1. Some of them

1 about 50 meters from one end to the other. We put in a
2 dozen points or so, 11 points. We're getting significant
3 amounts of variability. At that scale, Chevron might have
4 put in 1 point. Well, which one would you think they
5 picked? I'm not going to fathom a guess as to which it is,
6 but you can appreciate they could have gotten a number
7 that's all over the place. Okay. So it's clearly not a
8 simple matter to go in and investigate this area and just
9 throw a single dart. You need to recognize that this kind
10 of variability underlies the environment that's behind us.

11 And this leads me to another important point.
12 Louis Berger has taken basically a series of snapshots of
13 different kinds of conditions. He took a snapshot of the
14 pit at Shushufindi-34, a snapshot of the area at
15 Aguatico-06, taking a snapshot of this particular peak
16 feature here at Shushufindi-55. We were not trying to do
17 RIs. We were trying to emphasize that the process of doing
18 an RI, to really understand the level of contamination and
19 the amount of remediation that it will require is huge, a
20 huge effort. I mean these are big areas. We're talking
21 about many hundreds of meters in distance that span a given
22 site perhaps, and it's a big square area, and you're
23 subject to these kind of processes where water runs
24 downhill, contamination runs downhill and ends up in a
25 swamp like this one. When you try to go and sample it,

1 sometimes you get a high number, sometimes you get a low
2 number. You really have to sample it extensively to get a
3 good feel for what's there.

4 So, the point being ultimately is that it takes
5 many more samples. You have to take multiple rounds of
6 samples. We saw that at Aguatico-06. We had done--we'd
7 been there as the--the Plaintiffs have pointed out, we'd
8 been there for a year or two. The farmer came in and
9 cleaned the forest, cleaned the forest up. We had a whole
10 new elevation--elevation, excuse me.

11 Besides just seeing the fact that the drainage
12 didn't go the way we thought it did, we actually stumbled
13 on the additional contamination that you saw there. We can
14 talk about why it's there, but that's for another day. But
15 in any case, we still stumbled on it. We didn't know it
16 was there. Okay.

17 So, the point being is that, even as intensely as
18 we've studied these little pockets, there's still a lot to
19 learn, and we've only done--we've only scratched the
20 surface using really, really large efforts to understand
21 something like this and be able to remediate it properly,
22 to be able to bring this system back to an acceptable level
23 for human exposure, for the environment, and so on.

24 Now I'll come to the methodology here. We looked
25 at Method 8015--I'm sorry, this is the TEM method, and I

1 the fact that it's biased low. It's also, I would say,
2 somewhat--I won't say it's a mistake, but I would say it's
3 a limitation to only use TEM and then to try to
4 characterize when you're getting close to background. It
5 has a limitation at that end.

6 So, if we did the same kind of analysis here that
7 we did here with these matched peers with 8015, just to
8 show you, as I said, these have a ratio of high over low of
9 about 10 or 11:1. If I could just ask you to turn to
10 Claimants' Tab 1, Page 3, which is a similar map to this
11 one but based on Method 8015. It's not drawn exactly the
12 same way, but it is the same points, and the data are on
13 there. Those are the 8015 results that you see in front of
14 you there.

15 If you take the ratio of those matched pairs of
16 high over low, you get an average. Sorry.

17 (Pause.)

18 MS. MILLER: You could use the trifold map which
19 has the 8015 date on it.

20 PRESIDENT VEEDER: Only if you're okay with that.

21 MS. MILLER: Yes, yeah. I think that's what
22 you've just tossed out. Yeah.

23 DR. GARVEY: Okay. So, as been drawn here by the
24 Plaintiffs, you see in the boxes the matched pairs of
25 samples; and again, if you take the ratio of the high value

1 would point out this about the TEM method. It has a
2 problem at low concentrations. It is subject to plant
3 matter, not sticks and twigs, but certainly if you get
4 plant matter in there, we can extract it, and we will get a
5 higher number. Our estimate for background by the TEM
6 method is about 200 to 250 parts per million, not the less
7 than 20 parts per million that you get by Method 8015.

8 That said, the TEM method gets more and more accurate the
9 higher the concentrations you get because the background
10 contribution becomes a smaller percentage of the total.
11 So, as we get into the numbers of tens of thousands of PPM
12 and higher, the TEM method is far preferable.

13 What does 8015 do? 8015 is always offset. We
14 know that it can't capture all of the compounds in
15 petroleum. Okay. We know that if we run a pure petroleum
16 sample through an 8015 method, we'd only get a 50 percent
17 concentration. So we have pure petroleum, we test it by
18 8015, we get 50 percent. We don't get 100 percent oil. So
19 we know that 8015 is biased low, and it's always biased
20 low. So we have this, if you will, this yin and yang.
21 Okay. They both give us information. It's not as if one
22 has got so much more over the other that that is the one
23 preferred way to go. They both give us information, and we
24 can glean information from both. It's a mistake to say,
25 well, we can get everything we need out of 8015 and ignore

1 of TPH over low value of TPH--this is 8015 results now--you
2 will get a similar degree of variability. In this case,
3 it's about a 12:1 factor. But I would not haggle the
4 difference between a TEM and the 8015 with respect to the
5 high over the low. There's certainly variability in each
6 measurement in and of itself. Suffice it to say it's about
7 a factor of ten, maybe a factor of twelve between either
8 method in terms of the local variability we see if we match
9 the pairs of samples.

10 But both sets of data tell us that we need to be
11 very careful how we characterize a system and that we need
12 to sample it sufficiently so that we can characterize its
13 variability when we're trying to estimate the inventory of
14 contamination, the extent of contamination and so on.

15 All right. So to come back to the wetland
16 directly behind us, this wetland is clearly impacted. It
17 has elevated concentrations. It has oil that's still
18 present. This oil has been here going on 30 years, okay,
19 yet we can still bring a sheen to the surface when we
20 disturb the sediment. Shane obtained the sample at
21 surface. We didn't dig down to get this. This is a
22 surface sample; correct? Okay.

23 How far down does this contamination extend?
24 Well, we only sampled about five or six locations here, and
25 we have all these matched pairs. We actually have four

1 locations, eight matched--eight samples. We don't really
 2 have a basis to estimate the extent of contamination. We
 3 have a basis to say what the average contamination is like
 4 in this swamp. We don't have any boundaries. And again,
 5 to my dartboard analogy, I have thrown a few darts, you
 6 know, its average value, let's say, of about 20- or 30,000
 7 parts per million, maybe a little bit less, but on that
 8 scale, but I certainly don't have enough to say this is
 9 where the contamination starts. This is where it starts.
 10 Okay.

11 I would point out that there on the
 12 Plaintiffs--that same map again. There's a point all the
 13 way downstream all by itself to the far right of the
 14 diagram there. Okay. It's a single point all the way
 15 downstream.

16 One might argue because that sample comes out
 17 clean that all the contamination that's in the swamp hasn't
 18 passed that point. I would say you don't have a basis to
 19 judge that on a single point. You need to know a lot about
 20 the environment where that sample was collected, is it
 21 depositional or is it erosional? If it's erosional, it
 22 won't record any history of what's going by. If it's a
 23 depositional, yeah, and it came out clean than maybe it is,
 24 but I wouldn't want to rely on a single point. The whole
 25 point of this exercise is to say if you want to

1 dating of those sediments and the like which is actually my
 2 specialty; but, suffice it to say, you look for those kinds
 3 of environments when you're trying to see what's coming
 4 from upstream and what's depositing here.

5 A good place to look, for instance, on a stream
 6 like this might be the inside of a turn. It's called a
 7 "point bar." As the velocity slows down on the inside of a
 8 turn, solids fall out. The velocity increases on the
 9 outside of a turn. The river erodes its bank and makes the
 10 big looping turns you may have seen in old rivers and the
 11 like. The inside of a turn is a depositional environment.
 12 So, if I wanted to say--what's coming from here, have I
 13 contained this, is this still escaping--I would need to go
 14 to find such a depositional environment and try to sample
 15 it there.

16 I can't say anything to this location here as to
 17 what kind of an environment it is, but again, it's still
 18 only a single point. Okay.

19 So, well, one other point about this. We've
 20 identified the contamination within the stream itself,
 21 within this wetland is quite heterogeneous, that samples
 22 separated by on the scale of a meter can vary by an order
 23 of magnitude, by a factor of ten. However, when you think
 24 about streams and rivers in general, they have a lot of
 25 energy in them. A lot of flowing water, rainwater runs

1 characterize the extent, you're going to need to sample
 2 fairly intensely.

3 MR. BLOOM: Can you explain what "depositional"
 4 is?

5 PRESIDENT VEEDER: Could you explain, nonetheless?

6 DR. GARVEY: Okay.

7 PRESIDENT VEEDER: You don't mean "depositions"?

8 DR. GARVEY: Not the way you mean.

9 PRESIDENT VEEDER: No, exactly.

10 (Laughter.)

11 DR. GARVEY: A depositional environment is one
 12 wherein as a stream travels its course, it picks up
 13 sediment and materials along the way. At various points in
 14 the stream the velocity slows down; passes into a little
 15 opening of a pond, and the velocity slows down. It loses
 16 its ability to carry the solids that it was carrying just a
 17 few minutes or a few feet upstream, and they begin to fall
 18 out of the water column, fall out of the water and fall to
 19 the bottom of the river. In that kind of an environment,
 20 if that happened steadily, you can build up a layer of
 21 depositional solids that we can then say, okay, these
 22 solids were deposited over the last 5, 10, 15 years,
 23 whatever period you might be interested in, and say this is
 24 the nature of a solid that the stream has been carrying.
 25 Okay. There is a whole geochemical process that due the

1 downhill, moves into the swamp, it's a relatively
 2 slow-moving water system, but it still has a lot more
 3 energy than if we're up on land. Up on land, there isn't
 4 any energy to mix soil even three feet apart, whereas a
 5 river may pick up sediment from one location and deposit it
 6 in another; it's not happening in the land in the same
 7 sense. So, as heterogeneous as this swamp is, we would
 8 expect the land to be even more heterogeneous because there
 9 isn't the energy in the system to mix soils even over short
 10 distances. So, a spill on that side of the tree won't show
 11 up on this side of the tree whereas that kind of distance
 12 within the swamp as it gets wet and rainfall might get
 13 mixed so that either one--sorry--it gets mixed to where I'm
 14 standing, and I could measure it here. Okay. That doesn't
 15 exist up on land.

16 So, as heterogeneous as this system is, it's wet
 17 and aqueous, land is even more challenging. So that makes
 18 my point even stronger, that the need for intensive
 19 sampling to understand the nature and extent of
 20 contamination is what's needed here, a very, very large RI
 21 effort, Remedial Investigation effort.

22 So, okay. One last point on here. Again, these
 23 three sites show us how TexPet contamination looks now. We
 24 selected these sites even though they weren't part of the
 25 JI because they provided us with this unique opportunity to

1 study TexPet-only contamination in a typical environment in
 2 the Oriente, in the Concession Area. What we can infer
 3 about TexPet contamination in these unique or single owner,
 4 if you would, sites, we can apply to the conditions that we
 5 see where both TexPet and Petroecuador have been Operators.
 6 That's not to say we can attribute one to the other when we
 7 start to look at these different sites, but rather by
 8 establishing that TexPet contamination is still liquid,
 9 still viable, still mobile. It's very clear that when we
 10 start to look at these mixed use sites, mixed owner sites,
 11 you can't differentiate TexPet from Petroecuador in any
 12 simple kind of sense. Maybe with a lot of geochemical
 13 study you might be able to age the oils but that's a lot
 14 more work for another day, and that would be part of some,
 15 again, some very intensive RI or perhaps part of some other
 16 legal--and I will let Greg speak to this--legal type of
 17 settlement.

18 But anyway, that's the reason that we brought you
 19 to these JI sites--the non-JI sites, just because we could
 20 isolate TexPet's related contamination and then infer from
 21 that that these same conditions exist in the co-operated
 22 sites. All right.

23 And with that, I hand it over to you.

24 MR. EWING: And with that, we actually turn the
 25 floor to Claimants. It's a little early but...

1 assigned to TexPet, but TexPet was not required to
 2 remediate the entire site. And, at this site, TexPet was
 3 required to do two things: They were required to plug and
 4 abandon the wells that we were sitting on with the yellow
 5 pole, at the location of the wellhead, and that's inside
 6 the RAP. And Chevron in this case, we rely on the
 7 documents and we rely on the facts, and this document is
 8 uncontested that we were required to plug and abandon.
 9 This is in your big bundle that we gave you at Tab 4 and in
 10 the mini at Page 21.

11 They were also required to remediate on the
 12 platform where we were originally standing. They were
 13 required to do some soil remediation, and that was assigned
 14 in Table 3.3, again in the Claimants' Site Packets Tab
 15 Number 4, in your mini-bundle Page 20, specifically
 16 assigned these features and nothing else.

17 And yesterday, I believe you asked Mr. Ewing the
 18 question of did Ecuador and Petroecuador provide oversight
 19 during the operations, and respectfully I disagree with the
 20 answer that Mr. Ewing gave, and Claimants have pleaded
 21 that, and that's in the September 6, 2010, Memorial on the
 22 Merits, Paragraphs 31 through 37, where we discuss the
 23 oversight that Ecuador had over TexPet during the
 24 operations.

25 But I believe what is undisputed, and even

1 MS. MILLER: Could we just have five minutes to
 2 organize?

3 PRESIDENT VEEDER: Of course you can. Take more.
 4 Whatever it takes.

5 (Pause.)

6 OPENING STATEMENT BY COUNSEL FOR CLAIMANTS

7 MS. MILLER: All right. Members of the Tribunal,
 8 I haven't had the pleasure of formally speaking in front of
 9 you, so just a brief introduction. I'm Jamie Miller, and I
 10 represent Chevron.

11 And I want to start with a comment that Mr. Ewing
 12 said at the last site, which was that this site, that in
 13 this Site Visit, that the Claimants have largely conceded
 14 the factual basis of this case, and that's absolutely
 15 untrue, and we have not conceded the facts, and I want to
 16 take you through those facts up using Shushufindi-55. And
 17 I want to do that where we always began, with the RAP, and
 18 then I want to focus on the non-RAP features at this site
 19 that Mr. Ewing and Dr. Garvey just walked you through, the
 20 pit and the stream, both of which were not assigned to
 21 TexPet under the RAP. And then we'll relocate briefly and
 22 we'll finish on a summary of how Shushufindi-55 does not
 23 support the Judgment.

24 So, like every other site, this site--for every
 25 other site that was in the RAP, certain features were

1 Mr. Ewing would agree with me on, is that Ecuador certainly
 2 oversaw the RAP. They were involved in the process. They
 3 were involved in the assigning of the features of the RAP.
 4 They were involved in checking and making sure that the RAP
 5 was done. They selected a laboratory, an Ecuadorian
 6 laboratory, to come out and sample during the RAP, and they
 7 actually signed off on each and every feature that was
 8 assigned to TexPet during the RAP, and that's all
 9 well-documented. And we have for you the documentation for
 10 this site. So there is an acta, Acta Number 12, that's in
 11 your big Tab 8, in your mini-book Page 26, where the
 12 remediation of contaminated soils was signed off, and
 13 that's signed off by the Ministry of Energy and Mines, and
 14 it's signed off by Petroproducción, Petroecuador, and
 15 obviously TexPet.

16 They also signed off on the plugging and
 17 abandonment of the well. So, if anything happened during
 18 the plugging and abandonment of the well that caused a
 19 problem and where TexPet would be required to do additional
 20 items, that wasn't the case. They signed off on the
 21 plugging and abandonment. Again, this is the signature of
 22 the Ecuadorian official, Petroproducción, and TexPet, and
 23 that big bundle Tab 10; mini, Page 12.

24 And then the final one is Acta Number 14, which I
 25 believe this was the oversight of the plugging and

1 abandonment, and this was the actual signing off on the
 2 plugging and abandonment.
 3 And so, to say that Ecuador or Petroecuador wasn't
 4 involved in this RAP process or that the RAP process was
 5 somehow improper or not enough is an unfair criticism to
 6 put that only on TexPet. Ecuador was involved in this
 7 process.
 8 And then finally there is the Final Release where
 9 TexPet was released of all liabilities for all sites, and
 10 that was in 1998.
 11 So, move now to the pit, and I'm going to go back
 12 to the aerial photography. And, President Veeder, they are
 13 a little bit confusing, and that's why certain people are
 14 certified in looking at these and reviewing these, and
 15 people are experts in analyzing these. Someone like me who
 16 comes to this process, I have to rely on the experts to
 17 understand these aerials.
 18 Mr. Ewing said there is a little bit of a
 19 disagreement on the placement of the pit. That was news to
 20 me. I wasn't aware that was in dispute, but we have had
 21 our experts analyze these photos. They have GPS references
 22 so that you can put them into a GPS system. You can put
 23 the house in. Well, we know where the house is today.
 24 There's things that you can do to make sure you have
 25 accurate coordinates for these items. So, simply

1 very clear that all pits closed post-1990 TexPet did not
 2 have the obligation to remediate, and that's because they
 3 had been closed by Petroecuador.
 4 So, this goes back to the point that Ms. Renfroe
 5 made on the very first day, and that's the loose
 6 characterization as "TexPet only," and we've heard it over
 7 and over and over again at these sites. TexPet came in to
 8 a foreign country and operated these oilfields. It didn't
 9 come in unobserved. It did not come in unapproved. It
 10 came in with the full authority of the Ecuadorian
 11 Government, and it came in actually as a minority partner
 12 in this Concession--or in this Consortium. So the fact
 13 that they're claiming anything is "TexPet only" is
 14 incorrect. TexPet was the minority owner of the
 15 Consortium.
 16 And I'll now turn--oh, no. I now want to take you
 17 to the second non-RAP feature, which is this stream. And
 18 as you can see, and this was surprising for me when I first
 19 came, you read in the documents stream and springs, and you
 20 imagine, or I at least imagined, a larger body of water
 21 than this. A lot of the springs and streams here are
 22 actually fairly stagnant. Water does move. It does rain a
 23 lot, so the water changes, but it's not a stream that
 24 people are using for swimming, for washing their clothes,
 25 or for cooking with as has been alleged in a lot of the LBG

1 eyeballing and saying the pit goes all the way down to the
 2 stream, respectfully I disagree with that.
 3 And another reason I disagree with that is, at the
 4 Hearing in D.C. you heard from Dr. Garvey, who said he's
 5 not an expert in analyzing these aerial photos.
 6 So, this is the pit, and it does show us, and this
 7 one is easy for us to see, that it is open as of July 26,
 8 1990. Now, that is after TexPet handed over operations, so
 9 this is a fact.
 10 What's also a fact is if we look at the later
 11 aerial photography, which the next one that we have I
 12 believe is January 2000, we see that the pit is closed. So
 13 we do know sometime between 1990 and 2000 it was closed,
 14 and we actually know it was closed somewhere between 1990
 15 and 1993 because, by the time that the Fugro-McClelland
 16 audit occurred in 1993, it had already been closed, and it
 17 said "recently closed," and it was closed by Petroecuador.
 18 Petroecuador was the Operator and had physical custody of
 19 these sites. And so the insinuation today that TexPet was
 20 suddenly running all over the Concession area and filling
 21 in pits is just simply completely unsupported.
 22 So, this is a non-RAP pit, and the only reason
 23 that it's a non-RAP pit other than just not being in--or
 24 not being in one of the tables in the RAP document is that
 25 the RAP document--and I believe at Section 3.1.2--is very,

1 Reports.
 2 Now, this stream feature Woodward-Clyde did
 3 identify in the Remedial Investigation. It was identified
 4 before the RAP. It was identified that there was oil
 5 impacts in the stream, and knowing full well that there
 6 were oil impacts, Petroecuador and Ecuador did not assign
 7 this stream for remediation. They assigned the platform
 8 soil samples that were approved and remediated. This
 9 stream was left for Petroecuador to remediate.
 10 Mr. Ewing is correct that there are Cabrera
 11 samples and Chevron shadow sampling that confirm these
 12 impacts and these impacts are still here today. And we do
 13 not contest that these impacts are still here today. We're
 14 actually not surprised that these impacts are still here
 15 today because we have no evidence that Petroecuador has
 16 remediated this stream. So the impacts that were noted in
 17 the Woodward-Clyde Report back in the early Nineties, those
 18 are the same impacts that you're seeing here, but that's a
 19 very different thing than saying that supports a \$9 billion
 20 Judgment. And I put to you that this is not a \$9 billion
 21 worth bucket.
 22 There's impacts in the stream that both Parties
 23 agree to, but the impacts do not go to support the Judgment
 24 because they're very limited; they are connected to only
 25 non-RAP features and are not causing any human health

1 impacts.

2 And so, with that, I will turn the floor to
3 Mr. Connor--oh, wait, one more item, I'm sorry.
4 I just wanted to note, too, that it's not
5 surprising that there's impacts to the stream, but what is
6 surprising is that we're hearing, and we've repetitively
7 heard, that those impacts are migrating and continuing to
8 migrate from this pit. And the reason that's so surprising
9 is--Mr. Connor will explain as he has at the other
10 sites--that the factual evidence does not support that.

11 But it's also so surprising because LBG came and LBG
12 sampled here, and that's their conceptual site model. And
13 if they wanted to test that, they could have tested, taken
14 samples from the pit. We don't even know if there's oil in
15 that pit. They could have tested in between the pit and
16 the stream and then they could have tested it in the stream
17 where they did, but they have no connection from this
18 stream to this pit.

19 And I will now turn the floor to Mr. Connor.

20 MR. CONNOR: Okay, thanks.

21 Okay, I will start with the stream, then we'll
22 move backwards. First, the stream down here.

23 You will see a number of red markers that
24 correspond to red markers that we put on this diagram. The
25 same deal. We used the criteria from Decree 1215, we used

1 we look at data, we try to compare the data vertically,
2 look at what's shallow to what's deep. If it's higher
3 shallow, it came from above. If it's higher deep, it came
4 from below. Let's look at that here.

5 I don't know if you all can see this. This
6 is--it's in the mini-package. Is it Page 9? Do we
7 actually have that right?

8 MS. MILLER: Yes, Page 9.

9 MR. CONNOR: Okay.

10 MS. RENFROE: It's the trifold.

11 MR. CONNOR: Okay. It's on the trifold. I can
12 see you guys are jumping on that one.

13 Okay. So, let's look at this. We have a number
14 of samples, as Dr. Garvey explained. They did co-located
15 samples. Here's one. We have SE-00-5, that's a location
16 ID, and SE-00-6. One, that is from zero to 0.4, is 3,650.
17 The one right next to it that's deeper, it's from 0.3 to
18 0.7 is lower; it's only 153. So these samples are oriented
19 like this: One's up here and one's down here. The one
20 that's deeper is way lower TPH. So again, we have a lot of
21 TPH on the surface and very little right under it. These
22 are about this close together; right?

23 Then let's look at another pair. Here's two
24 pairs. See, I'm always getting confused by this. Here is
25 a pair. Here's another pair. Here we have the shallow

1 the most conservative application, 1000 PPM. If it's
2 higher, it's red; if it's lower, it's not.

3 So, what do we see down in this stream? There's
4 an oil spill down in this stream that's been there since
5 1995. It was marked on a diagram that was prepared by
6 Woodward-Clyde, the company that collected the information
7 for the purpose of the 1995 RAP. They noted that in this
8 stream, there was oil sheen and oily sediments. So, it's
9 not a surprise to come here and find these. Mr. Cabrera
10 came here and found these; right? So, is it really that
11 variable? Is it really that surprising that we find these?
12 Everybody who came found them; right? And it's right here.

13 So, it's not--this is not that mysterious.

14 And let's talk a little bit about heterogeneity in
15 terms of the vertical distribution. I think Dr. Garvey
16 gave you one theory that was because these two sample
17 points were a meter apart, that showed there was tremendous
18 spatial variability. One sample would have, say, 10,000
19 and the next sample would have less than 100. Well, there
20 is another explanation for that, and let me show that to
21 you.

22 When you have a surface spill, it will be on the
23 surface; right? If we were to pour coffee on the ground
24 here, you would have a higher concentration of coffee on
25 the ground surface than you would have underneath. So when

1 sample at SE-004, zero to 0.37, 9200 TPH, 8015. The sample
2 that's right next to it but deeper .5 to .62, 322. 9200, 322.
3 So what do we have? High concentrations on the surface of
4 the sediment, low underneath. A surface spill.

5 There are some of these that aren't different;
6 they're about the same. Here at SE-00-8 and SE-00-7, the
7 samples are from the same depth interval and they're the
8 same; right? You have 0.24 and zero to 0.4. They totally
9 overlap. They're the same.

10 And some of the other samples also show
11 exceedances both in the shallow and deep, but the pattern
12 generally tells us it was a surface spill. And it doesn't
13 tell us there's tremendous amount of heterogeneity. This
14 is normal for a surface spill. However, we must remind
15 ourselves that three different parties have come here and
16 seen the same thing at the same place, so not hard to find
17 it. Woodward-Clyde saw it in '95; Mr. Cabrera saw it, I
18 believe, in 2007-2008; and the Ecuador Experts have sampled
19 again, because they came to the same place. Okay. So,
20 very predictable.

21 And the other point is that in doing an
22 investigation like this, it's not necessary to take
23 hundreds of samples. People don't take hundreds of
24 samples. And why? Mr. Cabrera--I'm sorry. Dr. Garvey
25 explained that to us at the last site, and I think we've

1 seen that this week. When there is oil there, you can see
2 it and smell it. You all have seen it and smelled it. And
3 when it's not there, you can tell that, too. We've seen
4 dramatically the difference.

5 So, we come to a place like this, we first
6 investigate it visually; right? We go around, we check it
7 out and then we take samples to confirm it. The samples
8 are taken to confirm whether or not there's a problem.
9 We're not blindfolded. We don't have a cover on our nose.
10 We can find oil. Oil is not that hard to find. But then
11 the laboratory data is very helpful for confirming and
12 measuring that concentration. So it doesn't take lots of
13 samples. It takes lots of direct observations. All right?

14 But it takes some samples to say that oil is
15 coming from a pit and coming down a hill and discharging
16 into a stream. You've got to have some samples; right?
17 You have to have some groundwater sampling between the pit
18 and the stream. You have to have some sample up at the
19 pit. Otherwise, it's a theory but not a fact. And here we
20 have contrary evidence in the stream that we have high
21 concentration on the surface and low underneath that says
22 that it's not coming up from underneath. So that's a key
23 concept with regard to extent--I mean with regard to the
24 migration and to--and how it happened.

25 Let me go to two more points, then. What's--is it

1 Another thing that perhaps you saw down there,
2 that maybe you'll remember, is a milky white film on the
3 surface. Did you all notice that? That's a bacterial--all
4 right, so, you didn't notice it. Take my word for it. If
5 you want to go back down there, I'd be happy to show you.
6 It's a bacterial sheen, has a milky white appearance, and
7 sometimes if there is direct sun on it, it'll get
8 iridescent, but you can break it, you can break it. And
9 you'll notice, even as you look at it, there is little tiny
10 icebergs of it. That's real different from an oil sheen.

11 An oil sheen when you touch it, it disperses and
12 swirls and comes back together. I don't doubt that there
13 is oil down here--there is--but the pervasive sheens that
14 we see in this area, any kind of a human environment like
15 this, you will see bacterial sheens. We will see them in a
16 lot of sites, perhaps we can look at those later. So
17 that's an important thing.

18 Could we have flow coming down from this hill? We
19 all came down this hill, and it was slippery; right? It's
20 slippery. I think even Dr. Garvey mentioned that. Why is
21 clay slippery? If you spill water on carpeting, it's not
22 slippery. Carpeting takes the water in. You spill water
23 on sand, sand takes the water in. But if you spill water
24 on a linoleum floor, it's slippery because it can't take
25 the water in. And clay can't take in water. It takes it

1 migrating and what's its extent? Well, it's been there
2 since 1995 and three parties were able to come here and
3 find it in the same place. It hasn't gone anywhere. It's
4 a parked car. It's still there. So we don't have a case
5 where this stuff is moving away.

6 But what's its extent? Well, we don't know. We
7 don't have that information here. A huge oil spill that
8 spreads up the sides of the banks but it hasn't been
9 investigated to determine how far it goes. We don't know
10 that.

11 We do know a couple of things about it, about this
12 stream, that you all saw that. I think Professor Lowe or
13 one of your colleagues had asked what's this orange stuff
14 down here? The orange stuff is iron bacteria. You get
15 iron bacteria in a stream like this when the bacteria run
16 out of oxygen to eat. You have so much vegetation down
17 here, and you have, as we'll see, sewage discharge in here.
18 When you get that much organic in there, the bacteria eat
19 up all the oxygen; and, when they eat up all the oxygen,
20 they got to look for something else, and ferric oxide is
21 one of the things they'll reach out for, and the bacteria
22 will evolve. The bacteria has evolved to eat that. And,
23 when it grows in a stream, very often streams that are
24 receiving sewage, you will get that fuzzy orange stuff
25 that's all around the plant roots.

1 in very slowly, and so it's slippery; right? So when you
2 walk on something slippery, you're walking on a low
3 permeability material, and that's what we're sitting on,
4 that's what we're walking on, and that's why we need
5 walking sticks. You'll find that all through this region.
6 And we've seen it ourselves. Our boots are telling us that
7 we are on low permeability material.

8 So, I am going to check on something without--how
9 am I doing on time?

10 MS. MILLER: You're good.

11 MR. CONNOR: In that case, okay.

12 So, let's see if I have anything else.

13 I wanted to touch very briefly on the total
14 extractable material. You guys have heard a lot about
15 that. I'll just say that it's the same issue here. Very
16 organic material down here. You shouldn't use--just use
17 what the regulation dictates, you won't have that problem,
18 and we've heard all about that.

19 And, just to reiterate, I believe we still have a
20 persistent misunderstanding that it's my position or the
21 position of the other Chevron Experts that if a material is
22 liquid that it's either recent or not degraded. Again, we
23 know the soil was degraded because it's lost its light
24 infraction, and enough said. Okay.

25 Let's see. Anything else to add?

1 Oh, one other issue that Dr. Garvey referred to,
2 that in order to track--he said that it's very
3 heterogeneous in the sediment but even more so in the soil.

4 Well, the thing we need to understand is that the
5 way chemicals move in the soil is like a snail. They use a
6 snail trail. It always leaves a smear behind. It's pretty
7 easy to find. It's not a bunny rabbit. It doesn't jump
8 around and trick us like that. Usually, it's not that hard
9 to track things in soil. It doesn't take that many
10 samples, and there is a vast amount of experience in this.
11 It doesn't take hundreds or thousands of samples to
12 characterize a site of this nature. We know a lot about
13 this site just from our boots.

14 I think that's all I have to say.

15 PRESIDENT VEEDER: If I may ask a question.

16 MR. CONNOR: Yes.

17 PRESIDENT VEEDER: You agree there is an oil spill
18 or some oil/petroleum there. But how did it get there, in
19 your account?

20 MR. CONNOR: Well, that's a good question. I
21 don't think we know. I think the fact that it's on the
22 surface indicated it was some sort of a surface release,
23 and that could happen two different ways that I think are
24 possibilities. They're good possibilities here.

25 The first is, when this pit was covered--and it

1 those are two possibilities but I don't know exactly how it
2 happened. I know it was a surface release.

3 PRESIDENT VEEDER: Thank you.

4 MR. CONNOR: Okay.

5 MS. MILLER: So, we have just been addressing this
6 pit here, this non-RAP pit here. On LBG's maps, they have
7 also identified a second pit here. Now, Mr. Ewing said
8 today there is primarily one pit here, but that's actually
9 a divergence from what they said in their Reports and what
10 they've argued in their Site Packets.

11 In Paragraph 6 of Respondent's Site Packets, they
12 say there are at least two pits at this site and they
13 continue to discharge oil into the surrounding wetlands and
14 streams.

15 And this is important because this is what also
16 happened in the Judgment and why the Judgment is so
17 reasonable--why the Judgment is so unreasonable and why
18 Claimants contest the pit count. And that's because the
19 pit count includes pits closed by Petroecuador post 1990
20 and not included in the RAP, but it also includes pits such
21 as this one that weren't even in existence as of 1990, and
22 we will look at that while we're standing by this pit. But
23 in the aerial photography, this pit does not exist in
24 1990s. So when TexPet left, it wasn't there. And we will
25 see now that it actually has nothing to do with oilfield

1 was covered after July 1990, we see it July 1990, we don't
2 later. And we know that it was just covered. It wasn't
3 remediated. So when you push dirt on top of a pit that has
4 oil in it, that oil can overflow. And so that could result
5 in sediment--in the sediments receiving that oil. Those
6 sediments can hold that oil very tightly. Why? Because
7 they're almost like a charcoal filter. They're full of
8 carbon. They hold that stuff. And it's sticky oil.

9 The other possibility is a flowline break. The
10 flowline is gone from here, but it was here. A very common
11 problem and a challenge for the Operators out here in the
12 past and today, are the flowline breaks. Sometimes they
13 break due to corrosion. That's the pipeline that runs from
14 the well into the station. You have seen those thin
15 pipelines snaking along the road.

16 There is a challenge out here by all the
17 Operators. First they maintain their pipes, and if they
18 don't maintain the pipes, the pressure that is coming out
19 of the well can cause that pipe to burst. But the most
20 common problem, most common source of problems with those
21 is vandalism. Petroecuador has this challenge, and they
22 work very hard to keep that from happening, but there
23 are--there is vandalism on these pipes sometimes.

24 So flowline breaks are not that uncommon. A
25 flowline break can cause a big impact to a stream. So

1 operations at all; yet Ecuador is now arguing that oil
2 continues to leak from it, and the Judgment assigns
3 \$6.1 million per pit for a pit that wasn't even in
4 existence when TexPet was operating.

5 So, if I could now bother the group to move down
6 to the next location.

7 (Pause.)

8 MS. MILLER: Okay. So, we are now standing on the
9 road near this pit which LBG identified as an undocumented
10 pit, same as this pit, and it's the two pits that it says
11 are still leaking oil and contaminating the stream up here.
12 And I have in my hand the aerial photograph from July 1990,
13 which shows there is no--this pit wasn't in existence, and
14 it's actually two pits with a small berm in between.

15 In the next aerial photograph we have from
16 January 2000, you can see that the pit has been excavated.
17 It's unclear what's in the pit but it has been excavated.
18 And, as Mr. Ewing pointed out, there hasn't been oil
19 production here since 1983. So it's unlikely that this pit
20 was built for oil operations. But what is known is that
21 certainly it was not built by TexPet because TexPet was
22 not here anymore. And I'll have Mr. Connor briefly explain
23 the information we can gather from the aerial photography.

24 MR. CONNOR: Okay. Hello again, John Connor.

25 I will proceed with going through the aerial

1 photos so we can get a better idea of what this pit is and
2 what it's used for.

3 So, in the photo from January 2000 is the first
4 time we see the outline of this pit. And if we go to the
5 next photo--it's in your packet on Page 16. You see on
6 your packet at Page 16--here you see a dark shape. Okay.
7 And that dark shape doesn't mean that the pit has oil in it
8 because water pits will appear the same way. They will be
9 dark as well. In this case, this is a tilapia pond. You
10 will see that many of these are built on local residences
11 as a supplemental source of income, and they often have
12 this shape because it's the shape--they're about 5 feet
13 deep--about 2 to 3 meters deep with that rectangular shape
14 that allows not too wide so you can reach the fish out in
15 the middle to harvest them. There's two of them right next
16 to each other. As you drive along the highway, if you look
17 out, you will see a number of these along the way. And
18 that's what this is used for by this resident.

19 ARBITRATOR GRIGERA NAÓN: Is there any argument
20 that this is contaminated?

21 MR. CONNOR: I don't believe there is any
22 indication that this is contaminated. I think that the
23 argument comes down to that this pit was tallied by
24 Mr. Cabrera and included in the Judgment as a pit for which
25 Chevron would have liability for remediation. But, as a

1 MR. EWING: I would disagree that one datapoint is
2 enough argument to give us notice about what we're going to
3 talk about here, but I leave that to you.

4 PRESIDENT VEEDER: Let's hear what counsel is
5 going to say, and if you have an objection during that
6 presentation, please restate it when we'll understand a bit
7 more what we're being told.

8 MR. EWING: That sounds perfectly fair. Thank
9 you.

10 PRESIDENT VEEDER: Thank you.

11 MS. MILLER: To orient you again, if that's
12 necessary, we are standing right here. We just walked past
13 the tilapia ponds--you're sitting. So we just walked past
14 the tilapia ponds and you're sitting facing this
15 groundwater well, Groundwater Well 2, which we have marked
16 with the--consistent with our flagging at the other
17 sites--the green triangle which means that during the
18 Cabrera shadowing, Chevron came here and took a groundwater
19 sample at that location and found that it met all
20 regulatory criteria.

21 They also took another sample point at an actual
22 drinking water well. There is a residence. This resident
23 was here during the Lago Agrio proceedings, and there was a
24 water well used by the resident, a pivotal water well used
25 by the resident that Chevron sampled as well, and we're not

1 fish pond, certainly we wouldn't expect it to be
2 contaminated, and it certainly wouldn't be the
3 responsibility of either of the oil companies or the
4 current Operators out here.

5 MS. MILLER: So, we can briefly move down to the
6 chairs where it's more comfortable.

7 (Pause.)

8 MR. EWING: As far as I'm aware, this is not a
9 location that has been discussed in any of the pleadings in
10 the arbitration or in--for our Site Visit Packets; if it
11 is, I'm happy to be corrected. But, to me, this seems to
12 be equivalent to the second location that we asked to go to
13 to which Claimants objected. So, if we're going to have a
14 different location, I would just request that we have
15 similar procedures, or it could be that I'm totally wrong.

16 PRESIDENT VEEDER: Can you explain to us why we're
17 here?

18 MS. MILLER: I will. I will tell you Mr. Ewing
19 when he is wrong. We are right here on the road, and you
20 will see that we have marked a groundwater sampling point
21 right here, which is why we're here. And so I respectfully
22 disagree that this is not in the Site Packets, but rather a
23 sampling location which is what we have been doing all day,
24 is going to the various sampling locations and discussing
25 the data, the sampling points that are in the record.

1 there, just we don't want to be intrusive and go on to the
2 land. But there is another sampling location that also met
3 all regulatory standards.

4 And, with that introduction, I'm going to hand the
5 floor back over to Mr. McHugh--Dr. McHugh to discuss the
6 human health-risk assessment.

7 DR. MCHUGH: Thank you.

8 PRESIDENT VEEDER: Just one moment.

9 Any further objections so far?

10 MR. EWING: I maintain the objection. But, if
11 Dr. McHugh is going to talk here, we just ask that
12 Dr. Garvey be able to respond, even though we have not
13 briefed anything about this as well.

14 PRESIDENT VEEDER: Okay. Let's hear Dr. McHugh
15 first, then we'll review the application.

16 MR. EWING: Yes, yes.

17 PRESIDENT VEEDER: Please continue.

18 DR. MCHUGH: I think this will be brief. I am
19 going to try and just cover the same issues that I've
20 covered at the other sites, and that is sources of clean
21 water for the local residents and potential health
22 concerns.

23 And so this residence, as you can see, is close to
24 the well platform. And, as was just discussed, when
25 Mr. Cabrera was out here, the Chevron representatives

1 collected a couple of water samples. They collected a
 2 water sample from the hand-dug well that was being used by
 3 the residents at that time, which was--Chevron's policy was
 4 to always test the hand-dug wells when they were present,
 5 and that testing showed that that hand-dug well was free of
 6 petroleum and met all drinking water standards.

7 Mr. Cabrera, when he was out here, tested where
 8 that GW sign is. That's actually a spring that comes out,
 9 and he tested that, and the Chevron representatives also
 10 tested that. At the time the sewage discharge line that
 11 you see there was not present when Mr. Cabrera and the
 12 Chevron representatives tested, so that's definitely a
 13 change of conditions. It's hard to say what the conditions
 14 are of that spring today; but, when it was tested, that
 15 spring was free of petroleum and met all drinking water
 16 standards. So, it's evidence that the groundwater that's
 17 available to the residents is free of petroleum
 18 contamination.

19 The well that was tested at the time of the
 20 Cabrera visit was a hand-dug well. I understand from the
 21 follow-up that's been done just in the last couple of weeks
 22 was that that well has been replaced by a more modern well
 23 that's very close to that hand-dug well. So, my
 24 understanding is today they're using that more modern well.
 25 LBG elected not to test that well when they were out here,

1 So, having said that it's not a health risk, the
 2 concentrations of petroleum in that swampy area exceed
 3 Ecuadorian criteria, and those should be dealt with in
 4 accordance with Ecuadorian regulations.

5 I think that's all I have to say.

6 MS. MILLER: And then I will just briefly wrap up
 7 with my conclusion, which has nothing--I don't believe
 8 there will be an additional objection.

9 So, you have been told repeatedly while you're
 10 here this week that these sites will help show you that the
 11 Judgment is reasonable. We respectfully disagree. And the
 12 first point that I think might not have been mentioned
 13 earlier this week is that regardless of what the
 14 contamination is here does not change the fact that this
 15 Judgment was procured by fraud, and we provided
 16 overwhelming evidence to you in D.C. of that fact, and that
 17 was procured by the Lago Agrio Plaintiffs who colluded with
 18 the Ecuadorian judiciary. So, no matter what you see here
 19 today, does not erase the fact that the Judgment was
 20 fraudulent, which is a denial of justice.

21 But, irrespective of that fraud, independent of
 22 that fraud, to come up with the Judgment based on the facts
 23 that you've been seeing this week, would separately be a
 24 denial of justice because there is just no factual support
 25 for a \$9 billion Judgment. And Ecuador seems to confuse by

1 so it hasn't been tested but, because we have the hand-dug
 2 well sample very close proximity, we have every reason to
 3 believe that that's still clean. So, that is a source of
 4 clean water.

5 And then the last is the human health-risk
 6 assessment issues. I think this will also be very brief.
 7 The LBG representatives did not include this site in their
 8 quantitative risk assessment. In my risk assessment, I
 9 included all of the data that was collected as part of the
 10 Judicial Inspection process, so that included the samples
 11 that were collected from this site during the Cabrera
 12 investigation.

13 I found that there was no risk, and I think you
 14 will see--you'll remember from visiting that location where
 15 there's the oil in the swamp, that that's a location
 16 where--it's just not a location where there is going to be
 17 significant human contact. And, as I explained in a
 18 hearing in D.C., that the presence of contamination itself
 19 is not a health risk. It's the dose. It's the level of
 20 exposure. And I think at that location it's quite clear
 21 that exposure to that weathered petroleum is going to be
 22 very limited, and that's not a health risk. And, in
 23 addition, because of the sewer discharge, any contact with
 24 this water area that's influenced by the sewage, it would
 25 just be unwise.

1 saying that just any amount of contamination is proof that
 2 the Judgment was reasonable and that Chevron was not harmed
 3 in any way, and that's just simply inaccurate. This is a
 4 \$9 billion Judgment.

5 And, if you remember this, this was from the
 6 Hearing in D.C. This is from Mr. Connor's direct
 7 presentation, and he broke out for you the different
 8 categories in the Judgment. I just want to walk you
 9 through these separate categories and show you why
 10 Shushufindi-55, as well as the other sites that we have
 11 seen during this Site Visit, do not support this Judgment,
 12 and that's important because Ecuador had the opportunity to
 13 select four of any of 344 sites. So, I would assume they
 14 picked the best sites to prove their case. And, if this is
 15 one of their best sites to prove this \$9 billion Judgment,
 16 I hope that you would agree with me that it doesn't do
 17 that.

18 Let's start with the groundwater remediation.
 19 There is \$600 million provided in the Judgment for
 20 groundwater remediation. Yet they have taken you to a site
 21 where the only groundwater samples have been collected by
 22 Chevron and by Cabrera, which they say the Judgment did not
 23 rely on, and the groundwater samples collected by Chevron
 24 prove that the groundwater is fine. It meets drinking
 25 water standards and it's perfectly safe for the residents

1 to drink.
 2 LBG, in its Report, trying to prove up this
 3 Judgment and in their confirmation where they say that the
 4 Judgment is reasonable, they have taken no groundwater
 5 samples at this site.
 6 So, we move next to soil remediation, and that's
 7 the \$5.4 billion for soil remediation, which as you're
 8 familiar, is based on the pit count and then an area per
 9 pit, and then the 100 PPM, and a cost per pit.
 10 LBG did not sample this pit. We have seen that
 11 this pit is a non-RAP pit, and we have also seen that they
 12 are including pits that weren't even in existence, and that
 13 Cabrera included that in the pit count which is our
 14 position that the 880 pit count comes from the Cabrera
 15 tables.
 16 And so, Shushufindi-55 does not prove up the
 17 \$5.4 billion of soil contamination. And, on top of that,
 18 LBG didn't even take a single soil sample at this site.
 19 Sediment is treated independently of soil, and they've
 20 collected no soil samples, and certainly no soil samples of
 21 the pits.
 22 We then move to potable water. For simplicity of
 23 time, I'm just skipping over these because they're not
 24 argued very much by either of the Parties.
 25 The potable water is \$150 million, and again,

1 Thank you.
 2 PRESIDENT VEEDER: Thank you.
 3 We're going to take a short break now for David
 4 and others. And, just before we do, before any response in
 5 regard to this groundwater triangle, can you build that
 6 into your Response?
 7 MR. EWING: Absolutely.
 8 (Pause.)
 9 CLOSING ARGUMENT BY COUNSEL FOR RESPONDENT
 10 MR. EWING: Okay. I would like to briefly respond
 11 to a few points, and then I will turn the floor to
 12 Dr. Garvey, and then I will summarize us again sort of as
 13 we've done the last few days.
 14 I think where I would like to start is again this
 15 aspect of Concession and what we are now understanding the
 16 facts to be. The first part of that is you heard counsel
 17 say that the impacts--I think it was actually
 18 Dr.--Mr. Connor said he's not surprised that there is still
 19 impacts in that swamp today that were then existing in the
 20 1990s. He's not surprised that there is still oil in that
 21 swamp, even though it has been there since at least the
 22 1990s. And I will let Dr. Garvey explain some of the
 23 chemistry behind what that means scientifically. But there
 24 is no question, and both Parties agree, that swamp is
 25 contaminated. I think he said there is no doubt there is

1 we're at a site where LBG has collected no samples of
 2 potable water. The stream is not being used for potable
 3 water. The groundwater is being used for potable water.
 4 There is a physical monitoring well that was present and
 5 could have been sampled by LBG but they did not. Chevron
 6 did sample the potable water and they sampled the potable
 7 water at many of the other sites, and that confirms that
 8 there was no problem from petroleum at these sites and no
 9 need for a potable water system, at least as it refers to
 10 petroleum. There's other problems with the water.
 11 Then we have the health monitoring, which we
 12 combine with the health monitoring and the health program
 13 for cancer. That's about \$2.2 billion. And again, we're
 14 at a site where LBG came, they had an opportunity to do a
 15 health-risk assessment, and they chose not to do one. Not
 16 a single sample here have they conducted a risk assessment
 17 on. The only risk assessment that was conducted is in the
 18 Lago Agrio Record, the one done by Dr. McHugh, which
 19 confirmed that there is no need and no link from TexPet
 20 contamination to any human health effect and no need for
 21 the health damages award in the Judgment.
 22 So, I will leave you with the fact that I simply
 23 disagree with the thought that Shushufindi-55 shows you
 24 anything, any support that the Judgment is reasonable and,
 25 in fact, I think it shows you just the opposite.

1 oil in the wetland. So, we all agree that that's
 2 contaminated.
 3 So the factual basis that we're talking about for
 4 the Judgment is whether there is contamination, whether
 5 it's attributable to TexPet, and whether it comes into
 6 contact with people. It's really three main points.
 7 When Ms. Miller addressed and responded to whether
 8 they have conceded this factual basis to their case, she
 9 immediately discussed the RAP, and the RAP is at best a
 10 defense here, and I would refer that it's actually not even
 11 that in this case because we, based on the Track 1B
 12 Decision--as we have already said, the RAP allows
 13 individuals to bring claims to effect their individual
 14 harm.
 15 I will pause for a moment while the trucks pass.
 16 (Pause.)
 17 MR. EWING: So, I come back to what I said at the
 18 end of the last site. The underlying factual basis for the
 19 Lago Agrio Judgment, I believe, has been conceded at this
 20 point. There is contamination, it is attributable to
 21 TexPet, and it comes into contact and it exposes people,
 22 and that is what the Lago Agrio Court looked at. That is
 23 what the Lago Agrio Court attempted to assess. That is
 24 what the Lago Agrio Plaintiffs' complaint requested, is
 25 that that contamination attributable to TexPet that was

1 exposing people, that that would be cleaned up, and that is
2 what we have seen by coming to these sites. And it is
3 similar to what the Lago Agrio Court saw when it went to
4 its Judicial Inspections, and it's similar to what the Lago
5 Agrio Court saw in the documentation that the Parties
6 provided to it. So, you have gotten a snapshot of some of
7 these sites.

8 Another point that I wanted to raise is you will
9 notice that when Claimants discuss liability, 1990 is a key
10 date for all of us. 1990 is the end date, June 1990, when
11 the operatorship changed hands from Texaco--or TexPet to
12 Petroecuador, and from June 1990 until 1992, TexPet was a
13 member of the Concession, but Petroecuador was the
14 Operator.

15 And you will notice, if you remember or you want
16 to go back to the Transcript, when Claimants talk about
17 pre-1990, they talk about the Operators, the
18 Concessionaires, it's the Concession's oil, it's
19 everybody's oil, we all share. And then, when you get to
20 June 1990, Petroecuador has exclusive control over the
21 area, and it's exclusively operating these sites, despite
22 the fact that they are simply assuming the same role that
23 TexPet took over.

24 I will pause just a moment again.
25 (Pause.)

1 have you believe that we could explain all the variability
2 just based on variations in depth. That's the deeper
3 samples were less contaminated than the shallow ones. And
4 so the question might be: Why did we pick the deeper ones?
5 Why did we pick some shallow and some deep? We weren't
6 picking shallow and deeper, per se. We were using the PID
7 instrument, the one that you've seen that's sensitive to
8 molecules related to petroleum, as a basis to pick the
9 interval that we selected for sampling. So, in each core
10 we would pick the interval that gave us the highest
11 readings and also do a visual inspection to see that it
12 looked like if not the most contaminated layer in the core,
13 among the most contaminated. So between the visual
14 inspection that said yes, this looks contaminated, and the
15 PID reading that said, yes, this is giving us the highest
16 value, we picked that layer for analysis.

17 It turns out in three of the four pairs it is the
18 shallower layer that's higher. But, that said--so,
19 pointedly, that in each case we're screening for what we
20 thought was the maximum contamination. We were trying to
21 get the maximum contamination level at each core that we
22 observed. So, we don't expect that in the core where we
23 took the deeper layer that, in fact, the shallower layer is
24 less contaminated because it had a lower PID reading.
25 Presumably, this one also didn't look as visually

1 MR. EWING: The next point I would like to make,
2 and just so we're all on the same page, I'm looking at the
3 1975 aerial photograph again. Ms. Miller was talking about
4 the GPS coordinates and the disagreement between the
5 Parties. I just want to clarify, by no means that I mean
6 to intimate that I was assessing this and we were trying to
7 assess where these were. There are coordinates on the
8 side, and you can use though coordinates to assess where on
9 these maps, is my understanding of how these--where these
10 pits are. LBG has people who are experts in this, and did
11 this assessment, and they disagree with where Chevron does
12 it. So, just so we're clear, this is not just about
13 eyeballing a map and disagreeing. This is both Parties'
14 Experts have disagreements about where these pits exist.

15 I think it's not a huge deal at this site because
16 we do have a large pit either way, but just so we're on the
17 same page, this is a question about GPS and satellite
18 imagery experts, aerial imagery experts, assessing these
19 sites.

20 So, I would now like to turn the floor to
21 Dr. Garvey and let him address a few of the scientific
22 points.

23 DR. GARVEY: In Mr. Connor's discussion a few
24 minutes ago, he would have you believe that he can fully
25 understand the variation between sample points. He would

1 contaminated as the one beneath it.

2 But that begs another question, really, which is
3 that this oil reached this swamp somewhere perhaps in the
4 1990s; perhaps, arguably, in the 1980s, when this pit from
5 the--well was capped. So you have seen, for instance, at
6 Shushufindi-34, that the jungle consumes everything you
7 leave alone. It hates a vacuum, so to speak. It fills
8 over. It covers the tops of the pits. It quickly fills in
9 fields. If they're left neglected, it becomes a forest and
10 so on. That oil reached that swamp 25 to 35 years ago,
11 depending on when you think the mechanism was that
12 delivered that oil to that swamp; yet, it's at the surface,
13 despite leaf litter falling in there, despite material
14 being washed down into the stream, despite the fact that
15 that is a largely depositional environment, and so we
16 expect solids to accumulate in there as a result of the
17 farmer working his field, causing erosion to come off the
18 field, just material being washed down the hill naturally
19 as part of the normal runoff that comes off of this hill.
20 Yet, the contamination sit either at the surface or very
21 close to the surface. So I can't tell you why that oil is
22 sitting close. Could it be that it's being replenished by
23 contamination from the oily hill behind me here from the
24 former pit? Could it be that it's working its way to the
25 top as the material is burying it, so it's literally

1 working its way through the sediment? I don't have for you
 2 a pat answer. I'm not going to tell you I'm going to give
 3 you a nice smooth, polished answer that says this is the
 4 explanation for the problem. Clearly it is a problem.
 5 Clearly it exists to the present day. Clearly we can
 6 attribute it to oil that was generated during the period
 7 when Texaco was the primary Operator of this facility.

8 So, that said, I think--and this is our point
 9 really that we don't understand what's happening here well.
 10 We have some idea of some things, but we don't have a good
 11 characterization of how oil is transported here, how things
 12 reached the swamp, why the swamp still continues to be
 13 contaminated 25 to 35 years after it was originally--the
 14 insult originally arrived there, yet we are forced to
 15 recognize the facts as it is. Okay.

16 So, in that context, then, I would say that part
 17 of our assertions for Ecuador is that there's a lot about
 18 the contamination here that we don't understand, and it
 19 requires further study and further investigation. It's not
 20 possible for one Party to say, I know how much I'm
 21 responsible for, I know what's going to happen to it, and I
 22 can take care of it or walk away, or I'm no longer
 23 responsible because it's already taking care of itself. I
 24 would argue that this is a case in point where it hasn't.

25 I don't think I have anything else.

1 an undocumented pit and what does that oil look like when
 2 it's covered by the jungle. Aguarico-06 is an incredible
 3 site to show an illustration of how much these sites
 4 change. In the amount of time that we've been--LBG has
 5 been here, we have seen--or they have seen that site has
 6 gone from dense jungle, as you saw in your pictures, to a
 7 cut open field with the trees and now corn growing in it.

8 Not only do the sites change because of what
 9 humans and--people are doing, but those changes in the
 10 sites themselves, our understanding of them is changing
 11 significantly. As a perfect example, just this week, we
 12 found this other seep, which we showed to you as an
 13 illustration of where the contamination is going. We spent
 14 a lot of time at Aguarico-06. LBG didn't find it. That is
 15 indication or illustration of how much effort it is to
 16 truly understand the extent of the contamination at these
 17 sites.

18 And, at the end of the day, we are just--LBG and
 19 the Republic are just starting to scratch the surface. The
 20 Court in Lago Agrio had much more evidence before it. They
 21 did 45 Judicial Inspections with the competing sampling
 22 from both Parties. So, there is a large body of evidence,
 23 but we still don't know everything about these sites.

24 So, I want to now just quickly address
 25 Ms. Miller's conclusion. She started off with don't forget

1 MR. EWING: Let me wrap this up, then, and we can
 2 head back and maybe enjoy the pool or relax a little bit
 3 for the evening.

4 Two or three main things I would like to just to
 5 close with.

6 One, we are now here at Shushufindi-55. We were
 7 at Aguarico-06 earlier this morning, and we were at
 8 Shushufindi-34 earlier today or yesterday. And one of the
 9 things we want you to see in being here is the significant
 10 time and cost and sort of expansiveness of what addressing
 11 and assessing these sites means, what it would--how much
 12 time it would cost to get access to the various areas, to
 13 find out where these pits actually do end up. Ms. Miller
 14 mentioned that we didn't take samples of this pit. It's
 15 true, we didn't. If we had our druthers, we would have
 16 completely characterized every site and be able to give you
 17 complete information about everything, but that is an
 18 incredibly time-consuming, incredibly costly process. So,
 19 to really understand these sites and what needs to be
 20 cleaned up, I can't be going with the amount of time that
 21 LBG had to assess these sites.

22 Instead, these sites were each meant to
 23 demonstrate individual aspects or pieces of the overall
 24 story. So each of these sites fits into the puzzle piece
 25 which is the Concession Area. So, Shushufindi-34 shows us

1 this Judgment is procured by fraud. We disagree. And, as
 2 I have the unique opportunity of being able to work on both
 3 our environmental side and our ghostwriting and fraud side,
 4 I would be happy to talk about you for as long as you'd
 5 want about the forensics and how it doesn't support their
 6 story; how Mr. Guerra's evidence doesn't support their
 7 story; how Mr. Borja, who they brought originally years
 8 ago, doesn't support their story, and we can continue on,
 9 and we did that at the Hearing, but I just don't want to
 10 leave that unrebutted. We obviously disagree and think
 11 that the facts don't support their story on the fraud
 12 either.

13 Leaving that there, since that isn't why we're
 14 here, I want to talk about the Judgment and the categories
 15 of damages that were included in the back of your Site
 16 Packet. I did notice they didn't include my amended
 17 version of that, which I guess I'm not terribly surprised.
 18 But the point for these Site Visits, to be very clear, is
 19 not to prove each category of damages at each site. So,
 20 for instance, Shushufindi-55, as Ms. Miller pointed out, is
 21 not a site that we're bringing you today to show you, oh,
 22 why this is why healthcare and monitoring costs should be
 23 the dollar values that they are. That is not what this
 24 site is for. This site is not about that. Dr. Strauss
 25 didn't do risk assessment here.

1 We talked about the groundwater. Again, this site
2 is not about the groundwater. This site is about
3 understanding what happens to the sediment, as the Judgment
4 categorized it, the surface water, a category of damages
5 that Ms. Miller didn't address, and that is where cleanup
6 of something like this would first take place.

7 There may be also some soil cleanup that needs to
8 be taken care of with this pit. We don't know because we
9 didn't sample it, but we do know that the--and both Parties
10 agree--that this swampy area is contaminated. There is no
11 question about that.

12 She also mentioned the potable water question and
13 whether Shushufindi-55 shows why potable water is a
14 necessary part of the Judgment. And yes, we didn't take
15 water samples here. We were focused on the sediment. We
16 can't and couldn't do it all.

17 But Aguarico-06, where we were this morning, we
18 see that the groundwater is no longer usable. Around
19 Shushufindi-34, there is definitely groundwater
20 contamination. We don't know where it stops. Dr. McHugh
21 continues to mention that people have other water sources,
22 and what we found, and Dr. Strauss included in her
23 interviews and Chevron also found in their interviews of
24 local residents, is that people self-correct or self-fix
25 this problem. So, when they find contamination and their

1 groundwater samples, they filtered them. So, they
2 collected groundwater samples and filtered them before they
3 tested them. Why is that pertinent? The people here who
4 are going to take groundwater are not going to filter their
5 water. They don't have the means for it. The idea is not
6 to add expense, and that means it requires pumps and so on
7 and so forth, so they're going to be drinking water that
8 has suspension--has particles in it. Okay.

9 Additionally, that same water, the same process
10 that filters the water to remove the solids will also
11 gather any oil, because the filter will be sticky, it will
12 remove some of the oil, the dissolved oil that's in the
13 sample, and it will stick on the filter as well. So, the
14 groundwater samples that are filtered are not really
15 reflective of what the people will be exposed to when they
16 drink that groundwater.

17 The other point is, that they talked about, is
18 that these people here right now don't have a
19 drinking-water problem. The groundwater is clean, and
20 they're drinking water under the current conditions. It
21 ignores future conditions. And, as you have seen in the
22 Oriente, and if you come back a few months or a year from
23 now you will see much more vividly, this system is
24 aerodynamic and changing quickly. Okay. People are
25 developing, putting in new homesteads, and so on and so

1 water smells bad, they do install a rainwater catchment
2 system. They do buy municipal water. They do find
3 alternative sources because, as health guidelines say,
4 smell and odor and taste are a very good indicator of when
5 something is contaminated, and none of us would like to
6 drink contaminated water. It turns out the people of the
7 Oriente, when they smell and taste the petroleum, they find
8 other water sources.

9 So, the fact that people have found clean water
10 sources or some sites have clean water sources does not
11 mean that the groundwater that could have been their
12 original source or the surface water that could have been
13 the original source is okay, and that is what the Judgment
14 said. It said there is a certain group of people who need
15 potable water brought to them. Some of them are already
16 replacing it. Some of them are already putting in
17 municipal water systems. Some of them are already using
18 rainwater catchment, but the Judgment said those people
19 should not be penalized because TexPet contaminated their
20 groundwater, so just so we're clear on what the potable
21 water was.

22 So, with that I just--

23 DR. GARVEY: The point we wanted to make about
24 groundwater and human exposure relating to the site down
25 the road here is that when Chevron collected those

1 forth. So it's a very high likelihood that many of these
2 areas will be inhabited in the future.

3 In particular, I will point out that a platform
4 like this one, that's abandoned and left, is actually a
5 very good homestead. Someone has done all the work for you
6 to clear the forest out of the way. It's a great place to
7 put a house now. I don't have to do all the work to cut
8 the forest down to put my house here. So it's, if you
9 would, an attractive location, contamination aside.

10 So, I just wanted to make those two points.

11 Go ahead, Greg. Sorry.

12 MR. EWING: If you would like to read more about
13 what Dr. Garvey was just saying, in LBG's Site
14 Investigation Reports, when they went to the various sites,
15 they did find that people were building houses on these
16 platforms. There's much more about that in the Site
17 Investigation Report.

18 So, with that, I will conclude our rebuttal, and
19 just to go quick logistics.

20 PRESIDENT VEEDER: One moment.

21 MR. EWING: Unless you have questions.

22 PRESIDENT VEEDER: We just had one question. Just
23 the reference to Chevron filtering the water samples.

24 QUESTIONS FROM THE TRIBUNAL

25 PRESIDENT VEEDER: At the site just down the road,

1 where would we find this in the evidence? Is that in one
 2 of your Reports or in one of hers?
 3 DR. GARVEY: I have to ask Dr. Strauss for that
 4 information.
 5 PRESIDENT VEEDER: You can tell us later. You
 6 don't have to tell us tonight.
 7 DR. GARVEY: Okay.
 8 PRESIDENT VEEDER: So, logistics.
 9 MR. EWING: We will get the reference for you.
 10 So, logistics, we just need to be careful of the
 11 road obviously and hop in the cars. Tomorrow, I think that
 12 we're going to try to leave at 7:00 a.m. tomorrow. So
 13 everyone, 7:00 a.m. in the hotel. I think that's actually
 14 all that I have for logistics, unless I'm forgetting
 15 something that someone else knows about.
 16 PRESIDENT VEEDER: No? Thank you very much.
 17 Thanks a lot.
 18 (Whereupon, at 4:07 p.m., the Shushufindi-55 Site
 19 Visit was concluded.)
 20
 21
 22
 23
 24
 25

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