

IN THE MATTER OF AN ARBITRATION BEFORE A TRIBUNAL
CONSTITUTED IN ACCORDANCE WITH THE TRADE PROMOTION
AGREEMENT BETWEEN THE REPUBLIC OF PERÚ AND THE UNITED
STATES OF AMERICA AND THE UNCITRAL RBITRATION RULES 2013

PCA Case No. 2019-46

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In the Matter of Arbitration Between:	:
	:
THE RENCO GROUP, INC.,	:
	:
Claimants,	:
	:
and	:
	:
THE REPUBLIC OF PERÚ,	:
	:
Respondent.	:
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- AND -

IN THE MATTER OF AN ARBITRATION BEFORE A TRIBUNAL
CONSTITUTED IN ACCORDANCE WITH THE CONTRACT OF STOCK
TRANSFER BETWEEN EMPRESA MINERA DEL CENTRO DEL PERU S.A.
AND DOE RUN PERU S.R. LTDA, DOE RUN RESOURCES, AND RENCO,
DATED 23 OCTOBER 1997, AND THE GUARANTY AGREEMENT BETWEEN
PERU AND DOE RUN PERU S.R. LTDA, DATED 21 NOVEMBER 1997 AND
THE UNCITRAL ARBITRATION RULES 2013

PCA Case No. 2019-47

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In the Matter of Arbitration Between:	:
	:
THE RENCO GROUP, INC, AND	:
DOE RUN RESOURCES CORP.,	:
	:
Claimants,	:
	:
and	:
	:
THE REPUBLIC OF PERÚ AND	:
ACTIVOS MINEROS S.A.C.,	:
	:
Respondents.	:
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(Continued)

HEARING ON JURISDICTION AND LIABILITY

Wednesday, March 13, 2024

The World Bank Group
1225 Connecticut Avenue, N.W.
C Building
Conference Room C1 450
Washington, D.C. 20036

The hearing in the above-entitled matter came on
at 8:57 a.m. before:

JUDGE BRUNO SIMMA, President of the Tribunal

DR. HORACIO GRIGERA NAÓN, Co Arbitrator

MR. J. CHRISTOPHER THOMAS KC, Co Arbitrator

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Registry, Permanent Court of Arbitration:

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P R O C E E D I N G S

PRESIDENT SIMMA: Good morning. It looks like we are can even start 3.5 minutes before time. If that is no problem, I think, au contraire.

So I open the hearing in the Renco case. This is Day 7 of our Hearing. We have had the direct of Ms. Proctor last night; and so I give the floor to Mr. Fogler for the cross-examination. If there are no organizational things. It doesn't seem to be the case.

Mr. Fogler, you have the floor.

DEBORAH M. PROCTOR, RESPONDENTS' WITNESS, CALLED

PRESIDENT SIMMA: Good morning, Ms. Proctor.

THE WITNESS: Good morning.

CROSS-EXAMINATION

BY MR. FOGLER:

Q. Ms. Proctor, have you ever been to La Oroya?

A. I have not.

Q. So you have never seen the plant?

A. I've only seen it in pictures and looking at Google Earth.

Q. You've never seen the community of La Oroya up close and personal?

A. No, I have not.

Q. You have not participated in collecting any data in La Oroya, have you?

1 A. No.

2 Q. You have prepared your two Reports by relying on
3 data from others; correct?

4 A. Absolutely, yes.

5 Q. Do you know anything about the weather in
6 La Oroya, Ms. Proctor?

7 A. Well, that it's at high altitude; so it's like
8 high desert weather, cold and can be quite bright and
9 sunny.

10 Q. Does it have wind in La Oroya?

11 A. I understand that it does.

12 Q. And rain?

13 A. It does not have a large amount of precipitation,
14 but it does rain there, yes.

15 Q. All right. I think there's one thing that we can
16 all agree on, and that is that there was, and likely still
17 is, a public health crisis in La Oroya.

18 Can we agree on that?

19 A. We can agree that there clearly was a public
20 health crisis. I haven't seen any data regarding the
21 current conditions. I know that the Plant no longer
22 operates. So, for example, if I use Google Maps and walk
23 around the town with the little yellow person, it's obvious
24 that there is no smoke coming out of the stacks, or smoke
25 coming out of, like, fugitive sources any more.

1 Q. In your colorful presentation yesterday, you
2 likened the situation to a house on fire.

3 Do you remember that?

4 A. I was -- just to be clear, I was talking about
5 air quality specifically, which is extremely important to
6 public health.

7 Q. All right. You understand that Doe Run didn't
8 start the fire?

9 A. I absolutely understand that. That's why I made
10 the analogy.

11 Q. Okay. When Doe Run came in to operate the Plant
12 in 1997, the house had been on fire for decades, had it
13 not?

14 A. Yes. That's my understanding.

15 Q. Okay. You also had some colorful gas cans in
16 your initial slides that indicated that you felt that Doe
17 Run had exacerbated the fire, as I understand it; is that
18 correct?

19 A. Yes. That's a correct interpretation.

20 Q. Just so I understand, obviously I know you're a
21 very experienced toxicologist, but you've never operated a
22 plant before, have you?

23 A. No, but I have done a large number of
24 risk-reduction plans, air toxics risk assessments, and I'm
25 very familiar with putting on baghouses for metallurgical

1 operations and other types of things, and I recognize that
2 the smelter was a very special -- like, there's not very
3 many pyrometallurgical smelters in the world; so I have
4 never worked on a plant like that, but I have worked on
5 many metallurgical facilities, foundries, forges, smelters
6 of other kind.

7 Q. As a toxicologist, but not as the Operator of the
8 Plant?

9 A. Certainly not. I have directed the remediation
10 operations, but as a manager, I had to hire the engineers
11 to do the work to clean up one particular Facility, but,
12 no, definitely never as an Operator.

13 Q. By way of example, in operating a plant there are
14 a number of ways to increase production. You can put more
15 feedstock into the plant. That would be one way; right?

16 A. That would, then -- yes.

17 Q. But you could also make the plant more efficient.
18 That could increase production?

19 A. Yes.

20 Q. Okay. But those are issues, that is, the
21 physical configuration, the processes of the plant, those
22 are outside of your area of expertise, are they not?

23 A. That is true, but I show that one figure from
24 Mr. Connor's tool. I certainly am very familiar with
25 putting baghouses on dusty operations, and that was one

1 figure that just completely stuck out to me, because that
2 is not the most difficult fix, but yet -- and it was
3 clearly not modernized in any way until 2006. It is
4 generating half a megaton of lead emissions per day.
5 That's just unbelievable to me.

6 Q. All right. And obviously, we're going to spend a
7 little time here this morning talking about what I perceive
8 to be your principal point, which is Doe Run did not do
9 what it should have done soon enough. That's basically it,
10 isn't it?

11 A. Yes.

12 Q. Okay. So -- but before we get there, another one
13 of your gas cans in your presentation was something new to
14 me. I had not -- I had looked through your Reports before
15 you came on, and you had a gas can that said "failure to
16 modernize."

17 Do you remember that?

18 A. Yes.

19 Q. That struck me as a little odd because I had read
20 your Report, so I went back -- and you can actually do word
21 searches these days, and there's only one time in any of
22 your two Reports that the word "modernize" is even used
23 because it's true, isn't it, that you never complained in
24 your Reports about a failure on Doe Run's part to
25 modernize?

1 A. That is correct.

2 Q. All right. So let's look -- I want to look at
3 what you -- there is one reference in your First Report, if
4 we could look at Page 42.

5 A. Oh, you know, I'm going to have to grab my
6 glasses real quick. Give me a second.

7 Q. Oh, please. Sure.

8 A. I can see.

9 Q. Okay. Good. Good.

10 So we're looking at a chart. We might -- I don't
11 know if you can make it a little bit smaller so we can see
12 what the figures -- this is a page out of your First
13 Report, Figure 15, and it's dealing with air
14 concentrations, but what you have done is post some flags,
15 by date, of actions that Doe Run Perú had taken along the
16 way; right?

17 A. Yes, that's right.

18 Q. And if we see in the little box up at the top
19 that says the year 2000, here we see the only time you
20 mention the word "modernize" in your Report -- and I don't
21 know if we can blow that little box up so that we can all
22 see it. This was curious to me.

23 In your presentation yesterday with the gas cans,
24 you wanted to say that Doe Run had done other Projects, but
25 they were not helpful, and so you had just, as your

1 examples, the sprinkler truck and CCTV; right? Because you
2 wanted to downplay any of the other things that Doe Run
3 Perú had done in the initial years, didn't you?

4 A. I added those because I thought those were
5 particularly good examples of activities that don't have an
6 impact on air quality, and I added the failure to
7 modernize, really specifically, when I looked hard at that
8 baghouse that was added 2006-2007. So, it took them a
9 year, a year and a half to put on a baghouse.

10 Baghouse is not extremely significant technology.
11 Granted, that was a very large baghouse. I'm not saying I
12 could have done it, but to have waited for so long,
13 nine years, to put on a baghouse, just felt incredible to
14 me. And with that change the blood-lead levels in the
15 children dropped.

16 Q. You didn't see fit in your presentation to
17 include these items that that we're seeing on the screen
18 that were done earlier, for example, in 2000, modernize
19 central Cottrell, repair and monitor baghouses, automated
20 furnace controls for sinter, and lead blast-furnace.

21 And the irony here, you sat through Mr. Connor's
22 testimony yesterday, didn't you?

23 A. Yes.

24 Q. And we were about to go through 27 Projects that
25 Doe Run Perú had completed before the year 2000. We got

1 through only four or five of them. But there were a whole
2 host of Projects that were started immediately, and
3 continued in the first few years that Doe Run had the
4 Plant.

5 You know that, don't you?

6 A. Yes, but what I also know from Mr. Connor is that
7 very little money was spent in the first years of
8 operation. So it felt to me like Doe Run Perú were doing
9 things that were less expensive, and holding off on repairs
10 that were more expensive. And the failure to build all
11 three of the Acid Plants, it might be technically very
12 challenging, but to me, that was ignoring public health and
13 the air quality problem, which clearly existed at the time.

14 Q. We're going to hear a whole lot more with our
15 last Witness, who's a Financial Expert for Respondents, but
16 you're aware, aren't you, that the Contract between
17 Centromín and Doe Run Perú required Doe Run Perú to spend
18 \$120 million to modernize and expand production in the
19 first five years of operation, aren't you?

20 A. I know they were required to spend money, but I
21 don't know the exact amount.

22 Q. All right. And, by the way, Ms. Proctor, since
23 you were retained by Counsel for the State of Perú and
24 Activos Mineros, did they provide you with an opportunity
25 to speak with anyone who had been with Centromín?

1 A. No, that had not happened, but I didn't request
2 that either.

3 Q. Okay. All right. Well, if we want to compare
4 what the standards and practices of Centromín were with
5 what the standards and practices of Doe Run Perú, wouldn't
6 it be a good idea to actually talk with people who were
7 around at the time?

8 A. Yes, but my Report is focused on, like, air
9 quality and public health.

10 Q. I get that, but, you know, we actually have
11 someone in this very room right here today who was with
12 Centromín and Doe Run Perú, who has personal knowledge
13 about what the standards and practices were.

14 Have you ever met Pepe Mogrovejo?

15 A. No, I have not.

16 Q. So you've never spoken to him or anybody else
17 about what Centromín did compared to what Doe Run has done,
18 have you?

19 A. I did speak with Mr. Dobbelaere, and in my First
20 Report you can see I put together a timeline that covers
21 from 1922 through, I think, 2019, with all significant
22 activities.

23 Q. I might be mistaken, but I don't believe
24 Mr. Dobbelaere worked for Centromín before Doe Run took
25 over operations.

1 A. No. I just wanted to clarify that I had talked
2 to someone regarding the operations of Centromín.

3 Q. Yesterday you made a Statement about the PAMA,
4 and so I'm guessing that you have had an opportunity to
5 actually look at the PAMA?

6 A. Yes.

7 Q. I'd like to do that with you a little bit this
8 morning.

9 A. Okay.

10 Q. It's Exhibit C-90.

11 (Overlapping speakers.)

12 PRESIDENT SIMMA: Sorry. Before we leave the
13 document that we had here, a question to Ms. Proctor. At
14 the lower part of the document, which you didn't see, just
15 in the last couple of minutes, that it speaks of -- could
16 we see the -- yes. It speaks of complimentary services,
17 and I just wonder, could it be "complementary services" or
18 "complimentary services"? The -- on top of the green --

19 THE WITNESS: I don't actually see the word. I'm
20 sorry.

21 PRESIDENT SIMMA: On top of the green arrow.

22 THE WITNESS: Oh.

23 MR. FOGLER: Can you blow that up, Mr. Neely; so
24 that we can all see it.

25 PRESIDENT SIMMA: Complimentary practices.

1 THE WITNESS: You know, right now I'm not
2 entirely sure what I was referring to with that, but I
3 think I might have been talking about the street cleaning
4 activities and other public health activities that were
5 ongoing, but I can't right now think about it.

6 PRESIDENT SIMMA: They were not complimentary;
7 right? Like in a cleaning of my room in the hotel is
8 complimentary, but street cleaning there might rather be
9 complementary, would you agree? That is additional to what
10 you -- the upgrade, et cetera, et cetera, that are more the
11 day-to-day things like sweeping the floor, et cetera, and
12 that I would -- I don't want to insist on that. I just
13 wanted to be sure because --

14 THE WITNESS: Well, I think that, you know, there
15 are certainly -- maybe I'm misunderstanding you, but, I
16 mean, there is some cost associated with having a sprinkler
17 truck and driving around the city. There's probably not
18 much cost associated with having members of the community
19 clean up dust.

20 PRESIDENT SIMMA: Okay. Well, okay. Thank you.
21 Fine.

22 Back to you.

23 MR. FOGLER: Any time.

24 BY MR. FOGLER:

25 Q. We're going to go back to the PAMA, Exhibit C-90,

1 and this is a very long document, obviously, and it covers
2 a whole lot of subjects about the Plant.

3 You understand that this was written before Doe
4 Run Perú was ever in the picture?

5 A. I understand that, yeah.

6 Q. This was prepared by Centromín.

7 You understand that?

8 A. My understanding that it was prepared by
9 Centromín with the MEM, but I don't know exactly.

10 Q. All right. And it was -- it was Centromín that
11 decided what Projects were going to be part of the PAMA;
12 right?

13 A. I assume so.

14 Q. Centromín estimated how much those Projects were
15 going to cost; right?

16 A. I actually don't know.

17 Q. And Centromín decided the order in which those
18 Projects were to be implemented, didn't they?

19 A. They created a Schedule.

20 Q. Right. It was Centromín's Schedule.

21 A. Okay. I'll -- I don't know whether it was
22 Centromín's or not, but if you say so, I will accept that
23 position.

24 Q. All right. Well, we know that this document was
25 approved in January of 1997, which was before there ever

1 was a Doe Run Perú.

2 Do you know that?

3 A. Yes, I do know that.

4 Q. Okay.

5 A. But my understanding was that it could be the MEM
6 who set the Schedule or identified the Projects. I didn't
7 know that it was all Centromín.

8 Q. Fair enough. But it was not Renco or DRRC or DRP
9 that set the Schedule?

10 A. That, I'm sure of, yes.

11 Q. Okay. So let's go to -- first to Page 83. Here,
12 we have a section on gas and particles emissions, and this
13 is, at least in part, what you're concerned about with the
14 air quality, isn't it?

15 A. My major concern with air quality is the fugitive
16 emissions.

17 Q. All right. Well, this actually discusses
18 fugitive emissions. So here, we're talking about the main
19 chimney and the 95 secondary chimneys, and it goes through
20 the quantities of gases and particulate matter that were
21 being discharged in 1995. But if -- let's go to the next
22 page because I want to focus on what you're interested in.

23 Page 84. It also -- the PAMA talks about
24 fugitive emissions, doesn't it?

25 A. It does, specifically regarding -- I think that

1 most of the discussion was with regard to the Coking Plant,
2 but there does obviously seem to be emission sources that
3 are fugitive.

4 Q. Well, it's clear from just this portion -- and I
5 can show you others, but this portion says the emission of
6 fugitive gases also impacts the air, but it is difficult to
7 quantify these impacts as they are irregular and disperse
8 quickly, and then you see in the table, "gas sources and
9 dust." It has "fugitive emissions" right at the bottom,
10 with no treatment equipment.

11 So it's obvious, isn't it, that Centromín and the
12 MEM understood that there was a fugitive emissions problem,
13 and that there was nothing being done at the time to solve
14 it; right?

15 A. So is this Table the current conditions? I'm not
16 sure. Or is this the planned conditions?

17 Q. Well, this is current. This is what they were
18 talking about what was in existence at the time the PAMA
19 was developed?

20 A. Okay.

21 Q. But -- so understanding that there was a fugitive
22 emissions problem, Centromín and the MEM did not put any
23 specific Projects other than the Coke Plant to solve the
24 fugitive emissions problem, did they?

25 A. It's not clear to me that this is -- is this a

1 list of things that need to be done, or a list of things
2 that will be done as part of the PAMA? I will say that I
3 do know that, had they put on the Sulfuric Acid Plants,
4 that would have reduced fugitive emissions.

5 Q. Let's go to the part of the PAMA that talks about
6 that. Page 157. Here is the Project 1, the new Sulfuric
7 Acid Plants with the objectives to fix the SO2 of emissions
8 due to the metallurgical operations, and reach the maximum
9 permissible level.

10 That's what you're just talking about; right?

11 A. Yes. I mean, that's a relatively vague
12 statement, but my understanding is that the Sulfuric Acid
13 Plants do reduce both fugitives and SO2 emissions.

14 Q. Well, I didn't write this. I'm just reading what
15 they put in the PAMA.

16 A. Okay.

17 Q. The Statement that you made yesterday was that
18 these Plants were priority number one.

19 Do you remember that?

20 A. They were Project Number 1. If I said "priority
21 number one," I think that they were the most valuable PAMA
22 Project for improving air quality. So if I said
23 "priority," I recognize that they weren't -- I mean, look
24 at the execution Schedule, it starts in 2000 -- I mean,
25 it's 2003-2004, but they were a priority to improve public

1 health.

2 Q. You've already focused on what I was going to ask
3 you. It wasn't Renco or Doe Run Resources or Doe Run Perú
4 that selected when the Sulfuric Acid Plants were to be
5 implemented. That was Centromín and MEM.

6 You understand that, don't you?

7 A. Yes.

8 Q. Okay.

9 A. Can I add?

10 Q. And they put -- they put the Sulfuric Acid Plants
11 after the other Projects in the PAMA?

12 A. I didn't see the full Schedule of the PAMA. I
13 did not look at it. What stood out to me here is that the
14 Copper Plant was to be done in 2004, according to how the
15 money was allocated. Execution Schedule is a -- you know,
16 is a phrase that I'm not sure if it means they were
17 supposed to be done by then, or if they were supposed to
18 start by then, but the flow of money for these Plants was,
19 like, 2003, 2004, but in 2009 the Copper Plant still wasn't
20 done.

21 Q. You understand that Doe Run Perú asked for and
22 received modifications to the PAMA that dealt specifically
23 with the Sulfuric Acid Plants?

24 A. I understand that Doe Run Perú hired Fluor Daniel
25 in 1998 to create a master plan. That master plan changed

1 the Sulfur Acid Plants, but they still had a completion
2 date -- I'd have to check my notes -- around 2006, I would
3 say. And then they didn't meet that plan. And so in 2006,
4 the MEM brought in an Expert panel, and -- including
5 Dr. Partelpoeg -- probably killed that, but -- and there
6 was a new Schedule. And that new Schedule was said to be
7 aggressive, but it needed to be.

8 There was extremely high blood levels among the
9 children in the community. It was a public health
10 disaster, and they set the completion date for the Sulfuric
11 Acid Plants as the fourth quarter of 2009, but it was never
12 finished either.

13 Q. Do you remember my question, Ms. Proctor?

14 A. Your question is if they received a permission to
15 extend the Schedule, and the answer is yes.

16 Q. Thank you.

17 A. I'm not entirely sure, maybe you can tell me what
18 the Extension was? Was it to the fourth quarter of 2009?

19 Q. There were actually several Extensions. There
20 were initial Extensions because the estimate for the
21 Sulfuric Acid Plants was shown to be understated. So they
22 had to plan for more money. And it was extended in 2006 as
23 a result of a request, and the Panel that you mentioned,
24 and then it was extended again, so, yes.

25 A. Okay.

1 Q. But my point simply was, Doe Run Perú requested
2 and received Extensions with the permission and approval of
3 the MEM, and that's true?

4 A. Yes.

5 Q. Okay. Let's now talk about issues that are
6 closer to your work.

7 A. Thank you.

8 Q. I know you'll be happy about that.

9 I want to talk to you about the Integral studies,
10 the Health Risk Assessments that were done in 2005 and 2008
11 because you rely heavily on the data from those studies for
12 your analysis, don't you?

13 A. Yes.

14 Q. So I take it that you read those two Reports very
15 carefully?

16 A. I did, but I read them very carefully a
17 couple years ago.

18 Q. All right. This proceeding has been going on for
19 a while, so I understand that, and if you need to take some
20 time, that's fine. We'll go slowly. But let's look first
21 at the 2005 Report, Exhibit C-60.

22 I want to go right to the conclusions that are on
23 Page 37. And here's a paragraph. We may have even seen
24 this before in this proceeding. Let's go sentence by
25 sentence and look at what Integral and Dr. Schoof are

1 saying in 2005.

2 The first sentence says: "Many actions have
3 already been undertaken by the community, the Ministry of
4 Health, and by Doe Run Perú to reduce both lead exposures
5 and releases of sulfur dioxide."

6 You have no reason to dispute that statement, do
7 you?

8 A. No.

9 Q. Many additional actions are planned for the
10 future. That too was true; wasn't it?

11 A. Yes.

12 Q. "The results of this Risk Assessment indicate
13 that implementation of the planned technological changes to
14 reduce fugitive emissions and stack emissions will reduce
15 sulfur dioxide concentrations to levels that will greatly
16 reduce health effects."

17 That was the plan, wasn't it?

18 A. Yes, but the primary PAMA Project to reduce
19 sulfur dioxide emissions was the Sulfuric Acid Plants.

20 Q. Right. And you understand that they did two of
21 the Plants. The lead Plant and the zinc Plant were
22 actually built and in operation?

23 A. Yes. I'm not sure if they actually built a zinc
24 plant or if they modernized the Plant that was there,
25 but -- and then reduced production of zinc, but this gets

1 outside of my area of expertise.

2 Q. But you know they did something to improve the
3 sulfur dioxide issue for the zinc circuit?

4 A. They did something, yes.

5 Q. Okay.

6 A. But, you know, if I look at the emission -- like
7 the levels of SO2 in air, they do not really come down
8 until the lead Sulfuric Acid Plant is on-line.

9 Q. It continues, here in this paragraph: "While
10 lead emissions will also be greatly reduced, blood-lead
11 levels are still predicted to exceed health-based goals in
12 2011."

13 And the goal was to get at least 95 percent of
14 the children to have a blood-lead level below 10; right?

15 A. I've never seen that as a goal specifically in
16 the PAMA, but I will attest that that is the standard -- is
17 to be 95 percent below 10.

18 Q. And here, it states the reason, in the next
19 sentence, why even the improvements that were planned might
20 not achieve that goal. It says: "This is due to the fact
21 that dust and soil in La Oroya will still have high
22 residual concentrations of lead from historical emissions."

23 You believe that too, don't you?

24 A. Yes. I think that that is true, that there will
25 be high levels of lead in dust and in soil. I haven't done

1 a risk assessment of current conditions, nor have I seen
2 one, but I do understand that there should be lead in the
3 environment still because it does not go away.

4 Q. Well, you even have a chart in your presentation
5 that shows the effect over time of the percentage of
6 contribution of dust and soil to the blood-lead levels over
7 time?

8 A. Yes.

9 Q. And your own chart shows that soil is going to
10 have a much greater impact on the blood-lead levels if the
11 emissions go down?

12 A. That is absolutely correct.

13 Q. Okay. And the paragraph concludes: "For that
14 reason, Integral recommends continuing and expanding many
15 of the community-based programs that help to reduce lead
16 exposures and the associated health burden."

17 So we'll visit this again in the 2008 Report, but
18 you know that there were continuing efforts, not just at
19 the Plant, but in the community to try to ameliorate the
20 problem; right?

21 A. I know that there were efforts, but I don't know
22 how effective they were. As the American CDC said: "Until
23 you control emissions, no other activity is going to make a
24 big difference in the blood-lead levels."

25 Q. All right. In this 2005 Integral Report, there

1 are a number of charts and graphs, just like in your
2 Report, but I'd like to show you a chart on Page 50. At
3 the top, it is a chart about predicted child blood-lead
4 levels, and it talks about different communities in the
5 area. 2004, that would be measured data; right?

6 A. I think so, yes.

7 Q. And then, 2007 and '11, which obviously had not
8 yet occurred, are just predicted data?

9 A. Yes.

10 Q. So this bar chart looks familiar because it's
11 similar to one in your Report, isn't it?

12 A. Yes.

13 Q. So what it shows is that, while -- it was high in
14 2004, above the standard; right? And it's predicted to
15 come down, but, even so, still, particularly in La Oroya
16 Antigua, was going to be over the limit; right?

17 A. That's what the figure shows, yes.

18 Q. What the Integral Report spends a lot of time
19 discussing is the reason why they were predicting the
20 steady decline over the years in the various areas, in the
21 child blood levels, was because they were predicting a
22 decline in the emissions.

23 A. That's correct. And, therefore, the lead in
24 dust, in particular.

25 Q. Let's look at Page 103 of the Report. This

1 paragraph goes into some detail, maybe too much detail for
2 our purposes, but they tried to predict -- "they" meaning
3 Integral -- tried to predict what the percentage of
4 decrease would be in the lead emissions, didn't they?

5 A. It does appear that they did that, yes.

6 Q. Okay. In La Oroya Antigua, the concentrations of
7 lead in the air are predicted to fall by 80 percent in 2007
8 and by 85 percent in 2011, and it goes on to have other
9 statistics as well, but this is an example of the kinds of
10 work -- the kinds of predictions that Integral was making
11 in their Report to get to the predicted blood-lead levels;
12 right?

13 A. That's correct.

14 Q. Before we go to the next Report, I want to ask
15 you about the contribution that historical contamination
16 might play in the child blood levels. Okay. That's the
17 subject we're going to talk about.

18 A. Okay.

19 Q. And you know the Plant has been operating since
20 1922; right?

21 A. Yes.

22 Q. It operated for decades without any Environmental
23 Regulations or oversight.

24 You know that?

25 A. That's my understanding.

1 Q. And you agree that the historical emissions,
2 including the emissions under Centromín's operations,
3 played and continue to play a role in the health of the
4 community and the workers in La Oroya; right?

5 A. That is my understanding, yes.

6 Q. Okay. And this Integral Report, by the way,
7 speaks to that in several places. Let's look on Page 57.
8 And we heard a lot about this in the cross-examination of
9 Dr. Schoof, and I think you were around for that.

10 A. Yes.

11 Q. This paragraph here explains why the focus of the
12 Integral Report was on current operations. It
13 says: "According to the PAMA and the Transfer Agreement,
14 Centromín, backed by the Government of Perú, is responsible
15 for chemical contamination from historical operation of the
16 Complex and continuing emissions through the period of the
17 PAMA."

18 I understand you're not here as a contract
19 Expert. Have you actually looked at the Contract between
20 the Parties?

21 A. The STA.

22 Q. The STA?

23 A. No.

24 Q. Okay. Good. "The exceptions are the slag pile
25 and ferrites for which Doe Run Perú agreed to take back the

1 historical liability." Then, it says: "Soil and dust in
2 La Oroya may be affected both by current operations of the
3 Complex and continuing emissions through the period of the
4 PAMA and by historical operations."

5 You agree with that, don't you?

6 A. Yes.

7 Q. "For that reason, this Risk Assessment does not
8 strictly distinguish between current and future chemical
9 releases, but the focus is on air and dust because these
10 are the exposure media that are most affected by current
11 operations."

12 A. Yes.

13 Q. "Due to the focus on current operations of the
14 Complex, this Risk Assessment also does not provide an
15 assessment of the full extent of environmental
16 contamination due to the operation of the Complex in
17 La Oroya since 1922."

18 A. That's correct, because they were trying to
19 evaluate the current conditions. They did include soil
20 data, but the -- they were not trying to reconstruct what
21 had happened since 1922.

22 Q. One of the key features of your analysis was to
23 try to demonstrate that the contribution of the soil was
24 relatively low compared to the current emissions; right?

25 A. Dr. Schoof found that as well.

1 Q. Okay. You're not suggesting that the soil and
2 the historical contamination plays no role?

3 A. No.

4 Q. In fact, when Mr. Connor accused you of that in
5 one of his Reports, you wrote in your Second Report that's
6 not your Opinion; correct?

7 A. I take your word for it.

8 Q. Have you seen Reports from others who have
9 attempted to quantify the contribution of the emissions by
10 Centromínin for the problems in La Oroya?

11 A. No.

12 Q. I'm going to show you a couple.

13 A. Okay.

14 Q. First, I'm going to show you GBM-73, and let me
15 explain to you what this is because I'm not sure you've
16 seen it.

17 A. I have not.

18 Q. We have heard, in our Hearing this week, about a
19 report prepared by a company called "SVS."

20 Have you ever heard of them?

21 A. I have heard several times about the SVS Report,
22 but I have not looked at it in a lot of detail.

23 Q. There are actually two SVS Reports. There's one
24 that was commissioned to look at Doe Run Perú's compliance
25 with the PAMA, but this Report that I'm showing you here,

1 GBM-73, is a report about -- that was commissioned by the
2 Government of Perú to look at Centromín's compliance with
3 its obligations under the PAMA.

4 You've never seen this, though?

5 A. No.

6 Q. Let's look at Page 24. So SVS says: "Centromín
7 and Doe Run would be responsible by about 78 percent and
8 22 percent respectively of the total mass of pollutants
9 released by the La Oroya smelter in form of liquid
10 effluent, solid wastes, and fugitive air emissions, from
11 1975 to 2002."

12 And we've seen a number of statistics like this,
13 and this includes more than air emissions, but the point
14 here is they're trying to quantify how much came on
15 Centromín's watch versus Doe Run Perú's watch.

16 A. Yes, but I'd like to make sure we all understand
17 that "total mass" is not equivalent to "dose" or
18 "exposure," but that is -- I just want to make it clear.
19 But that is what it says.

20 Q. It goes on to say: "In general, the stack
21 emissions rates during the Doe Run operations were reduced
22 when compared to the Centromín operations, in spite of
23 increase in lead production rate."

24 That's a factor of efficiency that we mentioned
25 just a little while ago.

1 Do you recognize that?

2 A. Yes.

3 Q. "Although this suggests an improvement on the
4 environmental performance of the La Oroya Smelter, it does
5 not address fugitive emissions." And then, I should have
6 highlighted this next sentence because this is your
7 point: "Until fugitive emissions are addressed, it is not
8 possible to fully resolve whether the overall emissions
9 have improved."

10 You agree with that, don't you?

11 A. Yes, very much so.

12 Q. The conclusion here, at the end, is that
13 Centromín should be responsible to a higher degree for
14 cumulative environmental impacts while Doe Run has the main
15 responsibility to the instantaneous environmental impacts
16 caused by the La Oroya smelter activities.

17 So, I mean, this is a relative issue and may be
18 in the eyes of the beholder, but the point here is both
19 Parties bear some responsibility, don't they?

20 A. To the total amount of contamination that exists
21 in La Oroya? Absolutely.

22 Q. Okay. Now, let's look at -- actually, there's
23 one more reference on Page 26 of this Report. And this is
24 to the same effect: "Soil quality at the area influenced
25 by the La Oroya smelter would be mainly affected by the

1 cumulative impacts of both periods of operations."

2 Agreed?

3 A. Yes.

4 Q. All right. Now, let's look at a document that
5 you actually have seen. And I apologize for springing this
6 on you unannounced, but there's one that's in your Report.
7 In fact, it's your first exhibit, DBM-001. So let's take a
8 look at it.

9 A. Can you show me the first page? I can't --

10 Q. Yeah. I'm sorry, Mr. Neely, I'm skipping R-161
11 here for -- trying to move it along here. This is
12 the -- that's not it either. DMP-001.

13 A. It's also Mr. Gino --

14 Q. Bianchi.

15 A. Bianchi. Thank you, I was spacing. His Report,
16 if that helps.

17 So since we have some time, I think it's
18 important to consider that this total soil contamination
19 will be, I'm sure, greater from Centromín's long-term
20 operation or that dating back to pre-Centromín, but the
21 most important exposures for children are to surface soil.
22 Because that's mostly the dirt in which kids play in.

23 Q. All right.

24 If there's anything else that you would like to
25 explain or expound on, I want you to feel free to do so.

1 Okay?

2 A. Thank you.

3 Q. All right. So this -- and I think I slipped this
4 in on Mr. Neely without him knowing, and he's cursing me
5 under his breath. This a document that you referenced in
6 your Report. This is -- this happens to be a -- I'll call
7 it a "pleading." It's from Activos Mineros, the Party that
8 hired you in this Arbitration, and they have sent -- this
9 is a pleading in 2010 to the bankruptcy organization,
10 INDECOPI. And I'm not sure -- I can't remember why it was
11 that you cited it, but, if we could go --

12 A. Me either. But it's -- I might have cited
13 it -- I just wanted to look and see what I wrote that I
14 cited that Report.

15 Q. While you're looking, I'm going to ask Mr. Neely
16 to put up Page 7.

17 You tell me when you're ready.

18 A. Just give me one second. I want to see where I
19 cited it, and I have never been in international
20 arbitration before, so I didn't understand the numbering of
21 references, and so I had to do the numbering at the last
22 second, so I might have cited it incorrectly. But we'll
23 review it. I'm sorry.

24 Q. That's -- it's quite all right. I actually think
25 somebody put your exhibits in alphabetical order, and this

1 one happened to be titled "Activos Mineros," so it became
2 the first exhibit. But that's just my theory.

3 So let's look at the chart at the bottom of the
4 page.

5 A. Okay.

6 Q. And let me just -- I'll give you a little
7 background. What Activos Mineros is doing with this
8 document is trying to allocate responsibility between
9 Activos Mineros and Doe Run Perú for the remediation of the
10 soil. Okay.

11 A. Okay.

12 Q. So what they are doing here in this chart is
13 trying to establish the various quantities, much like we
14 saw in the last exhibit, as between -- and the last one
15 only went back from 1975 to -- through Doe Run's work, but
16 this one goes back from 1922. And it has the actual
17 percentages of sulfur dioxide, lead, and arsenic emitted
18 into the environment by, first, Cerro de Pasco and
19 Centromín, on the one hand, and then Doe Run Perú on the
20 other. And you see the numbers there, 84 percent for Cerro
21 de Pasco and Centromín, and 16 percent for Doe Run Perú.
22 And that's for all three of them put together.

23 A. I understand.

24 Q. But lead, it's really kind of a 90/10, if you
25 look at the 61,000 versus 6,000.

1 A. I see that.

2 Q. Okay. So there's another chart on Page 9. And
3 this chart takes the same emission factor percentages,
4 which we saw on Page 7, 84 percent and 16 percent, and it
5 has soil concentration factors and health risk factors,
6 ultimately coming into a percentage of liability as between
7 Centromín and Doe Run Perú. And I'm not sure -- these
8 numbers are --

9 A. I don't remember ever seeing these numbers. I
10 don't really know where they come from or what they're
11 based on.

12 Q. The numbers themselves aren't that important, but
13 what is important is the fact that even Activos Mineros,
14 the Party in this very Arbitration, acknowledges that they
15 have a contribution to the problem that exists in La Oroya.

16 A. I think that that is probably true. I think,
17 though, that, during the timeframe when Doe Run Perú was
18 operating, their fraction of the health risk was -- it was
19 primarily their emissions. So I don't know, like, the
20 reference for this, but all of the risk assessors point to
21 emissions during that time period, not overall from the
22 beginning of time. It's for the people who were there at
23 that time period.

24 Q. I'm going to change subjects with you.

25 A. Okay.

1 Q. I'm going to violate a cardinal rule of
2 cross-examination.

3 A. I didn't know there were rules. If I break any,
4 let me know.

5 Q. They're not hard and fast, but one of the
6 cardinal rules is: Don't get in the cage with the bear
7 when you're cross-examining an expert, but I'm now going to
8 ask you about some of the specifics of your analysis.

9 A. Okay.

10 Q. And you're the Expert here. I'm not a
11 toxicologist, I don't know anything about this subject
12 other than what I've read.

13 A. I will be happy to explain.

14 Q. So I understand that one of your main Opinions is
15 that, if we consider only the lead that's in the soil, then
16 the blood-lead levels would be predicted to be below 10.

17 A. I reproduced Dr. Schoof's modeling and the
18 mean -- at the mean, at the average, the levels are below
19 10, yes.

20 Q. Okay.

21 A. But I haven't done my own risk assessment, per
22 se. I've just reproduced Integral's Risk Assessment.

23 Q. All right.

24 A. And that is also, just to be clear, specific to
25 when Doe Run Perú was operating, those two points in time

1 when she did that Risk Assessment.

2 Q. What I want to try to understand, because I've
3 seen in the materials, including your materials, that you
4 can determine the percentage or amount of lead that are in
5 various different factors, not just soil but outdoor dust
6 and indoor dust and drinking water, those kinds of things.

7 A. Right. So what we do is we measure
8 concentrations in soil and in dust, like milligrams per
9 kilogram, parts per million, and then we incorporate that
10 data into a model, a blood kinetic model. So, basically,
11 the model was -- these types of models were originally
12 designed for pharmaceuticals, but what they do is they
13 predict how -- for lead -- how lead will move through the
14 body, and then what the blood-lead level will be in
15 association because we have, in this case, an internal
16 metric, the level of lead in blood that is used as the
17 measure of potential toxicity.

18 Q. Was there a reason, by the way, that you didn't
19 provide us with a copy of your actual analysis?

20 A. I -- not really, I guess. You wanted the output
21 from the blood-lead model?

22 Q. Well, I was trying to figure out what assumptions
23 and parameters you used to come up with your numbers, and
24 we had no way to determine that.

25 A. I used exactly the same parameters at the mean as

1 Dr. Schoof did in her 2004 and -- well, 2005 and 2008 Risk
2 Assessments.

3 Q. And I'm assuming here -- and you correct me if
4 I'm wrong -- that the reason why you came out with a
5 different conclusion than Dr. Schoof is you considered only
6 the contribution from soil and ignored indoor dust and
7 outdoor dust.

8 A. No, that's not right. First, I did have the same
9 conclusion as Dr. Schoof. She found that 5 percent of
10 blood lead came from soil in the 2005 Risk Assessment and
11 12 percent of blood lead came from soil in the 2008 Risk
12 Assessment. So I didn't have a different conclusion.

13 And then, the second part of your question? I'm
14 sorry, I got distracted.

15 Q. You decided to consider only the contribution
16 from soil and not indoor dust and outdoor dust.

17 A. No. I did indoor dust, outdoor dust, diet, air,
18 all of the same inputs as Dr. Schoof did. What I did,
19 though, is, because she associated indoor dust, outdoor
20 dust, and air, with ongoing emissions, I put those
21 together, and I had like separate -- like if you looked at
22 that bar chart from my presentation -- I'll show it again.
23 Okay.

24 Q. It's on Page 18?

25 A. 22. So each of the colored bars are for a

1 different age group, like 0 to half a year through
2 6 -- through 7 years, 6 to 7 years. And I separated out
3 soil because the soil is mostly affected by historical
4 emissions based on the Risk Assessment that Dr. Schoof did,
5 but the air, the indoor and the outdoor dust are primarily
6 associated with ongoing emissions. That's her conclusion.
7 She said that the air, obviously, is pretty much
8 100 percent because dust falls to the ground. So the dust
9 that's in the air is from the ongoing emissions.

10 The outdoor dust, which is the most significant
11 source of exposure, was assumed to be 100 percent due to
12 emissions. So when Dr. Schoof predicted the future, like
13 the future blood-lead levels that are in her assessment,
14 she assumed that decreased emissions would have a direct
15 100 percent impact on outdoor dust. Now, would there be a
16 little bit of dust from historical emissions? Dust is hard
17 to get rid of. It's probably there.

18 Q. Well, even if the emissions stop, you're still
19 going to have dust; right?

20 A. That's right.

21 Q. You're going to have both indoor dust and outdoor
22 dust; right?

23 A. I think it's really important to note that
24 this -- her Risk Assessment and my Risk Assessments -- my
25 evaluation of the assessments is based on when Doe Run was

1 operating. So it doesn't evaluate the Facility shutting
2 down.

3 Q. Well, but if -- if the emissions are
4 controlled -- and we covered this earlier. If the
5 emissions are controlled, the contribution from historical
6 operations increases?

7 A. The percent contribution most definitely
8 increases, and that's why -- what was the page you cited
9 earlier?

10 Q. 18. That's where I thought you were going,
11 but --

12 A. Oh, I was trying to show -- the percent
13 contribution, that is because the ongoing emissions were
14 the driver for blood-lead levels in La Oroya in this
15 timeframe. So as the contribution from the emissions goes
16 down, the contribution from soil which -- lead in soil is
17 not going anywhere -- go up; right? Because it's a percent
18 contribution.

19 Q. And if you took into account the lead in the soil
20 and the lead in the outdoor dust and indoor dust, even
21 after emissions stopped, you're still going to have a
22 significant lead problem in the area, aren't you?

23 A. Now, I haven't done a risk assessment for
24 La Oroya under current conditions because -- you know,
25 after Doe Run left, there were a few years of

1 non-operation, I understand, and then Doe Run in
2 liquidation -- which I do not understand what that
3 is -- operated the Plant for a while. I don't know how
4 long.

5 I do know that -- I believe, anyways, that it is
6 not operating today.

7 Q. Let's look at what a couple of other experts have
8 said about the contribution of soil.

9 A. Okay.

10 Q. Okay. There's one from your Report in
11 Exhibit -- it's DMP-45. This is a -- it's actually a
12 presentation --

13 A. Yeah.

14 Q. -- made by Mr. Hamilton, I believe.

15 A. I feel much better that I recognize my own
16 exhibit.

17 Q. There was a report done by GWI Intrinsik in 2009.

18 A. I'm familiar with that, yes.

19 Q. Okay. So let's go to Page 20, here, of this
20 presentation. There's a statement here that, "there is a
21 significant likelihood between 24 and 96 percent that a
22 child will have blood-lead levels above 10 $\mu\text{g}/\text{dL}$ in all
23 communities of interest assessed, based only on exposure to
24 contaminated soils."

25 Now, that's contrary to what you concluded, isn't

1 it?

2 A. No, it isn't actually. What they did is they
3 used the IUEBK model, which predicts a distribution of
4 blood-lead data, and what I predicted was the mean. So
5 what I showed on my charts is the mean.

6 Q. So you agree with this statement?

7 A. I haven't done the math to follow this, but I
8 don't see any reason to question it. I think that soil
9 would be significant, but, if I were to do a risk
10 assessment today, I think one thing that would be really
11 important is to understand how bioavailable the lead is
12 because lead weathers with time in soil, which means it
13 gets bound up, and it's not as easily absorbed. So in the
14 United States, we measure what we call "bioaccessibility,"
15 how accessible is lead for absorption from soil samples,
16 and we utilize this information as part of risk
17 assessments.

18 So I don't believe that Intrinsik did that type
19 of work. There is an assumption about bioavailability
20 built into the IUEBK model, but I don't know that, you
21 know, at this point in time when he did this work, which I
22 believe is 2009 -- 2008-2009, I don't know that he did it
23 in a way that I would do it today, but I'm not challenging
24 what he says. I think that that is what the model would
25 clearly predict at the levels of lead in the soil. And

1 then, just a final note is that he used the 0 to 2 cm cut
2 of soil. So he used the very surface soil to do his Risk
3 Assessment. So I think that the very, very near-surface
4 soil, which was more contaminated than the deeper
5 soil -- deeper soil, I'm sure, was contaminated too -- had
6 higher concentrations of lead than the deeper soil, which
7 had been put down from earlier years.

8 Q. I'm going to show you one other Report. This is
9 JAC-59. It's a 2012 article by a Mr. Reuer, R-e-u-e-r, and
10 others, entitled: "Lead, arsenic, and cadmium
11 contamination and its impacts on children's health in
12 La Oroya, Perú."

13 A. Oh, 2011. Okay.

14 Q. Have you ever seen this?

15 A. I might have, but it doesn't strike me as
16 familiar.

17 Q. On Page 6 of this Report, there is a lot of data.
18 And I want to talk about the paragraph there. It is hard
19 to read. Here it is. This is under "Indoor Dust
20 Concentrations." And, of course, as we discussed, indoor
21 dust is not going away, even if emissions stop; right?

22 A. That's true, but I believe Integral allocated 70
23 or 80 percent of indoor dust to ongoing emissions because
24 windows are open, dust blows in. Anyone who has lived near
25 a freeway knows that that is the case.

1 Q. Actually, what my understanding -- and don't take
2 my word for it -- but my understanding is that they used
3 70 percent of the soil concentration because the indoor
4 dust is mostly soil that gets tracked in from the
5 environment?

6 A. I don't think that's correct.

7 Q. Okay. So the Reuer Report says: "Elevated and
8 variable metal concentrations follow the soil pattern as
9 most indoor mineral dust would be derived from local
10 soils."

11 So I take it you disagree with that?

12 A. Indoor dust concentrations. I have to read it.
13 Give me a second. Okay.

14 Q. My question simply is: Do you disagree with this
15 conclusion that indoor dust is largely derived from the
16 soil?

17 A. I think what he's saying is the mineral content
18 of indoor dust is mostly derived from soil.

19 Q. Do you agree?

20 A. I mean, not -- I mean, I agree with Dr. Schoof's
21 risk assessment that most of the indoor dust, while the
22 Facility was operating, was from emissions.

23 And, you know, if -- maybe you haven't had this
24 experience. I live in Southern California, where there is
25 air pollution. If you live near a freeway, you have got to

1 clean the dust -- you know, especially back in the day, you
2 have to clean the dust off every day because it flies in
3 through the windows.

4 So my understanding, from Dr. Schoof's risk
5 assessment, is that she assumed 70 or 80 percent of indoor
6 dust comes from the emissions. And then when she reduces
7 emissions, she reduces the lead contribution in indoor
8 dust.

9 Q. I live in Houston. We don't dare open the
10 windows, it is too hot.

11 A. Okay.

12 Q. Let's go to the table at the top of Page 10 of
13 this Report. It is hard to read, but I want to make sure
14 we understand what is being shown here, and it refers to
15 the IEUBK model. That is what you and Dr. Schoof have
16 tried to explain to us; right?

17 A. Yes.

18 Q. And lead estimates by site and age. "For each
19 site, the median lead concentration for all three media was
20 included in a model run; all other media were set to zero
21 to evaluate the impact of indoor dust, soil, and drinking
22 water."

23 So they are trying to isolate the impact of those
24 three things but you agree that the lead in drinking water
25 is a very small part of picture?

1 A. Yes. That's what Dr. Schoof found.

2 Q. Okay. So if we focus on the La Oroya Antigua,
3 what this is showing is that the blood-lead levels, just
4 from indoor dust, soil, and drinking water, are still
5 pretty high?

6 A. Why does it say the 95 percent confidence
7 interval is 6.9? Because it doesn't make sense to me.

8 I guess I kind of have to read the whole thing,
9 but I do agree -- in 2011, which, I assume, is what he's
10 evaluating -- I showed in my -- I call it a "rainbow"
11 figure -- that the vast majority of blood-lead levels are
12 less than 20 in that timeframe because the emissions from
13 the Facility had stopped.

14 But I mean -- the 21 for a mean seems kind of
15 high. The upper 95 percent confidence limit should be
16 higher than the mean, so I would have to get, I think, read
17 the Report to understand.

18 Q. Let me just show you the conclusion of the Report
19 on Page 11. It says: "In the absence of point source
20 emissions" -- we're talking about the plant here.

21 A. Yeah.

22 Q. -- "contaminated soil and indoor dust pose a
23 significant health risk to the children of La Oroya
24 Antigua. Reduced atmospheric pollution from the
25 metallurgical complex will not necessarily return pediatric

1 risk blood-lead levels below the 10-microgram limit."

2 A. I think that is most likely true.

3 Q. Okay. And so, I mean, the point of all this,
4 really, is to try to say that, even if you stop the
5 emissions all together, the historical contamination is
6 still a problem?

7 A. Yeah, but it's much less of a problem than when
8 the facility was operating.

9 Q. All right. I want to go to the 2008 Integral
10 Report.

11 A. Okay.

12 Q. And, obviously, this is another Report that you
13 have read; right?

14 A. Oh, absolutely.

15 Q. It is C-139. There's the front page. Let's
16 start at Page 36. We actually looked at this a little bit
17 with Dr. Schoof, but you recognize that between 2005 and
18 2008, when Integral came back, that Doe Run Perú had done a
19 number of things to improve the emissions issue at the
20 plant; true?

21 A. Yes. And I think the most significant one for
22 blood lead was the baghouses on the lead furnace, because
23 that made a really significant drop in blood-lead levels.

24 Q. And we don't need to go through all these
25 Projects, but, Mr. Neely, if you could scroll up a little

1 bit to the conclusion here.

2 You don't dispute that there were notable
3 declines in both stack and fugitive emissions by 2008, do
4 you?

5 A. So there were notable declines in fugitive
6 emissions by 2008, in particular, because they put the
7 baghouse on the lead furnaces, which, as I've said several
8 times, reduced the emissions. There were fugitive of half
9 a megaton a day of lead, according to Mr. Connor.

10 Q. Okay.

11 A. That's huge.

12 Q. And I think you noted that that had an immediate
13 effect, or --

14 A. I mean, it is blood lead -- lead leaves the body
15 of children relatively quickly. It depends on their age
16 and their nutritional status, but, you know, within a
17 matter of months, you can see a decline.

18 Q. If we go to Page 38 of the 2008 Report, we see
19 here there's another long list of community programs
20 implemented by Doe Run Perú before 2005.

21 And we had this discussion before you arrived, at
22 the difference between trying to prevent exposure on the
23 one hand versus reducing emissions on the other, but
24 reducing the exposure is also good for the public health
25 too, isn't it?

1 A. Reducing the emissions would have had the most
2 significant impact, but when you take kids that have very
3 high blood-lead levels and take them out of the
4 environment, it is almost -- it is like emergency response.
5 You need to get them out of the environment so that their
6 blood-lead levels drop as quickly as possible.

7 And, obviously, I was not there in 2006 or even
8 in 2024, but I understood from that Expert Report that they
9 would move the kids -- the Expert Report of 2006 -- they
10 would move the kids to schools and give them better
11 nutrition, so they absorbed less lead. But they
12 would -- once they got to 45 mcg/dL, they would send them
13 back to their regular school.

14 Which Dr. Clark, who was the toxicologist in that
15 Expert Panel, was not impressed by. Which I also can't
16 understand why you would send a child back with
17 45 micrograms per deciliter back to the environment they
18 were in.

19 Q. My question simply was, instituting these kinds
20 of community efforts helps the problem, doesn't hurt it?

21 A. It doesn't hurt it. But as the CDC said, none of
22 this will have a significant impact until the lead
23 emissions are curtailed.

24 Q. Okay. Let's turn to Page 22 of the Report.
25 Here's a discussion about lead. And which is -- now we're

1 in 2008 with this Report, and they are talking about,
2 again, trying to predict what will happen if further
3 improvements are made.

4 And they are expecting that the operational
5 changes are to cause lead emissions to decline by
6 91 percent. That is exactly what you want to happen;
7 right?

8 A. Absolutely. That is -- you know, I kind of think
9 that is my point. I mean, that makes such a big difference
10 if you could -- if the final PAMA Project would have been
11 finished, that's a huge reduction.

12 Q. And the point, that we've been talking about
13 throughout the morning here, is that there were things that
14 were done. They weren't the main things in your Opinion
15 that should have been done sooner.

16 A. That's correct. I think PAMA Project 1 should
17 have been done sooner.

18 Q. Okay. So I want to now go to your Report, the
19 chart we have seen before. It is Page 16 of your First
20 Report. We will get there. 16. There we go.

21 This is the key for you. You want to see
22 reduction in the blood-lead levels, don't you?

23 A. That's right.

24 Q. And they were bad when they were first measured,
25 weren't they?

1 A. They were bad pretty much till 2007.

2 Q. We don't have any historical blood-lead
3 information back when Centromín was operating the plant, do
4 we?

5 A. I have not seen any, no.

6 Q. Okay. So we don't have any basis to compare the
7 bars in the chart, that you show us here in your Figure 2,
8 to what they would have been in the '90s, before 1997, do
9 we?

10 A. No.

11 Q. But what we do see here is that there were
12 declines at La Oroya Antigua and La Oroya Nuevo from 1999
13 to 2004 to 2007, don't we?

14 A. Well, you know, if you look at my figure that I
15 presented the other day, yesterday --

16 Q. I'm happy to do that, but can you answer my
17 question first? You see declines.

18 A. Yes. There were declines.

19 Q. Okay. And that's a good thing; right?

20 A. Yes.

21 Q. Okay. Now, let's go to -- I know you want to
22 show me the rainbow.

23 A. I actually wanted to show you the one with all
24 the dots.

25 Q. Okay. Tell us which slide you want us to look

1 at.

2 A. 14.

3 Q. I think we are all there.

4 A. Okay. My point is that the levels in blood were
5 very high, starting back when they first collected a sample
6 through about 2007. Then they put in the baghouse control
7 and pretty much immediately you can see that blood-lead
8 levels drop.

9 And this is not going to be a precise measure
10 because, you know, you could have a different mix of kids
11 in each one of these samples. And then when the plant shut
12 down, it went down further.

13 Now, the other thing I wanted to show you is
14 Slide 27. And -- so in 1999, the airborne concentrations
15 of lead -- and these are kind of spiky because they are
16 monthly measures -- and they are going to be affected by
17 weather -- are higher than they were when Centromín was
18 operating the Facility.

19 And I looked through all this data, every single
20 month there was a report for every single monitor. And I
21 think it is possible -- but it is entirely -- I don't know
22 for sure, but it could be that the lead in air was lower
23 than during Centromín's operations there from '94 to
24 mid-1997 than after, until 1999 when Doe Run was operating.
25 So the lead in air goes up.

1 And so I would assume the lead in blood also goes
2 up because there a very direct correlation between lead in
3 air, which ends up it being lead in dust, and potential for
4 exposure. So we don't know. But I think it helps to look
5 at the air data because that is one measure.

6 Q. I want to go back to the primary data in your
7 Report at Page 16.

8 A. Okay.

9 Q. What we can see from the data you refer to, the
10 key indicator for public health in the community is
11 improving over time during Doe Run's operations?

12 A. I think that -- I mean, I'd have to look, again,
13 at my conclusion, but in that same Report is -- in
14 Figure 16 -- is the dots that show that it didn't improve
15 really until 2007. 2004 was a bit of a fluke. Lower than
16 the rest of them because 2005 was higher, 2006 was higher,
17 early 2007 was higher, so --

18 Q. I'm just using what you put in your Report, and
19 what we see is an overall progressive decline in the
20 blood-lead levels over time during Doe Run's operation,
21 don't we?

22 A. I just want to make sure we're clear, though,
23 that my opinion in the same Report shows that they stayed
24 high until about 2007, when they first came down because of
25 fixing the baghouse, the lead baghouse. So that's my

1 opinion. They were high the whole time Doe Run was
2 operating the Facility.

3 Q. Ms. Proctor, you're --

4 A. Until 2007, they did decline.

5 Q. You understand, Ms. Proctor, that the baghouses
6 were not part of the PAMA projects?

7 A. I do.

8 Q. Okay. And you're not here to offer any Opinions
9 about whether Doe Run Perú complied or not with the PAMA,
10 are you?

11 A. Oh, I think I made my Opinion that they did not
12 comply with the PAMA because they didn't finish the
13 Sulfuric Acid Plants, and they did not meet the air quality
14 standards, which were requirements of the PAMA. I think.
15 That's how I understand the PAMA, but I'm not a Peruvian
16 Environmental Law Expert. So...

17 Q. All right. But -- well, and you're -- in fact,
18 you make a statement in your Second Report, that you
19 understand that the Claims of the Missouri Plaintiffs are
20 that -- are based on the fact that Doe Run Perú didn't
21 build the Sulfuric Acid Plants soon enough?

22 A. Well, I read the Plaintiffs' filing, and what I
23 see is them citing lead, other metals, sulfuric acid in
24 dust and air -- they never mentioned soil -- as driving
25 their Complaints. And those would have -- there would have

1 been a lot less lead in dust and SO2 if they had built the
2 plants.

3 Q. So I want to look at two things then. First,
4 let's look at your Second Report.

5 A. Okay.

6 Q. And you make a statement on Page 9. You
7 state: "I understand the Missouri Plaintiffs' claims are
8 directly related to DRP's failure to complete PAMA Project
9 1."

10 Those are your words; right?

11 A. Yes.

12 Q. Okay.

13 A. Maybe I should have said in a more general
14 fashion, because I haven't looked at any of the exact
15 claims that they were making. Like, I haven't looked at
16 what they -- what each individual in the Missouri
17 Litigation is claiming.

18 Q. Well, let's look at what the Expert,
19 Environmental Expert hired by those Plaintiffs testified to
20 in his deposition, which is an exhibit in this case.

21 C-235.

22 A. I didn't read this before, just so you know.

23 Q. I'm going to show it to you. It's on PDF
24 Page 12, but it's Page 47 of the deposition.

25 This is Jack Matsun. He's an environmental guy

1 hired by the plaintiffs.

2 A. Okay.

3 Q. You talked a lot in your Direct Presentation
4 about sulfur dioxide, and we haven't talked at all about
5 that yet, but I want to show you this because the
6 plaintiffs Expert in the Missouri cases was asked: "So are
7 you offering any opinions in this case, with respect to
8 emissions of sulfur dioxide or practices to control the
9 emissions of sulfur dioxide?"

10 And he said: "Only if you ask questions about
11 it."

12 A. Okay.

13 Q. So -- but is it -- so the general proposition,
14 "your focus was not on sulfur dioxide."

15 "Answer: Correct."

16 And then he goes on to say it wasn't on arsenic
17 and cadmium.

18 The focus of the Plaintiffs' Claims in the
19 Missouri Litigation is lead.

20 Do you understand that?

21 A. I do know that the filing specifically identifies
22 sulfur dioxide as well.

23 Q. Okay. But according to their Expert, his focus,
24 at least, was lead?

25 A. But he's not the toxicologist. The toxicologist

1 is Jill Ryer-Powder, and I did not read her Report either,
2 but I did see it.

3 Q. Well, you agree even that lead is a more serious
4 issue than sulfur dioxide?

5 A. The most polluted places in the world are listed
6 that way because of air pollution, and PM2.5, the very tiny
7 particles that cause increased mortality. Sulfur dioxide
8 is a very serious problem. They are both serious. I don't
9 rank one over the other.

10 Q. Do you agree that the most serious time period
11 for lead exposure to humans is early childhood?

12 A. Yes. And prenatal.

13 Q. So for -- were you aware that there are
14 plaintiffs in the Missouri Litigation who were born years
15 before Doe Run Perú took over operations?

16 A. I don't know anything about the individual
17 plaintiffs.

18 Q. Well, if there are individual plaintiffs who were
19 born in the early '90s, their exposure to lead was much
20 more serious from Centromín's operations than from Doe Run
21 Perú's operations?

22 A. Well, then the Experts in the case should be able
23 to discern that on an individual basis.

24 Q. All right.

25 MS. GEHRING FLORES: Excuse me, just wondering if

1 we could have a humanitarian break, if possible.

2 PRESIDENT SIMMA: I did a calculation according
3 to the new schedule. Our coffee break would be due in
4 10 minutes. But for humanitarian reasons we can have it --

5 MS. GEHRING FLORES: I don't want to interrupt.

6 PRESIDENT SIMMA: Perfect. So we have a coffee
7 break until 10:50.

8 (Brief recess.)

9 PRESIDENT SIMMA: Before, just -- Ms. Proctor,
10 there is going to be a short interruption in the -- in your
11 examination. So because you need to announce that for the
12 record.

13 MR. SCHIFFER: I'm the -- in Texas, there are a
14 number of cases that are set on a trial docket, a two-week
15 trial docket, and right now we are the number two case on a
16 two-week trial docket, and the case before us is going to
17 take maybe one or two days, if it goes at all.

18 So there's a very high degree of likelihood that
19 I will be called to trial next week, and that'll be
20 anticipated to be a two-week trial. And so I will
21 personally be completely -- you know, it's like this
22 arbitration, I'm all consumed by it, so -- and the timing
23 couldn't be worse, actually, coming off this, but I
24 digress.

25 So -- and I can let the Tribunal know next week.

1 For example, if my case isn't going to get reached, I'm
2 happy to let the Tribunal know that and abide by an earlier
3 schedule, since I've been the principal briefer in the
4 case, you know, I would just like to have time. Thank you.

5 PRESIDENT SIMMA: Mr. Schiffer, I thought that
6 what you just said would relate to the appearance -- sorry?

7 (Comments off microphone.)

8 PRESIDENT SIMMA: Of Mr. -- of the -- and because
9 we discussed how should we handle what you are probably
10 going to announce because it is not on the record yet. At
11 least, all I heard was this short one. And then the
12 question is, what are we supposed to allow in that regard,
13 and if the reaction would be or the next step would be
14 submissions, then I thought then that what you just said
15 would come in with regard to the deadline for these
16 submissions; is that correct?

17 MR. SCHIFFER: Yes, sir.

18 PRESIDENT SIMMA: So what is going to happen,
19 officially?

20 MR. SCHIFFER: Okay. So Josh Weiss, who is
21 General Counsel -- I believe General Counsel of Renco, is
22 also a Counsel in this case -- one of the Counsel in this
23 case, and it's my understanding from him that he can tell
24 the Tribunal the status of the Missouri Litigation as it is
25 today, and answer more detailed questions than I could do.

1 PRESIDENT SIMMA: Could I have Mr. Pearsall's
2 view on the -- let's say, what he thinks about that?
3 Because it's a change in Schedule.

4 MR. PEARSALL: Sure. Thank you, Mr. President.
5 We are happy to answer any of the Tribunal's
6 questions on the status of the Missouri Litigation. We
7 think that, for the good of the order and because of the
8 Schedule that we have this week, it's best to address those
9 points in writing. I don't see the need for an oral back
10 and forth from the General Counsel of Doe Run at this
11 point -- of Renco at this point.

12 But if that's what the Tribunal wants, we would
13 just want to have sufficient time to make an oral
14 presentation in rebuttal, if necessary. We hope that a
15 rebuttal wouldn't be necessary. The facts are the facts,
16 as we've heard many times, but we'd prefer it in writing,
17 if this is okay with the Tribunal. I don't think an oral
18 presentation is necessary.

19 PRESIDENT SIMMA: So your, let's say, opposition
20 to oral also relates to the appearance and the possibility
21 for this gentleman to give us a statement?

22 MR. PEARSALL: Yes. Mr. Weiss has been here all
23 last week. He was here for part of this week as well. He
24 sits right next to Mr. Fogler during the presentations. I
25 don't think an oral presentation is needed. We can address

1 these points in writing, as anticipated by the President's
2 statements just yesterday about the Tribunal will have
3 written questions for us at the end of the Closings.

4 PRESIDENT SIMMA: Okay. Thank you.

5 (Tribunal conferring.)

6 PRESIDENT SIMMA: So the Tribunal has decided
7 that it has a preference for written statements in respect
8 of the submissions on that matter. The -- we will decide
9 about the deadline a little later, but I think we'll take
10 into consideration what you said about your -- the
11 commitments within the next weeks, and that is, I think,
12 taken care of the matter.

13 MR. SCHIFFER: Thank you.

14 PRESIDENT SIMMA: Okay. So the floor goes back
15 to Mr. Fogler.

16 BY MR. FOGLER:

17 Q. Ms. Proctor?

18 A. Yes.

19 Q. It has been a pleasure speaking with you this
20 morning.

21 MR. FOGLER: I have no further questions.

22 See, that's another rule of cross-examination,
23 during the break you decide to give up.

24 PRESIDENT SIMMA: Okay. Well, thanks for the
25 spirit of this and the mood. That's always maybe a little

1 surprising, but great. So thank you very much, and I give
2 the floor to -- is it going to Ms. Gehring Flores for the
3 redirect?

4 MS. GEHRING FLORES: Yes. Thank you,
5 Mr. President.

6 REDIRECT EXAMINATION

7 BY MS. GEHRING FLORES:

8 Q. I like Mr. Fogler's rules.

9 Ms. Proctor, you mentioned baghouses quite a bit,
10 and I'm not sure any of us necessarily has a good idea of
11 what a baghouse is.

12 And I think, Kelby, could you pull up Slide 33 of
13 Ms. Proctor's presentation?

14 Could you please explain to the Tribunal what a
15 baghouse is?

16 A. Thanks. Sorry about that.

17 A baghouse pulls dusty air. It doesn't capture
18 gases. It pulls dusty air through a large number of bags.
19 We're talking -- this one has thousands and thousands of
20 bags in it, and as it pulls always the air through, the
21 dust gets caught in the bags; so that it doesn't go out the
22 stacks. So ultimately, this, the pipes go to what you see
23 is, like, basically a stack, and it blows out the top, down
24 the left side.

25 And then sometimes for baghouses, if you have to

1 get the particle, like, get more particles, you need to
2 capture the big particles first in a cyclone or
3 another -- a first stage, and then you can put on more and
4 more tighter filters to get the particles out of the air.

5 So it's basically an extremely fancy vacuum
6 cleaner, that works much better than a vacuum cleaner; so
7 it just captures dust.

8 PRESIDENT SIMMA: I confess when I first heard
9 the term, I had never heard of it before. I thought of
10 something else. I thought of my wife shopping, looking for
11 the best bag houses in Washington. So -- but now I know
12 better, and I'm more relaxed about the question.

13 (Laughter.)

14 PRESIDENT SIMMA: Okay. So but -- yes.

15 ARBITRATOR GRIGERA NAÓN: Seizing on the
16 opportunity that the President put in a question,
17 technically speaking --

18 (Interruption.)

19 ARBITRATOR GRIGERA NAÓN: Technically speaking,
20 when baghouses came to life in the daily precautions that
21 one has to take when running this kind of operation, is it
22 a rocket science? Is it something that has been along
23 since 1997?

24 THE WITNESS: Oh, it's been something that's
25 been -- it depends on the size of the operation. In the

1 United States, there were baghouses, I'm sure, in the
2 1970s. A baghouse this sophisticated, many of my clients
3 have this type of level of baghouse on their operation in
4 the United States. But this is not rocket science to build
5 a baghouse, for sure.

6 ARBITRATOR GRIGERA NAÓN: Okay. Thank you.

7 PRESIDENT SIMMA: You haven't finished.

8 MS. GEHRING FLORES: Correct.

9 BY MS. GEHRING FLORES:

10 Q. Ms. Proctor, Mr. Fogler stated that yesterday we
11 were about to go through 27 Projects that Mr. Connor had
12 identified in his Second Report.

13 Do you remember that?

14 A. Yes.

15 Q. And I believe Mr. Fogler said that all 27 of
16 those Projects had been completed before the year 2000.

17 Do you remember that?

18 A. Not specifically. I'm sorry.

19 Q. Okay. Could you explain your understanding of
20 when all 27 of Mr. Connor's Projects were completed?

21 A. Well, PAMA 1 is not completed, to date. There is
22 still no Sulfuric Acid Plant on the copper circuit. So
23 they did finally probably meet the air quality standards,
24 but they didn't finish PAMA Project 1. So I don't know
25 about the rest of the dates. But definitely, for Number 1,

1 it's still pending, may never happen unless the smelter
2 gets completely revamped and put back online.

3 Q. So that was or wasn't before 2000?

4 A. The current day is clearly after 2000.

5 Q. Okay. And then I believe that one of the
6 Projects -- one of the 27 Projects that Mr. Connor
7 identified was the Baghouse Project.

8 Did that happen? Did that -- was that complete
9 before 2000?

10 A. That was completed in 2007, according to his
11 Report. I think it was actually finished December 2006,
12 but I'm not going to argue with him.

13 Q. And so do you think that you would agree with
14 Mr. Fogler's statement that all of the 27 Projects were
15 finished before 2000?

16 A. I do not agree.

17 Q. And what would you have to do to verify whether
18 or not they were all completed before the year 2000?

19 A. I guess I would have to go to Perú in 2000, and
20 go through the list.

21 Q. Mr. Fogler asked you about whether you have been
22 to La Oroya.

23 Do you recall that?

24 A. Yes.

25 Q. And I think you've told us that you've reviewed

1 Dr. Schoof's risk assessments from the year 2005 and her
2 risk assessment from 2008, which was about her visit in
3 2007, I believe. And you've stated that you agree with
4 Dr. Schoof's conclusions in her Reports?

5 A. Yes.

6 Q. And could you explain what the value might be in
7 visiting La Oroya today, with respect to what conditions
8 may have been two decades ago?

9 A. Well, that's exactly the point. I did consider
10 going to La Oroya, but when I realized that the operation
11 was not running, I didn't think there was anything to look
12 at. Now, if there was an airplane that could take me back
13 in time to the mid-1990s through 2000, that would be very
14 informative, but, no, that technology doesn't exist.

15 Q. Mr. Fogler showed you a calendar where he claimed
16 that this was a Schedule of deadlines with respect to
17 Project 1 or the Sulfuric Acid Plants, which had a deadline
18 that started in 2003.

19 A. Yes.

20 Q. Are you familiar with all of the investment or
21 other deadlines that pertain to the construction of the
22 Sulfuric Acid Plants?

23 A. No. I'm just -- really had focused on the
24 PAMA -- you know, the ones in the PAMA, and I do believe
25 the Lead and Zinc Plant were supposed to be done in 2005

1 in the original PAMA. But I would need to check my notes
2 to be certain. And I think that a Project as big as a
3 Sulfuric Acid Plant is going to take a lot of engineering
4 to get it even close to being -- to be completed; right?

5 It's going to take a lot of work to solve this
6 problem. So even though they set the deadline 2003, 2005,
7 I would think that they would have planned to start on it
8 right away, but I don't think that that is what happened.

9 And then, you know, they came up with a new plan
10 which they called the master plan in 1998 by Fluor Daniel,
11 which is an American consulting firm, very smart engineers,
12 very experienced, and they came up with a plan that pushed
13 it forward in time to 2006, completion of -- I think they
14 were only going to build one big Acid Plant for all three
15 circuits, and it was going to be done in 2006, and you
16 could correct me if I'm wrong -- I think I'm -- it's,
17 probably, I think, about 2006, but that didn't happen
18 either.

19 So then they have a new restart date, pushes it
20 out to -- with an aggressive Schedule to the fourth quarter
21 of 2009. So -- and they did do the Lead Acid Plant in that
22 time frame. I think they finished it in 2008 or 2009, I
23 can't remember. But bottom line is, it was never finished.

24 Q. Are you familiar with the affiliation of Fluor
25 Daniel, the parent Company that owns Fluor Daniel?

1 A. I am not. They have a really big building in
2 my -- near the airport that I fly in and out of. But other
3 than that, I couldn't tell you.

4 Q. I'm going to show you Exhibit C-60, which is the
5 Integral Report from 2005, at PDF Page 37. And I believe
6 Mr. Fogler read to you from Dr. Schoof's conclusions about
7 historical emissions in this document, but I believe a
8 little bit further down the page, that part was cut off,
9 the part about recommendations.

10 Could you review -- and Kelby, if you
11 could -- yeah.

12 Could you review that part on recommendations,
13 and then, once you've reviewed it, give your understanding
14 of Dr. Schoof's prioritization of historical emissions?

15 A. I'm sorry. I don't really see that she
16 prioritizes anything in this text, but I believe that she
17 is prioritize -- she would prioritize reduced emissions,
18 which is also what the CDC said.

19 Q. Do you want to read the first line, the first
20 sentence?

21 A. Yeah, but it says "reduce exposures." It doesn't
22 say "reduce emissions," and it -- she attributes it to CDC,
23 but it's clear from everything I've read, every risk
24 assessment Expert, the CDC, the Intrinsic Risk Assessment,
25 all say the priority is to reduce emissions. And, in fact,

1 you can't really clean up soil or revegetate when you have
2 sulfur acid rain coming down on the plants you might plant.
3 They won't grow, obviously. And the -- and any, like, soil
4 cleanup you do would just get recontaminated. So what you
5 have to do, first and foremost, is reduce emissions.

6 Q. And let me just read it. It says: "The CDC's
7 recent Report on La Oroya, (CDC 2005) recommends that all
8 stakeholders in La Oroya collaborate in a coordinated
9 program to reduce emissions, reduce exposures, and to
10 eventually remediate historic contamination."

11 But I think you just said that it doesn't mention
12 "reduce emissions." Does that--

13 A. I'm sorry. I didn't -- I read it too quickly.

14 Q. Okay.

15 A. It does say that. I mean, that's an Opinion.

16 Q. So do you -- could you explain how Dr. Schoof
17 prioritizes historical emissions versus active emissions?

18 A. Active emissions are the priority.

19 ARBITRATOR GRIGERA NAÓN: Excuse me, a question.

20 THE WITNESS: Yes.

21 ARBITRATOR GRIGERA NAÓN: You mentioned acid
22 rain.

23 THE WITNESS: Yes.

24 ARBITRATOR GRIGERA NAÓN: One thing is -- I am
25 not an Expert, obviously, but one thing is acid rain,

1 another thing is particles that are falling.

2 Do we have evidence that there is acid rain?

3 THE WITNESS: There is no doubt that there was
4 acid rain, because what happens is water in the air reacts
5 with the sulfur dioxide and forms the acid rain. It forms
6 sulfuric acid, and that is what comes down. So I don't
7 think anybody measured it, but it is a known fact that that
8 is where acid rain comes from.

9 ARBITRATOR GRIGERA NAÓN: Thank you.

10 THE WITNESS: That's fine.

11 BY MS. GEHRING FLORES:

12 Q. Could you please describe the difference in
13 health impacts at blood-lead levels above 10 mcg/dL?

14 A. The health impacts can be quite serious, even at
15 10 mcg/dL, 10-20 we have neurocognitive effects in
16 children, that's observed. So that means they can't learn
17 as fast as they normally would, they tend to have behavior
18 issues, anger issues, and then the effects -- stunting of
19 growth, hearing loss, and it proceeds. At some point, you
20 could get to a dose that is fatal.

21 Q. And I believe you've explained that in the
22 sampling of Dr. Schoof's risk assessments, there were some
23 children who had blood-lead levels 20, 30, 40, even some
24 at 70.

25 A. Yes.

1 Q. What was, from your analysis, and from
2 Dr. Schoof's analysis -- what was the greatest cause, or
3 the principal cause of blood-lead levels at 20, 30, 40, 50,
4 60, 70?

5 A. It was in her risk assessments, which is during
6 the time period when Doe Run was operating, it was from the
7 ongoing emissions.

8 Q. Mr. Fogler asked you questions about DRP's
9 efficiency, and if it's true that its stack emissions were
10 reduced, that that would mean that they were efficient.

11 Do you remember that?

12 A. Well, I thought that was a general question, like
13 you can -- if you become more efficient, then you can have
14 reduced stack emissions and increased production, which is
15 generally possible, but I don't know enough about the
16 efficiency that was included to have an opinion about the
17 efficiency of emission controls.

18 Q. If DRP were actually able to reduce its stack
19 emissions -- just let's assume that's true -- but had a
20 fugitive emissions problem, or maybe fugitive emissions
21 increase, would you -- do you think that that would be
22 efficient?

23 A. No. Fugitive emissions are the primary problem,
24 in my Opinion, and they go unmeasured. So you can't really
25 use stack emissions as a measure of total efficiency. Or

1 maybe -- you can't use stack emissions to judge the impact
2 on air quality because the fugitive emissions have a
3 greater impact. And fugitive emissions are emissions that
4 just fly out with no filter.

5 Q. And I think this is my last question. Mr. Fogler
6 asked you about -- I think maybe he was asking about your
7 native files from your analysis, like whether or not you
8 turned over all of your native files.

9 Do you remember that?

10 A. Yes.

11 Q. Okay. Are you aware if Counsel for Claimants,
12 for Doe Run and Renco, requested your native files?

13 A. No. And -- I mean, there weren't spreadsheets of
14 lead output in Doctor -- you know, blood-lead in
15 Dr. Schoof's Expert Report; so my assumption was that that
16 kind of information wasn't necessary.

17 Q. And would you have had any problem turning over
18 your native files, if you were -- if that was requested of
19 you?

20 A. No problem.

21 Q. Okay. All right.

22 MS. GEHRING FLORES: No further questions. Thank
23 you.

24 PRESIDENT SIMMA: Okay. Thank you, Miss Gehring.

25 The floor goes to my colleagues as to questions.

1 Mr. Thomas?

2 QUESTIONS FROM THE TRIBUNAL

3 ARBITRATOR THOMAS: You're going to have to go
4 back to the very beginning of your presentation yesterday
5 because I'm afraid I still don't quite understand one
6 point, and it was about the IEUBK Version 2.0 program that
7 you used.

8 THE WITNESS: Yes.

9 ARBITRATOR THOMAS: And you had distinguished
10 that from, as I understand it, an earlier version of the
11 program that Dr. Schoof had used?

12 THE WITNESS: No. Dr. Schoof did her work when
13 2.0 wasn't available.

14 ARBITRATOR THOMAS: Right.

15 THE WITNESS: And so in the old version of IEUBK,
16 .99 -- and there was actually like .99A through D, you
17 could only input like a total soil and dust value. And she
18 said that the reason why she chose not to use the IEUBK
19 model and to use a different model, which is called ISE,
20 was because of this limitation within the old version of
21 the model. So I wanted to make it clear that that
22 limitation went away in the intervening 19 years.

23 So I was able to input outdoor dust, indoor dust,
24 and soil as independent exposure matrices, just like she
25 did with the ISE model. So I just wanted to -- I know it's

1 kind of confusing, but I just wanted to say that I could
2 use IEUBK to reproduce her numbers, and I showed that I
3 basically did in my figure with the bar charts.

4 ARBITRATOR THOMAS: Okay. But do I understand
5 that your ability to differentiate between these different
6 substances, did that lead -- how did that change the
7 findings that you were able to reach, having used a more
8 sophisticated or more modern model?

9 THE WITNESS: It did not change them. I was able
10 to predict exactly what Dr. Schoof predicted. It's just
11 that the ISC model could direct them in 2004, the IEUBK
12 couldn't have done in 2004. But the IEUBK caught up. So
13 that is why.

14 ARBITRATOR THOMAS: All right. Okay. All right.
15 Thank you. Next question.

16 You had a discussion with Mr. Fogler this morning
17 about the issue of Centromín versus DRP and the creation of
18 contamination. And he had put an exhibit to you. It was
19 GBM-73, and it was where there was a 78 percent Centromín,
20 22 percent of total mass of pollutants was the point that
21 came up in the examination. Now, the -- you then went on
22 to say "total mass is not equivalent to dose or exposure."

23 Can you elaborate on what you were -- the point
24 that you were trying to make?

25 THE WITNESS: So the contamination over time has

1 definitely built up in La Oroya. The contamination that is
2 3 feet down is not contamination that an individual is
3 going to come into contact with. People come into contact
4 with their immediate environment: The dust on the table,
5 the soil on the surface. That is how people become
6 exposed. And it's not the mass in those -- in the
7 particles of dust, if you will. It's the amount that
8 you're able to take in and absorb.

9 So total mass, in my opinion, doesn't really mean
10 anything with regard to dose. You could be exposed to a
11 hundred times higher concentration but a very small mass,
12 and that dose would be much higher than a large mass at
13 dilute concentrations.

14 ARBITRATOR THOMAS: Okay. And this takes me to
15 the next question I had, which was, you had discussed the
16 question of soil binding with lead over time.

17 THE WITNESS: Umm-hmm.

18 ARBITRATOR THOMAS: Can you explain that process?
19 For example -- well, can you explain that in temporal
20 terms? How long does it take soil to bind with lead; so as
21 to make it less bioavailable?

22 THE WITNESS: It depends on the type of soil. So
23 it binds with time. I think the upper bound of
24 bioaccessibility for lead, or the lower bound of
25 bioaccessibility for lead that I have seen in the work I've

1 done is about 5 percent. So lead that falls on the ground
2 becomes less available for absorption than it was when it
3 was initially emitted.

4 But it's going to depend on the soil and the
5 organic content, and so EPA, federal EPA of the U.S. has a
6 test to collect a sample and measure how accessible the
7 lead is for absorption. And it's kind of like a simulated
8 stomach test, because it uses hydrochloric acid, which is
9 the type of acid in our stomach, at the right pH, add some
10 additional materials that are -- what's in our stomach
11 normally, and measures how much lead can come out of that
12 test. So it's a measured value.

13 Now, that -- what the federal EPA has done, they
14 take that measured value and they plug it into an equation,
15 and what comes out of that equation is a measure of
16 bioavailability, the total amount you can absorb, that goes
17 into risk assessments in the United States.

18 ARBITRATOR THOMAS: Okay. But can you just take
19 me a little bit further on this one?

20 THE WITNESS: Okay.

21 ARBITRATOR THOMAS: Would -- let me give you a
22 period of, say, five years. For a lead deposit on soil,
23 would one expect as in terms of evaluating an exposure
24 pathway that, if it were to be sitting on soil for a period
25 of, say, five years, is there a minor diminishment in

1 bioavailability, a significant diminishment? Can you give
2 me a sense of that?

3 THE WITNESS: It can be quite significant.

4 ARBITRATOR THOMAS: But it depends upon the type
5 of soil --

6 THE WITNESS: It depends on the type of soil.

7 (Overlapping speakers.)

8 (Interruption.)

9 ARBITRATOR THOMAS: I'm sorry. I interrupted.
10 Please continue.

11 THE WITNESS: Yes, it depends on the type of
12 soil. But it's a very important parameter for evaluating
13 risk at the mining sites in the United States. So it
14 becomes standard practice, and what the federal EPA has
15 done is to check how well their measure of bioaccessibility
16 is with actual data where they feed soil to an animal, and
17 then measure how much lead is in their blood.

18 So they can see, yes, bioaccessibility is
19 5 percent, and then they run it through their calculation.
20 And they say it's 3 percent is the predicted value in a
21 human. So it's usually that bioaccessibility, how much you
22 can extract in those tests, is higher than the calculated
23 value for the amount that can be absorbed in a human.

24 ARBITRATOR THOMAS: Okay.

25 THE WITNESS: But five years is a reasonable time

1 to make -- to have decreased bioavailability or
2 bioaccessibility. I do think at some point -- it's not
3 like it's going to go down forever. It's going to plateau,
4 you know. There's going to be a plateau, and then it's
5 basically not going to change any more with time. But that
6 would be -- I mean, I think that would be a valuable piece
7 of information to try to address the residual cleanup in
8 La Oroya too.

9 ARBITRATOR THOMAS: Okay. Last question, I
10 think. At two points during your examination this morning,
11 there was a discussion about lead moving through the body,
12 and then later on you made a comment that lead leaves the
13 blood of children relatively quickly. And the question I
14 had is this: Can you describe, in layperson's terms, the
15 process by which the body reacts to a dose? And I try to
16 make this a little bit clearer. I always had the
17 impression that once it's in your body, it's in your body.

18 Is that erroneous? Because you made it sound as
19 if it actually can be eliminated over time, but, obviously,
20 that depends on the chronic exposure of an individual to --

21 (Overlapping speakers.)

22 THE WITNESS: Yes.

23 ARBITRATOR THOMAS: Can you, perhaps, elaborate
24 upon this for my --

25 (Overlapping speakers.)

1 THE WITNESS: Certainly. So lead is a
2 bone-seeking element. It likes to bind to bone. So lead
3 that I'm exposed to is probably going to be hanging out for
4 a long time in my bones, because I'm old. But children are
5 growing and their bones are growing. So as that occurs,
6 blood -- lead is released into the blood, but once it's
7 released into the blood, it can be excreted.

8 So lead in your body does leave. It's not a
9 sink, if you will, it will leave with time. It'll leave
10 much slower in adults than children, and then, of course,
11 it's very important if you're considering whether exposure
12 is continuing, because if you're continuing to be exposed,
13 you will continue to have lead in your system.

14 ARBITRATOR THOMAS: Right. Thank you very much.
15 That was very helpful. Thank you.

16 THE WITNESS: Sure.

17 PRESIDENT SIMMA: I think I have two, I think,
18 not terribly comprehensive questions that don't need to be
19 answered in a very comprehensive manner. The first one is
20 just latching on to what Mr. Thomas said, this blood can be
21 excreted. Now, that's a medical question. Excretion of
22 blood from children. How is that done? I mean, just,
23 it's --

24 (Overlapping speakers.)

25 THE WITNESS: It's not. Let me clarify.

1 It -- the blood is cleaned by the kidneys, and then the
2 lead is taken out of the blood and is excreted in urine.

3 PRESIDENT SIMMA: And how is the lead taken out
4 of the blood?

5 THE WITNESS: It's cleaned by the kidneys. The
6 kidneys clean your blood.

7 PRESIDENT SIMMA: Oh, it's done without any
8 intervention by medicine. Okay.

9 THE WITNESS: There's no medical device involved.

10 PRESIDENT SIMMA: Right. The other thing is away
11 from the kids. I just wonder, would the La Oroya Plant be
12 too big -- wouldn't for a, what I would call some kind of a
13 log? Does a plant not have a log? This is my reaction to
14 the questions you were asked, and you said you would need
15 an airplane to take you back in time.

16 I just wondered, isn't somewhere in La Oroya a
17 big book, I mean, in which you could see that at a certain
18 age, date -- not Project 18, but a certain machine by name,
19 et cetera, was installed. And -- I don't know. Maybe a
20 bottle of champagne was opened because it was important. I
21 mean, what I call a logbook.

22 THE WITNESS: I understand what you're saying. I
23 don't know if there's a logbook.

24 PRESIDENT SIMMA: Could -- maybe in the course of
25 the time that's left, somebody try to answer on that,

1 because...

2 MR. FOGLER: Yes, there are clearly records that
3 indicate exactly when these Projects were done, yes. And
4 that's in evidence. It is in Mr. Connor's Report and
5 others.

6 PRESIDENT SIMMA: So when the Claimant says that
7 for these 27 Projects, at least -- a certain number of them
8 were actually finished, that could be proven by
9 documentation?

10 MR. FOGLER: Oh, yes. Absolutely.

11 PRESIDENT SIMMA: Okay. Okay. Thank you very
12 much.

13 MS. GEHRING FLORES: Judge Simma, if I just might
14 follow up.

15 PRESIDENT SIMMA: Yes, please. You have the
16 floor.

17 MS. GEHRING FLORES: Many of my questions to
18 Mr. Connor regarded whether or not there was actual
19 documentation of the dates that he was representing. So if
20 that documentation is presented, we would have to see what
21 it says.

22 PRESIDENT SIMMA: That means it is not yet
23 presented?

24 MS. GEHRING FLORES: Mr. Connor has dates in his
25 interactive tool. It's not clear where those dates are

1 coming from.

2 PRESIDENT SIMMA: Okay.

3 MS. GEHRING FLORES: And -- oh, sorry.

4 PRESIDENT SIMMA: That answers my question.

5 MS. GEHRING FLORES: Just with respect to
6 Mr. Thomas's question, I don't know if it would be helpful
7 for Ms. Proctor to explain why or how, how it is that when
8 children grow, why it is that lead gets released into the
9 blood.

10 MS. GEHRING FLORES: Okay.

11 ARBITRATOR THOMAS: I mean, I thought I
12 understood the general concept. I don't know whether I
13 need a further elaboration. It may be getting to the
14 limits of my technical comprehension. So if you have a
15 Cole's Notes version, I suppose you can elaborate upon it,
16 but you described the process enough to my satisfaction.
17 Thank you.

18 THE WITNESS: Okay.

19 PRESIDENT SIMMA: That was a reply sufficient for
20 the purpose of this remark by Ms. Gehring Flores. And if I
21 am up to date, this brings to an end the Expert examination
22 of Ms. Proctor. Thank you very much for coming here and
23 sharing your experience with us. You are released from all
24 the commitments that go with being an Expert. Thank you,
25 and have a good trip home to wherever you want to go.

1 THE WITNESS: California. Thank you.

2 (Witness steps down.)

3 PRESIDENT SIMMA: Okay. So we have about more
4 than an hour to go to the lunch, time for lunch; so I would
5 suggest that we have the direct for Mr. Dobbelaere. Yes.
6 Is that?

7 MS. GEHRING FLORES: Yes. We'll bring him up.

8 MR. WEISS: Mr. President, it's Josh Weiss.
9 That's me.

10 PRESIDENT SIMMA: Is the Transcript ready? Okay.
11 Thank you very much.

12 WIM DOBBELAERE, RESPONDENTS' WITNESS, CALLED

13 PRESIDENT SIMMA: We have before us
14 Mr. Dobbelaere.

15 Mr. Dobbelaere, welcome. Good morning. Would
16 you please read out the Declaration that you have in front
17 of you.

18 THE WITNESS: Okay.

19 I solemnly declare, upon my honor and conscience,
20 that I will speak the truth, the whole truth, and nothing
21 but the truth.

22 PRESIDENT SIMMA: Thank you very much.

23 So you will be directed by Ms. Gehring Flores.

24 MS. GEHRING FLORES: Thank you, Mr. President.

25 Members of the Tribunal, President, I present, to

1 you, Mr. Wim Dobbelaere, the independent Expert in
2 pyrometallurgy that Respondents proffer in this proceeding.

3 Mr. Dobbelaere has a bachelor's in applied
4 science and a master's in civil engineering from the
5 university --

6 SECRETARY DOE: I'm sorry, Ms. Gehring Flores.
7 We're having some sort of a technical issue, so we might
8 just pause before we proceed with the direct.

9 (Pause.)

10 SECRETARY DOE: I think it's there. So we can
11 continue now.

12 PRESIDENT SIMMA: You have the floor again. The
13 problem is solved.

14 MS. GEHRING FLORES: Do I need to restart, or was
15 what I said before recorded?

16 PRESIDENT SIMMA: I think, for technical reasons,
17 I would be in favor of you starting anew because you have
18 just kind of introduced Mr. Dobbelaere and not much more.

19 MS. GEHRING FLORES: Okay. Thank you,
20 Mr. President.

21 Members of the Tribunal, President, I present, to
22 you, Mr. Wim Dobbelaere, the independent Expert in
23 pyrometallurgy that Respondents proffer in this proceeding.

24 Mr. Dobbelaere has a bachelor's in applied
25 science and a master's in civil engineering from the

1 University of Ghent. Mr. Dobbelaere, after that education,
2 was then educated at the University of Leuven and Umicore
3 in pyrometallurgy.

4 Mr. Dobbelaere started his professional career as
5 a civil engineer in the 1980s, and then, in 1987, he
6 started working at Umicore, the Umicore smelter in Hoboken,
7 Belgium. The Umicore smelter, like the La Oroya smelter,
8 is one of the very few complex poly-metallic smelters in
9 the world. At Umicore, Mr. Dobbelaere eventually became
10 the Operations Manager and Senior Manager of Operations
11 Development. He retired in 2018 and still serves as a
12 consultant to Umicore.

13 DIRECT EXAMINATION

14 BY MS. GEHRING FLORES:

15 Q. Mr. Dobbelaere, good morning.

16 A. Thank you. Good morning. Thank you very much
17 for the introduction.

18 Q. And Mr. Dobbelaere, you presented two Expert
19 Reports in this proceeding; correct?

20 A. Yes. Correct.

21 Q. Do you have any corrections or clarifications to
22 those Reports?

23 A. Not really, no.

24 Q. Okay. Thank you.

25 Please proceed.

1 impurities in the feedstock.

2 When I say "feedstock," I mean the concentrate
3 that is inserted into each production stream. La Oroya's
4 copper and lead circuits were the main sources of emissions
5 in this case. So I will focus on the copper and lead
6 circuits. The copper circuit processed copper concentrates
7 into refined copper. Copper concentrates are the product
8 of mining copper ore and come in fine powder form. They
9 consist of a mixture of copper and other metals. In
10 addition to copper, La Oroya's concentrates contain
11 significant amounts of sulfur and lead, as well as sand,
12 lime, and iron. They also contained unusually high levels
13 of arsenic. The copper circuit had four main components,
14 which are shown on your screen.

15 To the right of your screen, on the top, you will
16 find a table of Mr. Partelpoeg's First Expert Report, which
17 I agree accurately shows how these components of the
18 circuit work. I don't have time in this short presentation
19 to explain each component of the process, but the four main
20 components of the copper circuit are shown on the slide,
21 which are roasters, reverberatory furnace, all type
22 converters, and the copper refinery. Outdated equipment.

23 It is important to understand that the
24 concentrate starts at the roasters and works its way
25 through these components, changing states along the way and

1 producing emissions at each step. The copper circuit was
2 the main pollutant for lead and SO₂, which can be very
3 surprising, but it was.

4 With respect to the lead circuit, it processed
5 lead concentrate into unrefined lead. Similar to copper
6 concentrate, lead concentrate is a fine powder. It
7 contains mostly lead sulfide, along with other metals and
8 minerals.

9 To the right of your screen, on the bottom, you
10 will find a table from Mr. Partelpoeg's First Expert
11 Report, which I also agree accurately shows how these
12 components work. Again, I don't have time in this short
13 presentation to explain each component of the process, but
14 the three main components are shown on the slide, which
15 are, first, a sinter plant named "La Sinter machine" on the
16 slide, a blast-furnace, and a reverberatory furnace.

17 It is helpful to understand that the lead
18 concentrate starts at the Sinter Plant and works its way
19 through these components, changing states along the way and
20 producing emissions, again, at each step.

21 Now, the copper and the lead circuit produced
22 both SO₂ and lead air emissions. These gases either were
23 captured and funneled through a filter, which was called
24 the "main Cottrell." It's a brand name of an
25 electrofilter, and then released to the environment through

1 the main stack, or they escaped the circuit as fugitive
2 emissions, entering the environment directly without
3 filtration at ground level, which is shown by a picture
4 from Dr. Partelpoeg in 2006.

5 Fugitive emissions are gases that escape into the
6 environment from sources other than the main stack or the
7 secondary stacks.

8 In addition to being unfiltered, because fugitive
9 emissions were emitted at ground level, they impacted air
10 quality eight times more than main-stack emissions. The
11 copper circuit could send the same amount of lead and
12 higher amount of SO₂ out of the main stack compared to the
13 lead circuit. It emitted nearly double the amount of
14 fugitive emissions compared to the lead circuit.

15 The copper circuit was especially prone to
16 polluting because it treated materials with the highest
17 temperatures in nearly-open vessels. The hot material was
18 transported between the main components of the circuit with
19 fugitive emissions escaping between the journeys.

20 And the receiving vessels of the outdated copper
21 converters were very much smaller than modern receiving
22 vessels, generating the need for additional transportation.
23 And, again, every transport generated emissions.

24 The mattes that DRP old technologies produced
25 only contained 30 percent copper. With new technologies,

1 copper mattes are produced with 60-70 percent copper. This
2 reduces the number of transports that need to take place by
3 more than 50 percent, and, thus, reduces fugitive emissions
4 by definition. Mattes, by the way, are an intermediate
5 product of smelting that are made out of copper, iron, and
6 lead sulfides.

7 Imagine if the produced mattes had only
8 30 percent, like in the old technologies, that means that
9 the mattes also had a much higher level of lead sulfides.

10 In Centromín times, about 50 percent of the lead
11 input in the copper circuit was expelled via gas emissions.
12 The rest was fixed into the copper slag, which is a waste.
13 In DRP times, because they took in more lead but did not
14 make more slag, every extra ton of lead treated in the
15 copper circuit went into the gas emissions, which could
16 lead to a much higher amount of lead expelled.

17 Now, let us go to the Project 1 of the PAMA. The
18 construction of the Sulfuric Acid Plants, and the
19 modernization that had to be done before their
20 construction, was the most important Project of the PAMA
21 for lowering both fugitive and main-stack emissions.

22 On the right of the screen, I have included the
23 PAMA's introduction for Project 1, which shows clearly that
24 modernization was required in order to execute Project 1.
25 Project 1 of the PAMA recommended modernizing the copper

1 and lead circuits. For the copper circuit, the PAMA
2 recommended executing a Modernization Plan to replace the
3 old roasters and the reverb furnace with new technologies,
4 followed by the installation of a Sulfuric Acid Plant. For
5 the lead circuit, the PAMA recommended executing a
6 Modernization Plan to replace the old sinter plant and the
7 blast-furnaces with new technologies, followed by the
8 installation of a Sulfuric Acid Plant that could either be
9 separate from the zinc circuit or be shared.

10 The modernization was essential as it would have
11 allowed the Sulfuric Acid Plants to capture the 83 percent
12 of SO₂ as was required by the PAMA.

13 Modernization also would have had a variety of
14 indirect positive effects on emissions, for example, it
15 would have replaced the old roasters, which were a
16 problematic source of SO₂ and arsenic emissions.

17 The specifications of the PAMA were suggested
18 methods. The way in which DRP executed the PAMA Projects
19 was left to DRP's experienced judgment.

20 Now, the modernization was a prerequisite to
21 construct Sulfuric Acid Plants. I have been here since
22 last week, listening to the Parties' Opening Arguments and
23 testimony, and I have heard that the Claimants say that
24 they did not have to start the PAMA Project 1 until 2003.
25 However, this is not exactly right, and it demonstrates a

1 lack of understanding of how the Facility circuits work
2 with acids -- with Sulfuric Acid Plants.

3 In the cross-examination of Bruce Neil, I heard
4 him agree to the undeniable fact that the modernization of
5 the three circuits had to be made before the construction
6 of the Sulfuric Acid Plants. The old technologies of the
7 circuits had to be replaced by modern technology in order
8 to complete the design of the Sulfuric Acid Plants. The
9 timing of the investments outlined in the PAMA just
10 confirmed this.

11 If you look at the table on the top of the
12 screen, the PAMA suggested that investment in modernization
13 of the three circuits occur before the construction of
14 Sulfuric Acid Plants.

15 Mr. Connor stated yesterday that the circuits
16 could be modernized at the same time as the Sulfuric Acid
17 Plants were being constructed. That is not exactly right.
18 The design of the Sulfuric Acid Plants required the design
19 of the modernization to be completed first.

20 Now, modernizing the circuits would have enabled
21 DRP to capture more SO₂ to treat in the Sulfuric Acid
22 Plants.

23 Old technologies did not capture enough SO₂ to be
24 treated and transformed in the Sulfuric Acid Plants.
25 Because of this, the SO₂ produced in the circuits was

1 released into the environment.

2 Without the modernization of the three circuits,
3 it would be impossible for DRP to comply with the PAMA
4 requirement of capturing 83 percent of the SO₂ produced by
5 the three circuits.

6 As shown in the graphic, old technologies could
7 only capture gases with a concentration of SO₂ between 3
8 and 5 percent. Gases with such a low concentration could
9 not be treated in a Sulfuric Acid Plant except if you were
10 looking for some cherries to find some gases that could go
11 to the small Sulfuric Acid Plants, which they tried to
12 do -- which DRP tried to do.

13 The installation of new technologies, therefore,
14 needed to obtain gases with a sufficient concentration of
15 SO₂, at least 6 percent, to be processed in the Sulfuric
16 Acid Plant. The modernization was, thus, needed to capture
17 the 83 percent of SO₂ required by the PAMA. Without the
18 modernization, SO₂ could not be captured. It is important
19 to understand that Sulfuric Acid Plants do not only -- do
20 not simply abate SO₂. When the concentrated SO₂ is
21 captured, the SO₂ gas is first passed to a filter that
22 removes more than 99 percent of particulate matter, mostly
23 lead, to recover the lead. Then, the filtered SO₂ is
24 scrubbed before it is converted into Sulfuric Acid. The
25 scrubbing process removes more than 99 percent of any

1 remaining impurities from the SO₂. In this way, Sulfuric
2 Acid Plants not only reduce SO₂ but also lead and
3 particulates to nearly 0, because making sulfuric acid,
4 they hate dust. You cannot make sulfuric acid with a gas
5 with dust. It is impossible.

6 Now, DRP knew before 2004 that the CMLO had a
7 fugitive emissions problem. It had to know because the
8 technical documents of the PAMA indicated so, as well as
9 the PAMA itself. Fugitive emissions were addressed in the
10 PAMA more generally, but any metallurgist, after reading
11 the PAMA, would have immediately known and understood that
12 the modernization of the three circuits, along with the
13 construction of the Sulfuric Acid Plants, was designed to
14 abate both main-stack and fugitive emissions.

15 DRP also ignored the warning regarding fugitive
16 emissions given by environmental consultant Knight Piésold
17 already in 1996. Instead of following what the PAMA
18 recommended and giving the necessary attention to the
19 fugitive emissions, in April 1998, DRP instructed Fluor
20 Daniel, a Renco affiliate, to produce a 10-year Master Plan
21 to save money on all the PAMA Projects.

22 Fluor Daniel's study suggested to abandon the
23 installation of new technologies and to build a sole
24 Sulfuric Acid Plant for the three circuits.

25 DRP did not comply with this new design and, in

1 2004, stated that it had just discovered that there were
2 fugitive emission problems at the CMLO. DRP claimed that
3 the PAMA was flawed and did not address fugitive emissions.
4 DRP had to modify its own PAMA design from 1998 and go back
5 to the Modernization Plan and the construction of three
6 Sulfuric Acid Plants. DRP had to go back to a plan much
7 more like the original PAMA, after having wasted nearly
8 seven years and, I think, a lot of money.

9 If DRP had implemented the Modernization Plan and
10 built the Sulfuric Acid Plants at the right moment,
11 main-stack and fugitive emissions would have decreased
12 significantly. The modernization project would have
13 enabled DRP to increase the SO2 concentrations, to capture
14 it, and to recover it as sulfuric acid. And the Sulfuric
15 Acid Plants would have brought down SO2 emissions by at
16 least the required 83 percent and even more, and they would
17 have also eliminated other contaminants.

18 These are the main reasons why Project 1 of the
19 PAMA should have always been the most urgent and top
20 priority for the new owner of the Facility. The other
21 Projects of the PAMA, by themselves, could not turn around
22 the environmental situation of La Oroya.

23 In fact, Mr. Partelpoeg, Claimants' metallurgist,
24 criticized DRP in the Report that he prepared for the
25 Ministry of Mines in relation to the extended PAMA Project

1 dated 10 May 2006, for failing to modernize, failing to
2 solve the maintenance problem, and failing to address the
3 known fugitive emissions.

4 I very much urge the Tribunal to review
5 Mr. Partelpoeg's Report, which is my WD-017, to confirm
6 that DRP did not make things better, and that even
7 Claimants' own metallurgist stated so in 2006.

8 Now, instead of doing Project 1 and prioritizing,
9 DRP increased production and used dirtier concentrates
10 without first having modernized the old equipment of the
11 three circuits.

12 Between 1997 and 2008, DRP increased production
13 of the Facility. It means that it introduced more metal
14 concentrates into this Facility, more lead, more sulfur.
15 It is important to clarify here that, as heard during the
16 last days, what goes into the Facility must come out. "Was
17 hineingeht muss herauskommt," meaning that, if more metal
18 concentrates are put into the Facility, more will come out
19 of it, in the different possible forms; meaning, in metals,
20 slag, gases, and, eventually, a little bit in fluids.

21 On the table you'll see on the screen, you can
22 appreciate how DRP increased the copper and lead
23 concentrates introduced in each of the circuits. DRP
24 treated nearly 30 percent more lead concentrate on the lead
25 circuit than Centromín treated between 1990 and 1997.

1 DRP also chose to input into the Facility
2 concentrates with higher impurities, what we call "dirtier
3 concentrates." The most harmful and concerning dirty
4 concentrates were the copper concentrates that had the
5 higher concentration of lead, and, therefore, much more
6 lead was introduced and had to be processed in the copper
7 circuits, the highest polluting circuit.

8 Now, DRP's decisions to maintain old equipment,
9 to increase production, and to use dirtier concentrates,
10 had serious consequences. According to DRP's main-stack
11 emissions monitoring, the lead emissions through the main
12 stack went up. They came down in 2000, and back up again
13 in 2004.

14 SX-EW, an independent analyst engaged by Right
15 Business, DRP's bankruptcy administrator, and the Ministry
16 of Mines, conducted a mass balancing of the Facility's
17 emission which demonstrated that the increase of lead
18 production, the lead transfers to the copper circuit, and
19 the use of impure concentrates, caused the Facility to
20 release greater amounts of lead into the environment than
21 Centromín.

22 As SX-EW used data regarding the CMLO's
23 operations that was reported in detail since 1990, one of
24 the documents that remained, data that was reported by DRP
25 itself, including seven years of Centromín data, as

1 Mr. Buckley testified last week, DRP retained the same mass
2 balanced team as Centromín. The mass balancing analysis
3 derives from a fundamental scientific principle, the law of
4 conservation of mass.

5 According to this principle, mass can neither be
6 created nor destroyed. Mass balancing calculates a
7 smelter's total emissions by accounting for the quantity
8 and composition of the smelter's inputs which are the
9 concentrates and fluxes fed into the smelter, and the
10 outputs which are the refined materials produced by the
11 smelter and the impurities and other byproducts captured
12 during the smelting progress.

13 By subtracting the outputs from the inputs, it is
14 possible to determine the quantity of any substances that
15 were lost during the production process, either converted
16 into slag captured by the process or released into the
17 environment.

18 A mass balancing approach allows one to determine
19 both main-stack emissions, which are recorded, and fugitive
20 emissions, which are not recorded. DRP increased the
21 average of annual lead losses by 22 percent in the period
22 between 1997 and 2009. Annual lead losses are determined
23 by mass balancing. The indeterminate or unexplained lead
24 losses are calculated by subtracting the known lead losses
25 from the total lead losses. The known lead losses are the

1 monitored air emissions emitted through the stack, the
2 slag, and the effluence.

3 Indeterminate lead losses include fugitive
4 emissions and, under DRP's ownership, increased by
5 137 percent.

6 By dramatically increasing fugitive lead
7 emissions, DRP's operations dramatically increased the
8 amount of lead in the air in La Oroya.

9 From 1997 until 2007, DRP did not implement any
10 meaningful emissions controls. The Projects that were
11 implemented before 2007, before the end of the PAMA Period,
12 were not sufficiently effective to reduce air emissions. I
13 will briefly explain why none of the Projects, that
14 Mr. Connor claims that reduce the main-stack emissions of
15 lead, were effective.

16 However, as I do not have the time to go through
17 each of them right now, I would very much encourage the
18 Tribunal to look at Sections 4.1 and 4.2 of my Second
19 Expert Report where I provided a detailed and developed
20 explanation.

21 Though, I must say that I was very surprised that
22 Mr. Connor, instead of Mr. Partelpoeg, answered my First
23 Expert Report, because Mr. Connor is not a
24 pyrometallurgist, and the CMLO is one of the more complex
25 and rare facilities in the world.

1 Mr. Connor classified the Projects implemented by
2 DRP in two categories: Projects claimed to reduce
3 main-stack emissions of lead; and Projects claimed to
4 reduce fugitive emissions. None of them, none, abated the
5 alarming fugitive emissions problem of La Oroya within the
6 PAMA Period.

7 From the Projects claimed to reduce the
8 main-stack emissions of lead, only the repairs of the
9 Cottrell would have reduced main-stack emissions during the
10 PAMA Period. However, Mr. Connor has not provided
11 sufficient information to quantify the extent to which
12 these repairs reduced main-stack emissions.

13 Regardless of what the exact figure is, any
14 emissions improvement from those Projects would have been
15 minor compared to the massive increase in emissions that
16 DRP had caused during the first nine years of its
17 operation.

18 In relation to Projects claimed to reduce
19 fugitive emissions of lead, the only Projects that could
20 have been effective were completed at the end of the
21 Year 2006, meaning that none of these would have reduced
22 fugitive emissions during the PAMA Period. The Sulfuric
23 Acid Plant for the zinc circuit was ready by 31
24 December 2006, 13 days before the end of the PAMA Period
25 ended.

1 Mr. Connor does not claim that any project could
2 have reduced SO2 emissions from the main stack during the
3 PAMA Period, and he couldn't, because SO2 emissions only
4 could have been reduced by the construction of Sulfuric
5 Acid Plants. Some of the Projects referred to by
6 Mr. Connor, such as the short rotary furnaces project, were
7 executed to address problems that DRP itself had caused by
8 increasing production of lead and by using dirtier
9 concentrates in the copper circuit.

10 DRP recorded a reduction in SO2 of 140,000 tons
11 in the Year 2000, a sudden drop. However, this reduction
12 is impossible. The planned Sulfuric Acid Plants for the
13 lead and zinc circuits were designed to abate, together, a
14 combined 104 -- 852,000 -- 850,000 tons of SO2. So DRP's
15 reported reduction in 2000 is equivalent to 133.5 percent
16 of the combined capacity of these two Sulfuric Acid Plants.
17 This reported reduction is clearly an error.

18 Other figures show that this drop is not
19 accurate. The temperature of the main stack reduced, and
20 the main stack data show a sudden drop in flow rate. There
21 are only three possibilities that could explain the
22 reduction in SO2 emissions in the Year 2000:

23 DRP's measured concentration of SO2 leaving the
24 stack were incorrect or measured flow rate is incorrect,
25 because the tons is the multiplication of the flow rate and

1 the SO2 concentration, two measurements together that lead
2 to the drop, so either one of the two can be flawed. Or,
3 the emissions were shifted from the main stack to more
4 fugitive emissions.

5 In the center of the slide is Annex 3 of the SVS
6 and Golder Associates Report, issued in June 2003. I have
7 screenshotted the relevant information for the Years 2000,
8 2001, and 2002. The Column that says "SO2 al ambiente
9 despuerdas de control" is the SO2 number measured at the
10 main stack, and the column that says "SO2 al ambiente
11 calculado" is the SO2 number calculated by a mass balancing
12 analysis.

13 The Report shows daily figures; therefore, we
14 multiply by 365 to obtain annual figures. The annual
15 figures of SO2 measured from main stack are the ones that I
16 have circled in purple, to the left. Annual figures of SO2
17 calculated by mass balancing are the ones that I have
18 circled in green, on the right.

19 The document on the left is Mr. Partelpoeg's
20 review of the La Oroya smelter from February 18, 2014. In
21 page -- PDF 39, there are the SO2 figures that DRP reported
22 annually to the MEM. I have screenshotted the reported
23 numbers for SO2 of the Years 2000, 2001, and 2002. These
24 are annual figures, so we did not need to multiply these by
25 365.

1 If we now compare the annual figures reported to
2 the MEM, left-hand side, with the annual SO2 numbers
3 measured from the main stack included in the SVS Report,
4 the document in the center, we see that the numbers are
5 very similar. They are nearly the same.

6 It seems that DRP reported to the MEM that "SO2
7 al ambiente," the control number, which is the SO2 measured
8 at the main stack, instead of its mass balancing
9 calculations of sulfur dioxide, which was a higher number.
10 I understand that the lawyers for Renco and DRRC have
11 represented that, from 1999, DRP started reporting to the
12 MEM the mass balancing number and not the number that was
13 coming out of the measurement of the main stack. However,
14 as I have just shown you, this is not true. DRP was
15 reporting the smaller number, the number that was measured
16 at the main stack.

17 The document on the right is DRP's 2002 Reports
18 to the communities, the Document C-47 from the Treaty case.

19 I have screenshotted page -- PDF 10, which shows
20 the amount of sulfur that was leaving the La Oroya
21 Facility, however, sulfur would not leave the Facility in
22 solid form, it would be in SO2, as sulfur dioxide, as a
23 gas.

24 Now, to obtain the amount of sulfur dioxide, you
25 have to multiply the sulfur number by two. Using DRP's own

1 mass balancing estimates of what is leaving the main stack,
2 the sulfur also needs to be multiplied by .95 because DRP
3 was assuming, at the same time -- because 95 percent of
4 all SO2 was leaving through the main stack. This allows us
5 to finally obtain the mass balancing number for SO2.

6 The obtained results for each year, as you can
7 see, are very close to the mass balanced calculation that
8 was in the SVS Report. I have circled these numbers in
9 green. There is a clear discrepancy between the numbers
10 that were being measured at the main stack and by the mass
11 balance calculation. The measured and calculated SO2 was
12 not the same, which suggests that DRP knew that it had a
13 huge amount of fugitive emissions that were being emitted
14 to the atmosphere and that were not reported to the MEM.

15 Now, to close, Mr. Connor testified yesterday
16 that DRP never exceeded its input limit. That is
17 incorrect. On the screen, I am showing you Mr. Connor's
18 slide on this subject. Mr. Connor's table only shows
19 concentrate inputs and does not include fluxes. As you can
20 see, fluxes can be a significant part of sulfur input, and,
21 once you add them, DRP exceeded the input limit for the
22 lead circuit. To be more clear, fluxes are not just sand
23 or lime; they also contain a lot of sulfur.

24 Thank you.

25 PRESIDENT SIMMA: Thank you very much,

1 Mr. Dobbelaere.

2 We still have half an hour, so how should we best
3 use that half hour to start it?

4 MR. WEISS: I'm ready to go, Mr. President.

5 PRESIDENT SIMMA: Sorry?

6 MR. WEISS: I'm ready to go.

7 PRESIDENT SIMMA: Fine. Yes.

8 So I give the floor to Mr. Weiss for the
9 cross-examination.

10 MR. WEISS: Thank you, Mr. President.

11 CROSS-EXAMINATION

12 BY MR. WEISS:

13 Q. Good morning, Mr. Dobbelaere.

14 A. Good morning, Mr. Schiffer.

15 Q. No. Do I look like Mr. Schiffer?

16 A. No, you have the name there.

17 Q. Sorry. I'll put that over there. It's

18 Mr. Weiss.

19 A. Mr. Weiss. Thank you.

20 Q. But you can call me whatever you like, just not
21 late for dinner.

22 Let's start with some background about the
23 smelter. You're aware that the Complex began operating in
24 the 1920s and it was operated by a company called Cerro de
25 Pasco; correct?

1 A. Yes. Correct.

2 Q. Okay. And you said you've been here and you've
3 heard the testimony that has occurred over the bulk of this
4 Hearing.

5 Do you recall hearing prior testimony that the
6 Government of Perú had not had any environmental
7 legislation until some point in the 1990s?

8 A. I have heard it, yes.

9 Q. Okay. Do you mind just being a little closer to
10 the mic?

11 A. Okay. I have heard it, yes.

12 Q. Thank you.

13 So just to level -- and you understand that the
14 Facility was nationalized by the Peruvian Government in
15 1974; correct?

16 A. I have read the PAMA.

17 Q. Yeah. And --

18 A. Multiple times.

19 Q. Yeah. Good. I'm glad you did.

20 And so, from 1974 to 1997, the Facility was being
21 operated by Centromín; correct?

22 A. Correct, yes.

23 Q. Okay. So just to level set and see where -- the
24 position we're starting from, so the Peruvian Government
25 allows Cerro de Pasco to pollute La Oroya for about

1 50 years, then Perú nationalizes the CMLO, gives it to
2 Centromín, which emits an extraordinary level of pollution
3 into La Oroya for the next 23 years, turning into what
4 journalists called a "vision from hell." And now, you're
5 here to tell us that DRP should be faulted because it
6 didn't clean up Centromín's mess fast enough.

7 Do I have that right?

8 A. No, you don't have that right.

9 Q. Okay. Well, then we'll get to your Opinion as we
10 go through it.

11 I want to show you -- did you see the slide that
12 Mr. Connor showed the other day which had all the
13 checkmarks, all the Projects listed and all the Projects
14 that Doe Run Perú had completed?

15 Did you see that slide?

16 A. Yes, I saw it. I saw it.

17 Q. Could we bring up our Slide 42, please.

18 Just so you know, what we've tried to do is we've
19 tried to put stuff we want to talk about into slides so we
20 don't have to waste time trying to find it in the document
21 and highlight it, but that may create some issues about
22 being able to read stuff, so if you can't, let me know, and
23 we'll try and make it better.

24 I don't think that's the right slide, so right
25 off the bat, this is not working out very well.

1 Do you have the slide with John's slide, with the
2 checkmarks and the PAMA Projects listed? I have it here.
3 It is 42, but, apparently -- it's 42 in my numbers, but
4 maybe my numbers are wrong.

5 MS. GEHRING FLORES: Excuse me. Just -- I don't
6 think we've received the folder of the documents for the
7 Witness -- for the Expert.

8 MR. WEISS: I don't know what to tell you. The
9 team was supposed to do that and I hope they will as soon
10 as possible if they haven't.

11 MS. GEHRING FLORES: Okay.

12 NEW SPEAKER: It is on the way.

13 BY MR. WEISS:

14 Q. Okay. So Mr. Dobbelaere, you saw this slide
15 yesterday; correct?

16 A. Yes, I saw it.

17 Q. And this lists all the PAMA Projects, in fact,
18 including the ones that were expanded; correct?

19 A. Yes.

20 Q. And it lists all the additional Projects that DRP
21 did for fugitive emissions and other things; correct?

22 A. Yes.

23 Q. And it shows -- and do you dispute that all the
24 checkmarks here which show that all these Projects were
25 actually completed -- do you have any dispute with that?

1 A. I see that a lot of these Projects, and mainly
2 the ones to abate the fugitive emissions, were only
3 finished just before the end of the PAMA.

4 Q. I'm not asking you when they were finished. I
5 just asked you if they were finished.

6 A. Could be, but I think it's fundamental --

7 (Interruption.)

8 A. Fundamental.

9 Q. Okay. That's fine.

10 And could you bring up the next slide with the
11 quote from the Opening.

12 So this is a quote from Ms. Gehring Flores during
13 the Opening, and she says that "they" being us, Renco and
14 DRRC, "have desperately tried to focus the Tribunal's
15 attention on DRP completing the other eight PAMA Projects.
16 It sounds impressive; right? Eight out of nine. But do
17 not let it deceive you."

18 Is it your Opinion that, by DRP and DRRC
19 completing every single PAMA Project and then some, with
20 the exception of the copper circuit, that MEM and the
21 Peruvian Government ordered it to do, that Centromín
22 designed, it is deceiving the Tribunal?

23 A. I don't know what you mean by "deceiving."

24 Q. Well, I didn't say it. Your lawyer did.

25 A. What I was asked to do --

1 Q. I'm asking if you agree with that statement. You
2 don't know?

3 A. It is deceiving.

4 Q. It is?

5 A. Yeah, because the PAMA Project 1, was the only
6 one project that would have helped the children of La Oroya
7 to not get sick.

8 Q. Okay. So then every PAMA Project that Centromín
9 designed that the Peruvian Government mandated to be done
10 was useless? No reason to do it?

11 A. I didn't say that.

12 Q. That's exactly what you just said.

13 A. No.

14 Q. Okay. Let's move on. Okay.

15 Now, each of your Reports is titled "Expert
16 Report on poly-metallurgy"; is that right?

17 A. On pyrometallurgy.

18 Q. Pyrometallurgy. Excuse me. Sorry.

19 A. Making a fire and melting stuff.

20 Q. Yes. Yes. That is the science of using high
21 temperature to extract and purify metal; is that right?

22 A. Yes. Yes.

23 Q. So you know how a smelter -- a poly-metallic
24 smelter like La Oroya works?

25 A. Yes.

1 Q. And what is an environmental engineer, to your
2 understanding?

3 A. An environmental engineer?

4 Q. Yeah.

5 A. An environmental engineer, to my understanding,
6 is somebody who evaluates the environmental -- or he is
7 able to evaluate the environmental impact of operations,
8 whatever they are.

9 Q. Do environmental engineers design emissions
10 control projects? Is that part of their expertise?

11 A. You know, I don't think I can answer that
12 question because I'm from Europe.

13 Q. They don't have environmental engineers in
14 Europe?

15 A. No, they work differently.

16 Q. Okay. Do you --

17 A. We know what to do. We are responsible for a
18 plant and we know what to do, and we have our environmental
19 advisors in the Plant.

20 Q. Right. Right.

21 A. But they don't design.

22 Q. Okay. So, when --

23 A. I designed environmental projects.

24 Q. Okay. When you were at the Umicore smelter in
25 Hoboken --

1 A. Yes.

2 Q. Was there a person who was in charge of
3 environmental health and safety or a similar position?

4 A. Yes.

5 Q. And that wasn't you; right?

6 A. That wasn't me, no.

7 Q. And was there a team of environmental engineers
8 which was responsible for things like emissions control?

9 A. There was a team to check and to have
10 communication with the local government and with the
11 Expert, which they did.

12 Q. Yeah.

13 A. There was a very close collaboration
14 with -- there were procedures for us because we were
15 responsible for our Plant, not the environmental engineer
16 was responsible.

17 Q. Okay.

18 A. We were responsible.

19 Q. Right. So you weren't on the environmental
20 engineering team; right?

21 A. Excuse me?

22 Q. You were not on a team of environmental engineers
23 at Umicore?

24 A. I was involved in every single -- every single
25 project that had environmental impact of the smelter and

1 the Sulfuric Acid Plant that I was responsible for.

2 Q. And --

3 A. It is very clear for me, and there was no excuse,
4 if anything, there would happen or would have happened.
5 Very clear.

6 Q. And I imagine that your Finance Department was
7 also involved when you were doing a project; correct?

8 A. Yes. And what I learned -- I can tell you what I
9 learned --

10 Q. No, I wasn't asking you what you learned. I
11 asked you a very simple question --

12 A. Okay. I can tell you --

13 (Interruption.)

14 Q. Yeah.

15 A. What I learned was to first find a solution and
16 then talk about it, not the other way around.

17 Q. Okay. So the finance people were involved in
18 completing environmental engineering projects, yeah?

19 A. Of course.

20 Q. Okay. Does that make them experts in
21 environmental engineering? Just because they were
22 involved, does that make them experts?

23 You have to answer, not shrug.

24 A. I think I'm sure. There is a huge difference
25 because this question doesn't fit. There's a huge

1 difference between the education of a financial expert and
2 the education of what we call a scientist who is
3 responsible for a plant.

4 And you can ask me any figure of every equipment,
5 from the start to the end of my plant and the other plant
6 and the plants I have studied later and the plants I have
7 consulted later.

8 Q. And just like there's a huge difference between
9 the training and education of the finance people and the
10 environmental people, there's a big difference in the
11 training between a pyrometallurgical engineer and an
12 environmental engineer; correct?

13 A. I can tell you, no.

14 Q. Okay.

15 A. Not in my case.

16 Q. Okay. Okay. Can we pull up Slide 1, which is
17 Paragraph 226 of your Second Report.

18 A. Yes.

19 Q. You say here -- I've highlighted a sentence which
20 says: "I am not an Environmental Expert and therefore will
21 not opine on the reliability of the air monitoring
22 equipment."

23 What is an Environmental Expert?

24 A. What I mean here to say is that I have in
25 my -- whole thing I have been looking at here, that I, from

1 my experience, have looked at emissions from the source,
2 and how they impact the community, is not a question you
3 have to ask me. The only thing is how they affect the
4 community. In this case, was made up by the Environmental
5 Expert of DRP, and that's the only number I use. That's
6 the only number I use.

7 Q. Which number is that?

8 A. 8.

9 Q. 8.

10 A. And Mr. Neil remembers it was 7.

11 Q. We'll get to that. We'll spend some time on
12 that. So you're not an --

13 (Overlapping speakers.)

14 A. It is not my number.

15 Q. Oh, I know, but you're relying on it, of course.

16 A. I'm what?

17 Q. You're relying on it. You're trying to tell this
18 Tribunal that it matters.

19 A. It matters a lot.

20 Q. Yeah.

21 A. Yeah.

22 Q. Right. But you don't have the expertise to know
23 how they arrived at that number, do you?

24 A. I have -- yes.

25 Q. Okay. We'll get there.

1 So we made it clear; you're not an Environmental
2 Expert. We know that. Yes?

3 A. Whatever you call it, yeah.

4 Q. No, you called it. You put it in your Report. I
5 didn't --

6 A. I called it, yes. Because I don't want to opine
7 upon all this stuff that was placed -- that was put into
8 place that did not function, that functioned, not
9 functioned, lead, SO2 emission, flawed emissions. I have a
10 lot of questions about this. But I cannot say this
11 equipment works better than this equipment and this one.
12 This is what I will not opine upon.

13 Q. That is exactly what you are doing, isn't it?

14 A. No.

15 Q. Okay. So when Ms. Gehring Flores was talking to
16 Mr. Connor yesterday, and she was asking him about the fact
17 that he's not a pyrometallurgist -- I keep getting that
18 wrong -- I think he asked Mr. Connor: "Wouldn't you need a
19 pyrometallurgist to understand how to work and design a
20 smelter?"

21 You agree with that; right?

22 A. That's a fair question.

23 Q. Yeah. But your Opinions go way beyond that,
24 don't they?

25 A. No.

1 Q. No?

2 A. No.

3 Q. Okay. For example, you offer many opinions on
4 the efficacy of various of the Projects completed by Doe
5 Run Perú, either under the PAMA or supplemental projects
6 that they did outside the PAMA; correct?

7 A. What do you mean by "projects outside of the
8 PAMA."

9 Q. There were a number of Projects that I showed you
10 in that slide that Doe Run Perú completed to reduce air
11 emissions but were not mandated by the PAMA.

12 A. You mean the extension of the PAMA?

13 Q. No. Either way, any of the Projects that are at
14 issue in this case, many of them, your Opinion is that they
15 were not worthwhile, they did not have an effect; correct?

16 A. I opined on the Projects that were put forward by
17 Mr. Connor, not on all of them. I opined on them as far as
18 they were important to reduce air emissions at the source.

19 Q. Even if they had nothing to do with
20 pyrometallurgy?

21 A. I don't think so.

22 Q. You don't think so?

23 A. No.

24 Q. Okay. So you opined that DRP's installation of a
25 closed-circuit television system to monitor fugitive

1 emissions was not effective, did you not?

2 A. Yes.

3 Q. Yes.

4 A. That's -- again --

5 Q. Do I need a pyrometallurgist to tell me whether a
6 closed-circuit television system is an effective means to
7 know about and reduce fugitive emissions?

8 Is that what they teach you when you're getting
9 your degree in pyrometallurgy?

10 A. What Mr. Connor says --

11 Q. No, I'm asking you. You gave the Opinion.
12 You're a pyrometallurgist. Apparently, you're here to tell
13 us how a smelter works. How does this relate to how a
14 smelter works?

15 A. I don't like --

16 (Overlapping speakers.)

17 MR. PEARSALL: Excuse me, Mr. President. I know
18 Mr. Weiss is very excited. We all are, but if the witness
19 could just be allowed to finish one answer, we would really
20 appreciate it.

21 MR. WEISS: Well, as long as he's answering the
22 question I asked, I'm happy to let him answer.

23 THE WITNESS: Yeah. So you say the cameras. I
24 opined because of two things: First of all, Mr. Connor
25 says that it helped him in the future projects, future

1 projects that were finished by the end of the PAMA. That
2 is one thing.

3 The second thing is Mr. Partelpoeg, in his 2006
4 Report, had a lot of questions about the effectiveness of
5 all these fugitive emissions programs.

6 BY MR. WEISS:

7 Q. Yeah.

8 A. That was a Report he has written for the MEM, and
9 I have the right to opine on or to take the conclusions
10 that Mr. Partelpoeg has put there because I was asked to
11 look at what Mr. Partelpoeg, as the only other
12 pyrometallurgist, is saying. He's also a pyrometallurgist.
13 He's also not an environmental engineer, is he?

14 Q. Okay. Well, if Mr. Partelpoeg had been called by
15 Perú to testify here today, they could have asked him the
16 same questions. I notice that you said during your
17 presentation that you're the only pyrometallurgist who is
18 here.

19 A. Yep.

20 Q. That's because Perú didn't call Mr. Partelpoeg to
21 testify; correct?

22 A. Mr. Partelpoeg didn't even respond to my First
23 Report.

24 Q. Okay. You heard --

25 A. I rebutted.

1 Q. You heard my question; correct?

2 My question was, the reason he is not here is
3 because Perú didn't call him; correct?

4 A. That I don't know.

5 Q. You don't know. Okay.

6 You also opined on Doe Run's practice of washing
7 streets and paving roads to reduce exposure to particulate
8 emissions; correct?

9 A. Umm-hmm.

10 Q. Is that within your expertise as a
11 pyrometallurgist?

12 A. Yes.

13 Q. Okay.

14 A. I told you that, maybe in Belgium, maybe in
15 Europe it is different, but we were responsible, and we
16 were talking about all these Measures that would help the
17 community just across the border with -- to reduce the air
18 emissions of lead expressed in nanogram, not in microgram,
19 you know, factor, thousands. Okay.

20 Q. And you know that washing streets and paving
21 roads is a practice that was employed at the Hoboken
22 Smelter; correct?

23 A. Yes. It was. It one of the practices.

24 Q. Because it's a good, effective practice; correct?

25 A. It is -- I mean, you have to do everything.

1 Q. Yeah.

2 A. You have to do everything.

3 Q. But you're here to criticize DRP for doing that
4 practice, the same thing as --

5 A. No, I --

6 (Overlapping speakers.)

7 (Interruption.)

8 Q. You can move on.

9 A. I am not here to criticize this measure. I am
10 not here.

11 Q. Okay.

12 A. I was asked to see if this compensates for the
13 many tons. You'll have to do a lot of cleaning works if
14 you have to remove, on a daily basis, all the fugitive
15 emissions. That's all I say.

16 Q. Unless you're wrong, of course, about the extent
17 of the fugitive emissions; right?

18 A. I'm not wrong at the extent of fugitive
19 emissions.

20 Q. We'll see. Okay. Are you opining that Doe Run
21 Perú standards and practices were less protective of the
22 environment and public health than Centromín's?

23 A. I am opining that Centromín had a track record of
24 improvement. They were at the stage in 1995-1996
25 recognizing that they had to install Sulfuric Acid Plants.

1 No, new technologies and then Sulfuric Acid Plants to make
2 the step from thousands of tons of lead emissions to
3 hundreds of tons of lead emissions. That is a step you
4 have to make.

5 This is the step where we were. We were
6 reasoning in kilograms -- environmental specialists or
7 not -- reasoning in kilograms, and nanograms per cubic
8 meter, and not in micrograms per cubic meter and in tons of
9 emissions.

10 That was recognized by -- and then they were at
11 the situation where I was asked from 1995-1996 what
12 happened when DRP took over the Facility?

13 And that is what I have my Opinion on.

14 Q. I see. So you started --

15 A. This was less protected -- I am 100 percent sure.

16 Q. You started from 1995-'96 -- right? -- and that
17 was your point of comparison?

18 A. The PAMA, yeah.

19 Q. Okay. Let's take a look, if we could, at
20 Section 5.2 of the PAMA, which I think is Slide 5.

21 Before we get to this slide, in your presentation
22 you showed us a whole bunch of slides about the PAMA, and
23 you told us that the PAMA required modernization first.

24 A. Yes.

25 Q. And you told us that the schedule in the PAMA was

1 what DRP was required to spend on modernization; correct?

2 A. I didn't say anything about the amount.

3 Q. You said that --

4 A. I think only -- I only hear amounts here and
5 there by people -- I always say you find your technical
6 solution first and then --

7 MS. GEHRING FLORES: Excuse me. Tribunal, I'm
8 not sure Counsel has established whether or not the witness
9 is even familiar with this document.

10 MR. WEISS: I haven't even asked him about the
11 document yet. So hold your horses. I'll get there.

12 MS. GEHRING FLORES: Mr. Weiss -- Tribunal, could
13 you please instruct Counsel to be more respectful in this
14 proceeding, and could you please instruct Counsel to
15 establish whether or not this witness is even familiar this
16 document that is on the screen?

17 PRESIDENT SIMMA: Actually, just on the document,
18 I had the impression that Mr. Weiss was going to deal with
19 PAMA, then we saw the document, and we misunderstood that
20 this is the Contract.

21 MR. WEISS: This is the Stock Transfer Agreement.
22 Before I get to that, I'm asking questions about --

23 PRESIDENT SIMMA: So you will be getting to that.

24 MR. WEISS: I will be getting to that.

25 PRESIDENT SIMMA: So with that, I have no

1 problem. I do have a certain problem with the tone and
2 with the -- also with, personally, with the speed that you
3 speak with because --

4 MR. WEISS: I'll slow down.

5 PRESIDENT SIMMA: -- and I see from the
6 Transcript that the Transcript also shows that you also
7 have a problem there. So could you just relax because it
8 is --

9 MR. WEISS: No problem. No problem.

10 PRESIDENT SIMMA: Okay.

11 BY MR. WEISS:

12 Q. So my question about the PAMA is this: When you
13 testified this morning, you told us about the requirements
14 of the PAMA, with respect to modernization. Yes?

15 A. I am opining upon the necessity of going to
16 modernized plant to even enable you to get the goals of the
17 PAMA. And it is very simple, without the copper plant you
18 would never have reached 83, that it be you reach 83. It
19 wasn't even corrected until you reach 83 because --

20 (Interruption.)

21 A. 83 percent of the SO2 released to the -- set free
22 by the processes. The PAMA required to capture 83 percent
23 of them into sulfuric acid plants. That's what the PAMA
24 required.

25 Q. So are you -- just to be clear, are you giving us

1 a legal opinion on what the PAMA required?

2 A. I am not giving you any legal opinion.

3 Q. Okay. Fair enough.

4 Now, what I'm showing you here is a paragraph
5 from the Stock Transfer Agreement.

6 Are you familiar with the Stock Transfer
7 Agreement?

8 A. No, I'm not.

9 Q. Okay. The Stock Transfer Agreement, for your
10 education, is the Agreement between Doe Run Perú, Renco,
11 and Perú, which sets out the terms of acquisition of the
12 assets of CMLO.

13 Do you understand that?

14 A. You know, I've been here a few days, also last
15 week and all discussions about the Stock Transfer Agreement
16 and everything around it. I will absolutely not opine on
17 this.

18 Q. Okay. But I'm asking you about it because I
19 believe it is directly relevant to your opinion and the
20 discussion that we just had. If you let me ask my
21 question, I will make it clear to you. Okay?

22 A. Yeah.

23 Q. We talked about the comparison between
24 Centromín's standards and practices and Doe Run Perú's
25 standards and practices a few minutes ago; right?

1 A. Yes.

2 Q. Okay. And the reason I'm showing you this is
3 because that is the source of that comparison. So if you
4 look at Section 5.3(a), it talks about the use of
5 "standards and practices that were less protective of the
6 environment or public health than those that were pursued
7 by Centromín until the date of the execution of this
8 Contract."

9 Do you see that?

10 A. I see it.

11 Q. Okay. And do you understand that what this is
12 telling us, is that we have to compare Centromín's
13 standards and practices for the entirety of its operation
14 until the date of the execution of this Contract?

15 A. That's what I -- what I'm not involved in. I'm
16 involved in looking at what was DRP doing and the effect of
17 what it was doing. Was it less protective? Yes or no.

18 Q. I understand that, but what I'm trying to get at
19 is, you could -- you could ask that question and measure it
20 over different periods of time; correct?

21 It's a relative comparison?

22 A. Yes.

23 Q. Yes?

24 A. If we have data. We've been talking about a
25 logbook, but the only logbook I have is the SX-EW document,

1 and there I am prepared to compare 1999 to 1997 with the
2 rest.

3 Q. I understand, but --

4 A. And I also see even in comparing this period,
5 there is no evidence or document from before.

6 Q. Okay. But you understand that Centromín was
7 operating the Facility from 1974 to 1997; correct?

8 A. Yes. Yes.

9 Q. So it is standards and practices as used in this
10 Section 5 --

11 A. I cannot opine --

12 Q. Can I finish?

13 (Overlapping speakers.)

14 (Interruption.)

15 Q. It's standards and practices that are the subject
16 of this comparison span 23 years.

17 Do you understand that?

18 A. I cannot opine on any legal aspect in this case.

19 Q. I'm not asking you to opine on a legal aspect.
20 I'm asking you to opine on the comparison of standards and
21 practices that you performed, and what was the period of
22 time, the relative periods of time within which you
23 compared those standards and practices?

24 A. As a technical person, as a pyrometallurgical
25 person, I have to rely on the data that were provided with

1 me, and that's what I can do. I can do nothing else.

2 PRESIDENT SIMMA: Excuse me. I have the
3 impression that your discourse got stuck there at something
4 which, of course, is pretty legal. Wouldn't that be a good
5 moment to break? Because we have started half an hour
6 earlier, and, personally, I'm really hungry.

7 MR. WEISS: That's fine. I'm happy to take a
8 break. That's fine.

9 PRESIDENT SIMMA: So let's have our hour until
10 1:45 and then go back to maybe that point.

11 MR. WEISS: You said 1:45?

12 PRESIDENT SIMMA: The break. And it is 12:45 and
13 at 1:45 we continue.

14 MR. WEISS: Yeah. That's fine. Thank you.

15 PRESIDENT SIMMA: Super. All right. Let's have
16 a good break.

17 Yes, of course. Mr. Dobbelaere, you are not
18 doing this for the first time; right?

19 THE WITNESS: I'm doing this for the first time.

20 PRESIDENT SIMMA: You do?

21 THE WITNESS: Yes. Yes.

22 PRESIDENT SIMMA: So you're not supposed to speak
23 about anything having to do with this, with anybody --

24 THE WITNESS: That I know. That I understand
25 from last week. Yes.

1 PRESIDENT SIMMA: So enjoy the lunch.

2 THE WITNESS: Okay. I can have lunch. Thank
3 you.

4 PRESIDENT SIMMA: And I'll see you afterwards.

5 (Whereupon, at 12:45 p.m., the Hearing was
6 adjourned until 1:45 p.m., the same day.)

7 AFTERNOON SESSION

8 PRESIDENT SIMMA: Thank you.

9 So, Mr. Weiss, you have the floor again.

10 MR. WEISS: Thank you. I'm happy to report that
11 I've had some lunch and I'm much less "hangry."

12 PRESIDENT SIMMA: Great.

13 BY MR. WEISS:

14 Q. Okay. Mr. Dobbelaere, good afternoon.

15 A. Good afternoon. Good afternoon.

16 Q. Where we last left off, I think we were talking
17 generally about the comparison of Centromín standards and
18 practices to Doe Run Perú's standards and practices, and I
19 want to continue down that line of questioning.

20 Do you have any sense of what Centromín's
21 fugitive emissions were in, let's say, 1975?

22 A. 1970 -- what I have a sense of is that Centromín
23 was on a continuous road of improvement. If you read the
24 PAMA well, you'll see the different consecutive Projects
25 that have been put forward, and one of the last important

1 Projects was certainly to give -- to put a lot of money in
2 the Oxygen Plant, and to use that Oxygen Plant to improve
3 the performance of the -- a couple reverberatory furnaces,
4 which has allowed them to do the same with less "fidantes"
5 and produce less of gas.

6 Now, if in the same furnace, you tremendously
7 increase oxygen to do the same, not to do more, then you
8 reduce -- certainly you reduce fugitives. Unfortunately,
9 there are no data. There are no data -- there are no
10 measured data of fugitives at all, which means that only
11 mass balancing, if you have the data available, can give
12 you a better idea of it. That's what I did.

13 Q. Thank you.

14 So you cannot tell me or this Tribunal what were
15 the magnitude of Centromín's fugitive emissions in 1980,
16 for example?

17 A. No, but what I can tell is that in the same
18 systems, DRP has dramatically increased the inputs without
19 any measures. That's what I can confirm.

20 Q. Okay. I apologize. And I just want to ask you,
21 as best you are able, I'm asking you a question, and I'd
22 ask you to just respond to the question I'm asking.

23 A. Yes.

24 Q. Okay. And just to finish out this thread, you
25 can't tell me or this Tribunal, what were the level of

1 Centromín's fugitive emissions in 1987, for example, can
2 you?

3 A. 1987, no.

4 Q. Okay.

5 (Overlapping speakers.)

6 A. No, the first -- no, I cannot. No.

7 Q. Okay. And, in fact, Centromín did not even
8 monitor air quality until 1995; is that right?

9 A. Yes.

10 Q. Okay. So we wouldn't even know the lead
11 concentrations during the period 1974 to 1995 in the
12 ambient air in La Oroya; correct?

13 A. I don't know. I will give -- I have another
14 explanation on that, but I'm not a lawyer; so I have
15 another explanation.

16 Q. Okay. Okay. Understood.

17 A. On what -- if you are a company, of corporate
18 responsibility. I would do something.

19 Q. Okay. Did Centromín monitor blood leads of
20 children in La Oroya?

21 A. I am not looking at blood levels. We have a
22 specialist for that, and I think I did enough conversation
23 and information.

24 Q. But when it comes to comparing standards and
25 practices, we can't compare blood level data in the

1 community; right?

2 A. My understanding is that, compared to my
3 experience, the blood-lead levels in 1998 and so on, which
4 were measured, were very high.

5 Q. Right. But I --

6 (Overlapping speakers.)

7 A. That's my understanding, and they did not really
8 improve. That's what I saw from the figures that --

9 (Overlapping speakers.)

10 Q. Yeah. But you're not here to tell us about
11 blood-lead data; right?

12 A. No. No.

13 Q. But I was asking a slightly different question.
14 I know there's blood-lead data during the period of DRP's
15 operations.

16 A. Yes.

17 Q. I was asking you whether we have blood-lead data
18 during Centromín's operations that we can compare to
19 blood-lead levels during Doe Run Perú's operations to
20 determine if it is relevant to the standards and practices
21 of both?

22 A. My understanding is that there were a few at the
23 end of the Centromín period.

24 Q. Okay. But we do have stacking emissions --

25 A. I don't compare lead-blood emissions. I'm not --

1 Q. Yeah, I understand.

2 We do have stack emissions data from the entire
3 period of Centromín's operation.

4 A. Oh, yes. Oh, yes. Yeah.

5 (Overlapping speakers.)

6 (Interruption.)

7 Q. No, I'm going to restate it.

8 We do have stack emissions data for the entire
9 period of Centromín's operations, and the entire period of
10 Doe Run Perú's operations to compare; correct?

11 A. Yes.

12 Q. Okay. And I'm going to ask them to put up
13 Slide 6. And you've seen this Slide.

14 A. I have seen this Slide.

15 Q. Okay. And do you understand that this slide
16 shows that there is a strong correlation between stack
17 emissions and ambient air concentrations in La Oroya?

18 A. No, I don't.

19 Q. Is that because you disagree with it, or you read
20 the chart differently?

21 A. No. That is because I have my doubts about stack
22 emission data, first of all, and I have asked them already
23 two years ago, and I never got any explanation. And
24 secondly, I cannot look into the reliability or
25 unreliability or any claim about this, about the air

1 quality measurements. The only thing I know is that -- and
2 I've seen that, from 1994 until 1998, at least it were the
3 same measurements, the same. That's what I read. But I
4 cannot -- I cannot argue about how --

5 (Overlapping speakers.)

6 Q. Okay. I understand that you don't accept the
7 validity of this chart. Okay?

8 A. No, I don't accept it.

9 Q. I'm going to ask you to assume, for the moment,
10 that it's valid. We'll all accept that it's just an
11 assumption.

12 Can we pull up Slide 7. Okay.

13 And this is a slide showing stack emissions data
14 during the entire period of operations of Centromín and Doe
15 Run Perú.

16 Do you see that?

17 A. I see that.

18 Q. Okay. And let's take just a sample here. We can
19 see that during the period of approximately 1980 to 1986,
20 Centromín's stack emissions are almost double Doe Run
21 Perú's highest single year; correct?

22 A. What I see is that, if you are at a certain
23 level, 1989, which is high, and you want to improve that,
24 they did by several measures.

25 Q. Yep. Yep.

1 A. The only thing to bring that down to a level, one
2 of the times lower is by building new installations and new
3 acid stacks. That's the only way you can do. That's all I
4 learned from it.

5 Q. I hear you.

6 And, once again, I just ask you to follow my
7 question, and if there are things you want to talking
8 about, I'm sure that Counsel will ask you on redirect.

9 A. Okay.

10 Q. So given the correlation that we've seen between
11 stack emissions and air quality, and given the extremely
12 high level of stack emissions during Centromín's
13 operations, it's a fair assumption that the air quality in
14 La Oroya during Centromín's operations was quite bad;
15 correct?

16 A. I cannot confirm that.

17 Q. Okay. Okay. And given the extraordinary level
18 of stack emissions during Centromín's operations, it's a
19 pretty good bet that Centromín was also admitting
20 substantial fugitive emissions; correct?

21 A. Can you repeat your question?

22 Q. Sure. I said, given the extraordinary level of
23 stack emissions that we see during Centromín's operations,
24 it's probably a pretty good bet that there was substantial
25 fugitive emissions as well over the same period; correct?

1 A. No. That -- I cannot answer that.

2 Q. Okay.

3 A. What I know is, I can answer that in DRP's
4 period.

5 Q. I understand. Okay.

6 And in your examination of the relative standards
7 and practices of Centromín versus Doe Run Perú, did you
8 find any way in which Doe Run Perú's standards and
9 practices were better than Centromín's?

10 A. If I look at standard and practices, I look at
11 prevention.

12 Q. So yes or no? Did you find any way in which Doe
13 Run Perú's standards and practices were better than
14 Centromín's? Simple question.

15 A. They were very good at trying to -- I mean, to
16 blindfold, to put things into place with low costs and to
17 say, look at what we have done.

18 Q. Okay.

19 A. That is something that completely against -- is
20 against my nature and my experience from 30 years.

21 Q. I'm going to try this question again.

22 A. Okay.

23 Q. In your review of the relative standards and
24 practices of Centromín versus Doe Run Perú, did you find
25 any way in which Doe Run Perú's standards and practices

1 were better than Centromín's?

2 A. I have problems to understand your question.

3 Q. Okay. I'll try it one more time.

4 You're here to tell us, are you not, that Doe Run
5 Perú's standards and practices were worse than Centromín's
6 with respect to air emissions, at least; correct?

7 A. I'm here to analyze the available data,
8 production data, and to see whether they reveal things that
9 are not shown, because I am interested in the truth and
10 only the truth.

11 Q. Okay.

12 A. That's what I want to say. And I look from my
13 prior metallurgical experience to look into that.

14 Q. Okay. Were you aware that during Centromín's
15 operations, they were dumping vast quantities of raw sewage
16 and toxins into the Mantaro River?

17 A. I never looked at liquid effluence.

18 Q. Okay. So you don't know whether Doe Run Perú's
19 standards and practices with respect to water treatment
20 were better than Centromín's?

21 A. I know they have built a water cleaning station
22 because it was one of the Projects of the PAMA, not the
23 most expensive one but I know that, yes.

24 Q. And did that make an impact on the environment in
25 la Oroya? Did that make it better?

1 A. It will have an impact on water quality.

2 Q. But you didn't look at that?

3 A. No. I was not asked to look at that.

4 Q. Okay. And what about treatment of solid waste?

5 Did you look at the relative standards and
6 practices of Doe Run Perú and Centromín with respect to the
7 treatment of solid waste?

8 A. I did not comment on it. I did not look
9 at -- the only thing I know, that at a certain point, if
10 you do anything about it, your license to operate goes
11 away. If you have arsenic, you have to put it somewhere.
12 And, I mean -- if there is a law that you have to put it
13 with protection to -- for the bottom, you just have to do
14 it, or you just cannot continue your operation.

15 Q. Okay.

16 A. That's my understanding, my experience.

17 Q. Thank you for that.

18 During the course of yesterday's examination,
19 Mr. Connor at least, but perhaps during other examinations,
20 we've heard Perú's Counsel ask a number of questions about
21 Doe Run Perú's efforts to capture sulfur dioxide.

22 Do you recall all that discussion?

23 A. Oh. Yes. Oh, yes. Yeah.

24 Q. Okay. And I'm going to ask you to put up
25 Slide 61, please.

1 Now, have you seen this Knight Piésold Report
2 before?

3 A. Yes, I have. I have referred in it. I hope
4 somebody read my First Report, but I have referred in it in
5 my first Report.

6 Q. I certainly did.

7 This was a Report prepared in 1996; correct?

8 A. Yes.

9 Q. And that was when Centromín was operating the
10 CMLO; right?

11 A. Yes.

12 Q. Okay. And these were recommendations and
13 discussions of Centromín's environmental standards and
14 practices, yes?

15 A. My -- sorry, the screen is falling away.

16 Q. It is what?

17 A. It's falling away. I have no screen here. Okay.
18 It's coming back.

19 Q. Are you able to see the large monitor? I
20 apologize, we'll try to get that fixed.

21 (Overlapping speakers.)

22 A. Yes. I can see it. Yes. Thank you.

23 Yes. I mean, this is Knight and Piésold, as far
24 as my understanding is, was involved in the preparation of
25 the PAMA.

1 Q. Yeah. Their recommendations were incorporated
2 into the PAMA; correct?

3 A. Yes. Yes. And what is written there, Centromín
4 has installed controls applied, Cottrell precipitators,
5 they were there, and they -- they were there until the end
6 of -- to accomplish, yeah.

7 (Overlapping speakers.)

8 Q. Yeah. And -- okay. Could you read the last two
9 lines beginning with "however."

10 A. "However, as the two emissions are reduced by
11 only a small fraction through production of limited
12 quantities of sulfuric acid, and" -- okay, I will complete
13 that later, that Statement, but I know very well that the
14 Cottrell will never abate as a --

15 (Overlapping speakers.)

16 A. -- that's --

17 Q. Thank you. Yeah. And so during Centromín's
18 operations, there were significant sulfur dioxide emissions
19 from the facility; correct?

20 A. That's why they called for an Acid Plant.

21 Q. Right. Understood.

22 A. Okay.

23 Q. And during Centromín's operations, there was only
24 one Acid Plant on the zinc circuit; correct?

25 A. Until 31 December of 2006.

1 Q. I -- my question was during Centromín's
2 operations --

3 A. Yes, it was only one --
4 (Interruption.)

5 Q. My question was, during Centromín's operations,
6 there was only one lead circuit, and that, lead -- I'm
7 sorry, only one Sulfuric Acid Plant, and that was on the
8 zinc circuit; correct?

9 A. That is true.

10 Q. Okay. And that Sulfuric Acid Plant was
11 substantially undersized; correct?

12 A. It was undersized, and it remained undersized.
13 Okay.

14 Q. Right. Okay. And when Doe Run Perú came in,
15 regardless of the time they took, they rebuilt the Sulfuric
16 Acid Plant for the lead circuit; correct?

17 A. I don't know if I can answer this question with
18 yes or no.

19 Q. And why is that?

20 A. First of all, the lead circuit, Sulfuric Acid
21 Plant --

22 Q. I didn't ask about that. I asked about the zinc
23 circuit. I apologize.

24 A. No, you asked --
25 (Overlapping speakers.)

1 Q. Apologize.

2 A. Okay.

3 Q. So let's start with -- my bad.

4 Let's start with the zinc circuit. So there was
5 an existing Sulfuric Acid Plant on the zinc circuit?

6 A. Yes, there was. Yes.

7 Q. It was undersized. I think we've established
8 that.

9 A. Yes.

10 Q. And Doe Run Perú undertook, executed a project to
11 install a new or upgraded Sulfuric Acid Plant on the zinc
12 circuit; correct?

13 A. They did not install a new Acid Plant on the zinc
14 circuit.

15 Q. Okay.

16 A. They increased the capture of sulfuric acid as
17 much as they could, but not to the full extent of SO₂. It
18 was not a full-fledged SO₂ Acid Plant, even after
19 probation. And to me, I can -- I have my comments on it,
20 but I will not give them now.

21 Q. That's fine. But, certainly, it captured more
22 Sulfuric Acid Plant than the Sulfuric Acid Plant that
23 existed during Centromín's operations?

24 A. It reached an extra 3 percent of the PAMA
25 requirement.

1 Q. Yeah. And --

2 A. 3 percent.

3 Q. I'm no math expert, but that's more, yes?

4 A. That's not more --

5 Q. It's not more?

6 A. Yeah. It's 3 percent more than -- if you're
7 looking at this, yes.

8 Q. 3 percent more than what?

9 A. Than what was during Centromín's time.

10 Q. Okay. So it was more.

11 And then Doe Run Perú did complete a -- so there
12 was no -- excuse me.

13 There was no Sulfuric Acid Plant on the lead
14 circuit; correct?

15 A. No, there wasn't.

16 Q. During Centromín's operations?

17 A. No, there wasn't.

18 Q. Right. So they were not capturing any sulfuric
19 acid from the lead circuit?

20 A. No, they didn't.

21 Q. Okay. And Doe Run Perú installed a Sulfuric Acid
22 Plant on the lead circuit; correct?

23 A. Yes or no?

24 Q. Yes or no.

25 A. Yes, operating from 2008.

1 Q. Okay.

2 A. Okay.

3 Q. That's fine.

4 A. I cannot answer yes or no on a question that is
5 not correct in my eyes.

6 Q. Okay. I wasn't asking you about dates. I asked
7 you whether they completed the Project. Yes or no. You
8 don't need to tell me the date they completed it.

9 A. Within the PAMA or outside the PAMA?

10 Q. Not the question. Did they complete the
11 lead -- the Sulfuric Acid Plant on the lead circuit?

12 A. They completed the lead Sulfuric Acid Plant on
13 the lead circuit, yes.

14 Q. And did that have the effect of capturing more
15 sulfuric acid than was captured during Centromín's
16 operations?

17 A. Sorry, I have to ask a question.

18 Q. Yes or no. Very simple question.

19 A. Of course it did.

20 Q. Of course it did?

21 A. Yes.

22 Q. Of course it did.

23 A. Yeah.

24 Q. And so, of course, Doe Run Perú did a better job
25 of capturing sulfur dioxide than did Centromín; correct?

1 A. I don't know which kind of questions you're
2 asking me, but this looks to me like not a question that I
3 have to answer.

4 Q. Oh, well, if you don't want to answer it, I guess
5 that's your prerogative.

6 A. I can answer -- I can tell a lot about the Acid
7 Plants and what it had to do and what they didn't do.

8 Q. I understand that answering that question in the
9 way that you would have to in order to be honest is
10 inconvenient to your opinion, so we'll move on.

11 Are you an expert in the design and construction
12 of Sulfuric Acid Plants?

13 A. Yes.

14 Q. Okay. So what was the earliest possible date, in
15 your opinion, on which DRP, Doe Run Perú, could have
16 completed construction and commissioned the three Sulfuric
17 Acid Plants that were in the PAMA?

18 A. I have answered it -- this in my First Report.

19 Q. But you're here to talk about your Report.

20 A. Yep. I've answered this, and you're -- they were
21 looking at acid plants -- or, if they were looking for acid
22 plants -- how can I tell this? If they had to comply with
23 the 83 percent, they had to go for acid plants, but, before
24 they could do that, they had to go for modernization
25 smelting technologies, which they proved they didn't. So

1 how many time would it need? Well, they redirected the
2 whole thing as from the first day.

3 Q. Yeah.

4 A. So how much time would it need? I cannot --
5 (Overlapping speakers.)

6 Q. I can ask you a more specific question, and,
7 perhaps, it will be easier for you to answer.

8 A. Yeah.

9 Q. If Wim Dobbelaere was in charge of building the
10 three Sulfuric Acid Plants at Doe Run Perú, how soon would
11 all three have been completed?

12 A. I am speaking from European experience, and I
13 completed a Sulfuric Acid Plant, with the size of,
14 certainly, the copper plant, in two years.

15 Q. One plant?

16 A. One, yeah. And then we do three, is six, yeah.

17 Q. So again --

18 A. If you have the money, you can do.

19 Q. Again, if Wim Dobbelaere were in charge at Doe
20 Run Perú and were responsible for the construction of the
21 Sulfuric Acid Plants, how soon could they have been
22 completed?

23 A. They could have been completed within the PAMA.
24 And why I do say this? Because I understand that the speed
25 in which you can do that is slower in Perú because you have

1 to bring all the equipment and things like this. So --

2 Q. Okay.

3 A. So in my First Report, because you want me to ask
4 about -- to talk about the First Report, I used a longer
5 period, a longer period but that was still within the PAMA.
6 And I also noticed that Fluor Daniel said that they could
7 finish the one Acid Plant within the PAMA Period.

8 Q. Okay. Well, I'm going to try one more time.

9 In the best-case scenario --

10 A. Could three Acid Plants within the PAMA Period.

11 Q. Okay. And at what point would the Sulfuric Acid
12 Plant on a copper circuit have been completed if Wim
13 Dobbelaere were in charge?

14 A. Within the PAMA Period. Absolutely.

15 Q. I'm sorry. You know that we have a dispute in
16 this case about what is the PAMA Period, so I need you to
17 be specific about the date.

18 A. No. Before the 13 January of 2007.

19 Q. Okay. That's when, if you were in charge, the
20 Sulfuric Acid Plant would have been completed? Yes? Fair?

21 A. Yes.

22 Q. Okay. So --

23 A. But I would have modernized the Plant before.

24 Q. Yeah. I understand. I'm not asking about that.
25 I'm asking when the entire Project would be completed.

1 So in the best-case scenario, the increased
2 capture of sulfur dioxide from the copper circuit would not
3 have begun until December of 2007?

4 A. If you ask me for the best-case scenario, there
5 were better scenarios possibly. You said what would
6 you -- could -- there were better scenarios possible.

7 If you ask for the best, then I did not
8 understand your question.

9 Q. I'm asking you -- obviously, we have to take into
10 account reality. Things that you mentioned, of course,
11 like how difficult it is to get equipment and things in
12 Perú. You acknowledge that that, perhaps, makes it
13 logically more difficult.

14 (Interruption.)

15 Q. Could you just wait until I'm done.

16 So, again, that is what I am trying to get out.
17 If you were in charge, given all the complexities, given
18 the logical difficulties, what is the best date on which
19 you could reasonably tell this Tribunal that you would have
20 had three functioning sulfur dioxide Plants at La Oroya?

21 A. If you can do one plant in two years, in La Oroya
22 you could do it in three years. You can also do three
23 plants in three years. You have to just find the companies
24 to do that for you. Not just find, but to have the
25 companies. If you have enough money and enough -- but, I

1 mean, this is a totally different situation then what it
2 was.

3 Q. Yeah. No, we certainly understand that.

4 You also -- do you think that the fact that Doe
5 Run Perú had multiple other projects under the PAMA to
6 undertake, if you were in charge and you had to deal with
7 these other Projects, would increase the difficulty of
8 completing three very complicated Sulfuric Acid Plants at
9 the same time?

10 A. What I miss is, from the beginning, a responsible
11 Project Manager to get the things done. So if you don't do
12 that, what can I tell you? I mean -- of course, there were
13 more projects and, of course -- I mean, somebody who builds
14 a Sulfuric Acid Plant, he doesn't have to have an idea
15 about how to pave a road.

16 Q. Umm-hmm. So your opinion is that, at this point,
17 DRP's --

18 (Interruption.)

19 A. I'm sorry.

20 Q. I was in the middle of a question.

21 Your opinion, then, is that DRP's resources
22 either were or should have been unlimited, both in terms of
23 money and manpower, to accomplish all of the PAMA Projects
24 within the timeframe that you suggest?

25 A. Not unlimited.

1 Q. Okay. All right.

2 A. Adequate.

3 Q. When you -- you mentioned that you completed a
4 Sulfuric Acid Plant in, I think you said, two years?

5 A. Yes. It was completed by the end of '89, and we
6 started beginning of '87.

7 Q. Yeah. And that was just one plant; correct?

8 A. One plant, yes.

9 Q. And how many other major environmental projects
10 were you were undertaking at the same time?

11 A. Not in the period, later, a lot.

12 Q. Okay.

13 A. I mean -- so the period, the relevant period here
14 is the complete turnover between 1992 and 1997, complete
15 turnover of a similar facility than La Oroya. Five years.

16 Q. So now we're saying they could have done three
17 Sulfuric Acid Plants in five years or by the end of the
18 PAMA Period? Which one?

19 A. We didn't decide to build three acid plants.

20 Q. Okay.

21 A. I mean --

22 Q. Okay. I understand there's a lot of discussion
23 here, and you have a lot in your Reports, about the
24 engineering designs of the Sulfuric Acid Plants and the
25 Modernization Plans. There's a lot of discussion about

1 that in your Report; correct?

2 A. In my First Report, I answered certain -- in my
3 First Report, I agreed on a lot of things with
4 Dr. Partelpoeg, but I answered the things that I did not
5 agree because there were flaws, and I noticed that he
6 didn't have -- he didn't notice anything about the Fluor
7 Daniel -- the existence of the Fluor Daniel Project.

8 Q. Yep. When you are expressing your opinions about
9 the speed -- Well, let me take that back.

10 When you're expressing your opinions about the
11 designs of Sulfuric Acid Plant; correct?

12 A. Yes.

13 Q. And I think there's a whole bunch of discussion
14 about which design should have been implemented; correct?

15 A. Not about the Sulfuric Acid Plants.

16 Q. In the circuit itself; correct?

17 A. The new technology before the takeover.

18 Q. Yeah, I understand. And do you -- is it your
19 opinion that, ultimately, Doe Run Perú made the wrong
20 choice about what technology to use?

21 A. You mean for the copper circuit?

22 Q. Yeah?

23 A. Yeah, because they didn't do anything for the
24 lead circuit -- like this? I have to make -- you have to
25 be clear what you --

1 (Overlapping speakers.)

2 Q. No, I appreciate you making that clear.

3 A. For the copper circuit.

4 Q. Yeah.

5 A. Well, you know that, since 1997, I was
6 responsible for the technology that was chosen by Doe Run
7 Perú in 2007, 2006-2007, 10 years later. Okay. That's one
8 thing. So how can I say that this is not the wrong
9 technology? But I say that this technology existed in
10 1987.

11 Q. I understand that.

12 A. 1997. Sorry for the mistake.

13 Q. Again, I would really just appreciate if you'd
14 listen to my question. It helps to listen.

15 A. Yes.

16 Q. And try to answer what I'm asking you.

17 A. Yes. Yes.

18 Q. Do you believe that the technology that Doe Run
19 Perú ultimately chose and implemented for the copper
20 circuit, the ISASMELT technology --

21 A. Yes.

22 Q. -- was the right choice?

23 A. There were at least three choices. So it was a
24 good choice.

25 Q. Okay.

1 A. I think it was a good choice.

2 Q. Okay. Thank you.

3 A. But there were more choices.

4 Q. Understood.

5 And I understand that there is a lot of
6 discussion about how long it took Doe Run Perú to settle on
7 that choice.

8 A. Absolutely.

9 Q. Okay. And if you were trying to investigate the
10 right technology to use in the copper circuit; right?

11 A. Yes.

12 Q. You'd want to diligence that quite carefully,
13 yes?

14 A. Of course. But what I didn't see, for instance,
15 is -- to start, in 1998, when you take such a plant, you
16 don't have a clue. You do testing. There was no single
17 trace of any testing at all.

18 Q. Yeah.

19 A. This is something which is -- I don't understand,
20 not on technology A, not on technology B.

21 Q. Yeah. You understood that, in 1998, they had
22 already hired engineering firms to begin working on the
23 design of the copper circuit in the Sulfuric Acid Plant?

24 A. Yes, I understand, and I am very surprised that
25 Dr. Partelpoeg didn't tell any -- not one word, this Fluor

1 Daniel Company is not even mentioned in his First Report.

2 Q. Well, maybe, if he had been here, he would have.

3 A. No, no. In his First Report, I say.

4 Q. Yeah. I understand.

5 And so my question is, it starts -- and, yes,
6 understood, it takes longer than expected.

7 Are you ascribing any motives to Doe Run Perú in
8 the time -- in the amount of time that it took to implement
9 the changes to the copper circuit?

10 A. What do you mean by --

11 Q. Well, are you suggesting that they were
12 incompetent?

13 A. What I -- I am not suggesting anything. What I
14 see is that they were a company that was experienced in
15 lead smelting. Lead smelting. They were not experienced
16 in copper smelting and certainly not experienced in complex
17 copper smelting, meaning -- what you put it. So they were
18 not.

19 Q. Okay. So it's not unreasonable that it took them
20 more time than would be expected, if they weren't experts
21 in copper smelting; correct?

22 A. No.

23 Q. Okay.

24 A. They had resources. They had resources in Perú
25 because these Centromín guys who stayed there, they were

1 there for a long time.

2 Q. Yeah. So, I guess, what I'm asking you, are you
3 suggesting that they purposefully or with ill motive
4 dragged their feet in doing the work that needed to be
5 done?

6 A. What I have read in the Fluor Daniel Report is
7 that the goal of their -- what they were asked is
8 what -- we have this new technology here, how can we save
9 money? And what I say, you can never -- if
10 you -- Mr. Connor was saying that they needed a surgeon.
11 If you need a surgery, you first want to be alive, and then
12 look at what it will cost you.

13 Q. Yeah. Okay.

14 A. And I didn't see that happening. I saw, "hey, we
15 have to spend money here. Let's look at how we can save,"
16 and, from there, advisors from -- "oh, we will wait with
17 this, and we wait with this."

18 Q. So does that come from your ability to read or
19 your expertise as a pyrometallurgist?

20 (Interruption.)

21 Q. I'm asking if -- is that in your Expert Opinion
22 or that just comes from reading snippets of documents?

23 A. No, that comes from reading the Fluor Daniel
24 Document, 10 years Master Plan conclusion.

25 Q. Okay. Do I need an expert -- do I need an expert

1 to interpret it for me?

2 A. I don't think so.

3 Q. Okay. So if I understand where you're coming
4 from, and you'll correct me if I'm wrong, is that,
5 ultimately -- at least one pillar of your Opinion is that
6 Doe Run Perú's standards and practices were worse than
7 Centromín's, because, according to you, Doe Run Perú had
8 greater fugitive emissions than Centromín; is that correct?

9 A. Yes.

10 Q. Okay. And fugitive emissions are not monitored;
11 right?

12 A. No.

13 Q. All right. So unlike stack emissions, where
14 there's a monitor, there's no monitor that will tell you
15 the extent of fugitive emissions; right?

16 A. I thought that a good operator was asked to
17 install monitoring equipment.

18 Q. Yeah.

19 A. First of all. Secondary, what -- and that's my
20 personal -- that's my opinion, that, as long as you keep
21 this old equipment, it is not correct to increase the
22 production dramatically.

23 Q. Did you spend --

24 A. How can you avoid fugitive emissions then?

25 Q. Okay. Okay. Did you spend time prepping for

1 your testimony with the lawyers for Doe Run Perú -- for
2 Centromín before you came to testify today?

3 A. How do you mean that?

4 Q. Did you spend time having them prepare you to
5 testify today?

6 A. No.

7 Q. No?

8 A. I have time. I'm here two weeks to follow this
9 process here.

10 Q. So you never sat with --

11 A. I have been writing this whole thing from my home
12 in Italy. Okay.

13 Q. Okay. Yep. So I want to come back --

14 A. This is a summary of what is there.

15 Q. Okay. I want to just come back to my question.
16 So fugitive emissions are, by definition, unmonitorable at
17 the source because we don't know where they happen; right?

18 A. They are monitorable at the source. Not in the
19 furnace.

20 Q. Yeah.

21 A. I mean, a little bit away from.

22 Q. Right. But you have -- in a main stack, you have
23 a monitor.

24 A. Yes.

25 Q. And it tells you what's going out; correct?

1 A. Yes.

2 Q. Fugitive emissions, you could have multiple
3 sources that you don't even know about; right?

4 Yes or no? Yes?

5 A. No. I mean, I would know my fugitive emissions
6 well. Look at my Second Report. I have said where they
7 were.

8 Q. Okay. You cannot monitor fugitive emissions in
9 the way that you can monitor stack emissions, can you?

10 A. If you are monitoring your stack emissions well,
11 they should be better than your fugitives.

12 Q. I understand that, but you don't have a monitor
13 at every place throughout the Plant where there could be
14 fugitive emissions; correct?

15 A. No, but the monitoring of fugitive emissions is
16 by choosing the right position of measurements and
17 modeling -- putting them into a modeling to see, and I know
18 where there was something happening in my plant is that, it
19 is your plant.

20 Q. Yeah. And that might be one reason why you had a
21 closed-circuit television system; correct?

22 A. Yes. No.

23 Q. Right?

24 A. We can have a small discussion on that system,
25 yes.

1 Q. Okay. So I want to make sure we're clear on
2 this. You can measure emissions coming out a stack because
3 you put a monitor in the stack. Yes?

4 A. Yes.

5 Q. And we have that data?

6 A. Yes.

7 Q. Right. We don't have the same kind of data for
8 fugitive emissions, do we?

9 A. Unfortunately not.

10 Q. Not?

11 A. So there is only one way of doing it. That is
12 mass balancing.

13 Q. Right. So --

14 A. Unfortunately only that.

15 Q. So your conclusions about the amount of fugitives
16 then, they are not based on any measured data. They are
17 based on estimates and approximations?

18 A. On calculations from my side, based on hard data,
19 you have one equation, two unknowns, two unknowns, and if
20 the stack data are right, you know the other. If you
21 cannot measure the stack data, you can prove what you want.

22 Q. Yep?

23 A. Okay.

24 Q. So you think that mass balance data is reliable
25 data?

1 A. Yes.

2 Q. Okay. So the fugitives we know can't really be
3 objectively measured in the same way as a stack emission
4 conclude; correct? We know that.

5 A. Yeah.

6 Q. We know that?

7 A. Yeah.

8 Q. And so, for you to conclude that DRP had greater
9 total emissions than Centromín, you had to base your
10 opinion on, one, a tiny fraction of Centromín's operations,
11 and on the one factor that cannot be objectively measured;
12 right?

13 A. No.

14 Q. Okay.

15 A. I have based my conclusions on 1999 to 1997,
16 which you call a small fraction, compared with 1998 until
17 2006, which is about the same fraction. And then separate,
18 the years 2007-2008.

19 Q. Right. But even that omits 16 years of
20 Centromín's operations; correct?

21 The Reporter can't see your hands or record it in
22 the Transcript.

23 A. No. Only what I see is assume that DRP increased
24 production by 30 percent on the data, the mass balance
25 data--they went up.

1 Q. Yeah.

2 A. And reliably went up.

3 Q. Yeah. Yeah. But not the air quality data;
4 right?

5 A. That, I don't know.

6 Q. You don't know?

7 A. No. No, because I have seen -- I don't know
8 because who in the room can tell anything about the
9 reliability of this air quality data. What I have read --

10 Q. I'm sorry. So you're here to tell us that your
11 calculations, based on mass balance data, are more reliable
12 than measured lead concentrations in the ambient air
13 attestations set up all over La Oroya? That's what you're
14 telling us?

15 A. What I see is if during -- the DRP period, the
16 lead losses are here, and during the period the lead losses
17 are there, I can also draw a correlation, but I don't
18 between the lower there and the higher there. I can also
19 draw this correlation. So it is easy as what -- what I
20 know if you draw a correlation with stack emission data and
21 you add a fugitive emission data one by one, there is
22 something that is not logic, in my eyes.

23 Q. Yeah.

24 A. I have "Bauernverstand" (in German.)--

25 PRESIDENT SIMMA: "A peasant's mind," just a

1 natural reason; right?

2 THE WITNESS: Yeah. There is some logic here.

3 MR. WEISS: I know we have Spanish-to-English,
4 and English-to-Spanish translation. I don't know if we
5 have any Dutch or German translation in English. Maybe we
6 need to get somebody else.

7 PRESIDENT SIMMA: Because it's a German word.

8 MR. WEISS: It sounded German.

9 THE WITNESS: It's a German word, yeah. I've
10 been married 20 years.

11

12 BY MR. WEISS:

13 Q. It sounds lovely.

14 If you were right -- if your mass balance theory
15 were right and there were substantially more fugitive
16 emissions, that would show up in the air monitoring data,
17 wouldn't it?

18 A. I have done mass balancing a few times on SO2.
19 Okay.

20 Q. Again--again, I asked you a question about the
21 air monitoring.

22 A. That should show up in a reliable air monitoring,
23 but now you will say that I suggest the air quality data
24 are not reliable, and how can I know that?

25 Q. And the answer is what?

1 A. I can only know what I read from, like, from the
2 SO2 measurements that you -- that DRP managed to have wrong
3 SO2 measurements five years long.

4 Q. Yeah. Okay.

5 A. That's what I can read.

6 Q. Okay. And that's SO2. That is not lead. And
7 those are different monitors; correct?

8 A. Yes.

9 Q. One is a stack monitor; correct?

10 A. You want to know what? The one is stack tack
11 monitor, yes.

12 Q. Yeah. And one is an ambient air monitor that is
13 at various stations throughout La Oroya; correct?

14 A. Yes.

15 Q. For example, Sindicato; right?

16 A. And you can choose which station you want to
17 choose to have your correlation.

18 Q. Yeah. Yeah. And those are two totally separate
19 systems; correct?

20 A. That is correct.

21 Q. Two totally separate monitors?

22 A. Yes.

23 Q. Right. But you're trying to tell us because the
24 SO2 data might not be accurate, we should also assume that
25 the air quality data for lead is also not accurate; is that

1 right?

2 A. I have read that you doubt about air quality
3 measurements in a period that my mass balance shows that
4 there are less lead losses.

5 Q. Okay.

6 A. Unexplained lead losses, unexplained.

7 Q. So it's interesting that you're using unmeasured
8 data to challenge the veracity of measured data.

9 A. No. I use measured data.

10 Q. Okay. Yeah, with many calculations and
11 assumptions.

12 A. No.

13 Q. No. Okay. So you're not in a mass balance you
14 are making an assumption about what percentage of
15 indeterminate losses are actually fugitives, are you not?

16 A. I say if there are more than double unknown
17 losses, where are they? Yes? And I -- I will not tell how
18 much there are. This is what McVehil -- this is what SX-EW
19 have done.

20 Q. Yeah.

21 A. And I have commented that, and you have reviewed
22 that, and I have commented on the ability to say, okay,
23 leave it like this. Unexplained losses are enough for me.

24 Q. Okay.

25 A. Okay.

1 Q. But, again, there are indeterminate losses that
2 show up in a mass balance; correct? Indeterminate losses?

3 A. There are indeterminate losses that show up in a
4 masses balance, always.

5 Q. Yes. And you're saying that some percentage of
6 those indeterminate losses are fugitive lead emissions;
7 correct?

8 Yes or no.

9 A. Yes. Yes. And they are.

10 Q. And how do you know what percentage of the
11 indeterminate loss is a fugitive emissions?

12 A. I don't know, but I know if they double, they
13 double.

14 Q. Okay. So you don't know -- but you want us to
15 believe --

16 (Overlapping speakers.)

17 A. You don't have to explain to me, but I would like
18 to have somebody explain what are indeterminate losses. If
19 fugitives are not included.

20 Q. I think Mr. Connor had a slide, which had a
21 number of categories which showed you what those
22 indeterminate losses could be.

23 A. Yeah. Okay. Good.

24 Q. So I'm going to ask that we look at Slide -- I'm
25 going to ask that we look at Slide 10, please.

1 Mr. Dobbelaere, this is a report of the
2 energy -- of the Ministry of Energy and Mines. It is dated
3 November 25, 2022, and I'm particularly interested in
4 looking at the callouts that we have here, and in the
5 second one, which is called "Air monitoring done by monitor
6 Sereminer S.R.L., sampling date November 4-5, 2002."

7 Do you see that?

8 A. I have to look here.

9 Q. Sorry.

10 A. Yeah. Okay.

11 Q. Let me know when you're ready.

12 A. Yes.

13 Q. Are you waiting on me, or are you waiting on you?
14 I'm sorry.

15 A. No, I'm just thinking what you want to prove
16 here.

17 (Overlapping speakers.)

18 A. It seems like an order I didn't see.

19 Q. Yeah.

20 A. And I'm not involved in a monitoring stations
21 evaluation. The only thing I saw is that you also use the
22 same data --

23 Q. I have not asked -- I have not even asked you a
24 question yet.

25 A. Okay.

1 Q. My question is, are you aware that the air
2 monitoring data taken by Doe Run Perú was regularly audited
3 by the Ministry of Energy and Mines?

4 A. No, I was not.

5 Q. Okay. And I'm going to ask you to look at
6 Slide 11, please.

7 A. Okay.

8 Q. Actually, let's just go to Slide 12. I'm going
9 to ask you to take a look, Mr. Dobbelaere, at the -- these
10 two highlighted portions and you can either read -- I'm
11 going to read them out loud for you, if that would be okay.
12 It says: "In addition" -- I'm sorry. This is from Doe Run
13 Perú's "Report to our communities"?

14 A. I know that Report.

15 Q. Okay. This says: "In addition, our results are
16 verified by the laboratory of the Ministry of Health's
17 general business of environmental health, DIGESA, whose
18 officers have officially reported that Doe Run Perú has a
19 valid and reliable results since they are similar to
20 DIGESA'S findings."

21 Then it goes on to say, "Monitoring equipment
22 audit performed by a company registered with the U.S.
23 Environmental Protection Agency. On March 19, 20, 21 of
24 2002, the CK Environmental company based in Canton,
25 Massachusetts, USA, performed an audit on the environmental

1 sulfur dioxide monitoring system. CK followed the
2 guidelines established by the US EPA's Quality Assurance
3 Handbook for Air Pollution Measurement Systems. CK's team
4 of evaluation specialists was comprised of Kathleen Holmes
5 and David Macintosh. The audit's final results were
6 positive and reflected well on Doe Run Perú since the audit
7 found that the equipment measures SO2 in the environment
8 with a margin for error of only plus or minus .23 percent,
9 which is far below the EPA's recommended margin of error.

10 In conclusion, environmental data collected by
11 Doe Run Perú is precise and reliable. This is demonstrated
12 by annual audits performed by outside specialists with
13 renowned technical expertise."

14 Have you read this before?

15 A. I have read this before.

16 Q. Okay. So you were aware that Doe Run Perú's
17 environmental monitoring data was audited, both by the
18 Government and outside Experts, and found to be reliable?

19 A. What I don't understand here is that when Deborah
20 was using SO2 measurements in their Report, that you said
21 they were flawed, and this is by SO2 measuring. So this
22 has been audited, yes.

23 Q. Well, actually --

24 A. But they were flawed five years, and this in the
25 period they were flawed.

1 Q. Actually --

2 A. How can you explain that?

3 Q. Actually, it is much broader than that.

4 A. Okay.

5 Q. It says: "Environmental data collected by Doe
6 Run Perú is precise and reliable."

7 A. Yeah, but you try to show me that the SO2 was
8 okay.

9 Q. I haven't tried to show you anything. I actually
10 showed you something.

11 A. That's my comment, and for the rest, I did not
12 involve. I read this document, and I see this looks
13 strange to me.

14 Q. Okay. Okay. But you're not an environmental
15 expert, and you can't opine on the validity of air
16 monitoring data or equipment; correct?

17 A. Correct.

18 Q. Okay. Can we go back to Slide 6, please.
19 Actually -- fine. I've already shown you this slide, which
20 shows decreases in stack emissions compared to the lead in
21 the ambient air in La Oroya, and I want to ask you, this
22 shows, does it not, that in every year, except for 1999,
23 lead concentrations were either equal to or lower than the
24 last recorded measurement during Centromín's operations;
25 correct?

1 A. This is what the graph shows, but it only shows
2 main-stack emissions.

3 Q. Okay.

4 A. Okay.

5 Q. And I think yesterday when Ms. Gehring Flores was
6 questioning Dr. Connor, she was asking him about the
7 increase in emissions at the time of the transition,
8 and -- do you see here where the approximately where the
9 red star is on this chart?

10 Do you see that?

11 A. Yes, I can see that.

12 Q. Okay. And so those -- right at this point where
13 that gray line intersects with the dotted line --

14 A. Yes.

15 Q. -- that's where Centromín's stack emissions were
16 at the time of handover; right?

17 A. I don't know.

18 Q. Okay.

19 A. Because you can -- I mean, you can interpolate as
20 you want. I have to check.

21 Q. Yeah.

22 A. This is an average over a year.

23 Q. Okay.

24 A. And I can tell something about the graph again
25 and again. Two years ago, I said, explain me the drop of

1 more than 200 -- it nearly -- from 500 -- it 1250 tons in
2 lead to main stack.

3 Q. Okay. Again, you can address --

4 (Overlapping speakers.)

5 (Interruption.)

6 Q. You can address all this on redirect, if you want
7 to.

8 A. Okay. Okay.

9 Q. We have been talking a lot about standards and
10 practices to protect human health in the environment.

11 What do you understand to be the ultimate goal of
12 those standards and practices?

13 A. The ultimate goal of lead emissions in main
14 stack, if you install new technologies is a scale on the
15 left in kilograms and not in tons. That's the ultimate
16 goal.

17 Q. So what I'm asking you is, we're talking about
18 the relative standards and practices of Doe Run Perú and
19 Centromín, and I'm asking you, what is ultimately the goal
20 of those standards and practices?

21 A. The ultimate goal is to protect the children of
22 La Oroya, I think.

23 Q. Right?

24 A. Yeah.

25 Q. I absolutely agree with you.

1 Can we put up our -- well, this is Proctor
2 Figure 2. I don't know if we have this on the Slide. No.
3 Okay.

4 You are aware, Mr. Dobbelaere, that from 1999
5 forward at least, as Dr. Proctor has acknowledged, the
6 blood-lead levels in the children of La Oroya consistently
7 decreased; correct?

8 A. You would have to be --

9 (Overlapping speakers.)

10 Q. You're either aware or you're not.

11 A. Aware or not?

12 Q. Yeah.

13 A. Aware that they decreased? No.

14 Q. You're not aware?

15 A. No.

16 Q. Okay. Well, let's assume for the moment that
17 they had, and that it is true what I'm telling you. Okay.
18 Then Doe Run Perú would have achieved exactly what the
19 standards and practices it followed were designed to
20 achieve, as you said before, reducing the blood-lead in
21 children at La Oroya?

22 A. I think reducing to an agreed level, but I'm not
23 the Expert to say what was the agreed level.

24 Q. Okay. And let me ask you this. You have a
25 theory about the increase in fugitive emissions, the

1 increase in total emissions of lead, but if that were true,
2 we would not see a decrease in children's blood-lead levels
3 in La Oroya, would we?

4 A. No, but I mean --

5 (Overlapping speakers.)

6 Q. No is fine.

7 A. I cannot answer.

8 Q. No is a good answer.

9 Okay. So just talking about the air monitoring
10 data that I just showed you, in terms of lead in the
11 ambient air -- and I showed you evidence explaining that
12 that data was reported regularly to the Peruvian
13 Government, audited by the Peruvian Government, and audited
14 by outside Experts.

15 So my question to you is, did you hear
16 Mrs. Gehring Flores during her Opening when she called the
17 lead data "fabricated"?

18 A. I have heard her asking that, yeah.

19 Q. Do you believe that the lead data is fabricated?

20 A. To be honest, I don't know.

21 Q. Okay. We have talked about the fact that you're
22 not an air modeling expert; right?

23 A. No.

24 Q. Okay. And you're not an air monitoring expert,
25 assuming there is even a difference between the two?

1 A. There is a difference between the two.

2 Q. Okay. But you're not that either?

3 A. No.

4 Q. Okay.

5 A. I know how it works, air modeling.

6 Q. Yeah. Yeah.

7 (Interruption.)

8 A. I know how it works, air modeling.

9 Q. I know how to drive a car, but I'm not a race car
10 driver.

11 So you have mentioned SX-EW a couple of times and
12 that is a report that you rely on; correct?

13 A. I rely on SX-EW because --

14 Q. I didn't ask you "because."

15 A. Okay. I rely upon SX-EW.

16 Q. Okay. Who is SX-EW? What is their specialty?

17 What is their raison d'etre? What do they do?

18 A. They are specialized in Metallurgy.

19 Q. Have you ever met anyone from SX-EW?

20 A. No. But if you know, SX-EW means Solid
21 Extraction Electrowinning.

22 Q. Okay.

23 A. Which is --

24 Q. Okay. Do you know who prepared the Report that
25 you relied upon?

1 A. It was prepared -- it was prepared and agreed
2 with DRP.

3 Q. That's not what I asked you.

4 A. Central office.

5 Q. No, I didn't ask you that.

6 I asked you who is the person?

7 A. No, I don't know him.

8 Q. You don't know him?

9 A. No.

10 Q. Do you have any idea what that person's
11 credentials are?

12 A. No.

13 Q. Okay. So had that person who prepared the SX-EW
14 ever done a mass balance analysis before?

15 A. I have done mass balancing.

16 Q. I'm not asking that.

17 Had the person who prepared the SX-EW Report ever
18 performed a mass balance before?

19 A. My understanding is that the mass balance was
20 prepared by DRP, and they used the same people from the
21 mass balance from Centromín because mass balance is a
22 central instrument in any pyrometallurgical operations.
23 And if you don't do it well, I don't think you have a
24 business.

25 Q. I understand that the people at Doe Run Perú were

1 the people at Centromín during the relevant periods of time
2 were the ones who actually did the sampling and reported
3 that data. I understand that.

4 I'm asking a different question, which is,
5 somebody at SX-EW took that data and performed an analysis
6 of that data; right?

7 A. I mean, I'm not sure. I mean, I did an analysis
8 of that data knowing what goes in must go out, and I know
9 what is -- I know what is recycled, I know what is --

10 (Interruption.)

11 A. "Transfrancias," concentrates, "findantes," all
12 these.

13 Q. Yeah, I don't doubt that you know it,
14 Mr. Dobbelaere. I'm asking about the people who prepared
15 the SX-EW Report that you are relying upon.

16 What is their expertise, what is their experience
17 performing mass balance analysis?

18 A. I am relying on the same data source, and I am
19 relying on a data source that comes from DRP.

20 Q. Okay.

21 A. That's the only thing I can say, and the rest of
22 the analysis I have checked.

23 Q. Okay.

24 A. But I am not -- I don't go into the translation
25 of indeterminate losses into air quality.

1 Q. Okay.

2 A. That's what they --

3 Q. Yeah. And let's -- there are two parts to SX-EW;
4 right? There is the mass balance and there's, for lack a
5 better term, what I'll call sort of the air quality
6 analysis?

7 A. Yes.

8 Q. Yes. Who at SX-EW performed the air quality
9 analysis?

10 A. I don't know. I have read this, and I have seen
11 that this was based on data from other Doe Run Perú
12 operations and from a factor that was determined by McVehil
13 and Monette in the time of Mr. Neil.

14 Q. So what was the expertise credentials, education,
15 training of the person at SX-EW who performed -- who
16 conceived of and performed the air quality analysis that is
17 reflected in the Report?

18 A. I don't know. We cannot see that in the Report.
19 I provided the Report, finally data, finally data.

20 Q. So you're comfortable relying upon the Report and
21 opinions of people you've never met of whom you don't know
22 their experience, and you don't know -- could you wait
23 until I'm done?

24 (Overlapping speakers.)

25 A. I feel comfortable on the reliability of the data

1 on which I made my analysis.

2 Q. You understand that this is question and answer.
3 I ask you a question; you give me an answer. Right?

4 MS. GEHRING FLORES: Tribunal, Counsel is asking
5 this Expert questions on air quality data and air quality
6 monitoring. Ms. Proctor, Respondents' independent expert
7 on toxicology, was just here. These questions are for her.

8 If Counsel wants to ask this witness about mass
9 balancing in SX-EW Report, please, I would think that is
10 fine, but I don't think that this Expert should be subject
11 to questions that are beyond his expertise, which he said
12 many times.

13 MR. WEISS: Well, Mr. President, Mr. Dobbelaere
14 quotes from, cites to, relies upon all of the aspects of
15 the SX-EW Report, including the air quality analysis he
16 cites to the SX-EW Report 37 times in his Report. So it is
17 well within the bounds of my right of cross-examination to
18 ask him about the very things that he's discussed in his
19 Report.

20 And up to this point, the only thing that I've
21 been asking him is who prepared the Report and what was
22 their expertise. So I haven't even gotten to air quality
23 yet.

24 PRESIDENT SIMMA: Please continue.

25 MR. WEISS: Thank you very much.

1 BY MR. WEISS:

2 Q. A few minutes ago, you told me that you reviewed
3 the data that SX-EW relied upon. Yeah?

4 A. Yes.

5 Q. Okay. Could we look at Slide 13, please. Now
6 these, I will represent to you, are annexes to the SX-EW
7 Report, and as annexes do, they typically list -- they list
8 a series of information that accompanies the Report.

9 Do you see that?

10 A. Yes, I see that.

11 Q. Okay. So did you have these documents that are
12 referenced in the annex when you did your analysis of
13 SX-EW?

14 A. I had -- this is a report that I exhibited
15 myself.

16 Q. Yeah. And the reason I ask you is because those
17 annexes were not attached to the version that you attached
18 to your Report or submitted with your Report?

19 A. I only analyzed the data that were available for
20 me in the Report, and I did not let away -- but first I
21 want to see what you want to show me.

22 Q. Well, this is the one of the annexes. You can
23 see the information as subscribed. I understand you read
24 Spanish. And I'm asking you whether you had these
25 documents and you reviewed them in connection with your

1 analysis?

2 A. I had all the data from 1999 to 2009.

3 Q. I'll just point to 1.1.

4 A. Yeah, in which Annex is this? Annex --

5 Q. It says right there 1.1. Balances from (in
6 Spanish). Did you have that annex?

7 A. That I have to check.

8 Q. Okay. Again, I'm representing that we never saw
9 it, it wasn't produced to us.

10 A. No.

11 Q. So I think your goal was to include with your
12 Report all the documents on which you relied; yes?

13 A. Yes. They are and they are referenced in my
14 Report.

15 Q. Yeah. And we don't see reference to this, and
16 these weren't produced to us.

17 A. Yes.

18 Q. Okay. And there -- there are multiple pages of
19 annexes?

20 A. Yeah, but I mostly used the WD-30 and the
21 WD- -- I remember Row 8.

22 Q. Okay.

23 A. Because in the one are inputs and outputs and in
24 the 30, are the losses.

25 Q. And you wanted to make sure when you read SX-EW

1 or you relied upon it and incorporated it into your Report,
2 that you analyzed all the data that SX-EW analyzed;
3 correct?

4 A. That I was provided with, yes.

5 Q. Are these things that you would want to see
6 before you opine that you agree with the conclusions in the
7 SX-EW Report?

8 A. I don't understand your question well.

9 Q. Okay.

10 A. I mean, if I make a mass balance, I make a mass
11 balance based on the raw data that I get.

12 Q. Well, that's exactly what these annexes
13 reflect --

14 A. Yeah.

15 Q. -- raw data?

16 A. I've seen a lot of them until I didn't get any
17 sleep anymore, so I know them, yes.

18 Q. Well, I didn't ask you to do it.

19 A. I know.

20 Q. But that's my point. If you rely -- you say you
21 relied on the raw data, but now you're telling me you
22 didn't actually have the raw data.

23 A. I don't say this. I want to see the detail of
24 what you want to show me, and then I can see if it was
25 useful for me or not.

1 Q. Okay. We'll pull it up.

2 But, I guess, so, now, you're telling me you are
3 relying on a report, you didn't even know who prepared it,
4 and you didn't have all the data that accompanied the
5 Report.

6 Is that where we are so far?

7 A. No. I think I had all the data that I needed.

8 Q. Okay. Again we're going to go through these
9 analyses --

10 MR. WEISS: Mr. President, where are we in terms
11 of time or break? Because I'm about to embark on a line
12 here, so I don't know what your...

13 If it's okay with you, this would be a convenient
14 time to break.

15 PRESIDENT SIMMA: Yes. Certainly. So we break
16 until 3:10.

17 MR. WEISS: Okay.

18 (Brief recess.)

19 PRESIDENT SIMMA: Everybody is here; right? So
20 why don't we start again. Okay.

21 Mr. Weiss, please continue.

22 MR. WEISS: Thank you, Mr. President.

23 PRESIDENT SIMMA: Except, if you needed more
24 time.

25 MR. WEISS: No, no, I'm fine. Thank you.

1 PRESIDENT SIMMA: Okay. Thanks.

2 MR. WEISS: Okay.

3 BY MR. WEISS:

4 Q. Mr. Dobbelaere, when we left off, I think we were
5 about to begin talking about one aspect of the SX-EW
6 Report, and I'm going to ask my colleagues to put up
7 Slide 14.

8 Now, Mr. Dobbelaere, is -- this is the Table that
9 you describe at Paragraphs 217 and 218 of your Second
10 Report?

11 A. Yes.

12 Q. Okay. And that comes from R-150, which is the
13 SX-EW Report. Yes?

14 A. Yes.

15 Q. Okay. Now, there's a whole bunch of data in this
16 Table that we can see, and my question for you is, where
17 does that data come from? What is the source of that data?

18 A. The source of that data is this Report of SX-EW,
19 where they first determined -- at the end, unknown losses,
20 and then from there try to find out how much PM10 fugitives
21 that mean.

22 Q. Right. I'm -- let me try this again.

23 The data points, the numbers, where -- what is
24 the source of those numbers?

25 A. For me, the source is the analysis of SX-EW, for

1 these numbers.

2 Q. Yeah, so --

3 A. Not from the -- okay.

4 Q. No, finish. Finish. Go ahead.

5 A. No, I mean, not from the -- indeterminate lead
6 losses, this I have reconstructed myself completely on the
7 basis of the data that I got from DRP. But this further
8 transition, I wrote in my Second Report also that this is
9 an analysis of SX-EW. Because it translates into
10 environmental considerations of how the emissions at the
11 source distribute, and which ones are PM10. PM10 is the
12 debatable ones.

13 (Overlapping speakers.)

14 Q. Right. I don't -- no, I understand that.
15 You -- this study, according to your Report, concludes that
16 Doe Run Perú increased emissions 55 percent relative to
17 Centromín. Is that what -- is that your understanding?

18 A. No. I have to read Paragraph 227.

19 Q. Okay. Please go ahead.

20 A. When I say now I have addressed Mr. Connor's
21 concerns about the SX-EW analysis of equivalent lead
22 emissions, because he completely denies the existence of
23 equivalent lead losses, which was used by DRP. Okay.
24 This -- I feel compelled to state that the entire
25 discussion of the -- that analysis is a distraction.

1 I repeat, that the equivalent lead emissions
2 analysis is separate, separate, the one I did, and apart
3 from the simple arithmetic, which shows that DRP increased
4 production, using dirtier concentrates, which I can show,
5 also, in the copper circuit, and increased indeterminate
6 lead losses.

7 Those three data points tell the entire story.
8 There is no need to model equivalent lead losses, which I
9 refer to in my First Report, but I say, okay, there is no
10 need to go into that discussion about how it was in --

11 (Interruption.)

12 A. How that is -- how is the relationship between
13 total emitted dust and PM10 dust, based upon considerations
14 of other plants.

15 Q. Yeah. I think at some point you called, at least
16 Mr. Connor's criticism of your reliance on this study, a
17 "distraction." Was that the word that you used?

18 Just was that the word that you used? And I
19 apologize if it's not. But --

20 A. I feel compelled to state that the entire
21 discussion of that --

22 (Interruption.)

23 A. Yes, I feel that is a distraction.

24 Q. Okay. That's the word. Okay.

25 And it's -- it is a -- I understand you

1 characterize it as a distraction, but you're relying on the
2 Report of SX-EW. You incorporated this into your Opinion.

3 A. I first incorporated this in my Opinion, and then
4 I said, okay, we don't have to go into that direction.
5 Indeterminate lead losses are more than enough to show
6 that, based on seven years comparing with eight years,
7 within a confidence limit, that indeterminate losses went
8 up. That's what it is.

9 Q. Okay. And what if this analysis actually
10 contradicted your conclusions with respect to the mass
11 balance? Would it then be something we'd have to talk
12 about?

13 A. I don't know. What I see here is that, like,
14 McVehil and Monette has a higher estimate of PM10 fugitives
15 than DRP, than Mr. Fornbeck, for instance, that's why I
16 left this table in. There is no consistency about how much
17 PM10 dust was fugitives. But it is a lot, in all the
18 Reports.

19 Q. Okay. Okay. But what we're particularly
20 interested in here -- and what this analysis was attempting
21 to do, was compare fugitive emissions and total emissions
22 under --

23 A. Yes.

24 Q. I'm not finished yet -- under Doe Run Perú and
25 Centromín; right?

1 A. Yes.

2 Q. And you are putting this forward as evidence that
3 Doe Run Perú increased total emissions by 55 percent.

4 A. I am saying that this method, uses the same
5 method as Bruce McNeil used to get an Extension of the
6 PAMA.

7 Q. Umm-hmm. Yeah.

8 A. And this was based upon a study of McVehil and
9 Monette.

10 Q. Yep.

11 A. And end of 2003, as far as I remember. And this
12 study said, oh, you're lucky because you say what are the
13 fugitive emission data, and from the other data we have
14 between relationship between fugitive and -- we find the
15 relationship about five from SO2. So they do the
16 calculation. They say -- so it is eight.

17 Q. Okay.

18 A. And Mr. Neil confirmed that it was 7. Okay. He
19 could have forgotten the right number, but it was seven or
20 eight. What this guy did is say, okay, now we have an
21 estimate of the fugitive emissions. We may divide it
22 by 8 -- no, we may divide the stack emissions by 8, and add
23 them to the fugitive emissions to get equivalent emissions,
24 and that should correlate with -- that should correlate.
25 This a better indication of what happens close in La Oroya.

1 Q. Umm-hmm. Yeah. Okay.

2 (Overlapping speakers.)

3 A. This is what it is, and nothing more and nothing
4 less. This is what it is.

5 Q. Okay. Well, you mentioned the McVehil Monette
6 study. That is JAC-74. Why don't we take a look at that,
7 please.

8 So we're going to -- we'll bring it up in a
9 minute, Mr. Dobbelaere, but it's a study of -- authored by
10 McVehil Monette, dated July -- excuse me, January 29, 2004,
11 and it's called "relative contributions of La Oroya main
12 stack and processed fugitive emissions to ground level
13 concentrations."

14 Did you review that study in preparing your
15 Report?

16 A. I don't remember that I have access to that
17 study. I had access to what Mr. Bruce Neil was writing.
18 As a result of your study, I have these extra questions.
19 Can you also say what is the effect on lead.

20 Q. Okay.

21 A. Because I'm interested in that number to go to
22 the MEM, and to talk to them and said, I don't need to
23 install the Acid Plants. I need to install fugitive
24 emissions. That's what his --

25 Q. Okay. Yep. Yep. And you understand

1 that -- well, we're still trying to find it, that that
2 JAC-174 was attached to or submitted with Mr. Connor's
3 Report?

4 A. I don't know. I don't know.

5 Q. Okay. But you had access to that, Mr. Connor's
6 Report, and the appendices?

7 A. I have access to Mr. Connor's Report, and maybe
8 it was in there -- yeah, but...

9 Q. Now, I think -- yeah, well, here we are.

10 A. Okay. Right.

11 Q. So I don't know if this refreshes your
12 recollection.

13 (Overlapping speakers.)

14 (Interruption.)

15 Q. I'm sorry. Does this refresh your recollection
16 as to whether or not you have seen this --

17 (Interruption.)

18 Q. You've just got to wait until I'm done, for the
19 Court Reporter.

20 A. Yes.

21 Q. Okay. So you did review this study in connection
22 with the issuance of your Reports?

23 A. This, yes. Yeah.

24 Q. Yes?

25 A. But, I mean, this letter.

1 Q. Okay. Well, this is a multi-page letter?

2 A. Yeah. Yeah.

3 Q. Okay.

4 A. Yeah.

5 Q. Okay. And I think you understand, of course,
6 that McVehil, Monette, and George McVehil in particular,
7 they're air modeling Experts; right?

8 A. That's what I have to assume, yes.

9 Q. Okay.

10 A. I don't know that.

11 Q. And that -- again, that's not your expertise;
12 right?

13 A. No.

14 Q. Correct?

15 A. Correct.

16 Q. Okay. And we had an exchange earlier where I
17 showed you some documents reflecting that the air
18 monitoring data that Doe Run Perú collected was audited. I
19 want to show you some other Statements in the McVehil
20 Monette Report about the quality of the air monitoring data
21 and ask you if you have seen these before?

22 They're going to find them, and I will -- we'll
23 came back to them. Unfortunately, we didn't highlight
24 these in advance. Excuse me one second.

25 THE INTERPRETER: Mr. President, this is the

1 Interpreter.

2 (Interruption.)

3 THE INTERPRETER: Mr. President, I don't know if
4 you can hear me through your headset. This is the
5 Interpreter. We do need to have the Witness and the -- and
6 Counsel to please slow down.

7 (Interruption.)

8 MR. WEISS: Of course. I'll do my best.

9 THE WITNESS: Yep.

10 BY MR. WEISS:

11 Q. Okay. Now, you understand, Mr. Dobbelaere, that
12 this is an air modeling exercise that is reflected in
13 JAC-174?

14 A. Yes.

15 Q. Okay. And do you also understand that the study
16 and the conclusions here -- oh, I'm sorry. Oh, that's
17 right.

18 (Comments off microphone.)

19 Q. Fine. Sorry.

20 That the data that McVehil is relying upon to
21 reach its conclusions comes, in large part, from Doe Run
22 Perú's air quality monitoring stations.

23 Do you understand that?

24 A. Yes.

25 Q. Okay. So, for example, you'll see in the

1 Report -- and I wonder if you remember this -- that there
2 are references to Huanchan, to Sindicato, and Inca. And
3 you understand those to be some of the air monitoring
4 stations; correct?

5 A. Yes.

6 Q. Okay.

7 A. Because they need this data to validate for their
8 model.

9 Q. Yeah. Okay. And that data and those stations
10 that they've relied upon here, that's the same air quality
11 data that I showed you in Mr. Connor's Slide, which shows a
12 decrease in lead concentrations in the ambient air in
13 La Oroya over the period of Doe Run Perú's operations;
14 correct?

15 A. This is from 2003, end of 2002.

16 Q. I think it's January of 2004, to be exact?

17 A. Exactly. Right.

18 Q. Right? So it's the same data, same monitoring
19 stations; correct?

20 A. Yes. Yes. SO2.

21 Q. Okay. And did you see in here where Mr. McVehil,
22 the air modeling and air monitoring Expert, opines on his
23 view of the reliability of Doe Run Perú's air monitoring
24 data?

25 A. I think he had nothing else to rely upon. Okay.

1 Like, I cannot judge if this was reliable or not, but he's
2 relying on this because there was no other data.

3 Q. Okay. But he not only relied on it, he opined in
4 his Expert Opinion that the air monitoring data was
5 reliable?

6 A. Could be.

7 Q. Could be. We'll find it.

8 A. I didn't read -- I was interested in --
9 (Overlapping speakers.)

10 Q. Okay. We'll find it and show it to you.

11 Okay. So I hate to beat this drum, but we've
12 already established that you're not an air modeling Expert.

13 So is it fair to say that the content of this
14 study is outside your area of expertise?

15 A. What Neil was asking to his consultant was clear
16 to me, and I think his air monitoring was not higher than
17 mine, so -- and I saw that he used that data to get an
18 Extension of the PAMA.

19 Q. Yeah. I'm asking --
20 (Overlapping speakers.)

21 A. That's my thinking. So...

22 Q. Yeah. I'm asking. This is -- I'm representing
23 to you, although I think you would agree with me, that this
24 is an air modeling study?

25 A. Yes.

1 Q. So I'm asking you if you would consider an air
2 modeling study, such as this, to be outside your area of
3 expertise?

4 A. Does -- doing the study, yes, but I could follow
5 the reasoning.

6 Q. Yeah. Okay. But you could not design and
7 execute this study within your realm of expertise?

8 A. No. If I would have the software, yes, but I
9 don't have the software, and I'm not interested at all.

10 Q. Okay. And there's obviously methodology that
11 Mr. McVehil applies in here, there are assumptions that he
12 applies in here?

13 A. Yeah.

14 Q. And so I want to show you some of those, and ask
15 you some questions about them. Let's first jump to
16 Section 5, which is the summary. Yep. If you just bring
17 that up.

18 A. That's the Factor 5.

19 Q. Yep. And I want to read something from the
20 summary here. It says that: "The calculations and
21 estimates presented above are obviously approximations,
22 based on rough estimates.

23 If you can provide us with monthly lead
24 measurements for one or more stations, it will be possible
25 to test our result by modeling the specific months for

1 which data are available."

2 Do you see that?

3 A. Yes.

4 Q. So Mr. McVehil considered the results of his
5 study to be approximations based on rough estimates.

6 Are you treating the McVehil results as
7 conclusive?

8 A. I have seen that Mr. Neil, Bruce Neil, estimated
9 them as conclusive because he used exactly the method to
10 calculate what would be the future air quality based on
11 this study.

12 Q. Yeah. But, to be clear, you're here as an Expert
13 offering your Opinions to this Tribunal?

14 A. Yes.

15 Q. And so I'm asking you if, in your Opinion and
16 your decision to rely on this study, did you consider
17 Mr. McVehil's conclusions to be definitive?

18 A. You mean definitive?

19 Q. Final.

20 A. Final. Yes.

21 Q. Yeah.

22 A. No. Because you would need other data from other
23 years, because it's -- that this is SO₂, but then to go to
24 lead, he then relied upon data that he got because Mr. Neil
25 put him under pressure. I understand very well.

1 Q. Okay.

2 A. Yeah, but I need lead data. Okay? That's what
3 happened.

4 Q. How do you know that Mr. Neil put him under
5 pressure?

6 A. Because it is further down. Yes, but I want to
7 know. Because I want to know for lead.

8 Q. Okay. Okay.

9 A. And then he answers, we are -- you are lucky.

10 Q. Yeah. But I guess what I'm asking you is, you
11 are conclusively relying upon the results of the SX-EW
12 model, which relies upon the McVehil study, but Mr. McVehil
13 is saying, these are only rough approximations and
14 estimates. So I'm wondering, how are you reaching a firm
15 conclusion based on two other people's rough estimates and
16 approximations?

17 A. But how --

18 Q. I have to finish my question.

19 A. Very good.

20 Q. Go ahead.

21 A. I mean, here is 8. And Neil said 7. It is
22 not 1. Nobody says it was 1. It's a fact of fugitive
23 emissions compared -- if you have 100 ton of fugitive
24 emissions, and 100 ton of stack emissions, that are spread
25 over -- the effect in La Oroya Antigua is not 1 to 1, and

1 that's what you tried to suggest the whole time. For me,
2 it doesn't matter if it's five or seven. It doesn't
3 matter.

4 Q. Okay. Well, you don't know that because
5 you -- did you take the model and put different numbers
6 into SX-EW's model?

7 A. Yes. Yes.

8 Q. Oh, okay. We're going to do that --
9 (Overlapping speakers.)

10 A. For different years.

11 Q. Yeah. Okay.

12 A. Because it's a very simple calculation.
13 (Interruption.)

14 Q. So Mr. McVehil asked if they could be provided
15 with monthly lead measurements for one or more stations,
16 and that it would be possible to test the results by
17 modeling specific months.

18 Did you test these results as Mr. McVehil
19 suggested, by modeling specific months?

20 A. I used his reasoning, but, I mean -- I have done
21 this for myself; so I don't see -- I don't think I even can
22 talk about it.

23 But I did it so myself to see how much can it
24 vary if, if in that year, the stack emissions are so high,
25 and the fugitive emissions -- yeah, they are what they are,

1 and play with the numbers, and see that it's always higher
2 than 1. Always.

3 Q. Did you search the documents available to you to
4 see if, in fact, Mr. McVehil and his firm had done further
5 work and refinement on this same subject?

6 A. No. No. No.

7 (Interruption.)

8 THE INTERPRETER: Mr. President, please.

9 (Interruption.)

10 BY MR. WEISS:

11 Q. My question is, did you search the documents
12 available to you to determine whether, in fact, the record
13 contained documents showing that Mr. McVehil had, in fact,
14 done further work and analyses which would bear upon the
15 approximations and rough estimates that he concluded in
16 this January 29 Report?

17 A. No.

18 Q. Okay. Would you have wanted to know if he
19 reached different conclusions in a Second Report before
20 deciding to rely upon his conclusions, which were then
21 relied upon by SX-EW?

22 A. I have answered in my Paragraph 227.

23 Q. So you never came across a subsequent Report
24 dated in July of 2004?

25 A. No, because I didn't want to dig deeper into that

1 relationship because, I -- say, if your fugitive emissions
2 at the source are controlled, and they can be much better
3 controlled, than they were, you do better.

4 Q. I think you said at one point during this Hearing
5 that you're only interested in getting to the truth.

6 A. Yes.

7 Q. Did you tell me that?

8 A. Yes.

9 Q. And you don't think subsequent data on the same
10 topic, which you're relying, on would help you get to the
11 truth?

12 A. Yes, but I was not asked this, and I had enough
13 to do, to do all the rest.

14 Q. So you were too busy?

15 A. I was not too busy. I was busy with this
16 because, if you have to dig in all these mass data balance,
17 you're busy.

18 Q. So you didn't do the work you needed to do to
19 reach a conclusive opinion because you were too busy?

20 A. No. I have said there is no need to model
21 equivalent lead emission, and that is what you are asking
22 me. And I said -- I concluded there is no need to model
23 equivalent lead emissions.

24 Q. Okay. That was only after you actually did that
25 in one of your Reports.

1 So you did it in one report --

2 A. I -- First Report, I said, look at this --

3 Q. Mr. Dobbelaere, I apologize. But you have to
4 wait until I finish my question.

5 A. Okay. Right.

6 Q. After you incorporated the SX-EW model and data
7 into your First Report --

8 A. Yes.

9 Q. -- did you change your mind about including it?

10 A. Not about including SX-EW.

11 Q. Okay.

12 A. Mass balancing.

13 Q. Okay.

14 A. And the data that I needed to do a proper mass
15 balance.

16 Q. Okay.

17 A. And I decided to not go into discussions on air
18 monitoring because, if you increase at the source, you can
19 do whatever calculation you want. You will get worse.
20 That's enough for me.

21 Q. Umm-hmm. But it also -- if you use more accurate
22 numbers, it might actually get better; right?

23 A. Better than what? If you increase fugitives, if
24 there is enough evidence that you increase fugitives, then
25 there is no need to go over.

1 Q. Okay.

2 MR. PEARSALL: Look, can he just finish his
3 answer? We get these "okays," and "I understands." We
4 just want him to finish his answer, Mr. President. That's
5 all.

6 BY MR. WEISS:

7 Q. Thanks for the reminder, Counsel.

8 A. And this is written in 227, this conclusion.
9 Second Report.

10 Q. Are you familiar with the modeling techniques
11 that McVehil used?

12 A. I am familiar with modeling techniques that we
13 used to calculate the impact of any possible source of
14 fugitive emission or stack emission on the immediate
15 neighborhood of the Plant.

16 Q. Okay.

17 A. Take into care wind directions all you want.

18 Q. I'm going to show you the second paragraph of
19 Section 1 of this document. And it says, in the second
20 paragraph: "If we assume that 100 ppb early morning
21 concentrations are due to process/fugitive emissions, we
22 can estimate the necessary SO2 rate."

23 Is that a reasonable assumption?

24 A. What they do, they rely on the fact that, in the
25 morning, you have inversion, and that's their assumption.

1 Q. Do you have the expertise to determine whether
2 that assumption is reasonable?

3 A. I have no expertise -- wait a minute -- in
4 modeling a particular situation, at 4,000 meter high, in a
5 valley, with -- we have -- we know, in our Plant, where the
6 wind came from, what is the main wind directions, where the
7 buildings that disturbed the distribution. I don't think
8 we had an effluent model on that. We had a complete model,
9 3D model, that we got from the State completely, and we
10 could put every source there. So this conclusion may be
11 valid because he was the specialist for this Plant, for
12 this particular situation. How can I question this?

13 Q. Well, he's not here; you are, and you're the
14 Expert who is incorporating this information into your
15 Report. And so, in your Expert capacity before this
16 Tribunal, I'm asking you, is that a reasonable assumption?

17 PRESIDENT SIMMA: Mr. Weiss, and since this turns
18 around numbers, for the sake of later readers, you read out
19 "assume that the 100 ppb." It should be 1,000.

20 THE WITNESS: The 1,000 ppb.

21 MR. WEISS: You are correct, I apologize.

22 BY MR. WEISS:

23 Q. Okay. Let's jump to the heart of this. So let's
24 go back to the Table 15, which is the McVehil Chart. Yeah.

25 So, Mr. Dobbelaere, did you do any work to test

1 the accuracy of the numbers that are incorporated into this
2 analysis?

3 A. Well, yes.

4 Q. Okay.

5 A. 447, chimney.

6 Q. Okay. Where did that come from?

7 A. From the chimney, from the stack emissions.

8 Q. Of course. I understand that.

9 A. That I discussed.

10 Q. No, but the number, 474, how is that number
11 calculated? Where does it come from?

12 A. This is the main-stack emission of lead in a
13 certain year, which is year, I assume, 2004, and this is
14 measured in the stack, flow rate, dust, and analyzed how
15 many lead is in the dust.

16 Q. Thank you. And I understand what it represents.
17 I'm asking a different question.

18 What is the source of the data? Where is the 474
19 sourced from?

20 A. Normally, it should be from the MEM reporting or
21 from the three-monthly reporting of Doe Run Perú to the
22 MEM.

23 Q. Okay. Okay.

24 A. And it's not reported like this because you have
25 to make the calculation yourself.

1 Q. Yeah. Okay. Now, and the next number, PM10
2 fugitives, 730.

3 You see that?

4 A. Yes.

5 Q. What is the source of that number?

6 A. That is an estimate of McVehil and Monette.

7 Q. Okay. And does it come from the McVehil Monette
8 Report?

9 A. That I don't know.

10 Q. Okay. And --

11 A. But they say this is McVehil and Monette, it says
12 here. This is the number.

13 Q. Yeah. I understand that. But you understand
14 that's an estimate; correct?

15 A. Yes. It's always an estimate, fugitives.

16 Q. Right. Yes, it is. And --

17 A. I've seen other ones, half of it.

18 Q. Yeah. Yeah.

19 A. Okay.

20 Q. And did you do any work to test the validity of
21 that estimate of 730?

22 A. I mean, how is it possible? The only check I can
23 do is always the same comparison with what Mr. Fornbeck was
24 estimating, which, from my memory, is about half of it.

25 Q. Okay. Can we bring up the slides showing the

1 model of the sources of data which, for some reason, I
2 don't have listed here.

3 A. And to answer also your question, what I
4 understand is that there is another document of
5 Mr. Fornbeck where he takes the lead to dust ratio. That
6 is very strange to me because he relies upon copper
7 operations that are not comparable with this operation. So
8 I have the tendency to believe in the McVehil and Monette
9 number and not in the very low number of Mr. Fornbeck.

10 Q. Yeah. I understand. But you don't know who gave
11 Mr. McVehil that estimate; right?

12 A. I think they estimated it themselves.

13 Q. But you don't know that, do you?

14 A. No.

15 Q. So you don't know how valid or how reliable that
16 estimate is, do you?

17 A. That is so, and I don't have it here, but there
18 is some document where they themselves say, "yeah, but we
19 have a much higher number than you have."

20 Q. Or it could have been very conservative; right?
21 Okay.

22 Now, what I've tried to do here is to source the
23 data for you. So what I'm representing to you -- and you
24 can tell me if I'm wrong -- is that the 474 number comes
25 from the McVehil Report and it is basically a calculation.

1 The estimate of chimney -- of stack emissions was 1.3 tons
2 per day, so it's just multiplied by 365.

3 A. 365.

4 Q. Is that your understanding of how that number is
5 derived? Is that your understanding of how that number is
6 derived?

7 A. No.

8 Q. Would you like me to show you where it appears in
9 the McVehil Report?

10 A. Yes.

11 Q. Okay.

12 A. I would understand that a number that is used for
13 the modeling is derived from the three-monthly reporting
14 from MEM -- from DRP to MEM.

15 Q. Yeah. But, I guess -- you see that, above 474,
16 it says "McVehil Monette Doe Run Perú"; right?

17 A. Yes.

18 Q. So is it your understanding that that data comes
19 from McVehil Monette?

20 A. Yes.

21 Q. Okay. So do I need to show you the document, or
22 you're comfortable accepting that that is the estimate
23 offered by McVehil?

24 A. I would be interested to know how they got to the
25 data.

1 Q. Okay. Sure. Let's look at the document please,
2 which is JAC-74. And if -- and we can turn to Section 4,
3 the first sentence. You see there, Mr. Dobbelaere, it
4 says: "You have estimated that average lead emissions are
5 approximately 1.3 tons per day from the Main Stack."

6 Are you with me?

7 A. Yeah, yeah.

8 Q. "And 2.0 tons per day from process/fugitive
9 sources"?

10 A. But who is writing that to whom?

11 Q. This is the same McVehil Report that I showed you
12 before, from January of 2004.

13 A. Yes. I have read this.

14 Q. Okay. So could we go back to the chart, please.
15 So you are now with me that the 474 number comes from
16 McVehil? It's 1.3 tons per day times 365, 365 days in a
17 year. Yes?

18 A. I'm with you, but I find it very strange.

19 Q. You find it what?

20 A. Very strange.

21 Q. Okay. Well, I'm not really --

22 A. I mean, a consultant who works for a client and
23 has a number that is nearly half of what -- I don't
24 understand that.

25 Q. Okay. But I'm really not asking for you to

1 editorialize. I'm just trying to make sure we're both on
2 the same page as where the data comes from. Okay. All
3 right.

4 So the next number I want to ask you about is
5 757. You see, under Centromín Perú, it says: "Chimney,
6 PM10 fugitives," and the number is 757.

7 Do you see that?

8 A. Yes, from the chimney, yeah.

9 Q. What is the source of that number?

10 A. Yeah, I would -- okay. Right. Yeah, but these
11 are both -- okay. There's a comparison. These are both
12 stack emission data.

13 Q. Okay. Yes.

14 A. Because I remember I have checked them, but the
15 one is from Centromín time and the other is from Doe Run
16 Perú time. I think that the 474, if remember well, was the
17 number from the Year 2002.

18 Q. Okay.

19 A. But -- yeah, because they made a study in 2003.

20 Q. Okay.

21 A. We can look at the study data.

22 Q. Once again, 757, under Centromín Perú, chimney
23 PM10 fugitives, what is the source? I just showed you, for
24 the 1.3 tons per day equaling 474. What is the source of
25 the 757 number reflecting Centromín Perú's chimney PM10

1 fugitives?

2 A. That should be, again, the data reported to MEM.

3 Q. Okay. But you don't know where it came from?

4 A. Yeah, but -- I remember the chimney there. It
5 should be the data from -- there are no other stack data
6 than the ones reported from DRP to MEM.

7 Q. Okay.

8 A. So I was confused to say, hey -- that these two
9 are different. But, now, I see this is Doe Run Perú and
10 this is Centromín Perú. So -- and these are
11 different years.

12 Q. Okay. And you didn't want to check the source of
13 this data to make sure that it was accurate before you
14 relied on it?

15 A. Yes -- I did --

16 (Interruption.)

17
18 Q. You didn't want to check this data to make sure
19 that it was accurate before you relied upon it?

20 A. I checked the chimney data. That, I'm sure. I'm
21 sure because they are there, and I -- as I already said,
22 this first one should be the chimney data, and then you
23 guided me in the direction to say, "no, this is from their
24 modeling." This is not from their modeling. The 474
25 should be found back in the data from the Main Stack

1 because this is what it is. This are chimney data, and I
2 would be very -- this is why I said I would be very
3 surprised if McVehil and Monette comes up with another
4 number than the number that was reported to MEM. Very
5 interesting.

6 Q. Well, I just showed you, in the McVehil Monette
7 Report, where that number comes from, and, in fact, in the
8 chart it is specifically labeled as coming from McVehil and
9 Monette, but you don't believe that's the source of the
10 474?

11 A. No, I think that is the source as I checked with
12 the stack data.

13 Q. Okay.

14 A. And we can check and it could be that it is only
15 11 months because -- I know this was the end of the year,
16 so they couldn't have taken 11 months because the year was
17 not ready.

18 Q. Okay. But, at the end of the day, you don't
19 know?

20 A. Yes, I know.

21 Q. Okay.

22 A. I know this is chimney data and there should not
23 be anything else than the reported data to MEM.

24 Q. Yeah. You see, I know it's chimney data too, and
25 you know how I know that? Because it says it on the chart.

1 A. No. No. No. I'm sure -- I checked it, and I
2 know very well that it was the end of the year, and that it
3 may not have been the complete year, but maybe one month
4 less.

5 Q. Okay.

6 A. That's what I remember.

7 Q. So, again, I am looking at the 757 number, under
8 the Column "Centromín Perú, chimney, PM10 fugitives." I
9 have not been able to find out where that number came from.

10 A. Which number you mean?

11 Q. I just said 757.

12 A. I don't see a number.

13 Q. It's circled.

14 A. Okay.

15 Q. Okay. And as the person who's relying on this
16 data and who offered this Report, who just told me that he
17 checked all the numbers, I would like to know what is the
18 source of the 757.

19 A. From the thousands of numbers, one of the
20 thousands of numbers I have seen, I cannot say from my
21 head, but it should be from the Reporting data from -- and
22 I'm sure I've checked it -- from the reporting data from
23 MEM. But they report it every three months.

24 Q. Okay. So you're sure you've checked it?

25 A. Yes.

1 Q. Okay. All right.

2 Now, let's go to the next slide, please. Okay.

3 And this is the same chart, and now we're looking at
4 different data points. So right now, I'm looking at PB
5 equivalent, Doe Run Perú chimney PM10 fugitives, and the
6 number is 59.25.

7 Do you see that?

8 A. Yes.

9 Q. And you've mentioned, a number of times, the
10 8 times factor?

11 A. That's what they used.

12 Q. I've got to finish my question.

13 A. Okay.

14 Q. Is that what is reflected in that calculation?

15 A. Yes.

16 Q. So that would be the stack emissions divided by
17 8?

18 A. Absolutely.

19 Q. Okay. And is that the same thing for the second
20 number, 95 divided by 8?

21 A. Yes.

22 Q. I'm sorry. I -- 757 divided by 8. Excuse me.

23 A. They rounded it up.

24 Q. Okay. And the 8 times factor, that also comes
25 from the McVehil Monette Report?

1 A. Yes.

2 Q. Okay. And did you do any work to confirm whether
3 Mr. McVehil's conclusion in that regard is accurate?

4 A. No. I mean, this is the only numbers that are
5 available, the only ones, and that Mr. Neil forced out of
6 McVehil and Monette. So I want to know these numbers. And
7 then he used them to ask an extension as the main argument
8 to have this Extension.

9 Q. So when you tell me that it is the only
10 number available, please correct me if I'm wrong --

11 A. Yeah.

12 Q. That tells me that you've scoured the record to
13 look for documents to see if there were any further
14 refinements of that number or contradictions; is that
15 correct?

16 A. Yes.

17 Q. And you didn't find anything?

18 A. I didn't have to look at it because Mr. Neil used
19 that.

20 Q. Okay. Understood.

21 Okay. So now, can we look at the next slide,
22 please.

23 A. What I did --

24 Q. We're going to go to the next slide. Okay. All
25 right. And this number here -- so I'm now looking at

1 McVehil Monette Doe Run Perú, and it says 730, under the
2 Row "PM10 fugitives."

3 Do you see that?

4 A. Yes.

5 Q. Okay. Now, I'm happy to show you the document,
6 but I will represent to you that that number also comes out
7 of the McVehil Monette Report, and it is calculated because
8 the estimate given to McVehil was 2 tons per day times 365.

9 Is that your understanding?

10 A. Yes.

11 Q. Okay. Now, the 414 number that is circled there,
12 under Centromín Perú, PM10 fugitives, what was the source
13 of that number?

14 A. The source of that number is the SX-EW Report.
15 If you want to hear that, this is the source of that.

16 Q. Well, I'm looking at the SX-EW Report right now.
17 That's where the number exists, and I'm asking you to tell
18 me what is the source of it? How was it calculated? Where
19 does it come from?

20 A. The whole reasoning behind is in their Report.

21 Q. But you cited this table. You relied on this
22 table. They're not here. I'm asking you.

23 A. Because there is nothing else. How can you -- if
24 I see fugitives from -- I have done many calculations with
25 other assumptions, and I always find a factor that is

1 bigger than 1. If you find a factor lower than 1 for the
2 fugitives, I would be very surprised, and I would like to
3 see it.

4 Q. Okay. I'm going to try my question one more
5 time.

6 The number 414, under the heading "Centromín Perú
7 and PM10 fugitives," can you tell me or the Tribunal how
8 that number is derived, calculated, sourced?

9 Where does it come from?

10 A. I have cited this in my First Report and I have
11 said in the Second Report. I will not go in that direction
12 anymore, and this is what I already told you more than 10
13 times now.

14 Q. So, I guess, what you've told me more than 10
15 times now is that you can't explain something you relied
16 upon in your Report to establish that Doe Run Perú
17 emissions were 55 percent higher than Centromín's? You
18 can't explain it?

19 A. I can explain that, from the different estimates
20 that are circling around for fugitives, which are much
21 higher than McVehil Monette than -- much higher than the
22 ones that were estimated by Mr. Vanberg. This is the
23 number that comes out.

24 Q. One more time. Is the 414 number, is it
25 calculated by Doe Run Perú? Is it calculated by MEM? Is

1 it calculated by McVehil Monette?

2 A. It is calculated by SX-EW, who was appointed by
3 the insolvency bankruptcy -- not insolvency, but
4 bankruptcy.

5 Q. Okay. That's helpful.

6 A. That's what they calculated.

7 Q. Okay. Thank you. And how did they calculate it?

8 A. They calculated it referring to other operations,
9 lead operations, to Herculeanum operations because they
10 were interested in PM10 fugitives and not in the total
11 amount of -- if you have a number of lead losses that you
12 cannot explain, and they had -- a part of it is fugitive
13 dust, and a part of that fugitive dust is PM10 dust. And
14 they used the factor there that they apparently derives
15 from a document that is also described there to get to that
16 number. I cannot check if -- no, I cannot check. If the
17 information that DRP has in the Glover Smelter and
18 Herculeanum Smelter that is used to have a good idea about
19 it -- how can I check this number? Because the number is
20 from DRP.

21 Q. Okay. I'm not asking you to check the number.
22 I'm asking you to check the methodology. I'm asking you to
23 explain the methodology.

24 These are numbers that you are relying on, and I
25 think you owe the Tribunal an explanation of how they were

1 calculated. You can't rely on something if you can't tell
2 someone how you calculated it.

3 A. I have explained, in my Paragraph 227, there is
4 no need to model equivalent lead emissions, which was an
5 extra step that SX-EW took for its own purposes unrelated
6 to the Arbitration.

7 This is what is there. So why should I keep on
8 telling you again -- because I have been seeing this
9 two years ago now, and I said I will not -- I will go for
10 what is emitted at the source, and I know what is emitted
11 at the source. If this is more --

12 Q. Okay. The reason --

13 (Overlapping speakers.)

14 A. -- you're doing worse. And that's enough.

15 Q. Okay and the reason I think you should be telling
16 me about it is because I think it contradicts your Opinion.

17 A. Why? Why?

18 Q. I'll show you.

19 A. You'll show me?

20 Q. Yeah. So I asked you, I think, a couple times
21 whether you had reviewed other document in the record to
22 give yourself certainty that these numbers were accurate;
23 right?

24 And I think you said you didn't; is that right?

25 A. No, I didn't.

1 Q. Okay.

2 A. I didn't need to because I didn't want to.

3 Q. Right. And I think you said that if you
4 initially thought or you initially said that the fugitives
5 number should have come from a number that Doe Run Perú
6 reported to MEM; right?

7 A. Not the fugitives. Yeah.

8 Q. Okay.

9 A. The fugitives -- also not that fugitives.

10 Q. Well, a number that Doe Run Perú reported to MEM.
11 That's where you said it should be sourced?

12 A. Yes.

13 Q. Okay. So I'm going to ask --

14 A. As long as that number is right. Okay.

15 Q. Yeah, well -- I'd like to bring up Slide 22,
16 please.

17 So this is the 2005 Doe Run Perú request for an
18 extension.

19 Have you reviewed this document?

20 A. Absolutely.

21 Q. Okay. And you see here that what I'm showing you
22 is Table 5.1-1. It is entitled "Reduction of lead in
23 fugitive emissions."

24 Do you see that?

25 A. I see that.

1 Q. And you see that in 2002, Doe Run Perú has
2 reported to MEM fugitive emissions of less than 1 ton/day.

3 Do you see that?

4 A. I've seen it. This is at, but...

5 Q. Okay. And throughout the entire period -- and
6 some of these are projected numbers -- they are less than 1
7 ton/day.

8 Do you see that?

9 (Interruption.)

10 A. I see that. And I'm happy that you show me this
11 table because I have done some, but I will not give them
12 now.

13 Q. Okay. And then if we could bring up Slide 23.

14 So this is also a submission to MEM from DRP from
15 February 17 of 2004.

16 Have you seen this document?

17 A. More than 100 times.

18 Q. Okay. 101.

19 This is a cutout. It is a table of emissions,
20 and at the bottom column you can see it's highlighted. It
21 says "Total Fugitive Emissions, 374"; correct?

22 A. Yes. Correct.

23 Q. And that's tons per year; correct?

24 A. Yes.

25 Q. Okay.

1 A. Estimate.

2 Q. All right. So that is half. Both of these
3 documents show that Doe Run Perú's reported fugitive
4 emissions were half of what SX-EW incorporated in its
5 model?

6 A. Absolutely.

7 Q. Okay. You didn't consider this data when you
8 assessed the validity of the SX-EW conclusion, did you?

9 A. I don't understand. I know this table very well,
10 and this number at 374, and I cannot assess this data as
11 only to find out that the lead to this ratio, especially
12 the copper plant is much underestimated because they had
13 used figures from U.S. -- what I have documents, and these
14 are not plans with high lead content.

15 Q. Okay. Now, can we go back to the slide Table 15,
16 please. Do we have --

17 (Comments off microphone.)

18 Q. So --

19 A. I noticed that they use higher numbers.

20 Q. Correct.

21 A. Yes.

22 Q. So --

23 A. And they are the advisors of the DRP.

24 Q. And so this number that we're looking at here,
25 the first one is 3.7, air quality, and that's McVehil

1 Monette, Doe Run Perú, and the second number that is
2 circled is 2., 1 and that's air quality for Centromín.

3 Do you see these numbers?

4 A. Yes, I see the numbers.

5 Q. Okay. Can you tell me what is the source of the
6 3.7 number for Doe Run Perú?

7 A. This should be the -- this is the air quality
8 measurement from the end of 2002.

9 Q. Is it a monitored air quality measurement?

10 A. It's a monitored air quality measurement.

11 Q. What is the 2.1 number?

12 A. I have to look. I don't know exactly. There are
13 only two measurements there.

14 Q. Yeah.

15 A. Okay.

16 Q. I mean, it says it on the slide. So that is the
17 average annual air quality during Centromín's operations?

18 A. Yes.

19 Q. From 1995 to '97; right?

20 A. Yes. There were only two measurements there.

21 Q. Okay. So next slide, please. Now, before you
22 told me that the 414 was a reported number.

23 It's not a reported number, is it?

24 A. No, 414 is not a reported number.

25 Q. It's not a reported number?

1 A. No. Never. And also the 730 is not a reported
2 number.

3 Q. All right. And you didn't know how SX-EW
4 calculated 414; right?

5 A. I have been reading this two years ago, and
6 I -- I think I know this is one of the Reports of SX-EW
7 where they talk about the effect of -- basically the effect
8 of putting more lead in the circuit.

9 Q. Yeah. What they actually did was they made an
10 assumption about chimney emissions, stack emissions. They
11 added total emissions, and then they ascribed an air
12 quality number to both Doe Run Perú and Centromín; right?

13 A. They did not invent a chimney number.

14 Q. I didn't say "invent." So I apologize if that's
15 what you heard.

16 Then what they did is they created what they
17 called a "reduction factor" -- right? -- by dividing the
18 air quality numbers to capture the difference between the
19 two?

20 A. Yes.

21 Q. Right. And then they applied that reduction
22 factor to Centromín's stack emissions; right?

23 A. Yes.

24 Q. And that is how they derived the estimate of PM10
25 fugitive emissions, which is 414?

1 A. Yes.

2 Q. Okay.

3 A. But that can be right. It is right.

4 Q. Yeah.

5 A. But you cannot relate fugitives with stack
6 emissions if things change.

7 Q. Yeah. Okay.

8 A. Okay.

9 Q. Okay. So next slide, please.

10 I'm sorry, if I misspoke. It was -- you apply
11 the reduction factor to Doe Run Perú's estimated fugitives
12 to reach the 414.

13 Next slide, please.

14 Next slide, please.

15 Next slide, please.

16 Okay. So we have seen -- I think I just showed
17 you two documents -- post-McVehil Monette where Doe Run
18 Perú reported fugitive emissions of less than 1 ton/day to
19 the MEM.

20 Do you recall those documents that I showed you?

21 A. Yeah. I know those documents.

22 Q. Yeah. Okay. And so this is the calculation of
23 how McVehil Monette calculated the 3.7 air quality number
24 for Doe Run Perú.

25 Do you see that?

1 A. Reported?

2 Q. Calculated?

3 A. Calculated.

4 Q. Right. So McVehil Monette didn't use air
5 monitoring data, as you suggested, to ascribe an air
6 quality value for the purposes of this document. They
7 calculated it based on some calculations they came up with.

8 Did you understand that?

9 A. I understand everything.

10 Q. Really?

11 A. Yes.

12 Q. Good for you.

13 A. But what I also understand is that, whatever you
14 do about fugitives, it is always based -- also your
15 reasoning is based on estimated fugitive emissions from Doe
16 Run Perú without any measurement, 10 years' long.

17 Q. Yep.

18 A. I will discuss the table later hopefully.

19 Q. Yeah. So what we see here is what McVehil did
20 was, they derived a concentration from lead -- from main
21 stack emissions and a different concentration for fugitive
22 emissions.

23 You with me?

24 A. Yeah.

25 Q. So for the main stack they assumed it was 3.2,

1 and they multiplied by that -- excuse me. They multiplied
2 that by the number of lead emissions per day, and that's
3 how they got .4.

4 Do you see that?

5 A. Yes, I see that. What I see is that below -- and
6 I didn't have this document -- it was 3.3 divide by .4, and
7 if my calculation is right, this is the factor 8. And now
8 they corrected it, some document to come to a factor 4. It
9 is still highly above 1.

10 Q. I would really, really, appreciate if you would
11 follow my questions instead of going off on tangents.

12 A. I will follow your questions.

13 Q. So you'll see there that there is under the main
14 stack calculation, there's a concentration calculation for
15 fugitives; right? And apologies if the crossing out
16 creates a problem, but it shows that they are ascribing of
17 1.65, and they originally multiplied that by the estimate
18 of 2 tons/day of fugitive emissions; right?

19 A. Yes.

20 Q. Okay. And they got 3.3; right?

21 A. Yes.

22 Q. And they added 3.3 to .4, to get 3.7?

23 A. Yes.

24 Q. Okay. So we now understand it wasn't based on
25 monitoring data; right?

1 A. Yes.

2 Q. Okay. And I showed you documents which indicated
3 that that fugitive emissions estimate was quite high and
4 possibly wrong, and, in fact, it is half of that. Those
5 were the data reported to the MEM by DRP.

6 You saw that; yes?

7 A. I saw that.

8 Q. Okay. And now if I change this model to the
9 reported number, the concentration decreases because now it
10 is only 1.65 times 1.0.

11 Do you see that?

12 A. Yes, I see that.

13 Q. And the total when I add 1.65 to .4, I get 2.05;
14 right?

15 A. Yes.

16 Q. Okay. And let's go to the next slide. Okay.

17 Do we have the model? Could we put up the model?

18 Yeah. So what I've done here, I've recreated the
19 SX-EW model exactly as we just described using the same
20 numbers, using the same reduction factor, and, as you can
21 see, he arrives at exactly the same conclusion as in SX-EW,
22 a 55 percent increase in total emissions.

23 Do you see that?

24 A. I see that. Yeah.

25 Q. Okay. So I'll just run you through the numbers;

1 right? The 474 is the same number we saw in Table 15;
2 right?

3 A. Umm-hmm.

4 Q. And the 59.31 is that number divided by 8?

5 A. Yes.

6 Q. Okay. Same thing with Centromín; the 757 was the
7 number we saw in Table 15; right?

8 A. Yes.

9 Q. 94.63, just divided 757 divided by 8; right?

10 A. Yes.

11 Q. The PM10 fugitives for Doe Run Perú, 730. That
12 was in the original Table 15; correct?

13 730 was the estimate of fugitive emissions based
14 on 2 tons/day?

15 A. From McVehil and Monette?

16 Q. Yes.

17 A. Yes.

18 Q. And totals emission number is just math adding
19 those two columns?

20 A. Yes.

21 Q. And then we have done the same thing. We have
22 applied -- if you look at 414 number under Centromín for
23 fugitives, that is 730 times the reduction factor that we
24 discussed earlier, which is represented there below, .567.

25 A. Yes.

1 Q. Okay. So let's use the numbers that were
2 actually reported.

3 If you could put in a correct PM10 fugitives
4 number, and if you change the air quality number
5 accordingly to 2.05 as we discussed. So you see here, when
6 we use reported numbers, we actually reached the conclusion
7 that Doe Run Perú's emissions decreased almost 10 percent
8 relative to Centromín.

9 Do you see that?

10 A. Yes, I see that, but it is all based on estimates
11 that nobody can check. And you say they are reported, but
12 how are they measured?

13 Q. Yeah.

14 A. If you see how arithmetically they
15 increased -- okay. I will stop.

16 Q. Well, you are the --

17 MS. GEHRING FLORES: Could you -- Tribunal, could
18 the Witness -- could the Expert please finish his answer?
19 We have been very generous with Claimants' Experts. Our
20 Expert was trying to finish.

21 MR. WEISS: I will, Mrs. Flores, but I would note
22 that I've been very generous when he's stepping on my
23 questions too. This is a two-sided problem that I will try
24 to fix.

25 MS. GEHRING FLORES: Mr. President, can the

1 Expert finish his explanation?

2 PRESIDENT SIMMA: Yes. Mr. Dobbelaere, can you
3 finish your explanation of this point?

4 THE WITNESS: Yes. I have -- before issuing my
5 Second Report, I have also been playing with all these
6 numbers, but, I mean, you can prove whatever you want
7 because it is all based on estimates on fugitives, and I
8 stopped it, and then I said: "Okay. I don't want to go
9 into this discussion," and now you're discussing this in
10 one hour.

11 BY MR. WEISS:

12 Q. Okay. I guess, Mr. Dobbelaere, that is exactly
13 my point. You offered this to convince this Tribunal that
14 Doe Run Perú's fugitive emissions went up 55 percent, and
15 now you're telling everyone it is all just fudging numbers
16 that you cannot rely on.

17 Is that what you're telling us?

18 A. I'm telling you that you prove whatever you want
19 if your estimates are -- what I know is these 365 tons of
20 estimates are just an estimate from a time that, for some
21 reason, Doe Run Perú has turned into 50 percent of what
22 McVehil Monette, a professional company, was estimating.

23 So I'm asking the question, where and what? And
24 I find fugitive emissions from the copper plant largely
25 underestimated because if you look at how much SO2 was

1 emitted by the copper plant -- and there is no doubt about
2 it. You saw it every day -- and you look at the gases of
3 these copper -- of these copper plants, and there are other
4 data that tell you about the lead-to-SO2 relationship
5 between this data. You come to different numbers, much
6 higher numbers, and you do your exercise again, and you,
7 again, find an increase.

8 Q. Yeah. That is exactly my point.

9 A. But I would say -- I don't go into this thing
10 anymore because I say, if you emit more at the source, you
11 have -- and you don't do anything at your installation,
12 which you didn't, which DRP didn't -- sorry, you
13 didn't -- DRP didn't, how can it be that your fugitives
14 went down? And the effect of the fugitive is much larger
15 and, Factor 8, what is the effect of the fugitives related
16 to the Main Stack here? You cannot say they are less. You
17 cannot say that are less.

18 Q. Yeah. Right. I hear you, and I understand your
19 Opinion. And I understand that ultimately
20 your Opinion -- ultimately, to believe the whole tangent
21 you just went on, we have to accept that Doe Run Perú did
22 42 Projects, spent \$313 million on emissions control
23 projects that were mandated by the Peruvian Government, but
24 they achieved nothing. So we'll have to -- the Tribunal
25 will have to decide that one.

1 A. I don't -- well --

2 Q. Okay. So let's move on.

3 The other part of SX-EW is the mass balance;
4 right?

5 A. Yes.

6 Q. Okay. And can you tell us, how is the sampling
7 for a mass balance performed? How are the data that go
8 into the mass balance calculations collected?

9 A. Yeah. You tell it by sampling. And
10 then -- first they are sampled, and then you have like
11 from -- first they are sampled.

12 If you have a heap, 1,000 ton of concentrates,
13 somebody goes around it and picks, according to a
14 procedure, a number of scoops. It is mixed. It is then
15 mixed, reduced, until there are -- normally there are three
16 samples, and each sample is then analyzed in the lab.

17 It depends on -- because -- three samples because
18 you want to have a sample for yourself, you want to have a
19 sample for the supplier, and you have a sample for
20 the -- like the arbitrator for, you know. If you have a
21 discussion upon the number you have -- and this is very
22 important -- and the more precious metals you are treating,
23 more importantly this -- but also here, also here the
24 impurities because there is a penalty on the impurities.

25 Q. Yep.

1 A. So the samples and the sampling method and the
2 whole system, according to Mr. Buckley, were not changed.
3 It existed in Centromín and they continued in Centromín.
4 And he was only interested in, at the end of the day:
5 "What is my recovery?" Because that is money. Okay.

6 He was General Manager. It would have been maybe
7 the only thing he was interested in, but what is recovery.
8 But has much more information in that, much more
9 information.

10 Q. Okay. So, again, I'm just trying to understand
11 the actual --

12 (Overlapping speakers.)

13 A. -- if you're a decent company. Sorry.

14 Q. I'm just trying to understand practically how it
15 done by the people on the ground; right?

16 A. Yes. Yes.

17 Q. So if I understand it correctly, there is the
18 input. So there's a concentrate that comes in, and that is
19 weighed, and it is tested -- let me finish. I'm going to
20 finish. It is weighed. It is tested for percentages of
21 various metals --

22 A. Yes.

23 Q. -- and then you have a calculation of how much
24 metal and how much of various things are in that
25 concentrate; right? Step 1.

1 A. Yes.

2 Q. Okay. Step 2 is, it goes through the smelter, it
3 comes out the other side, and then you have a pile of slag;
4 right?

5 A. You have a pile of slag. You have a metal. You
6 have dust in the Cottrell, and you have dust going from the
7 Main Stack, and you have fugitives and water.

8 Q. Got it. Got it. So you know how much metal you
9 have; right? That's easily quantifiable. We know how much
10 comes out of the smelter?

11 A. I think, yes.

12 Q. Okay. And then one of the things somebody has to
13 do is go out to the slag pile and take a sample?

14 A. Also.

15 Q. Right. And not only do they have to take a
16 sample, they have to estimate the size of that slag pile;
17 right?

18 A. They can weigh it.

19 Q. Well, if it's on the ground, can they weigh it?

20 A. They can weigh it with -- depending on how you
21 produce it.

22 Q. Okay.

23 A. You can weigh it. You can measure it. From your
24 sample you have the water content, you have the wet
25 content, the dry content. You can do everything, and a

1 good plant -- I hope DRP was a good plant -- would be
2 interested to know the losses in the slag because this is
3 one of the outputs that is lost.

4 So you should have -- and because slag was
5 granulated, it was much more easy to sample than granulated
6 issue. The slag is caused in water and it gives like fine
7 sand. You can sample it much better than if you have
8 blocks and you have to go around and try to find out what
9 is in the block. It was granulated slag.

10 Q. Do you know what the process was at DRP or at
11 Centromín? You said that sometimes the slag piles are
12 weighed.

13 Do you know if that was the case?

14 A. No. What I know is that there was a whole team,
15 and I -- such a plant. It is in the heart of such a plant.
16 You need a whole team to manage all this, partially on a
17 daily basis and then reporting on a monthly basis, and then
18 inventory. We did it four times a year. Maybe we did it
19 only one time a year, depending, to make corrections. You
20 must make corrections.

21 Q. Okay. But -- so let's assume it isn't weighed.
22 Somebody has to go out to the slag pile and estimate how
23 many tons are in the slag pile; right?

24 A. Yes. There are good ways to do it.

25 Q. I understand. But there is inherent uncertainty

1 in that process?

2 A. I don't know. They have to be transported, so
3 you have a second weighing. You load your truck and you go
4 over weigh-in bridge, if you have one, and you go to the
5 dump. There are many ways to do that very well.

6 Q. Right. But there can be substantial inherent
7 uncertainty?

8 A. There are -- this is statistic, and this is
9 variance, and variances add up, and you can do an analysis,
10 and you know at the end of the day what is your confidence
11 limit.

12 Q. Yeah. And typically what is the margin for error
13 on a mass balance, given all the calculations and estimates
14 that you have to do?

15 A. I checked it. I don't have the document here,
16 but because what I used is -- at the end of the day comes
17 out indeterminate losses before correction and after
18 correction, and I've checked the numbers. And because
19 there were seven or eight data years, you reduce the -- you
20 reduce the mistake, the sum of the mistakes -- the
21 variance. You reduce the variance.

22 And I did at least do the analysis on it, and I
23 have put a confidence level on it because I knew this
24 question would come up. I have to do that.

25 And I have found from the seven years before and

1 the other -- seven years because if you do this-- and
2 there's an important change in your process, you will see
3 it in the data. Yes.

4 Q. Okay. Can we take a look at Slide 30, please.

5 This is from the IGAC, and this is
6 translated -- there is Spanish and English, and I'm going
7 to read it out loud, and this is talking about mass
8 balances.

9 These balance -- "these balances consider an
10 indeterminate category whose quantity reflects sampling
11 inaccuracies, errors in lab analyses, unquantified spills,
12 unquantified waste, among others."

13 Is that your understanding of some of the
14 uncertainties inherent in a mass balance?

15 A. Yes. That is.

16 Q. Okay. And can we go to the next slide, please,
17 31.

18 And you relied on SX-EW, of course, who did a
19 mass balance, and this is what they say about it.

20 "The undetermined losses of lead considered as
21 fugitives include losses that are not transported by air
22 currents outside the Metallurgical Complex, others that do
23 not reach the population, or simply these losses partially
24 have sampling errors, analysis, and errors in the weight
25 estimates in the metallurgical balances."

1 Is that something you read when you considered
2 the validity of the SX-EW Report?

3 A. Yes. I mean, I have done four inventories per
4 year, 20 years long, and I have done monthly mass balances.
5 I know all these things.

6 Q. Okay. Now we talked about indeterminate losses;
7 right? And that is the stuff that isn't accounted for
8 between the inputs and the outputs; right?

9 A. That is why you have a second check and you have
10 a correction at the end of year and you make your
11 inventory.

12 Q. I'm just trying to get an understanding of the
13 term "indeterminate loss."

14 A. Absolutely.

15 Q. Okay. So what I said is correct?

16 A. Yes.

17 Q. Okay. And I think I understand that your Opinion
18 is that some percentage of the indeterminate losses are
19 fugitive emissions?

20 A. Absolutely.

21 Q. Okay. And how does one determine what percentage
22 of indeterminate loss are fugitives?

23 A. That you cannot because you cannot measure. You
24 don't measure.

25 Q. But you have -- you have ascribed some percentage

1 to the indeterminate losses to characterize them as
2 fugitives; right?

3 A. Indeterminate losses are all the losses you don't
4 know because you didn't measure them, and one of them is
5 fugitives.

6 Q. Right.

7 A. Okay.

8 Q. Understood. So that's what I'm getting at, which
9 is, you have 100 indeterminate -- I'm picking a random
10 calculation. You have a 100 indeterminate losses.

11 How many of the indeterminate losses are
12 fugitives, and how do you know that?

13 A. I only know if they increase or decrease from
14 others, from other methods to derive, to say I have an
15 increase here. Okay. I can see that. The indeterminate
16 loss is a check.

17 I increased my lead in the circuit, and
18 systematically I have more losses exactly with the year
19 that I did increase. What is happening there? Now you
20 explain me which other losses can be -- have changed
21 because you changed your operations by 30 percent, and your
22 lead in the copper circuit -- I can explain you later -- by
23 whatever year you compare it can go from, you know,
24 60 percent or more because you have to recycle and
25 everything.

1 Q. Yep.

2 A. And it is very clear that the SO2 emissions have
3 increased. And it's very clear -- it's very clear that the
4 copper converter was a big source of SO2 emissions that was
5 not unabated over the whole period.

6 And it is also very clear that it was a high
7 source of lead fugitives. So these lead fugitives alone
8 there have increased. There is evidence.

9 Now, and these are -- and the proof is -- yeah, I
10 find the evidence in the mass balance because the
11 difference has significantly -- significantly increased.

12 And why would a team from the DRP make a
13 systematic error that was not made by the team before,
14 before -- if Buckley, who was the first present, said, oh,
15 this guy is doing a good job and they continued.

16 Q. Could we look at Slide 32, please.

17 So this is another slide from the SX-EW Report,
18 and you'll notice here that there is both Spanish and
19 English, and SX-EW is suggesting that they would apply a
20 32 percent number to determine what percentage of
21 indeterminate losses were fugitive emissions.

22 Is that your understanding?

23 A. They have done -- I have done the indeterminate
24 balance and checked it off, and they have continued with
25 what is here in 227.

1 Q. Is that what they did? They applied 32 percent?

2 A. Could be. Yep.

3 Q. Did you check that?

4 A. I said that I stopped with this exercise to try
5 to translate a whole bunch of things of -- based on
6 estimates from others, as you do here, and how they travel
7 from a converter to a measurement. How do they travel from
8 a converter to a measurement?

9 Q. Do you agree with SX-EW's conclusion that
10 32 percent of indeterminate losses are fugitive emissions?

11 A. Can be, yes. This is like a number of 800 in
12 Centromín's time.

13 Q. Is that a number-- is that a number that you used
14 in your analysis?

15 A. I did not -- I did do a mass balances and
16 indeterminate losses, and I did not go further to say this
17 is the percentages of fugitive emissions because it's an
18 estimate like another estimate.

19 But if you use consequently 16 percent, which is
20 a reasonable number, you end up for this plant with
21 800 tons/year, and Doe Run says it's 320 tons/year. And
22 there we are.

23 Q. Okay. But, again, in your analysis, did you
24 follow SX-EW's conclusion to determine that 32 percent of
25 the indeterminate losses were fugitive emissions?

1 A. I did not follow that because I did not use that.
2 I did not use that.

3 Q. In your Figure WD-28 -- do you remember that?
4 Can we bring that up?

5 A. Yeah, I can check. Which Report? First one or
6 Second?

7 Q. That's a good question. I think it's the
8 original. We'll put it up. We might not. It is in the
9 slide.

10 Okay. We're going to look for that, but we'll
11 move on to save time.

12 So I asked you about -- maybe we have found it.

13 MS. GEHRING FLORES: I'm sorry, Tribunal, many
14 apologies. Could we just ask for a humanitarian break? I
15 believe -- we already had our coffee break; right? I
16 honestly don't even remember at this point. Okay.

17 PRESIDENT SIMMA: So we have a break of
18 five minutes until 4:35.

19 MS. GEHRING FLORES: All right. Thank you.

20 (Brief recess.)

21 PRESIDENT SIMMA: I suggest we get back to work.
22 Yes, Mr. Weiss, please continue.

23 MR. WEISS: Ready when you are. Thank you very
24 much, Mr. President.

25 BY MR. WEISS:

1 Q. Mr. Dobbelaere, I want to show you some
2 information from the mass balance tables, that I think were
3 used by SX-EW. Okay. And I think you told us,
4 Mr. Dobbelaere, during your presentation that mass can't be
5 created; right? What goes in must come out?

6 A. Yep.

7 Q. Yep. And a mass balance yields a range of data;
8 correct? Sometimes it shows an indeterminate loss, but
9 other times it shows an indeterminate gain; correct?

10 (Interruption.)

11 A. Yes. Yes.

12 Q. Okay. And if I look at this Table here, in the
13 highlighted columns, what we see in all of those columns
14 are indeterminate gains; right?

15 A. Yes.

16 Q. So that would be the opposite of fugitive
17 emissions; right?

18 A. Yes.

19 Q. That means somehow, some way, more metal is being
20 created than was put in; right?

21 A. That I don't know.

22 Q. You don't know?

23 A. No, because -- no.

24 Q. Okay. And this data, which you don't know about,
25 would you rely on this data to reach a conclusion about

1 emissions?

2 A. I would say if I have a plant, copper, that I
3 would be -- I would pay a lot attention on copper and lead
4 and iron. Okay? You can analyze iron, but iron can
5 have -- can be a VO and a VO2 or 3, and that's a different
6 way, and it's depending on your lab. So maybe I would have
7 questions with how your lab is analyzing iron, and I would
8 be very pleased if I have a negative number on silver.

9 Q. Okay.

10 A. Because you're negotiating well.

11 Q. But you understand that these mass balance
12 calculations and the samples, they come from the same
13 concentrates. They come from the same slag piles, because
14 of those concentrates and those slag piles include all
15 these metals; right?

16 A. Yes.

17 Q. Right. So when we're seeing negative numbers
18 here that show a magical gain of iron, that is the same
19 process that you are relying upon to tell us that there was
20 a massive increase in fugitive emissions?

21 A. But can you please look at the total balance?

22 Q. Yeah.

23 A. You just pick out the copper circuit.

24 Q. I am picking out the results --

25 A. The lead circuit, you only pick out one circuit.

1 Q. Yeah. Well, I am showing you, as an example,
2 that mass balances can result in indeterminate losses, and
3 they can result in indeterminate gains, and that says to me
4 that this data is very unreliable. Would you agree?

5 A. I -- no. No. I don't know. No, I don't agree
6 because you have to look at the total mass balance. You
7 have a complex circuit. You take the total mass balance of
8 the Plant, and then you look at it, because you can't
9 have -- you have intermediate products that go from the one
10 to the other, and you don't sample -- if you have a
11 transfer from the lead circuit to the copper circuit,
12 because there's copper inside, there's also lead inside.

13 There will also be iron inside. You will not
14 sample that on a daily basis. And you're interested in
15 copper and lead, because Mr. Buckley is interested in how
16 much lead do I recover. You have to do that very accurate.

17 And I'm looking at lead in this study, and I
18 prefer to look at the whole first, the whole -- and, I
19 mean, I didn't even use the Table 22B because I'm not
20 interested in these numbers here. I'm interested in the
21 "pérdidas indeterminate" -- and I don't even -- I calculate
22 them myself because they are the result of all the rest.
23 This is calculate -- I never used Annex 22B. I don't use
24 that.

25 Q. Yeah. I understand that. But as I said, before

1 these numbers are derived using the exact same mass balance
2 process that is used to determine lead losses or gains;
3 right?

4 A. Yes. Please, then look at the data with what I
5 base my analysis upon, and then look at this data, and look
6 if there are inconsistent numbers.

7 Q. Yeah. And what I am asking you is, would you
8 ever rely on a negative number showing that the smelter
9 magically gained iron from a mass balance?

10 A. I will check, and if I would use this Table, I
11 would check. But I didn't use it, this Table here. This
12 is result of a calculation.

13 Q. Okay.

14 A. And iron is one of the elements that it depends
15 very much on how you analyze it in the lab, and you have to
16 check the sum of the elements. But you cannot check the
17 sum of the elements because some are oxides, most of them,
18 like iron is an oxide; so...

19 Q. Okay.

20 A. I didn't use this Table. And please look at the
21 basic data that we used, and from which we determined the
22 indeterminate losses.

23 Q. Thank you.

24 A. And if you see that DRP makes 2,000 ton of copper
25 slag consistently over seven years, I mean, where would you

1 doubt them?

2 Q. Okay. Let's look at --

3 A. It's the number of measures -- measurements you
4 take that determine the accuracy.

5 Q. I understand. But that -- what I'm saying -- and
6 you can disagree with me -- is that the entire process that
7 you're describing on as the basis for your Opinion yields
8 absurd, illogical results that don't exist in the real
9 world, yet you want us all to believe that your Opinion is
10 well-founded?

11 A. Every mass balance has bowing and can have gains
12 and losses. Here, the negative numbers are gains. Most of
13 the time, it's because you are not really interested in
14 these numbers, and your lab doesn't pay the attention it
15 should have, like or -- like bismuth, if I have a gain of
16 bismuth, that's a pity, because then I have to -- this
17 means that in the Plant, I took more bismuth. Or I had
18 more bismuth, and I assayed at the beginning.

19 So it's just the lab. You have to know the lab
20 is interested in copper and in lead, and in gold and
21 silver, gold and silver gives gains, but that is because
22 they negotiated well, or because they say you have -- you
23 know, gold is kilograms. The rest is tonnage. Of course,
24 it is less accurate to -- so it's not serious to put
25 numbers that are here in kilograms to say, oh, I have

1 16 ton -- no, 16 kilogram of silver out of 800 -- what is
2 the base? 800,000 ton. Now, here is 235,000 ton.

3 Q. Is it serious to rely on a number that tells me
4 that I've created more metal than I put into the circuit?

5 A. I never relied on a number that was negative,
6 because I analyzed lead.

7 Q. But you relied on a process that yielded that
8 exact result?

9 A. But that process is not the same for every
10 element.

11 Q. Really?

12 A. No.

13 Q. Sure about that?

14 A. No, it's depending on the accuracy of your lab.
15 I am not interested in a loss of -- if I have -- or here a
16 gain of thousand ton of iron, because the way I analyze it,
17 as I say, iron can have its every 2 or every 3, and that
18 determines how accurate, because you cannot -- you can do
19 that, but how expensive your lab should be. This just
20 tells me that they didn't put attention into -- to know how
21 much iron did I exactly have. Why would they be
22 interested.

23 Q. Okay. But you want us all to assume that they
24 did pay the attention they needed to pay for lead?

25 A. Absolutely, because it's their recovery, it's

1 their business.

2 Q. Okay.

3 A. Lead and copper.

4 Q. Not a precious metal?

5 A. Also the precious metal, but the precious metal
6 here, lead is in tons. Precious metals are in kilograms,
7 from the same heap. Yep.

8 Q. Same samples?

9 A. Same samples.

10 Q. Same estimations?

11 A. Yes. What would they put in, you have free
12 copper -- you have free gold, like, if you have a
13 concentrate, you can have 10 ppm free gold, just free gold
14 for you. This tells me that they had some free gold. This
15 is gold that was not measured at the input because it's so
16 low, but it's still there. And the balance takes, oh, I
17 have some gold here. I weigh my gold, I have 50 kilogram
18 of gold per year in the copper circuit, 50 kilogram.

19 And, I take it out of 235,000-kilogram. That's
20 just free gold; so the precious metals, of course, I'm very
21 happy. I would be very happy, as Buckley, to say, I
22 recover more gold than I have paid my client. That's what
23 the number says.

24 Q. Right. And if that happened, it would be because
25 your measurement of the gold in the concentrate when you

1 brought it in was unreliable; right?

2 A. No. It was not unreliable. If you have lower
3 than 10 ppm, you will not even -- it will be so difficult
4 to measure, and it's free gold.

5 Q. And these are iron, not gold; right?

6 A. Iron. You're not interested in iron. I say here
7 it's copper. You don't see? Which numbers are here?
8 Positive. Copper, lead, sulfur.

9 Q. Okay. Can we pull up WD-130, PDF Page 74.
10 WD-30. Sorry. Is that what I said?

11 A. Yes.

12 Q. And before, Mr. Dobbelaere, I was showing you the
13 SX-EW Report, and I was showing you some screen shots on
14 the Slides of Annexes, and I was asking you if you had
15 reviewed those Annexes. And I promised I would put up some
16 of the information.

17 A. These are all the losses of lead in the lead
18 slag.

19 Q. This data that is highlighted here --

20 A. Yes.

21 Q. -- where is the support for this data, the raw
22 data behind it?

23 A. I do not use the -- I do not use any summary
24 here. I use the data, the raw data, on top of it. So I do
25 per year as (in Spanish), I lose here 4,656.4, and that's

1 okay for me.

2 Q. Yeah. No, I understand that you use that data.
3 I asked you about those Annexes, and I asked you because
4 they contain data that, as far as I know, you didn't have.

5 A. No. I had the result, and they said, you do a
6 monthly analysis, you add it up, and then you do inventory,
7 and then you have like this "diferencia al cierra de
8 stock," which is logical.

9 Q. Yeah. But the information that I've
10 highlighted --

11 A. Yeah, "diferencia al cierra de stock."

12 Q. No, "producción planta de" -- I can't even read
13 what that says.

14 A. Yes.

15 Q. First highlighted one.

16 A. Yes.

17 Q. Did you have the raw data that is reflected in
18 those following lines?

19 A. No, and how important is "es punto de cadmio," .1
20 in my mass balance of lead, going about 8,000 tons per
21 year. I don't know, this is the lead circuit, which is
22 about 100,000 tons per year.

23 Q. Okay. So --

24 A. Why should -- and I have to accept "diferencia al
25 cierra de stock." This is a number. This is a number

1 of -- if you make a balance, the whole -- I mean, all your
2 managers are involved, and they have on that -- you have to
3 make it clear-cut, and they have to reweigh things, write
4 everything down, they come to the office, and they say this
5 is what we find. And then they make a correction.

6 Q. Right.

7 A. At the end of the year -- and this, I mean --

8 Q. I'm asking you a different question. I think you
9 told us that you relied on the raw data, and I believe that
10 the raw data is in the Annexes. If I'm wrong you can tell
11 me, and I also believe that you didn't have certain of the
12 annexes.

13 A. I had all the annexes I need and the raw data to
14 make the balance.

15 Q. Okay.

16 A. And this is, for the most important thing, for
17 the copper circuit, I think this is the annex. It's
18 one -- it's always 1A or 2A from my Exhibit 008, and for
19 the losses I took the 30. It's in the -- it's different
20 documents.

21 Q. Okay. But this is just one example of data that
22 you do not have, so I just don't -- do you even know the
23 extent of the data that you did not have?

24 A. I mean, I have -- you do an analysis with and
25 without these corrections, and you see that, in both cases,

1 I've done both, and I explain it in my Second Report. The
2 monthly correction -- the monthly analysis and then the
3 corrections at the end of the year, which were made by
4 their professionals, and this were these data which
5 explained the corrections. And that's enough because both
6 of them show an increase of more than 2 -- more than
7 doubling of the lead. That's what they show.

8 Q. So you wouldn't want to check their reporting of
9 the data before giving your Opinion?

10 A. If they were important, yes.

11 Q. Okay.

12 A. But they are not available.

13 Q. But I showed you --

14 A. I would not know where they are available. You
15 had more SX-EW reports than I have.

16 Q. Did you ask Perú for the annexes?

17 A. Which annexes?

18 Q. The ones that I represented that you don't have.

19 A. I have, I think -- I have all the raw data here,
20 and this was okay to do the monthly mass balances, and then
21 I had the data for the corrections in the table which I
22 exhibit, which I showed.

23 Q. Okay.

24 A. And I showed that this data are not showing
25 different conclusions, a little bit different numbers.

1 Q. Right.

2 A. That's what I did.

3 Q. I understand. I understand.

4 A. So why would I have to check that?

5 Q. I'm just saying, you understand that this data,
6 represented in the SX-EW Report, is based on raw data that
7 was reviewed by SX-EW that is in the annexes.

8 Is that your understanding?

9 A. I don't -- my understanding is not that they were
10 reviewed. My understanding is this was -- that it was
11 written, that they went to the offices of Doe Run Perú, in
12 Perú, in Lima, and that they have done a cross-check with
13 the responsible persons there to see that the data are
14 okay, consistent, and, eventual, take out flaws.

15 Q. Okay.

16 A. That's what's written there.

17 Q. Yeah.

18 A. Now, I could fly to Perú to find these people,
19 but I probably would not have found them. I have to rely
20 on data which are coming from the metallurgical office from
21 Doe Run Perú. It's the best available.

22 Q. Sorry. You knew that there was additional data
23 because you had the annexes; right?

24 A. Which annexes? I have more documents with
25 annexes. So I want to know. Show me the annex you mean.

1 Q. I'll show you the annexes. SX-EW, at the end of
2 the copy that is attached to your Report.

3 A. Yeah. You have the annexes with the small
4 columns.

5 Q. Correct.

6 A. Yes. And these columns I checked to see the
7 difference between the Data A and the Data B.

8 Q. Right.

9 A. Which are in two tables -- two numbers beside
10 each other.

11 Q. We'll show you the slide. We'll show you what I
12 mean so we're on the same page.

13 A. Okay.

14 Q. So this is from the SX-EW Report, and these are
15 the annexes that I am referring to. There's a whole list.
16 I think there's five pages of reports that are referenced
17 in the Annex.

18 A. Yes.

19 Q. Okay. And have you seen these annexes before?

20 A. They are in my Report. Yes, WD.

21 Q. Right.

22 A. And they are different small tables.

23 Q. Did you review the annexes in connection with
24 your review of the SX-EW Report?

25 A. I think I checked between A and B to see if that

1 fit.

2 Q. I'm sorry. What is it? A and B?

3 A. There is -- I have to see. In my second -- I
4 think, my Second Report, there is a table. It's
5 figure -- Table 2. It's Figure H on Page 52.

6 Q. Okay. So --

7 A. And this gave two data (in Spanish), and there
8 are difference between these two data, but the average of
9 the whole is 11,195, and 11,574.

10 Q. Okay. But, again, I'm sorry, these annexes were
11 attached to the version of the SX-EW Report that you
12 reviewed; correct?

13 A. I think so, yes.

14 Q. Okay. And did you have the data that is
15 reflected in these annexes?

16 A. I only had the data that are in this Report.

17 Q. So if it's referenced in an annex, you did not
18 have it?

19 A. If it's -- if it was not in the Report, I did not
20 have it.

21 Q. Okay.

22 A. And I don't know why it would be important for my
23 analysis.

24 Q. Well, I think you told us that you reviewed the
25 raw data, and it's my understanding that this is the raw

1 data.

2 Is that your understanding?

3 A. The raw data are the annexes.

4 Q. Okay. Thank you.

5 A. So I can say, if it's WD-030, then there is like
6 a Table 10 for the slag of the copper Plant, and these are
7 the raw data.

8 Q. Okay.

9 A. These are balances.

10 Q. Mr. Dobbelaere, I want to look at the PAMA, C-90.
11 I think, probably, about Page 84.

12 A. Yes.

13 Q. So these are pages of the PAMA, and we can scroll
14 through them. And so, I want you to tell me if I'm correct
15 about what I'm reading here. So first of all, is it your
16 understanding that it was Centromín who prepared the PAMA?

17 A. Yes.

18 Q. So Doe Run didn't write the PAPA; right?

19 (Interruption.)

20 Q. Doe Run Perú did not write the original PAMA?

21 A. As far as I understand, no, they didn't.

22 Q. Okay. And the PAMA, to the extent it describes
23 the operations of the CMLO, is describing the operations
24 during Centromín's tenure; correct?

25 A. My understanding is that most of the data here

1 are from 1995.

2 Q. So during Centromín's tenure?

3 A. Yes, but not the average over 10 years.

4 Q. I understand. That's not what I'm asking.

5 And, again, to the extent that there are
6 descriptions of the operations and the processes, the PAMA
7 is talking about those processes during Centromín's
8 operation of the CMLO?

9 A. Yes. It could not be helped.

10 Q. So we're looking at Table 4.1.1/1, and it's
11 called "gases, sources, and dust."

12 Do you see that?

13 A. Yes.

14 Q. Okay. And if we look at the bottom, you'll see
15 there's a Number 3, and it says "fugitive emissions." And
16 that is under the heading "emissions source," and, under
17 the "Treatment Equipment" Column, it says "none."

18 Do you see that?

19 A. That's good news. I see that.

20 Q. Well, it's good news that they had no treatment
21 equipment for fugitive emissions?

22 A. Okay. I thought there were no -- that it was
23 written in the other one. Okay. That's the equipment you
24 installed -- that's good that they understood that there
25 was a high need to start that.

1 Q. So they did.

2 Okay. Well, let's scroll down a little further
3 to Pages, maybe, 86 or 87.

4 A. That's a very interesting table.

5 Q. It's all very interesting. We could spend days
6 reading this. Okay. Fugitive emissions. Yeah. There.

7 A. Yes.

8 Q. Okay. So this is a document that we've looked at
9 a handful of times, and, in fact, the President, I think,
10 asked some questions about this, perhaps, of Mr. Neil. So
11 I'm going to tell you what my understanding is of this, and
12 please correct me if I'm wrong. What I understand this to
13 be is Centromín's description of the fugitive emissions
14 sources that it had during the operation of the CMLO.

15 Is that accurate?

16 A. Well, I would say they describe emission of SO2
17 gasses from the roaster plant, this is okay, and this can
18 be seen in audit. And also from the copper roasters and
19 the transfers with the hot cars. And they say -- and this
20 is generalized -- that "there is inadequate ventilation
21 system at the converters which results in fugitive dust and
22 SO2 emissions in the environment during the loading of
23 recirculated cooling materials," but that's -- I think this
24 could have been -- I mean, you know that it's during every
25 loading and every casting. And this is saying that the

1 converters were under-ventilated, the aspirator was much
2 too slow -- much too small, and my understanding is that
3 this has not changed.

4 Q. Okay. I'm going to ask my question again.

5 My understanding of what this reflects is
6 Centromín's description of the fugitive emissions sources
7 that it knew existed during its operations.

8 So, for example, the first one says -- Well, it's
9 supposed to say "fugitive," but it says
10 "figurative" -- "fugitive emission from the copper smelter
11 are produced in the preparation plant as materials are
12 taken outside the area of the collection hood."

13 Do you see that?

14 A. Yes, I see that.

15 Q. Okay. And that means that those emissions were
16 being created during Centromín's time; right?

17 A. All the time. Yes, during Centromín's time also,
18 yeah.

19 Q. And all of these sources -- I don't want to take
20 the time to go through all of them -- that's what all of
21 these are. These are fugitive emission sources during
22 Centromín's operations; correct?

23 A. Yes. Yes.

24 Q. Right. And as we saw above in the table that we
25 looked at first, they had no treatment for any of these

1 fugitive emission sources?

2 A. No.

3 Q. That's not what the table said?

4 A. Yeah. Yeah.

5 Q. I'm sorry?

6 A. They had not.

7 Q. They had none?

8 A. If they say no, they had none. And I didn't see
9 one.

10 Q. Okay. So there were multiple sources of fugitive
11 emissions during Centromín's time?

12 A. Yes.

13 Q. Centromín was doing absolutely nothing to control
14 those fugitive emissions; correct?

15 A. Maybe not, yeah. I don't think so.

16 Q. Okay.

17 A. No, I think they did. Because they have -- if
18 you have seen the Projects, there have been several
19 Projects to address emissions and -- question, if you call
20 it "fugitive" or "stack emissions."

21 Q. So can we go back to the table.

22 A. But this is a very important observation for
23 somebody who buys a plant.

24 Q. We'll get there. We'll get there.

25 So are they wrong when Number 3 says that, for

1 the fugitive emissions, there was no treatment equipment?

2 A. Generally, they are right.

3 Q. They are right.

4 (Interruption.)

5 A. They are right, generally.

6 Q. Okay. Now, if we could go back to the list of
7 fugitive emissions resources. Now, I think we agreed,
8 Mr. Dobbelaere, that these descriptions here were sources
9 of fugitive emissions during Centromín's operations; right?

10 A. Yes.

11 Q. And these are not PAMA Projects to control
12 fugitive emissions; right?

13 A. No.

14 Q. In fact, Centromín --

15 A. I said that these are PAMA Projects to abate.

16 Q. I'm sorry.

17 A. If you go there, with a prior metallurgical
18 background, and you know that you have to abate, you have
19 to reach targets, and you have to reach targets for SO₂,
20 you automatically should know that this is your most
21 important thing to do, is build new technology and new acid
22 plants as the PAMA addressed, and this was apparently not
23 enough.

24 Q. Okay. Could you tell me what project number in
25 the PAMA included a project in the copper smelter to cure

1 the emission sources in the preparation plant as materials
2 are taken outside the area of the collection hood? What
3 number project is that in the PAMA?

4 A. In my understanding, and also in the
5 understanding of Dr. Schoof, as I have understood, and if
6 you allow, you're looking at PM10, and this originates from
7 your smelting operations. And I would put high priority at
8 fumes. It's like smoking, and, when it comes down, it gets
9 a fine dust. And this was addressed by the PAMA Project 1,
10 modernization of these Plants. And well recognized.

11 Q. Okay. Let's try the last one.

12 In blister copper molding retention furnace,
13 combustion and SO2 gases are freely dispersed due to the
14 lack of a collection system.

15 Where -- what number PAMA Project requires Doe
16 Run Perú to do a -- to implement a project to address the
17 blister copper molding retention furnaces? Where is that?
18 What number PAMA Project?

19 A. It's the Modernization Plan 1. There is a
20 new -- there's a new molding machine, and there is an old
21 furnace before you go in, refinery, you have to refine your
22 copper pyrometallurgically to reduce the number of
23 impurities.

24 Q. So you think that this was a required project
25 under PAMA Project 1?

1 A. You see here SO2 gases, and the PAMA asked you to
2 abate 83 percent. From my analysis, even with the copper
3 plants, you never go to 83 percent with the plants
4 that -- which would have finally been installed.

5 Q. Okay.

6 A. So, I mean, there was a lack of attention to
7 capture enough SO2, even with the three acid plant
8 projects. I can prove that.

9 Q. And we're here, of course, because we're
10 comparing Centromín's operations to DRP's operations;
11 right?

12 A. Yeah.

13 Q. So all of those things that we initially
14 characterized as fugitive emissions sources and now you're
15 characterizing a PAMA projects were all things that
16 Centromín had not done during 23 years of its operations;
17 correct?

18 A. Correct. Like all the plants in South America.

19 Q. Okay. Okay. So controlling fugitive lead
20 missions, not a priority for Centromín; right?

21 A. No, not right.

22 Q. Not right. So it's not right even though they
23 identified every fugitive emissions source but did nothing
24 to control it. That meant it was still a priority for
25 them?

1 A. The people who helped them to make the PAMA knew
2 that fugitive emissions were addressed by newer
3 technologies, and you can also see that in the Fluor
4 Daniels study that, although they tried to get below the
5 bar, they still addressed -- talk about fugitive emissions
6 in their study of 1998. So DRP knew well that they had to
7 do that.

8 Q. I am talking about Centromín.

9 A. Yeah. But Centromín --

10 (Overlapping speakers.)

11 Q. I ask you what it was that Centromín did to cure
12 any of these fugitive emissions sources during its
13 operations? What Projects did it implement to control
14 these sources of fugitive emissions?

15 A. It was --

16 Q. Which project? Which one of these things did it
17 do? Point it out to me.

18 A. If you want to abate SO₂, you need an acid plant.

19 Q. And Centromín never built one; right?

20 A. No. No. Everybody knows. That's why they wrote
21 the PAMA and looked for help.

22 Q. Okay.

23 A. I guess.

24 Q. Let's move on.

25 I want to talk about the SO₂ and the SO₂ plants,

1 and we've heard a lot from Perú about this narrative that
2 Doe Run Perú sat on its hands and did nothing to control
3 sulfur dioxide. So I want to dive into that.

4 Can we pull up the 2005 Extension Request, and
5 this is Slide -- we have this on Slide 55.

6 Okay. So as I said, this is from the 2005 PAMA
7 Extension Request, and what you'll see here is the plan of
8 Doe Run Perú to attack the problem of building the Sulfuric
9 Acid Plants, and I will read you from the bottom here: "In
10 1997, DRP deemed it convenient to develop a short-,
11 medium-, and long-term action plan for which it hired the
12 services of the company BHA who assessed the gas and
13 particulate management systems of the smelters' different
14 parts. As a result of the study, various tasks to be
15 performed in the smelter were defined, the most immediate
16 of which was the instrumentation, control, and
17 modernization of the Central Cottrell, a plant for the
18 cleaning of gases and recapturing of dust."

19 And Doe Run Perú did that; right? And that was
20 part of the modernization. Did they do?

21 A. I have an audit to Partelpoeg 2006 saying that
22 Doe Run Perú did not follow the advises made by BHA from an
23 audit in 2001, and he said it in 2006. That's what I know.

24 Second thing is, zinc circuit possesses a plant
25 with 55,000. My understanding is that it is 48,000. It's

1 a small difference because it's not much.

2 Q. Okay. So, once again, did Doe Run Perú address
3 the instrumentation control and modernization of the
4 Central Cottrell?

5 A. They have done this, as they say, and this was
6 ended at least one year after the spectacular drop in lead
7 on Central Cottrell, spectacular drop in lead.

8 Q. So they weren't sitting on their hands because
9 they were engaged in modernization?

10 A. No. Maybe we can look at the graph where you say
11 you have improved Central Cottrell. Lead has dropped
12 tremendously, but PM10 has raised. Maybe that's a good
13 thing to see if this was true.

14 Q. Okay. Now, let's go to the next slide, please.
15 So this slide is also from the Extension Request, and it
16 reflects that Doe Run Perú's plan was to break this up into
17 three stages: Environmental mitigation, conditioning of
18 gases, and then the new Sulfuric Acid Plant.

19 Do you see that?

20 A. Yes. Of course. I see that.

21 Q. So this was a plan they developed earlier on;
22 right? They weren't sitting on their hands.

23 A. This was 2005 and this was after Buckley, and
24 conditioning for gases was -- in one of my slides I've
25 shown that you need 6 percent of SO₂, what they say to go

1 to Sulfuric Acid Plant. And in the first five years,
2 seven years, they tried to go below that bar, to not
3 modernize the lead plant, and they had difficulties to find
4 6 percent on the Sinter Plant. And the Sinter Plant
5 anyway, it left a big amount of sulfur in the sinter, and
6 that goes to the blast-furnace where it is not abated.

7 It only goes to the main stack. So they say they
8 had like 65 percent of the SO2 generated -- SO2 generated
9 by concentrates, not by the concentrates, and then the
10 fluxes together. I think it was 58 percent all together,
11 where the PAMA asked for 83 percent, which means that there
12 was a huge gap to bridge with an acid plant that was never
13 started up.

14 Q. Did you do -- do you even remember my question?

15 A. You asked me if I have read this.

16 Q. No. Not what I asked you.

17 A. No. Then you can -- can you please repeat the
18 question?

19 Q. Well, I would just really ask you to listen to my
20 questions. It is important.

21 A. Yes.

22 Q. I'm asking you about the improvement of the gas
23 cleaning and dust-capturing system known as the Central
24 Cottrell.

25 A. Yes.

1 Q. And the installation of short rotary furnaces,
2 number one, number two, for treating captured dust in the
3 Central Cottrell.

4 A. Yes.

5 Q. DRP completed those Projects; correct?

6 A. They completed those Projects.

7 Q. Okay. Let's talk about the conditioning of gas.
8 Modification of the gas handling system of the sinter
9 machine in the lead circuit, did they complete that
10 project?

11 A. In late 2006.

12 Q. Okay.

13 A. Nearly 2007.

14 Q. Now, let's go to the next slide, please.

15 Now, I think Ms. Gehring Flores asked Mr. Connor
16 a number of questions yesterday whether there was any
17 explanation for a drop in SO2 emissions and whether Doe Run
18 Perú had done anything to reduce SO2 emissions. So I would
19 ask you to take a look at -- could you highlight the -- so
20 I'll ask you to look at the last paragraph, which begins
21 "finally" appropriately. "Finally beginning January 1,
22 2005, the operation of the three Jersey roasters of the
23 zinc circuit was stopped with the subsequent reduction of
24 130 metric tons in SO2 emissions and 1.1 metric ton in
25 particulate matter emitted through the chimney."

1 Do you see that?

2 A. I see that.

3 Q. So they were reducing sulfur dioxide emissions;
4 right?

5 A. Six years later than requested by the PAMA.

6 Q. How do you know when they commenced this Project?

7 A. How do I know when?

8 Q. How do you know when this began? You said they
9 sat on their hands and did nothing. These Projects don't
10 happen overnight, do they?

11 A. The mention of a New Jersey roaster would take
12 one year maximum, and it was reported to be in 2004. And I
13 can -- and how I know that is, if I look at the acid
14 production, you can see when it happens. I don't have it
15 here by hand, but I can show you from the acid production
16 because--

17 Q. Nonetheless, at least as of 2005, they had
18 reduced sulfuric acid emissions by at least 47 tons per
19 year; right? 4,700 tons per year. Right? Centromín
20 didn't do that, did they?

21 A. I didn't understand the number because 470,000 is
22 impossible.

23 Q. 130 metric tons per day times 365.

24 A. That is 30,000.

25 Q. Okay. They did that; right?

1 (Overlapping speakers.)

2 A. -- that I calculate.

3 (Interruption.)

4 Q. Doe Run Perú achieved that reduction in sulfuric
5 acid emissions; correct?

6 A. No. SO2 emissions.

7 Q. Sorry. Excuse me, SO2 emission.

8 A. Yes.

9 Q. They did achieve it, yes?

10 A. Yes. Yes.

11 Q. And that was better than what Centromín was
12 doing; correct?

13 A. That was not, according to the PAMA.

14 Q. That's not what I asked you.

15 Once again, that was better than what Centromín
16 was doing. Centromín wasn't capturing that SO2, were they?

17 A. No.

18 Q. Okay.

19 A. But Centromín put lower sulfur in the circuit
20 then.

21 Q. Okay. Also, do you understand what a thermal
22 inversion is?

23 A. Yes, I do.

24 Q. What is it?

25 A. It's when the temperature from the air makes that

1 you have a downstream air, downward airstream keeping the
2 SO2 in the valley.

3 Q. Right. So what is the effect on SO2 emissions on
4 a thermal inversion?

5 A. Nothing on emissions. On SO2 in air.

6 Q. On SO2 in air?

7 A. Yes. Not on emissions.

8 Q. Forgive me. Right. It doesn't disperse it if
9 there's a thermal inversion; correct?

10 A. Right. It stays longer in the valley.

11 Q. Understood. So you also understand that Doe Run
12 Perú implemented an environmental mitigation plan where
13 they would stop operations during a thermal inversion;
14 correct?

15 A. Yes. I understand that, yes.

16 Q. Yeah. And that would help with exposure to SO2
17 emissions as well; correct?

18 A. That would help with SO2 exposure in that time.

19 Q. Right. And that was a practice actually -- there
20 are weather-related practices that the Umicore smelter in
21 Hoboken implemented as well?

22 A. No.

23 Q. No. Okay.

24 A. We didn't need it.

25 Q. I'm not talking about thermal inversions.

1 A. Okay. Well, I have my Opinion on that.

2 Q. Okay.

3 A. It just means that you produce the same amount as
4 you do in a shorter time, so you put it on another day.
5 Yeah, the total SO2 generated by the plant was higher, and
6 you reduced the number of smelting hours. It is very
7 strange measure, I think.

8 Q. Except that ultimately the question is, not the
9 emissions, but how they affect the people of La Oroya;
10 correct?

11 A. Yes. Yes.

12 Q. If we knew that all the SO2 emissions dispersed,
13 then we wouldn't be concerned about the level of emissions?

14 A. I wouldn't be concerned about the level of
15 emissions.

16 Q. We wouldn't have the same health concerns for the
17 people of La Oroya because it wouldn't be affecting them.

18 A. Mr. Weiss, if you allow me, when we were
19 discussing emission reduction --

20 Q. I understand.

21 A. -- at the level of 800 tons/year, and you were
22 talking about 300 tons -- 300,000 tons/year. Sorry. I
23 come from a different world.

24 Q. Okay. But Perú is the one who has said that Doe
25 Run Perú did nothing to address the sulfuric acid

1 emissions. Perú has said that, but that's not true, and
2 that was point of my question.

3 Now, can we go to the next slide. Go to the next
4 slide. Next.

5 Right.

6 So this is a summary of the preceding Pages;
7 right?

8 So this shows what you Doe Run Perú accomplished
9 in terms of modernization and work towards development of
10 the Sulfuric Acid Plants.

11 So as we talked about before, they completed the
12 installation of a new system of plants and electrodes,
13 automatic voltage controllers with supervision software,
14 PLC analog communication modules, and structural repair
15 works of the pipes at a cost of almost \$2.2 million; is
16 that right?

17 A. The description is right. I did not look at the
18 number. I do not look at numbers here.

19 Q. Okay. But this was part of the modernization
20 that was necessary to complete the Sulfuric Acid Plants as
21 Perú has suggested?

22 A. No.

23 Q. No?

24 A. No.

25 Q. So this had nothing to do with the Sulfuric Acid

1 Plants?

2 A. No.

3 Q. Did have something to do with the circuit and
4 preparing the circuit so that it would be compatible with
5 the Sulfuric Acid Plant?

6 A. No.

7 Q. No. Okay.

8 What about the next project? Short rotary
9 furnaces being added at a cost of almost \$8.6 million? Did
10 they complete that project?

11 A. Yes. This is not an environmental project, and I
12 have explained that in my Second Report.

13 Q. Okay. And we already talked about the New Jersey
14 roaster, so we don't have to go that again.

15 A. Yes, please.

16 Q. But now the conditioning of gases; right? They
17 did a technical feasibility study to optimize and modify
18 the sintering machine, to capture the largest amount of SO₂
19 concentration for production of sulfuric acid.

20 That's true; right?

21 A. Yes, that's true.

22 Q. And that was necessary; right?

23 A. But not enough.

24 Q. Okay. And they completed conceptual
25 engineering --

1 MS. GEHRING FLORES: Sorry. Excuse me. I'm just
2 trying to figure out what this document is. We don't
3 recognize it.

4 MR. WEISS: It's just a summary of the documents
5 that I had just put in front of you. It just -- it
6 excerpts exactly what was reported in the 2005 Extension
7 Request. It is my demonstrative.

8 MS. GEHRING FLORES: Okay. It's a demonstrative.
9 Okay.

10 MR. WEISS: And I'm representing that I pulled
11 the information from the 2005 Extension Request.

12 MS. GEHRING FLORES: Okay. Just for the record,
13 we did not receive any of these documents until we were
14 about an hour into Mr. Dobbelaere's cross-examination.
15 That's why I'm asking these questions --

16 MR. WEISS: Apologies. Understood.

17 MS. GEHRING FLORES: -- because we did not have
18 advance notice of these documents at all.

19 MR. WEISS: Okay.

20 BY MR. WEISS:

21 Q. Next is conditioning of gases. I'm sorry.

22 A. No. No. Go ahead.

23 Q. We talked about the conceptual engineering for
24 the modernization study that was completed for the copper
25 circuit with the purpose of capturing over 80 percent of

1 the sulfur in the copper concentrate. That conceptual
2 engineering was a step towards completion of the Sulfuric
3 Acid Plant. Yes?

4 A. Yes.

5 Q. Okay. And then we talked about the new Sulfuric
6 Acid Plant. They had completed a technical feasibility
7 study for the zinc circuit; right?

8 A. Yes.

9 Q. Okay. And what was in progress, at that time,
10 was detail engineering to replace main equipment with new
11 equipment such as a drying tower, pumping tanks, acid pipes
12 and gas pipelines, as well as the purchase of acid coolers
13 to ensure operational continuity.

14 Do you see that?

15 A. What we call a "revamp".

16 Q. Yeah. And it was in progress; right?

17 A. Yes. I'm not sure that the -- in 2005, that the
18 conceptual engineering for the modernization study was
19 completed for the copper smelter. I'm not sure about that.

20 Q. Okay. Okay. All right. Can we go to -- what
21 Demonstrative we created.

22 (Comments off microphone.)

23 Q. I promise I'm getting close.

24 So this a demonstrative, and what it reflects is
25 some data you've seen in other slides. It reflects, in the

1 gray line, SO2 main-stack emissions during the entire
2 period of operation from 1975 to 2008. It reflects, in the
3 orange line, the total production numbers that Dr. Alegre
4 put together. The dashed line running from top to bottom
5 tells you the transition from Centromín to DRP, and the
6 circles we'll talk about.

7 So do you understand what this slide is showing?

8 A. Yes.

9 Q. Okay. So we've had a lot of discussion about
10 sulfur dioxide and sulfur dioxide emissions, and it is your
11 opinion, as I understand it, that the decrease, which is
12 calculated as 31 percent, which we see from 1999 to 2000 is
13 not valid and the data is not reliable, yes?

14 A. It is not feasible.

15 Q. I understand. So we should not rely on that
16 decrease?

17 A. No.

18 Q. Okay. So the first thing I want to ask you is,
19 we see here on the entire history of Doe Run Perú's
20 operations that SO2 emissions are quite lumpy. There is a
21 lot of ups and a lot of downs; right?

22 A. Yes. Could be. Yeah.

23 Q. And, in particular, of course, we see a decrease
24 from 1989 to 1994, during Centromín's tenure, of
25 25 percent.

1 Do you see that?

2 A. Yes, I see that.

3 Q. Okay. And you also see that, at the same time
4 that the emissions are dropping precipitously during that
5 period, production is increasing during Centromín's tenure;
6 right?

7 A. Yes.

8 Q. Okay. And that doesn't make sense, does it?

9 A. It can make sense.

10 Q. It can. But you told us that as production
11 increases, emissions increase?

12 A. With the same feed in the smelter.

13 Q. Yeah, with the same feed. So I'd like to ask --

14 A. We have to check the feed there, but I know there
15 was a program in that period. I don't know if it started
16 in '99 to reduce the "findantes," and it certainly explains
17 what happened with the -- as soon as you have the
18 reverberatory furnace with oxygen, you can reduce your
19 sulfur because you bring more energy -- you lose more
20 energy because you bring more energy by adding -- by
21 replacing nitrogen, which uses -- consumes energy by
22 oxygen.

23 Q. Do you --

24 A. And I think this is part of this drop there, but
25 I did not look at -- but I know there was a program, what

1 they called -- it was in Spanish, but -- the metallurgical
2 reducing the metallurgical indexes, and this was a program
3 that to do with the use of less findantes, findantes, which
4 is flexus.

5 Q. Okay. But have you measured whether that is the
6 entire reason for 25 percent decrease in sulfur emissions?

7 A. No. No.

8 Q. We don't really know?

9 A. No.

10 Q. Okay. And then, of course, we see -- well, and,
11 of course, before when I asked you about the relationship
12 between production and sulfur emissions, we see -- for
13 example, if you look at 1989, we see a very strong
14 correlation when SO2 emission dropped precipitously.
15 Again, we see that production declined; right?

16 A. Yes.

17 Q. Okay. But then when it continues from there, we
18 see the absolute opposite, we see increase in production
19 but decrease in sulfuric acid? Sorry, sulfur dioxide
20 emissions.

21 A. We should look at the feed, and then take our
22 conclusion.

23 Q. Okay. Now, you have a number of hypotheses as to
24 what might explain the decrease in SO2 emissions between
25 1999 and 2000?

1 A. Yes. Absolutely.

2 Q. Now, have you looked at the increase of
3 57 percent between 1994 and 1998 in sulfuric acid
4 emissions, primarily during Centromín's operation?

5 A. Which data?

6 Q. Look at the line beginning in 1994 and going all
7 way up to 1998. It is in the orange box, and it is
8 reflected as a 57 percent increase.

9 A. I know.

10 Q. Yeah. Did you look at what Centromín was doing
11 over that period to cause such a dramatic increase in SO2
12 emissions?

13 A. What I think and what we -- we have asked for
14 this. I have seen this, of course. I have seen this
15 two years ago, and I think it is up to the lawyers to say
16 what we did.

17 Q. I'm asking you --

18 A. And what we didn't get. We asked to have an
19 explanation for this and for the lead drop and never got
20 it. That is very clear.

21 Q. The increase of 57 percent occurred almost
22 entirely during Centromín's operation. Hold on. I'm not
23 done with my question yet.

24 It occurred almost entirely during Centromín's
25 operation, so if you wanted to know about that, you could

1 have asked your client. Did you?

2 A. I -- no. How could my client answer about
3 measurements on the main stack? Would that be possible?

4 Q. Okay. So you can't explain why sulfur dioxide
5 emissions increased so dramatically during that period of
6 time, '94 to '98?

7 A. I cannot explain it in this, and in this, and in
8 this, these three points are not explainable because they
9 are just not feasible.

10 Q. Okay. So --

11 A. And I can tell you that for the SO2 increase,
12 only the measured data can be flawed from your stack, but
13 if that is the flow rate, then your lead data are
14 absolutely flawed.

15 ARBITRATOR THOMAS: Mr. Weiss, I have to
16 intervene here.

17 You pointed to three points that --

18 (Overlapping Speakers.)

19 (Interruption.)

20 ARBITRATOR THOMAS: You pointed to your screen.

21 (Overlapping Speakers.)

22 (Interruption.)

23 ARBITRATOR THOMAS: And you said, that the data
24 points, the three points are not explainable because they
25 are not just not feasible. We need to know what points on

1 the chart you're actually indicating. Can you please do
2 that.

3 THE WITNESS: Excuse me for interrupting. So
4 1997, which is the last point of Centromín's time and
5 partially from Doe Run's time, because the last reporting
6 was their reporting. 1998 and 1999.

7 And it is just not feasible because you cannot
8 produce 450,000 or 400,000 tons of SO2 if you have
9 put -- if you have put less than 200,000 tons of sulfur in
10 the circuit. It's totally impossible.

11 ARBITRATOR THOMAS: Okay. Thank you.

12 BY MR. WEISS:

13 Q. Okay. So, Mr. Dobbelaere, I'm going to try to
14 make sure I understand what you're saying. I think you
15 were just saying that it's impossible for the sulfur
16 dioxide emissions to have increased that dramatically
17 between 1994 and 1998.

18 A. But it is perfectly impossible that they
19 increased because you put more sulfur in the system.

20 Q. Okay. I'm not sure -- I'm sorry. Maybe we're
21 talking past each other.

22 A. Maybe. Yes.

23 Q. We see a very substantial increase from '94 to
24 '98?

25 A. Yes.

1 Q. So just bear with me.

2 A. Yes. Yes.

3 Q. Bear with me. Do you have an explanation for
4 that increase, or do you think that that increase is wrong,
5 is invalid data?

6 A. I am sure that the SO2 data of these three years
7 are flawed.

8 Q. Okay. Understood perfectly.

9 So if there were no increase, and as you say,
10 there is no decrease; right?

11 A. Not to that extent.

12 Q. Understood. But if there were no increase, there
13 certainly would be no decrease; right? Both --

14 A. Yeah. Yeah.

15 Q. Right. So both the increase and the decrease are
16 not valid, in your opinion?

17 A. Not valid.

18 Q. Okay. It doesn't reflect what actually happened?

19 A. No.

20 Q. Okay. And so, actually, we don't really know,
21 according to what you have just said, what were the SO2
22 emissions at the end of Centromín's tenure and at the
23 beginning of Doe Run Perú's tenure because we don't trust
24 the data on the left side of the line, and we don't trust
25 the data on the right side of the line.

1 A. What we do know is how many sulfur was put in the
2 systems and how many sulfur was fixed into a little bit of
3 acid, a little bit of acid and in the slag of sulfurs.

4 And by subtracting these two, you have perfectly
5 an idea of how many SO2 went into air and the degree of
6 freedom is what went into stack and what went into
7 fugitives. Okay.

8 Q. Okay. So --

9 A. If you then say my stack data are reliable, you
10 can perfectly calculate a fugitive perfectly.

11 Q. But -- I'm sorry. I'm just trying to make sure
12 we're on the same page.

13 A. I want to be --

14 Q. If we agree that the decrease that we see on the
15 right side of the line is invalid, we also agree that the
16 increase that we see on the left side of the line is
17 invalid.

18 Are you with me?

19 A. Yes.

20 Q. Okay.

21 A. I'm not with you. We didn't agree on the fact
22 that there could not have been an increase and a decrease,
23 only not to that extent. That's what we agreed on.

24 Q. Fair enough. Fair enough.

25 But -- so your position, with respect to the left

1 side of the line, is that Centromín was not experiencing
2 that level of SO2 emissions that is reflected here?

3 A. Not in 1997. That is impossible.

4 Q. Okay. And so, I guess, part of the reason that
5 you reject that data as invalid is because you don't have
6 an explanation for it. There is nothing that supports
7 doubt that that would happen; right?

8 A. For the explanation -- for the SO2 there is a
9 clear proof that it is not feasible.

10 Q. I get it. And there is no -- you're saying to us
11 there is no reason why that would happen.

12 A. No. There is no reason why that would happen.

13 Q. I understand.

14 A. It's a flawed measurement or something else.

15 Q. Right. Okay. So if we can't understand it, and
16 we don't have an explanation, we reject it. I'm with you.

17 Okay. So can we pull up Slide 6, please. Okay.
18 I've showed you this slide a couple of times, but I want to
19 focus on something slightly different here. I'm going to
20 look at the air monitoring data on the left side of the
21 line that begins in 1994, '95, and '96.

22 Do you see that?

23 A. Yes.

24 Q. Okay. And so we know that, at this point in
25 time, Centromín's stack emissions were quite high. We can

1 see levels above 800 tons during those years; right?

2 A. Yes.

3 Q. Okay. And we also know that, at this point in
4 time, Centromín was ramping up production every year;
5 right?

6 A. They had installed --

7 Q. I'm just asking about the increase in production.

8 A. Yes. Yes. They had installed oxygen on the --

9 Q. But they were increasing production at the same
10 time; right?

11 A. Yes.

12 Q. And Centromín was also using dirty concentrates;
13 right?

14 A. Not to that extent.

15 Q. But they were using dirty concentrates?

16 A. Such a plant uses -- doesn't live from clean
17 concentrates. That is clear.

18 Q. Yes.

19 A. Yes.

20 Q. Understood.

21 A. Okay.

22 Q. And we also know that from --

23 A. Nothing more to say about.

24 Q. Yeah. We also know from when we looked at the
25 PAMA and we looked at the fugitive emissions sources that

1 Centromín had identified --

2 A. Yes.

3 Q. -- and we looked at the table, looking at the
4 control systems that were in place to capture those
5 fugitives, that Centromín reported that they had none?

6 A. They had none.

7 Q. They had none. Right.

8 So at this point, we're looking at air quality
9 data from '94, '95, and '96, which has no explanation.

10 What is the explanation as to how the air quality
11 data could be that low when stack emissions were incredibly
12 high, fugitive emissions were uncontrolled, there
13 was -- production was increasing, and Centromín was using
14 dirty concentration? How could the air quality be that
15 low? What's the explanation?

16 A. My explanation is mainly the difference in the
17 copper flow sheet because there was -- in these years, '94,
18 '95, '96, there was considerably less lead that would go to
19 the slag, not -- about the same but considerably less
20 input, and I don't know how to explain that here.

21 Q. Well, we see that in 1997 and 1998, that
22 data -- that air quality data increased pretty
23 substantially?

24 A. Yes.

25 Q. Same process was being employed; right?

1 A. We have to look at how much dirty concentrates
2 have been put in the system.

3 Q. No. Right there. The data point, 1997, during
4 Centromín's tenure.

5 A. Yep.

6 Q. Do you see how much higher it is than the
7 reported data in 1996?

8 A. Yes. And what do you mean by this?

9 Q. My question is, if the process that you just
10 hypothesized was responsible for causing those low
11 concentration numbers in '95, '96 -- '94, '95, and '96,
12 what happened in 1997?

13 Wasn't that process still being used?

14 A. Yes. And was it the same feed?

15 Q. I don't know. I'm asking you.

16 We had a big discussion for a long time on the
17 last slide that, if we can't explain data and the data is
18 inconsistent with what we know was going on at the time, we
19 should reject it.

20 Do you remember that discussion?

21 A. Yes.

22 Q. Okay. So should -- I should reject this data?

23 A. I will -- which data?

24 Q. The air quality data for '94, '95, and '96.

25 A. I don't know. What I see that in '97, '98,

1 apparently, the same measurements, they were higher.

2 Q. Sorry?

3 A. Well, for '97 and '98, apparently were the same
4 lead measurements they were higher, but you claim that this
5 was not the same lead air measurements, and I didn't
6 look -- I can look into the system that you used and you
7 reported.

8 Q. I'm not asking you to look into a system I used.
9 I'm asking you to look into a system that Centromín used,
10 and I'm asking you why your Opinion that we should reject
11 data when it is not explicable does not also apply to that
12 data which, by everything we know, is also inexplicable?

13 A. I don't know. I will look into -- I will look
14 into the data, the total inputs that you have done in the
15 system, and also Centromín in 1997, including the European
16 1997.

17 Q. Okay.

18 A. You're running the plant in the last months; it
19 was not that much.

20 Q. Okay.

21 A. But it's a mixed data.

22 Q. Okay. All right.

23 Now we heard Mr. Connor say that his Opinion was,
24 that "as long as your measuring standards and practices, we
25 should look at trends and we should ask the question: Did

1 the Operator leave the Facility better than it found it?"

2 Do you remember that testimony?

3 A. From Mr. --

4 Q. Mr. Connor?

5 A. Yes.

6 Q. Okay. And do you agree or disagree that Doe Run
7 Perú ultimately left the Facility better than when it found
8 it?

9 A. What do you mean by "ultimately"?

10 Q. I mean when they stopped operating. Were
11 conditions better than when they arrived?

12 A. I have looked at when they -- when the PAMA was
13 ready, when the PAMA Period was ready.

14 Q. What do you mean by "ready"? I'm sorry.

15 A. When the PAMA Period was finished. And what I
16 see is that you just kept on going by putting higher amount
17 of lead in the system. DRP kept on going putting a higher
18 amount of lead in the system, higher amounts, considerably
19 higher amounts of lead in the copper circuit.

20 A lot of doubts about the SO₂, not only doubts,
21 also data and promises that the data fugitives would drop
22 in 2011, when the acid plant was ready with the clear proof
23 that the fugitives would only go down after the
24 installation of the acid plant.

25 Q. Okay.

1 A. So how can I say that DRP did better?

2 Q. Okay. Well, that there is substantial drop in
3 the lead concentrations certainly when you get to 2007 and
4 2008; correct?

5 So does that mean that they left it better than
6 they found it?

7 A. That's what the data say.

8 Q. And the blood levels dropped considerably, yes?

9 A. Well, I will not opine on it.

10 Q. If that's true, did they leave it better than
11 then found it?

12 A. I will not opine on air quality and not upon
13 lead-blood data. It is not my assignment so I will not
14 opine on it.

15 Q. Okay. They built two out of three Sulfuric Acid
16 Plants that did not exist during Centromín's time.

17 Did they leave it better than they found it?

18 A. What do you do with an acid plant that is ready
19 at the end of 2008 to say that you did better? It is just
20 standing there. It is just picking up 65 percent,
21 58 percent even, from the requirement, years behind.

22 Q. Okay.

23 A. Let us say.

24 Q. Okay. So can we bring up the Newsweek articles
25 the Newsweek article.

1 Okay. Mr. Dobbelaere?

2 A. Yes.

3 Q. This is an article we've shown a number of times.
4 I wonder if you have ever read it. It's a Newsweek article
5 from 1994 about La Oroya.

6 A. I've been busy more than two years with this,
7 sometimes more, sometimes less. I got every article that
8 appeared and I've seen a lot of articles.

9 Q. Okay. So did you read this one?

10 A. No.

11 Q. Okay. I want to read a couple of quotes to you.

12 A. Maybe, yes, but I read so many.

13 Q. "Dusted with a whitish powder, the barren hills
14 looked like bleached skulls, blacken slag lay in heaps on
15 the roadsides. At La Oroya, Kamp found a dingy cluster of
16 buildings under wheezing smelter smoke stacks. Pipes
17 poking out of the Mantaro River's banks sent raw sewage
18 cascading into the river below. This is a vision from
19 hell."

20 Do you see that?

21 A. I remember having read this from the World Bank
22 and there were similar articles in much later.

23 Q. Okay. And the next paragraph says: "Standing on
24 the banks of the Mantaro River, a six-year-old girl named
25 Ana María doesn't need anybody to tell her that her

1 environment is perilously polluted. Deep coughs shake her
2 body, and she points a stubby finger toward the river's
3 murky depths. 'It's very dirty,' she warns a visitor.
4 'You can't drink it.' The Government says Centromín's
5 environmental legacy will be cleaned up regardless of the
6 cost, but it can't say how or when."

7 Now, this is from 1994; correct? And this,
8 everything that is described in this horrific article,
9 results from what Centromín did over 23 years; correct?

10 A. I've read so many articles, and a lot of them
11 from DRP's period that were not better.

12 Q. So when DRP arrived in La Oroya, it was a vision
13 from hell; correct?

14 Do you agree with that characterization?

15 A. It's not a beautiful picture, but, if I see the
16 smoke from the converters and if I see the nice Netflix
17 presentation from Mr. Connor, I don't see anything
18 happening on the copper converters. Nothing. It's still
19 the same thing that is smoking.

20 Q. Do you think that this article accurately
21 reflects the conditions that one would have found in 1994
22 in La Oroya?

23 A. Could be.

24 Q. Could be. And those conditions were created by
25 Centromín's 23 years of pollution; right? Right?

1 A. I don't know. 23 years.

2 Q. Well, how else did it happen? How else did it
3 happen?

4 A. I mean -- I don't think this is prone to -- for
5 the subject of an Expert Opinion on technology and mass
6 balancing and everything.

7 Q. Except you're here to compare Centromín's
8 standards and practices to Doe Run Perú's, and isn't it
9 relevant to you that, for 23 years, Centromín was polluting
10 rampantly in La Oroya? Don't you think that's relevant to
11 your Opinion?

12 A. I have a problem to -- I have a problem to
13 understand the definition of "less protective," and, if I
14 have a house and I burn wood with a stove, like in Germany,
15 and I have been putting there 20 years dirty wood,
16 anything, and I sell the house, I sell the house with the
17 agreement, then you -- because there's a new law, it says
18 you cannot put this dirty smoke in the air anymore.

19 And the new owner he agrees with the community
20 that he has to put a new kind of stove -- a new kind of
21 heating system in his house. He agrees upon that, and he
22 has five years, 10 years to do that. And he has a
23 neighbor. And he promises that, signs that, and then,
24 after a few years, he said, "wait a minute, I don't
25 have" -- so when he bought a house, the legislation was

1 already there. The old owner, he took fresh wood -- not
2 fresh wood but dry wood from the woods, not making a big
3 smoke stack, and the new owner said, "yes, this is all
4 good, but I don't have money to buy that dry wood. I will
5 put some dirty wet wood that I have from demolishing things
6 here," with tars in it and so on, more dirty wood. And I
7 start to do this.

8 After a few days, the neighbor comes, they say,
9 "hey, what is this now? You bought this house. And here
10 is coming black smoke from the stack." And then the new
11 owner says, "yeah, but I don't have money, but don't worry,
12 I will learn you how to clean up your garden, I will give
13 you masks and I will put a comma now because if it is too
14 much, you know, I will come and tell you that you have to
15 stay into your house."

16 Q. Mr. Dobbelaere.

17 A. This is my analogy.

18 Q. Yeah. It's --

19 MS. GEHRING FLORES: He's answering your
20 question.

21 MR. WEISS: No, not even close. Not even close.
22 That was a four-minute tangent.

23 MS. GEHRING FLORES: Mr. President, can the
24 Expert please finish answering the question?

25 PRESIDENT SIMMA: As I listen to the story, I am

1 not clear how, at this moment, Mr. Dobbelaere got to tell
2 this story. I missed the context.

3 MR. WEISS: Yeah, I'd like to ask some more
4 questions. I have a few more, and then I'm done. So if
5 you'll permit me, I'll ask him some questions.

6 MS. GEHRING FLORES: I think that the Expert was
7 just about to get to the end of his analogy. He was
8 explaining an analogy. He was just about there.

9 PRESIDENT SIMMA: So, Mr. Dobbelaere, I follow
10 the story with great empathy, so will you bring it to an
11 end.

12 THE WITNESS: Yeah. Okay. Thank you. For me to
13 bring it to an end?

14 BY MR. WEISS:

15 Q. Okay.

16 A. For me, you have to understand that I'm coming
17 from an operation that is from the feed that is similar.
18 Okay. We may have made more money with precious metals,
19 that's right. We may have had a better sampling. I've
20 learned a lot about mass balancing, but the numbers we were
21 looking at, at the stack and in the fugitives, we measured
22 fugitives, we monitored them, and we reported them we were
23 obliged to report them.

24 If we were talking -- if, here, they were talking
25 about -- I was shocked. They were talking about

1 1,000 tons, and we were talking about 1,000 kilograms,
2 which is a factor, nearly 1,000. And I know the main
3 difference was acid plants. You could not go without. It
4 is impossible, such an operation, to go without acid
5 plants, because --

6 MR. WEISS: Mr. President, we're now at the point
7 where he's basically engaging in his direct examination
8 again.

9 PRESIDENT SIMMA: Right. I think --

10 (Overlapping speakers.)

11 PRESIDENT SIMMA: Sorry. The most efficient way
12 would be that we got the story, I think, the analogy you
13 brought, to an end. And let's have the two last questions.

14 MR. WEISS: Yeah. Thank you. Thank you.

15 PRESIDENT SIMMA: And your answers are there.

16 THE WITNESS: Yes.

17 BY MR. WEISS:

18 Q. So we've heard a number of questions throughout
19 this Hearing where Ms. Gehring Flores has asked about
20 children in Perú being poisoned. I've never once heard an
21 acknowledgement that Centromín was poisoning children for
22 23 years. Did you?

23 A. What do you mean by an "acknowledgment"?

24 Q. An acknowledgement --

25 A. I don't understand the word.

1 Q. Well, you understand, again, we are talking about
2 the relative standards and practices of Centromín and Doe
3 Run Perú. We cannot assess Doe Run Perú's standards and
4 practices in a vacuum. We have to compare them to
5 Centromín's.

6 You understand that; right?

7 A. I understand that.

8 Q. Okay. So Centromín created one of the worst
9 environmental disasters in the history of the world, right
10 at La Oroya. And now, you're here to tell this Tribunal
11 that Centromín did a better job than Doe Run Perú, who
12 spent over \$300 million and did 42 Projects that never
13 existed at Centromín and dramatically reduced emissions and
14 improved public health; right?

15 A. No.

16 Q. Okay. So let's just end this.

17 A. Just because my reference is different.

18 Q. Okay. Your reference is one year of Centromín's
19 operations?

20 A. My reference is, I've seen a company that was
21 improving, improving, improving, they only had main-stack
22 emissions. That's agreed. We didn't have fugitive
23 emissions. Not in Centromín's time and not in Doe Run
24 Perú's time.

25 Q. So my last question --

1 A. The only thing I could do was mass balancing and
2 see that there is something behind here.

3 Q. Yep.

4 A. And that's what I did.

5 Q. Yep. So I'm curious. I see a trend here, and I
6 wonder if you agree with me. Perú's contract Expert says
7 that we should believe that one Contract is two contracts.
8 Their Legal Expert says we should believe that an extension
9 of deadlines doesn't actually extend deadlines; and that
10 repeated reports of compliance aren't actually proof of
11 compliance with the PAMA. And now, you're here to tell us
12 that 42 Emissions Control Projects didn't control
13 emissions; right?

14 Is that what you're here to tell us?

15 A. What kind of question is that?

16 Q. Okay. I have no further questions.

17 Thank you very much, Mr. Dobbelaere.

18 A. I commented on 26 Projects. Each of them, and I
19 commented. This has an effect on this, and this has an
20 effect on this, as to my Opinion. You cannot ask me if
21 48 -- that I am saying that 48 Projects did not have any
22 effect. That you cannot tell me.

23 Q. Okay. Thank you, Mr. Dobbelaere.

24 PRESIDENT SIMMA: Okay, Mr. Dobbelaere. Thank
25 you very much.

1 We are more or less at the end of our time.
2 Redirect will be held tomorrow. Tomorrow, like today, we
3 are going to start at 9:00.

4 (Comments off microphone.)

5 I'm on the cautious side in this regard after
6 this experience, and better end up in the afternoon an hour
7 later. So time is 9:00 -- acceptable?

8 MR. WEISS: That's fine. Sure.

9 PRESIDENT SIMMA: And then we have one, the last
10 Expert witness, Ms. Kunsman Santos will have to be examined
11 at the end.

12 By the way, you're going to -- maybe you could
13 say that you're going to send an email. Could you, maybe,
14 just in a few words, announce what's going to be in there.

15 MS. GEHRING FLORES: Sure. Just an email with
16 the Tribunal's directions with regard to the question on
17 the status of the Missouri Litigation.

18 MR. WEISS: I'm sorry. The what?

19 PRESIDENT SIMMA: Can you speak louder.

20 MS. GEHRING FLORES: My apologies. The Tribunal
21 had put the question of the current status of the Missouri
22 Litigation to the Parties. There was an exchange on
23 exactly how and when that should be addressed, and there
24 will be an answer to exactly that question for the Parties,
25 hopefully, shortly following our conclusion right now.

1 MR. WEISS: And I apologize because I was
2 preparing and I missed that discussion, and I fortunately
3 or unfortunately am the primary source of that information
4 because I live with that Litigation almost every day. So
5 it would be really helpful to me, you know, the more
6 specific you could be about exactly what it is that you
7 want to know.

8 PRESIDENT SIMMA: Fine. I think we live up to
9 your expectations.

10 MR. WEISS: I hope so.

11 MR. FOGLER: Could we get a rundown on the time
12 that has been used, Mr. Doe?

13 SECRETARY DOE: Yes. The total is 17 hours and
14 20 minutes thus far for the Claimant, and 18 hours and
15 36 minutes for the Respondent.

16 MR. FOGLER: Thank you.

17 MR. WEISS: Thank you very much.

18 PRESIDENT SIMMA: Thank you. See you tomorrow.

19 (Whereupon, at 6:01 p.m., the Hearing was
20 adjourned until 9:00 a.m. the following day.)

POST-HEARING REVISIONS

CERTIFICATE OF REPORTER

I, Dawn K. Larson, RDR-CRR, Court Reporter, do hereby attest that the foregoing English-speaking proceedings, after agreed-upon revisions submitted by the Parties, were revised and re-submitted to the Parties per their instructions.

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.


Dawn K. Larson