

RED HILL VALLEY PARKWAY INQUIRY

TRANSCRIPT OF PROCEEDINGS
HEARD BEFORE THE HONOURABLE J. WILTON-SIEGEL
held via Arbitration Place Virtual
on Thursday, June 23, 2022 at 9:30 a.m.

VOLUME 36

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940-100 Queen Street
Ottawa, Ontario K1P 1J9
(613) 564-2727
900-333 Bay Street
Toronto, Ontario M5H 2R2
(416) 861-8720

APPEARANCES:

Andrew C. Lewis For Red Hill Valley

Shawna LeClair Parkway

Chloe Hendrie

Samantha Hale For City of Hamilton

Delna Contractor

Jenene Roberts

Sahar Talebi

Heather McIvor For Province of Ontario

Colin Bourrier

Chris Buck For Dufferin Construction

Jennifer Roberts For Golder Associates

Nivi Ramaswamy Inc.

Fabiola Bassong

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1 Arbitration Place Virtual

2 --- Upon resuming on Thursday, June 23, 2022,
3 at 9:30 a.m.

4 MR. LEWIS: Good morning,
5 Commissioner, Counsel, Dr. Uzarowski. We had
6 indicated that on Tuesday we took a break from
7 Dr. Uzarowski's testimony and continued with two
8 other witnesses yesterday, and so today will be
9 continuing with Ms. Contractor's cross-examination
10 for the City of Hamilton.

11 MS. CONTRACTOR: Thank you,
12 Mr. Lewis. Mr. Commissioner, may I please
13 proceed?

14 JUSTICE WILTON-SIEGEL: Yes,
15 please proceed, Ms. Contractor.

16 DR. LUDOMIR UZAROWSKI; PREVIOUSLY AFFIRMED
17 EXAMINATION BY MS. CONTRACTOR (CONT'D):

18 Q. Good morning,
19 Dr. Uzarowski.

20 A. Good morning.

21 Q. We left off earlier this
22 week speaking about the meetings you attended with
23 the City at -- or in 2018. And, Mr. Registrar, if
24 you could please pull up Golder 7414 at image 71
25 and OD8, image (skipped audio) 68.

1 So, Dr. Uzarowski, you
2 attended a meeting on February 23rd, 2018 at the
3 City, and your notebook on the screen here has
4 these entries from February 23rd. At that meeting
5 you delivered a presentation to the City, after
6 which there was a discussion regarding hot
7 in-place recycling with a few City staff member
8 afterwards; is that correct?

9 A. Yes, it's correct.

10 Q. In attendance was
11 Mr. Becke, Mr. Oddi and Mr. Renaud, and Mr. Moore
12 was not present for that follow-up discussion; is
13 that correct?

14 A. Correct.

15 Q. Your evidence was that
16 you think that the end of that meeting, you
17 recommended that the City conduct shot blasting in
18 the interim prior to the resurfacing, and you told
19 us that Mr. Oddi's response to that was that the
20 City could not take measures to improve friction
21 because it would confirm that there was a problem
22 on the Red Hill. That's correct?

23 A. Correct.

24 Q. As I understand your
25 evidence, that was the first time you heard such a

1 statement from City staff members, and you were
2 surprised by that response, correct?

3 A. Yeah, I was surprised and
4 shocked.

5 Q. You were surprised and
6 shocked. And despite your surprise and shock,
7 you didn't have any notes that document the
8 statement you attribute to Mr. Oddi from
9 February 23rd meeting; is that right?

10 A. No, it's not in my notes,
11 no.

12 Q. Following this meeting,
13 you don't e-mail Mr. Oddi to express any concerns
14 about your surprise, about your shock about his
15 comments at the February meeting; is that correct?

16 A. Correct.

17 Q. In fact, you didn't send
18 any e-mails to anyone at the City commenting on
19 Mr. Oddi's remarks expressing your surprise and
20 your shock based on Mr. Oddi's comments at the
21 February meeting; is that right?

22 A. That's correct. I talked
23 to our legal counsel and senior management and my
24 senior colleagues about this, but I didn't send an
25 e-mail to Mr. Oddi or anybody from the City.

1 Q. So after the February
2 meeting, you spoke to legal and you spoke to your
3 senior colleagues and ultimately decided not to
4 contact anyone at the City about Mr. Oddi's
5 remarks?

6 A. I don't recall the exact
7 conversation. I knew that I would -- it was --
8 you know, the first time I heard this thing I knew
9 that I would have another meeting with the City,
10 and I -- that was a surprise and shock to me. I
11 knew another meeting was coming, so I was -- that
12 was the item that I wanted to discuss.

13 Q. Right. And the next
14 meeting I think you're discussing is the March 9th
15 meeting?

16 A. Correct.

17 Q. The main purpose of that
18 meeting was to discuss the feasibility of hot
19 in-place; isn't that right?

20 A. This is correct.

21 Q. At that meeting you
22 updated the City about the PSV testing and advised
23 City staff that it would -- I think the terms you
24 used was somewhat risky to reuse the material to
25 do hot in-place on the Red Hill; is that right?

1 A. Yes, this is, like, you
2 know, what's in my notes, yeah. It's correct.

3 Q. Am I correct that
4 resurfacing using hot in-place versus the
5 traditional shave and pave would mean substantial
6 savings for the City?

7 A. Oh, yeah, that's correct.

8 Q. And resurfacing using a
9 shave and pave method would also require longer
10 lane closures, correct?

11 A. Correct.

12 Q. And you would agree with
13 me, Dr. Uzarowski, that unless potential safety
14 concerns are raised as an issue, it's reasonable
15 for a municipality to consider options regarding
16 roadway maintenance based on cost to the taxpayer?

17 A. Yeah, that -- I think
18 this is a very important aspect; however, I was
19 informed, particularly during the second meeting,
20 very clearly what the position of the City was.

21 Q. We're going to talk about
22 that.

23 A. Okay.

24 Q. My question is that it
25 that was reasonable for the City, unless a clear

1 potential safety issue is identified, to consider
2 the cost to the taxpayer when making decisions
3 regarding roadway maintenance. Is that fair to
4 say?

5 A. I would say the cost
6 aspect was definitely very important aspect of --
7 the cost and the environmental aspect, yes.

8 Q. And in addition to the
9 cost, the inconvenience to roadway users is an
10 important consideration as well. Would you agree
11 with me?

12 A. Correct, agree.

13 Q. If we could please go to
14 OD8, image 78, please. You can take down the
15 February notes. Thank you, Mr. Registrar. If we
16 could pull out paragraph 214.

17 This is your e-mail to some of
18 your colleagues at Golder's which are sent on
19 March 14th about the March 9th meeting at the
20 City, correct?

21 A. Correct.

22 Q. And I think you said the
23 purpose of this e-mail was to document the key
24 points of your discussion with the City at the
25 March 9th meeting?

1 A. Correct.

2 Q. The third paragraph of
3 that e-mail, if we could pull that out, please,
4 Mr. Registrar. Thank you.

5 The third paragraph of the
6 e-mail, you state:

7 "I recommended using
8 Skidabrader or shot blasting,
9 at least the worst areas
10 indicated in Tradewind
11 Scientific report, to improve
12 friction of the current
13 surface if they delay
14 resurfacing. Marco rejected
15 the idea for various reasons."

16 (As read)

17 This summarizes your
18 recommendation to City staff at the March 9th
19 meeting particularly with respect to the
20 frictional characteristics?

21 A. Correct. This is what I
22 said in the e-mail, yes.

23 Q. And at this point,
24 Dr. Uzarowski, you understood that the resurfacing
25 was scheduled to take place at some point in 2018?

1 A. I think I was informed
2 during that meeting that it was rescheduled to
3 2018 -- '19.

4 Q. Okay. So they tell you
5 that it might be in 2019. But you don't provide
6 any deadline by which the City should implement
7 interim measures if there was to be a delay in the
8 resurfacing?

9 A. No, I didn't, because to
10 me the position of the City was very clear. I was
11 informed that the City would do -- would not do
12 anything for the -- because that would admit the
13 issue with the Red Hill Valley Parkway and the
14 City would get the blame, so the position was very
15 clear.

16 Q. Again, we're going to
17 talk about that, but is your evidence that because
18 you heard Mr. Oddi say that, that you didn't
19 bother providing any deadline by which the City
20 should implement interim measures? You didn't
21 think it was important to mention that to them?

22 A. I think you know -- the
23 deadline was not discussed, what Mr. Oddi said and
24 Mr. Becke confirmed. It was very clear to me that
25 the City decided to do nothing. You know, no

1 matter what I recommended, no matter what I said,
2 the City was very clear, we'll do nothing.

3 Q. Your e-mail doesn't state
4 that you informed the City that if they don't do
5 something, if the resurfacing is delayed, that
6 there may be potential safety issues on the
7 roadway. Your e-mail does not state that.

8 A. No, my e-mail says, you
9 know, what I recommended. I recommended interim
10 action to be taken and I -- you know, they knew
11 about other -- I'm not a safety consultant. I
12 didn't talk about those aspects. I only focus on
13 my area. I said in the interim you can do
14 skidabrading or shot blasting to address the
15 issue, and that was it. I didn't talk about any
16 other aspect. I'm not -- I'm not a safety
17 consultant. I'm not allowed to talk about it.

18 Q. Let's be clear about what
19 you said. You didn't say the City should do
20 interim measures or should take interim measures.
21 You said they should take interim measures if the
22 resurfacing is delayed, but you don't provide a
23 timeline or a deadline by which they need to
24 implement those measures.

25 A. Yeah, because I thought

1 that they would do it in 2018, and then, you know,
2 another -- at least I think the conclusion was
3 that it would be delayed so I said -- so that was
4 my recommendation, do something to address the
5 issue, to address the issue of relatively low
6 friction numbers. It was very simple, very clear,
7 and I got very clear response.

8 Q. Okay. Again, we're going
9 to talk about Mr. Oddi's comments that you heard,
10 but I just want to be very clear about your
11 evidence that at that March 9th meeting you didn't
12 tell the City that if they don't take interim
13 measures that there may be potential safety
14 concerns. I know you're not a safety expert, and
15 so I want to confirm that you did not tell them
16 that at any point in the March 9th meeting?

17 A. I think as I mention --
18 as I said before that, you know, City people are
19 very savvy bureaucrats and there are some aspect
20 that they will not talk about, you know, safety or
21 other -- so I only said what I knew. You have
22 this relatively low Tradewind -- friction numbers
23 in Tradewind report. You can improve, you should
24 improve them using the treatment that I
25 recommended. So that was my focus. And

1 immediately I got very clear answer so I knew the
2 discussion was over. My point was delivered, and
3 the response was very clear to me, the City
4 decided to do nothing, okay. No matter what I
5 recommended and concern with the City decided to
6 do (technical interruption).

7 Q. Your e-mail goes on to
8 state, Dr. Uzarowski, that Mr. Oddi rejected the
9 idea for various reasons, and it was only from Mr.
10 Oddi that you heard that the City was not going to
11 take action because of concerns for liability,
12 right?

13 A. No. No. Mr. Oddi was
14 the first one to say that, and then Mr. Mike Becke
15 confirmed this, or repeated the same statement
16 about this safety --

17 Q. That's not what your
18 e-mail states, right? Your e-mail states Marco
19 rejected the idea for various reasons.

20 A. This is what my e-mail
21 said, but I'm telling -- I remember this thing 100
22 percent very -- I have a very clear picture, I
23 knew who was sitting where and Mr. Oddi said first
24 and then Mr. Becke confirmed this.

25 Q. As I understand it, your

1 recommendation of shot blasting, that would --
2 it's essentially a surface treatment, right, that
3 abrades away the surface of the pavement? That's
4 what shot blasting does, in simple terms?

5 A. Yes, this is a form of --
6 we call it retexturing a surface treatment to
7 improve -- that was the -- only to improve
8 frictional characteristic -- or friction numbers
9 only.

10 Q. And in the resurfacing,
11 whether it's a shave and pave or a hot in-place,
12 the surface layer of the pavement changes, right?

13 A. Yes, correct.

14 Q. Right. And so you lose
15 the benefit of shot blasting if you resurface
16 immediately afterwards? So I shot blast on one
17 day --

18 A. I understand, yes. Yeah,
19 that is obvious. You shot blast this thing and
20 you come and resurface and the benefit is -- yeah,
21 is gone. But that was for the period between the
22 -- that particular day and the resurfacing.

23 Q. So fair to say that,
24 again, unless there was a potential safety concern
25 identified, it would not be a good use of public

1 funds for the City to pay for shot blasting only
2 then to resurface a few months later?

3 A. You know, this is very
4 interpretation. Please keep in mind that I knew
5 about what police said, I knew about that article
6 in the Hamilton Spectator about fatalities, and
7 also I knew that when Amelia was doing the testing
8 there were three bumper-to-bumper collisions
9 there. So I -- that was -- my concern was of just
10 interim -- don't wait, do it now.

11 Q. Right. So,
12 Dr. Uzarowski, you were aware that the police had
13 concerns about the slipperiness of the pavement.
14 You read the article from -- that Dr. Hein sent
15 you, or Mr. Hein sent you, and despite that at no
16 point did you raise potential safety concerns
17 about the roadway if interim measures were not
18 taken prior to resurfacing?

19 A. I was talking to people
20 who knew very well, who knew much better about
21 this than I did. Because these people live there;
22 they work there; they read the newspaper; they
23 watch the TV; they knew much better the situation.

24 You know, as I mentioned,
25 these people don't -- they don't talk about safety

1 and collisions. They knew exactly the situation.
2 They knew exactly what I was talking about. And I
3 -- my focus was do this, this narrow piece. You
4 know, didn't talk about other aspect. If you do
5 this, you will address this one item. It would
6 never harm, it could only make things better if
7 they did what I recommended.

8 Q. Dr. Uzarowski, we're
9 going to hear from the City witnesses at this
10 meeting. What I'm interested in is what you
11 thought and what you said, and I'm correct that
12 you did not identify for the City that if they
13 delay resurfacing and don't put in interim
14 measures, that there may be potential safety
15 concerns?

16 A. Yes, you know, I don't
17 want to repeat. I talk about one item. I talk to
18 people who knew extremely well about the condition
19 and all this aspect that you talk -- I'm not a
20 safety consultant. I didn't know anything about
21 CIMA reports, et cetera. I knew about that one
22 item and I suggest -- I recommended, please do
23 this thing. I talk to -- this are very senior
24 people in the City. This are managers, senior
25 managers, very senior people. They know the

1 situation. They know exactly what I was talking
2 about.

3 Q. These managers, these
4 senior people, none of them are friction experts,
5 correct? You're the friction expert in the room?

6 A. I'm not a friction
7 expert. I was hired to do -- but I think they all
8 understood very well what I was talking about,
9 and, you know, during the -- my presentation --
10 during the meeting I presented the numbers 2007,
11 2013. It was very clear. They knew exactly what
12 the conversation was about. They knew exactly.

13 Q. Your e-mail states that
14 Mr. Oddi rejected your idea for shot blasting for
15 various reasons. Your e-mail does not record what
16 those various reasons are. But you do recall that
17 one of those reasons, and I expect Mr. Oddi will
18 testify to this, that he did not agree with your
19 recommendation to use a Skidabrader or a shot
20 blaster because it was not a good use of public
21 funds given that the road was scheduled to be
22 resurfaced.

23 A. You know, whatever Mr.
24 Oddi says, it's his statement. It was Mr. Oddi
25 and Mr. Becke. But, you know, we didn't talk

1 about funds. My -- the response that I got was
2 clear, that the City couldn't do anything because
3 it would admit that there was a problem with the
4 Red Hill Valley and the City would get the blame.
5 This is -- there wasn't any discussion about using
6 public funds, but that decision not to do anything
7 in order not to get blame, that's what I recommend
8 -- remember, and it was hundred percent. I
9 remember exactly what they said.

10 Q. But your e-mail doesn't
11 state that.

12 A. No, it doesn't, but I
13 told Mr. Gord McGuire, because at that time I --
14 this is the -- I put this thing, I didn't know
15 whether I should -- how to state this, but when I
16 met with Mr. Gord McGuire I told him what the City
17 told me, what I was told by the City.

18 Q. And that was in December
19 of 2018, right?

20 A. Correct.

21 Q. Several months after the
22 March 9th meeting?

23 A. Correct.

24 Q. And in this e-mail on
25 March 14th when you're e-mailing your colleagues

1 about the key points from your discussion on
2 March 9th, you don't mention that Mr. Marco (sic)
3 rejected the idea for liability reasons?

4 A. It's not in my e-mail but
5 I talked to my colleagues, I talked to our legal
6 people, I talked to senior management and senior
7 technical people. I told them what I was told by
8 the City.

9 Q. And after you speak to
10 senior management and counsel, again, you don't
11 send any e-mails to Mr. Oddi, Mr. Becke, anyone at
12 the City to express your concerns about the
13 comments that they made; is that correct?

14 A. That's correct. I saw no
15 point of sending e-mail to them telling them about
16 what they told me. These are very senior people.
17 They knew what they wanted to convey to me. It
18 was very clear. So I saw no point of writing to
19 them and saying, oh, this is what the City told
20 me. To me, these were very senior people at the
21 meeting and before was -- Mr. Moore was the
22 director of engineering, the highest position, I
23 knew about the City, and then the rest --

24 Q. Mr. Moore wasn't at that
25 part of the meeting, correct?

1 A. No, he was not. He left
2 early. He left -- let's say not early, before
3 this conversation.

4 Q. Right. But you would
5 agree with me, Dr. Uzarowski, that if you hear
6 from a client that they don't want to take
7 remedial measures because of liability reasons,
8 and if you had concerns about safety, regardless
9 of whether you're a safety expert or not, if you
10 had concerns about safety, you would send a
11 follow-up e-mail, keeping in mind the standards of
12 practice that we talked about earlier this week?

13 A. I think I discuss this
14 thing, as I told you, with our senior management,
15 our legal. I told them what I did, and there was
16 no point for me, in my opinion, to send any e-mail
17 to the City people telling them what they told me.
18 To me it was very clear. It was the City's
19 decision not to do anything, to avoid -- to show
20 that -- because it would show that there was an
21 issue and they would get the blame. It was very
22 clear. I conveyed this thing to our senior
23 management and to our legal people.

24 Q. It was their decision not
25 to take interim measures and it was your decision

1 not to advise them of any potential safety
2 concerns that may arise from that decision?

3 A. I'm not -- as I told you,
4 I'm not a safety consultant, but I told them what
5 I was told and what the City position on this
6 thing was. So I conveyed that message and -- you
7 know, for me it's very clear. The City tells me,
8 we will not do anything, okay, because for -- this
9 was it, that was the City's decision. So no point
10 of writing to anybody and discussing this. It was
11 very clear.

12 Q. But you would agree with
13 me that in order to make an informed decision, the
14 City needs to understand the consequences of that
15 decision.

16 A. I think it's very
17 intelligent people, very senior people. They know
18 what they are doing and the consequences -- they
19 knew about the situation on the Red Hill Valley
20 Parkway much, much better than I did. So I only
21 brought this one tiny item to their attention.
22 They knew this thing much better than I did and
23 the potential what -- you know, safety risk. They
24 didn't discuss this thing with me. That was not
25 their intention. They only conveyed the message.

1 (Speaker overlap)

2 Q. Dr. Uzarowski, at this
3 point, you were retained to provide analysis about
4 the frictional characteristics of the pavement,
5 correct?

6 A. Yeah, and I stated very
7 clearly what my opinion was, what my
8 recommendation was. I repeated a number times
9 that -- you know, what should be done. You know,
10 not only. I provided contact with contractors,
11 the price, and everything that I could do, and I
12 repeated this thing a number of times. So I think
13 for me it was very clear, and they knew clearly
14 what they should do. But they decided not to
15 follow my advice. I can provide advice, but this
16 is the only thing I can do. I cannot force them
17 to do -- to follow my advice.

18 Q. Well, let's look at your
19 conclusions and recommendations in the pavement
20 surface and aggregate evaluation report. And
21 you'll recall that in December Mr. McGuire asked
22 you to provide Golder with a copy of the report.

23 And if we could, please, Mr.
24 Registrar, go to GOL6699. If we can just make
25 that a bit bigger. Maybe it's just me but it

1 seems small.

2 This e-mail from December 13th
3 from you to Ms. Rizvi during which you ask her --
4 sorry, you provide her with a copy of the draft
5 evaluation of pavement surfaces and aggregates
6 report and you ask her to review and format it.
7 So did you do the first draft of the report?

8 A. I believe so, if I ask
9 Ms. Rabiah Rizvi to review it. I believe that I
10 did the initial version of the report, yes.

11 Q. You also send the draft,
12 or you say that you need to send the draft to
13 Michael and Tony. And Michael, that refers to Dr.
14 Maher, your mentor?

15 A. Yes, correct.

16 Q. And you previously
17 consulted with him after the March 9th meeting,
18 correct?

19 A. Correct, and also I talk
20 to him before that meeting that I had with
21 Mr. Gord McGuire.

22 Q. So that's later on.
23 We're in December 13th.

24 A. I think it was before
25 that time that I talked to him.

1 Q. Right.

2 A. Yeah, I think it was
3 somewhere around -- I don't recall -- December
4 the 7th or 9th. Something like that time. I mean
5 with Dr. Maher, yes.

6 Q. And the Tony in this
7 e-mail, that refers to Tony Linardi, Golder's
8 in-house counsel; is that right?

9 A. Correct.

10 Q. If we go to HAM54182,
11 this is the draft dated December 17th that you
12 provide to Mr. McGuire. So by this point you've
13 provided the draft report to Ms. Rizvi, Dr. Maher,
14 Mr. Linardi for their review, correct?

15 A. Correct.

16 Q. I believe at this point
17 you had already also spoken to the Golder project
18 risk committee about the hot in-place feasibility
19 study, correct?

20 A. This is not hot in-place
21 feasibility study. That's a different subject.
22 Hot in-place recycling was a different subject.

23 Q. Yes, I understand, but
24 you had spoken to them about the discussions
25 around hot in-place on the Red Hill by this point?

1 A. Yeah, I would have to
2 check the dates, but that was a totally different
3 subject. The hot in-place recycling was a
4 different subject. That was this innovative
5 technology to be used, so it had nothing to do
6 with this subject.

7 Q. Okay. And before you
8 sent this report to Mr. McGuire, you reviewed a
9 copy of it?

10 A. I did, yes.

11 Q. And you reviewed it to
12 make sure that it was accurate?

13 A. Yes, this is the purpose
14 of review.

15 Q. And you reviewed it to
16 make sure it was complete? Was it missing
17 anything important?

18 A. That was not the final
19 one, because I delivered this thing in a draft
20 format when I met with Mr. McGuire on the
21 following day.

22 Q. It was a draft report, I
23 understand that, but when you reviewed the draft
24 report before you gave it to Mr. McGuire, you
25 reviewed it for accuracy, you've told me, and you

1 also reviewed it to make sure it wasn't missing
2 anything important, correct?

3 A. Yeah, I reviewed this
4 thing just -- you know, that was enough. In my
5 opinion, the right information for the draft
6 report to meet with Mr. McGuire, yes.

7 Q. If we go to image 2, and
8 if we could please pull out the last paragraph
9 under "Analysis and Interpretation." Sorry, the
10 one below that actually.

11 Here you're summarizing the
12 prior discussions that you've had with the City,
13 and you state, number one, that the traffic on the
14 Red Hill significantly exceeds the level it was
15 designed for in terms of axle load and number of
16 vehicles, and you note that this accelerates the
17 pavement deterioration.

18 So here it was important for
19 you to summarize what you've previously told the
20 City, correct, that's why you're providing that
21 information?

22 A. Yes, this is correct.
23 These two items I included in my draft report,
24 yes.

25 Q. You also talk about, at

1 item 2 there, that the monitoring station showed
2 that speed on the Red Hill is being significantly
3 exceeded and that a relatively low percentage of
4 drivers follow the posted speed limit, and you
5 note that speeding increases the skid
6 exponentially. Again here you're summarizing your
7 prior discussions with the City?

8 A. Yes, that's correct.

9 Q. In the last paragraph --
10 and, Mr. Registrar, I wonder if we could pull up
11 the rest of that paragraph just for completeness
12 from the subsequent page. The last paragraph
13 states:

14 "As discussed with the City,
15 if there is a concern with
16 frictional characteristics..."

17 Then it goes on to talk about
18 skid resistance and shot blasting. It does not
19 state there is a concern with frictional
20 characteristics. And you would agree with me,
21 Dr. Uzarowski, that anyone reading this draft
22 report would understand that by December 2018
23 Golder had not reached a conclusion as to whether
24 there was an actual concern with the frictional
25 characteristics of the Red Hill?

1 A. You know, this is what we
2 discuss before and MTO position, the friction
3 numbers, like what is FN, S10, GN, et cetera.
4 This is only one aspect. Frictional
5 characteristics or -- because I remember we use
6 frictional character -- as overall picture.
7 Friction numbers are just one piece. So for
8 frictional characteristics, it would have to --
9 frictional characteristics are much wider, and
10 this is basically what -- for instance, Dr. John
11 Emery showed in his presentation, what items
12 impact frictional characteristics.

13 So for me, you know, these
14 friction numbers are just one piece. So I think
15 it would require a safety expert to evaluate this.
16 I could only tell about this one thing, the
17 numbers that I tested and the numbers that, you
18 know, I considered to be relatively low and have
19 concern. This is only one item of what is called
20 frictional performance, or pavement performance,
21 frictional characteristic. This is only one piece
22 of that one -- of that subject. That was my
23 approach. This is how I -- maybe it's not very
24 fortunate statement, but this is my approach and
25 this is what is generally considered by the

1 industry.

2 Q. Right. So you would
3 agree with me then that this report does not state
4 that Golder did have a concern with the frictional
5 characteristics. It does not state that?

6 A. It says what it says.
7 Later on I think we changed this thing when we did
8 --

9 Q. I'm going to take you to
10 that, but I want to talk about the draft report
11 right now.

12 A. Yeah.

13 Q. It does not state that
14 Golder has a concern, and you've told us why that
15 is, because there's a number of factors that go
16 into frictional characteristics, and friction
17 values are just a small component of that?

18 A. Yeah, that's correct.
19 Like, I was thinking only about this one
20 component, yes.

21 Q. And this report does not
22 state that the City should consult with safety
23 experts, because friction values are only one
24 component of frictional characteristics, and there
25 may be a concern. It doesn't state that either?

1 A. No, it doesn't.

2 Q. If we could keep this --
3 maybe just the first page of this draft up,
4 please, Mr. Registrar, and go to GOL3050.

5 After you send this draft
6 report you have a number of back-and-forth
7 discussions with Mr. McGuire. Mr. Lewis took you
8 through those. I'm not going to take you back
9 through those, but I want to talk about this
10 January 20th, 2019 e-mail from Mr. McGuire, and
11 particularly the last paragraph, which again
12 traverses between two pages.

13 You'll see the last paragraph
14 Mr. McGuire is commenting on the use of "if" in
15 the draft report, and he states:

16 "Lastly, your comments
17 surround frictional
18 characteristics are not
19 helpful. The City asked for
20 clarity, as Golder stated that
21 the friction concerns were
22 still valid, yet on the other
23 hand, Golder states if there
24 is a concern with the
25 frictional characteristics."

1 (As read).

2 These statements don't fully
3 align as the first implies there is a concern and
4 the second suggests that there may be a concern.
5 And your evidence this week was that the final
6 draft of the report was revised as a result of
7 these discussions with Mr. McGuire and
8 specifically his request for clarity; is that
9 correct?

10 A. Yeah, we can -- can you
11 zoom in because it's so tiny.

12 Q. Sure. Certainly. Mr.
13 Registrar --

14 A. Yeah, I apologize. But
15 first of all, you know, I didn't send it to him.
16 I hand-delivered this thing to Mr. McGuire, that
17 report. I know it's minor thing, but just
18 clarify.

19 Q. No, I appreciate the
20 accuracy. Mr. Registrar, if you could pull out
21 the last paragraph of the e-mail.

22 So your evidence earlier this
23 week was that as a result of these comments and
24 discussions you had with Mr. McGuire generally,
25 the final draft of the report was revised,

1 correct?

2 A. Yes. The statement "if
3 there is a concern" was in the draft report, but
4 the friction concern were still valid. This is
5 what I told Mr. McGuire when I met with him
6 face-to-face.

7 Q. If we could please take
8 the e-mail down, keep the draft report that we
9 have up, and also pull up the final draft,
10 GOL10006610 -- I'm sorry, GOL6610.

11 So this is the e-mail from
12 March 1st, 2019 from you to Mr. McGuire where you
13 attach the final version of the report. This is
14 of course after the Tradewind report has been
15 released to the public.

16 A. So, you know, I know that
17 this is the e-mail that show -- where that I send
18 the final version of the report to Mr. McGuire,
19 and that was sometime after that meeting.

20 Q. Well, it was quite a
21 long -- it was quite a long time after that
22 meeting. This you send on March 1st, 2019. Your
23 meeting was December 18th, and his e-mail to you
24 that we just saw where he's seeking clarity, that
25 was January 20th, right?

1 A. Correct.

2 Q. If we can take that
3 e-mail down, please, and go to GOL6612. That's
4 the final report. And if we could go to image 3.
5 On the draft report on the left-hand side of the
6 screen, Mr. Registrar, if we could go to image 3
7 as well.

8 Dr. Uzarowski, if at any point
9 you need to review or if you want us to make it
10 bigger, let us know.

11 So the draft report has part
12 of the paragraph on image 2 and part of it on
13 image 3. I don't know if you can call out, Mr.
14 Registrar, the paragraphs on that side of the
15 screen for that document and also call out the
16 paragraph underneath the table on the final draft.

17 A. Thank you. That's even
18 better.

19 Q. Maybe move that up a
20 little bit and then -- or down, whatever, and then
21 pull out both this top paragraph and the last line
22 on the page before of the draft report.

23 I take it you can't pull out
24 or call out the rest of the paragraph on image 3
25 of that draft report, Mr. Registrar?

1 THE REGISTRAR: No, you can
2 only do one page at a time.

3 MS. CONTRACTOR: No problem.

4 BY MS. CONTRACTOR:

5 Q. So, Dr. Uzarowski, on the
6 left side of the screen we have the draft report
7 that we've already looked at with the "if"
8 comment. And on the bottom of the screen, we have
9 that called out. On the right side of the screen
10 we have the final report and the paragraph that
11 was revised to respond to Mr. McGuire's request
12 for clarity. You'll see that the language is
13 changed as follows. So the original draft read:

14 "As discussed with the City,
15 if there is a concern with
16 frictional characteristics of
17 the SMA surface course on the
18 Red Hill, an immediate
19 effective solution would be to
20 carry out shot blasting and
21 skidabrading."

22 And the second paragraph --
23 that's again in the final report and updated to
24 respond to Mr. McGuire's concerns, states:

25 "As was brought to the City's

1 attention a number of times
2 previously, an immediate
3 effective treatment to address
4 a concern with frictional
5 characteristics of the SMA
6 surface course on the Red Hill
7 would be to carry out shot
8 blasting and skidabrading."

9 Mr. Registrar, if you could
10 just keep the top callout and you can drop the
11 bottom one, just to make it a bit bigger.

12 So the revised report,
13 Dr. Uzarowski, the final report, does not state
14 the concern, or Golder's concern; it simply says a
15 concern, correct?

16 A. Yes, but please know that
17 that was after the meeting. Mr. McGuire informed
18 me about CIMA, that the City hired a safety
19 consultant, and he told me safety, geometry. I
20 didn't know about friction, he didn't -- but I
21 knew that they hired a safety consultant, and also
22 he asked me to remove -- and then he asked me to
23 remove the item talking about speed and volume.

24 So when we wrote this thing,
25 we had much more information about what happened

1 there, and also I discussed this final version
2 with our legal people, our senior management,
3 senior technical people. So -- but basically we
4 knew more about the situation and we found out
5 about CIMA, and the decision from the legal was,
6 okay, remove -- we can we remove, we can change it
7 because the situation is different than a few
8 months ago.

9 Q. Sorry. The situation is
10 different. You mean, from the first draft where
11 you said, if there was a concern, and the final
12 draft where you say, to address a concern. The
13 difference in circumstances was that you became
14 aware that CIMA was retained to do a safety review
15 of the Red Hill, and as a result of that you did
16 not identify in the final report any concerns that
17 Golder had about the frictional characteristics of
18 the Red Hill. Is that your evidence?

19 A. That was CIMA's part, you
20 know, the safety aspect, and that was CIMA's part,
21 not ours, and we knew -- you know, I was informed
22 about this thing clearly by Mr. McGuire during the
23 meeting.

24 Q. I understand that the
25 City had engaged CIMA, but this report is about

1 Golder's views and Golder's recommendations. And
2 my question to you, sir, is that this does not
3 state that Golder had concerns about the
4 frictional characteristics of the SMA?

5 A. I think those concerns
6 were expressed by safety consultant, by CIMA, so
7 you know --

8 Q. Dr. Uzarowski, I'm not
9 asking about CIMA; I'm asking about Golder's
10 concerns. We'll have a chance to talk to CIMA.
11 Right now I'm asking you about Golder.

12 A. I think we discussed
13 internally this -- what we should state in the
14 report, and based on the information that actually
15 we had more information about this, this is how we
16 decided to change this statement. And for me,
17 it's fully justified that the situation is
18 different. We have more information. We know
19 about -- now we know about CIMA, we know what they
20 -- what Mr. McGuire wanted us to remove, so this
21 is -- therefore we've made this change.

22 Q. You made this change to
23 reflect your views at the time, correct?

24 A. Yeah, at the time of
25 finalizing.

1 Q. Right. Mr. Lewis asked
2 you whether "should consider" has any particular
3 meaning in engineering consulting, and your
4 evidence was that it means it should be done. And
5 here in the final report, it states, shot blasting
6 and skidabrading would be effective solutions. So
7 here again in the final report after being
8 expressly asked by the City to clarify whether
9 Golder has any concerns about the frictional
10 characteristics of the Red Hill, your report
11 states:

12 "An immediate effective
13 treatment to address a concern
14 with frictional
15 characteristics of the SMA
16 surface course on the Red Hill
17 would be to carry out shot
18 blasting and skidabrading."

19 It does not state that the
20 City should consider these remedial steps,
21 correct?

22 A. I think the City knew
23 very well --

24 Q. I'm asking what Golder's
25 recommendation was at the time, Dr. Uzarowski, not

1 what CIMA was doing or not what the City
2 understood. I want to understand what you put in
3 this report and what Golder's views and
4 recommendations were.

5 A. You know, I think the
6 statement is very clear, an effective treatment of
7 concern would be to carry out shot blasting. So
8 is like -- for me, from my engineering background
9 point of view, it was very clear what would be
10 done, what -- if -- an immediate affect to address
11 this concern would to do this.

12 Q. Right, you're talking
13 about --

14 A. I delivered the tools how
15 to do it.

16 Q. So you're commenting on
17 the efficacy of the remedial measures, but you
18 don't state that the City should consider doing
19 these interim measures, correct?

20 A. Yeah, this is the
21 language. Also, please realize that at that time
22 I knew exactly what the City's position was on not
23 doing this thing, so, you know, as we discuss. We
24 were -- we thought that this statement was
25 correct.

1 Q. Dr. Uzarowski, you would
2 agree with me that anyone reading this report, the
3 final report, would not read this to mean that by
4 March 2019 Golder had reached a clear conclusion
5 as to whether there was an actual concern with the
6 frictional characteristics of the Red Hill, not
7 what the City knew, not what CIMA was doing? I'm
8 asking you about Golder's perspective and Golder's
9 conclusion.

10 A. So I'm sorry, could you
11 repeat what exactly your question was.

12 Q. Certainly. My question,
13 Dr. Uzarowski, is that you would agree with me
14 that anyone reading this final report would not
15 read it to mean that by March 2019 Golder had
16 reached a clear conclusion as to whether there was
17 an actual concern with the frictional
18 characteristics of the Red Hill?

19 A. I think we're still, you
20 know, going back -- like, you know, for us was --
21 the safety consultant was the guy to decide
22 what -- you know, whether there was any safety
23 issue related to frictional characteristics. My
24 point of view and Golder point of view was to
25 deliver a solution for this narrow item. For this

1 friction numbers, this is what you do. I'm not a
2 safety consultant. I'm not even allowed to do
3 this sort of analysis. This is not my job.
4 That's a huge subject. So I just focus on this
5 narrow thing: This is how you can -- you can
6 improve this particular aspect. So improve this
7 one with -- I'm not saying that it will solve all
8 the problem, no. You will only improve this. You
9 will not harm. It can only get better. That was
10 my point of view, and this is what I discuss with
11 our senior people.

12 Q. Dr. Uzarowski, this
13 doesn't say that the City should speak to a safety
14 expert, but based on the relatively low friction
15 values, that there may be concerns about the
16 frictional characteristics?

17 A. You know, I shouldn't
18 tell them that the City should talk to safety
19 expert. I knew that they hired a safety
20 consultant. I was very clearly told during the
21 meeting that -- almost like that's none of your
22 business. We have safety consultant, we have
23 geometry consultant. It's none of your business
24 that aspect. So I think for me it was very clear.

25 Q. The purpose of this

1 engagement, Dr. Uzarowski, was to provide Golder's
2 evaluation on the pavement surface and aggregate,
3 correct?

4 A. Yes, you know, we did --
5 that was the evaluation report, yes, that we
6 originally generated, yes.

7 Q. Indeed, that -- that's
8 what you provided, and you gave Golder's views, or
9 lack thereof, with respect to any concerns about
10 the pavement surface of the Red Hill, or the
11 frictional characteristics of the pavement surface
12 of the Red Hill specifically?

13 A. I think you make it
14 bigger than what we really did. We focused on
15 this -- again, like, yes, one thing was this
16 structure, condition of the pavement, visual
17 condition, et cetera. Another was this narrow
18 part of friction numbers. That was our -- that
19 was our comment, and this is what we considered,
20 what we focused on, and this is actually the only
21 part that we could say about.

22 Q. Thank you. Switching
23 gears a bit. I understand that you were familiar
24 with ARA in 2013, correct?

25 A. ARA 2000 -- yeah, I knew

1 ARA, yes.

2 Q. And they are, as I
3 understand, a scientific research and engineering
4 company, and certainly in 2013 that's what they
5 did as well?

6 A. It's a consultant. Yeah,
7 it's a consulting company.

8 Q. And it provides, as part
9 of its consulting services, pavement engineering
10 research?

11 A. You know, I don't really
12 monitor what kind research they do. For me, it
13 was just I knew them, it was a consulting company
14 that, you know, specialize in pavements.

15 Q. You understood that they
16 provide similar services as Golder with respect to
17 pavement engineering services?

18 A. Somewhat similar. They
19 don't really do -- you know, we don't cover
20 exactly the same subjects. You know, they are a
21 little bit different, we are a little bit
22 different, yeah. But I knew them, I knew what
23 they were doing.

24 Q. And so given the overlap
25 in services, ARA was a competitor of Golder,

1 correct?

2 A. Any consultant is a
3 competitor. I would call it, you know, we are --
4 it's friendly competition. I knew them and then
5 we are good friends.

6 Q. Sure. Mr. Registrar, if
7 we could please go to OD6, image 71.

8 Commission counsel took you
9 briefly to these exchanges from 2013 and during
10 which Dr. Henderson contacted the MTO to conduct
11 friction testing on the Red Hill. I'm sorry, if
12 we could go to -- if we can just pull out the top
13 two paragraphs.

14 That's the exchange with the
15 MTO with Dr. Henderson. You'll see of course that
16 the MTO specifically recommends that Golder get a
17 quotation from ARA because they have the same
18 equipment, and your evidence was that although you
19 weren't copied on this, that Dr. Henderson kept
20 you informed about the MTO's recommendation to
21 contact ARA, but that no one from Golders
22 contacted ARA to see if they could conduct
23 friction testing on the Red Hill, correct?

24 A. I wouldn't say that, you
25 know, MTO specifically recommend ARA. They just

1 let me know that ARA had the same piece of
2 equipment. And yeah, that they --

3 Q. They use the word
4 "recommend."

5 A. Recommend. Yeah, they
6 say recommend, but I wouldn't say specifically.
7 They just offered another company -- not company
8 because MTO is not a company. Another body,
9 provided they can do the testing.

10 Q. You don't read recommend
11 you get a quotation from ARA as the MTO
12 recommending ARA?

13 A. No, I think it was very
14 late in the year, it was in November, and I knew
15 that there was only one locked-wheel tester in
16 Ontario. So they would have to bring this thing
17 from the States, and I don't remember exactly the
18 date of this thing. It was somewhere in November,
19 so it would take -- you know, we thought, okay --
20 I was looking for another alternative, somebody
21 who can do it here in Ontario.

22 Q. Right, and your evidence
23 was that you understood from your time working at
24 the John Emery shop that ARA would have to bring
25 the equipment from the U.S., but you didn't have

1 any knowledge of ARA's ability to do friction
2 testing at that time in 2013, correct?

3 A. I knew that there was
4 only one piece of this equipment in Ontario, so my
5 conclusion was that they would have to bring it
6 from the States.

7 Q. Right. And you didn't
8 contact ARA to check whether they would be able to
9 obtain the equipment or whether they had the
10 equipment available in Ontario?

11 A. No, I didn't. I think it
12 was obvious conclusion that, you know, at this
13 time of the year, that would -- because I think it
14 was late November, so for me it was a clear
15 conclusion to reach to somebody who can do it
16 quickly for us. I didn't talk to --

17 Q. So you directed Dr.
18 Henderson to contact Tradewind instead of checking
19 in with ARA?

20 A. Correct.

21 MS. CONTRACTOR:
22 Mr. Commissioner, I think those are my questions,
23 but if I could just have a moment?

24 JUSTICE WILTON-SIEGEL: Sure.

25 MS. CONTRACTOR: Thank you.

1 Those are all my questions, Dr. Uzarowski, thank
2 you for your time.

3 THE WITNESS: Thank you.

4 JUSTICE WILTON-SIEGEL: Then I
5 think, Ms. Roberts, you have the podium, such as
6 it is.

7 MS. JENNIFER ROBERTS: Thank
8 you.

9 EXAMINATION BY MS. JENNIFER ROBERTS:

10 Q. Dr. Uzarowski, I just
11 want to take you through a couple of points from
12 the testimony you just gave.

13 Counsel for Hamilton
14 identified that it took you quite a while to
15 finalize the pavement evaluation report. You
16 delivered a draft in December, and then the final
17 report gets actually delivered in March, I think,
18 of 2019. Why did it take so long to deliver a
19 final pavement evaluation report to the City of
20 Hamilton?

21 A. Why? One thing is -- you
22 know, first, we delivered the draft just before
23 Christmas, so obviously there was some Christmas
24 break and New Year break. That's one aspect,
25 that's real life.

1 And then we look at this
2 thing, and we had to look carefully at all
3 aspects. We had a few versions with this and we
4 -- I consulted this thing not only with our senior
5 management people, legal people, but also with my
6 senior technical colleagues, just to make sure
7 that it is -- it was correct, the final version.
8 It wasn't easy. There were a few aspects that we
9 really had to carefully consider.

10 Q. So that internal
11 evaluation, internal review is the reason, and why
12 was that so protracted?

13 A. Because I think -- first
14 of all the subject was complex, like, you know, to
15 talk about PSV and other aspect, to look at this
16 thing. At the same time, like, I would put my
17 thoughts, I would send it for review to my
18 colleagues, they would send it back, then I would
19 look -- whether I reviewed or not, I would make
20 changes, I would send it back to them, and they --
21 it's not -- you know, these people are very busy.
22 They don't respond right away, it takes some time.

23 But at the same time -- in my
24 opinion, that was not simple. We had to justify.
25 For instance, the only simple aspect was

1 macrotexture because we measured, this is it. But
2 the other aspects, we had to really put a lot of
3 thinking and attention, you know, what our opinion
4 about this thing was.

5 Q. Thank you. I'll move on.

6 You mentioned at various times
7 in your testimony your experience with airports,
8 and I want to address that briefly, if I can.

9 How is it that issues with
10 frictional performance on a runway are identified
11 and addressed?

12 A. You know, I do a lot of
13 airports, and any issues identify by airports are
14 typically addressed I would say immediately, or
15 almost immediately. So it's typical if a pilot or
16 operation people raise some issue, then it is
17 addressed promptly. Whether it's friction, one
18 item, any bumps, any -- this sort of thing. So
19 I'm used to this. That if there is any issue
20 observed, they react promptly. Sometimes they ask
21 me my opinion, I provide the recommendation, and
22 it's done. So it's not dragged forever. They may
23 discuss with me whether I agree with this, what I
24 would -- what my recommendation would do, but it's
25 typically done promptly. It's not delay.

1 Q. So if a pilot identifies
2 a feeling of slippery, then there's a response.
3 Is that what you're saying?

4 A. Yes, they have to respond
5 immediately.

6 Q. Your experience working
7 with airports is how you knew about the
8 application of Skidabrader or a Blastrac; is that
9 the case?

10 A. Blastrac -- you know,
11 Blastrac, I saw Blastrac at 2004 presentation --
12 conference. I deliver a presentation in the U.S.
13 There was a presentation by Blastrac, but I was
14 very familiar with Skidabrader. Skidabrader, it
15 comes from Louisiana twice a year here, and it's
16 used by number of airports for rubber removal
17 first, but mainly to improve frictional
18 characteristics, to improve micro and
19 macrotecture, and it's extremely effective, quick
20 and cost-effective.

21 Q. Thank you. Jumping to a
22 different piece of the evidence. I want to cover
23 off a point that I raised way back in April when
24 you last testified. This is in relation to the
25 construction of the pavement on the Red Hill.

1 So the question I had asked
2 you at the time, and I'm going to repeat it now,
3 is in the course of your subsequent work on the
4 Red Hill, were you able to confirm that the
5 asphalt on the Red Hill generally conformed to the
6 Trow asphalt mix design.

7 A. We took large -- let's
8 say not we took. The City took -- or the City
9 hired a contractor to take a lot of samples from
10 the Red Hill Valley Parkway, and those samples
11 were delivered to other laboratory in 2018, and we
12 tested those samples. And then as part of this
13 assignment, we did I think mainly gradation
14 analysis because gradation was to determine if hot
15 in-place recycling was feasible, but at the same
16 to verify the quality. And then we compared this
17 thing to the Trow mix design, but also to the
18 quality assurance testing results.

19 So in that report I show a
20 plot of grad- -- so also other characteristics
21 like volumetrics, voids, et cetera, asphalt cement
22 content, but mainly gradation. Gradation. And I
23 compare gradation with -- of those samples
24 recovered from the pavement, with the QA samples,
25 and I think we notice that, you know, in my

1 opinion, it was very good, we're extremely close
2 to what was in the QA with -- I think the main
3 difference was we're a little bit -- a bit higher
4 on dust content, about 2 percent higher in those
5 2018 samples, 2018 sample testing results,
6 compared to quality assurance testing in 2007.

7 So that would indicate that
8 there was additional dust generated in the SMA due
9 to some abrasion of the aggregate. It wasn't
10 high, it was a very good quality aggregate, but
11 there was some additional dust generated in the
12 SMA, obviously due to -- I don't know if you want
13 me to elaborate a little bit. Because -- yes,
14 sorry.

15 Q. Can I get you to pause on
16 the issue of dust and just complete the thought
17 without all the technical detail, because not all
18 of us are as technical as you are, Dr. Uzarowski.

19 What I want to know is
20 whether, in your opinion, what was actually
21 constructed on the Red Hill, that asphalt
22 generally conformed with the mix design.

23 A. Definitely. I think it
24 was very, very, very close to what it should be.
25 Actually, I was even surprised how close it was.

1 Q. Thank you. Now I'll turn
2 you loose on the issue of dust. So you're saying
3 there was more dust when you -- the -- when the
4 asphalt was pulled up in 2018. Why -- what does
5 that indicate to you?

6 A. So first maybe, you know,
7 dust is what we called passing 7 to 5 microns see
8 (ph). So this is what we call dust. SMA is a
9 stone -- very stony mix. So what you call, it's
10 stone-on-stone contact. So, you know, each time a
11 heavy vehicle passes the stone touches stone. And
12 nothing happens on the one pass, but roughly over
13 a period of -- it was like 11 years, there were
14 millions of passes. I think roughly we evaluated
15 like, you know, for this, 70,000 AADT roughly and
16 50 percent drag over this period of time, probably
17 about 16 or 18 million pieces (indiscernible)
18 application.

19 So each time stone touches
20 stone, stone touches stone, it abrades. Even if
21 it's very good, the aggregate was excellent, but
22 it still abrades. And this would generate this --
23 you know, this dust didn't come from -- anyway,
24 this dust only came from this slide -- some
25 abrasion of the aggregate.

1 Q. So when I think about
2 abrasion on a pavement, I think about it as being
3 the surface and what I think you've described as
4 polishing. But what you're describing here is the
5 internal abrasion within the asphalt from all of
6 those wheel passes. Do I understand that
7 correctly?

8 A. That's correct. The
9 polishing would occur on the surface, but within
10 the 40 millimetres of SMA this will be -- and not
11 only SMA, also the other part -- other layers will
12 also go through the same process. But
13 particularly SMA is where the contact is. So each
14 time it will slowly, slowly -- you know, it will
15 somewhat abrade and generate this additional dust.

16 Q. So later, in 2017, 2018,
17 as part of the pavement evaluation work, when you
18 send that aggregate away to Island for the PSV
19 testing and it comes back at 45, is that -- is the
20 internal abrasion part of why that result might
21 have been -- that result of 45, that medium as you
22 described it, might -- is there a causal
23 connection between the two?

24 A. Yes. Because, you know,
25 this aggregate that we recovered in -- in the

1 middle of 2018 was not the same aggregate that was
2 originally used, or not what we call virgin
3 aggregate that was used in 2007. Because 2007 --
4 and typically when we test PSVs on virgin
5 material, taken from the stockpile in the quarry,
6 but if this thing is in the pavement for 10 or
7 11 years, this is not the same material. So it's
8 not also -- from abrasion, other characteristics.
9 So this material has changed I think under such,
10 you know, extremely heavy traffic.

11 Q. Thank you. So I'm going
12 to jump ahead to a different point, and that is in
13 the 2015 CIMA report they identify potential
14 contributing factors to collisions, including
15 inadequate skid resistance as one potential one.

16 We listened to CIMA's evidence
17 on this. They identified inadequate skid
18 resistance, and then they give us bracket of
19 surface polishing, bleeding and contamination.

20 Just staying with the bleeding
21 and contamination, did you ever observe -- well,
22 let me ask first of all: Bleeding and
23 contamination means what?

24 A. Bleeding is -- it's a
25 more (indiscernible) term of flashing. So

1 bleeding means that there is free asphalt cement
2 visible on the surface of the layer. So it's for
3 dense graded mixes. Typically for SMA we called
4 it fat spots. And contamination so, you know, it
5 can be oil or, I don't know, dust or something.
6 But I have a lot of photos in the report, and even
7 we can go on Google Earth. There was not a single
8 spot on that pavement that would exhibit any
9 bleeding or fat spots. There was not a square
10 inch of fat spot of bleeding, and actually when
11 OHMPA had a bus tour on that pavement in 2007,
12 there were a lot of people impressed by the
13 quality of SMA. Not a single spot of bleeding or
14 contamination.

15 Q. Thank you. There's been
16 evidence at various points about -- and there's a
17 reference in some CIMA correspondence about
18 whether SMA can be treated. So let me ask the
19 question to you.

20 Is there anything particular
21 about SMA that would make it unsuitable for a
22 surface treatment, like microsurfacing?

23 A. No, I don't -- I don't
24 see any concern. It would change -- obviously it
25 would change the appearance, yes, because it's

1 like -- you know, it's a coating. It's same
2 coating, but it would change the appearance. But
3 you would -- actually you would need an expert to
4 recognize in this the difference in appearance.
5 So experts would recognize, but typically the
6 drivers would not see any difference. So there
7 was not any particular concern with using
8 microsurface, microsurfacing using -- is being
9 used everywhere, including airports.

10 Q. But my question is, is
11 you can -- can you use microsurfacing on SMA?

12 A. Yes, you can.

13 Q. Thank you. I want to go
14 to the 2014 Golder report. In the context for
15 that, and you've given evidence on it, is that you
16 were told that the police had identified that the
17 surface was slippery. We've gone through that
18 evidence. I don't want to particularly take you
19 to it.

20 There's evidence as well that
21 the ramps in particular were identified as being
22 slippery. Were the ramps constructed of SMA, the
23 asphalt?

24 A. Only one ramp where --
25 that was the ramp where SMA test strip was done,

1 but the other ramps were paved with SuperPave
2 12.5FC2 mix.

3 Q. That was with the same
4 aggregate and the same asphalt cement?

5 A. Yes, the aggregate was
6 the same. That was the mix aggregate, and the
7 asphalt cement was PG70 -- minus 28.

8 Q. As part of the Tradewind
9 testing, you asked them to test some of the ramps
10 as well; is that true?

11 A. Yes, this is correct.

12 Q. I want to go to that.
13 Registrar, could you please pull up Golder 2981
14 and image -- I think it's 105. So if --
15 Registrar, could you please call up the chart at
16 the bottom.

17 Dr. Uzarowski, is this the
18 friction testing conducted by Tradewind on the
19 ramps?

20 A. Yes, it is.

21 Q. Which is the FC2 and
22 which is the SMA ramp here?

23 A. Greenhill off ramp and
24 Greenhill on ramp, these are the ramps that
25 incorporated FC2 -- or SuperPave 12.5FC2 mix. And

1 Stone Church off ramp, I think this is the ramp
2 where the SMA test strip was carried out.

3 Q. Let's stay on the
4 Greenhill ramps because that would reflect or --
5 assuming that the FC2 on these ramps had the same
6 properties as the FC2 on the other ramps, what are
7 your observations of the friction numbers?

8 A. The friction numbers on
9 both ramps in my opinion were very good. All
10 good. Yeah, very good.

11 Q. Does this -- and this
12 is -- do these high friction numbers indicate that
13 likely surface friction is not a material factor
14 in the experience of poor frictional performance?

15 A. In my opinion, the
16 friction numbers as measured are good. So on the
17 on ramp, they didn't contribute to overall issues
18 with friction or characteristic, The friction
19 numbers themselves.

20 Q. So that's exactly the
21 point I'm trying to get at. You've given evidence
22 that friction is one component in performance. So
23 here if you've got good friction numbers and yet
24 you've got police saying the ramps are slippery,
25 what does that suggest to you?

1 A. Well, that clearly
2 suggests to me that, you know, the friction
3 numbers as measured, this is only one -- one item
4 in this large number of factors that contribute to
5 the potential of ramp being slippery. So this is
6 only one item that I mentioned before, John Emery
7 showed me. You know, large number of factors,
8 this is only one factor that doesn't -- in this
9 case, you know, it didn't have any significant
10 impact.

11 Q. So is this an instance
12 where the other factors contributing to frictional
13 performance would have to be looked at very
14 carefully?

15 A. Definitely, yes.

16 Q. You've been asked a
17 question of whether it would have been useful to
18 know about the CIMA report, and your evidence is
19 that it would. Let me turn the question the other
20 way.

21 Would you think it would be
22 useful for CIMA to have had the Tradewind report?

23 A. I think -- I think that
24 it would be useful both ways.

25 Q. Just staying with the

1 ramps here while we have got this callout. If
2 CIMA had had the Tradewind report and they have
3 this data on the ramps, they could have focused
4 their investigation on the other factors that
5 you've referenced?

6 A. Oh, you know, that's
7 common sense, definitely.

8 Q. Thank you, Registrar, you
9 can take this down.

10 So counsel for Hamilton asked
11 you on a number of occasions whether you had
12 safety concerns about the Red Hill. I'm going
13 to -- I'm not going to ask that question. I'm
14 going to ask a slightly different question.

15 So let me start with could it
16 be the case that friction might be so low that
17 that itself would be a safety concern? I think
18 you described it as a red flag case. Could
19 friction be so low that it, itself, was the red
20 flag? It's a hypothetical question.

21 A. Yeah, yeah, I think it --
22 yeah, I think probably if it was drastically low
23 like -- you know, I think MTO mentioned, like, you
24 know, 20 or below, that would be low. Or if there
25 is any, like oil spill or something, something

1 observed, that -- but it would have to be very
2 low, very, very low.

3 Q. So I take it by inference
4 that these numbers were never so low that you
5 were -- let me ask this as a question. Did you
6 consider the numbers, the friction numbers by
7 themselves a red flag?

8 A. No, I didn't.

9 Q. Staying with the Golder
10 report. One of the things you said is that if you
11 had had that CIMA report, that you might have
12 included testing from macrotexture in the 2014
13 Golder report. Can you remind us how macrotexture
14 is relevant to friction performance?

15 A. Well, macrotexture is one
16 of the major factors because -- particularly
17 during wet weather condition. Good macrotexture
18 provides the channels for water to dissipate and
19 to avoid hydroplaning. So it is one of the --
20 particularly for high speed, you know, pavements
21 with poor macrotexture, there can be a lot
22 hydroplaning, and that would very negatively
23 impact frictional characteristics. So you need
24 this channel for water to dissipate for high-speed
25 traffic.

1 Q. Thank you. Later, as
2 part of the pavement evaluation report, Golder did
3 test macrotexture. What were your conclusions
4 from that testing?

5 A. Macrotexture was good.
6 It was -- on average it was I think
7 1.25 millimetres. Typically for SMA if it's 1
8 millimetre it's good. So it was -- still after so
9 many years the average macrotexture was 1.25
10 millimetre, which in our opinion it's good.

11 Q. Thank you. We go to a
12 slightly different topic. Bear with me here.

13 You gave testimony that in
14 December and January that Gary Moore was -- Mr.
15 Moore was looking for the friction testing
16 results, and you described yourself as stressed
17 because you knew that he was looking for the
18 results. Do you remember that?

19 A. December and January?

20 Q. December 2013 and
21 January 2014 when -- this is around the time when
22 Mr. Moore is looking for the friction test results
23 from Tradewind.

24 A. Yes. So yes, I recall it
25 that Mr. Moore put some pressure, and he wanted to

1 have the results as soon as possible, you know,
2 even like on one day, so by noon. He needed this
3 thing by noon.

4 Q. Thank you. Let me ask
5 this question then. If Mr. Moore had wanted
6 information from Golder, would you have known
7 about it?

8 A. You know, if he needed
9 that he would let me know, he ask me.

10 Q. Thank you. I want to go
11 forward in time to the meeting you had with
12 Mr. Moore on February 7 where you present the
13 results from the Golder investigation, the Golder
14 report, just to frame reference for you.

15 Your evidence was that
16 Mr. Moore did not ask for an explanation about a
17 correlation between grip number or friction number
18 or what standards existed in North America at that
19 time. Do you remember that?

20 A. Yes, I do.

21 Q. You were asked that by
22 commission counsel and that was your evidence.

23 A. Correct.

24 Q. Is it possible in your
25 mind that Mr. Moore would have asked for an

1 explanation between grip number, friction number
2 standards and you didn't respond?

3 A. No, it would be -- no.
4 No, it was very clear. Our meetings were very
5 clear what was discussed. I was fully aware.

6 Q. Going on to a different
7 topic. So this is in relation to the proposal for
8 a CTAA paper.

9 So you remember in relation to
10 the Golder report you did an abstract in March
11 of 2013, and then -- and it was rejected, and
12 then I -- and you said if he -- if you didn't want
13 to do it you said that was it.

14 However, here you raise it
15 again. In February 7, 2014 -- and let's go to it
16 perhaps -- OD6, image 100, paragraph 260. There
17 it is. Can you just call up under -- in the notes
18 that first part, six years and CTAA.

19 When you were asked this by
20 commission counsel you said -- when you were asked
21 why you suggested doing another paper, you said it
22 was because it would be a perfect topic.

23 Why -- why after you've got a
24 finding that the pavement has surface
25 deterioration and the relatively low friction of

1 the SMA is it a perfect topic?

2 A. You know, I think it's

3 perfect not in terms of everything is perfect.

4 No. This was the reality. As you know, I wrote a

5 lot of technical papers, I presented them. It's

6 important to show the reality to the industry.

7 This is the way they learn. They don't learn only

8 from -- actually, I was even asked, don't only

9 show good examples, show examples that are not as

10 good. How you dealt with this. And for me it was

11 we had the results, we could show them, we could

12 actually show that this is really perpetual

13 pavement because the cracking was only top down

14 cracking. The bottom was excellent, you know, so

15 didn't crack at the bottom, crack at the top. And

16 the same time, yes, the reality, we had issue with

17 there was some cracking, there was flooding, there

18 micro cracking. And, you know, this frictional

19 characteristics that, you know, I consider -- so I

20 like sharing this thing with the audience, and

21 this is what the audience is interested in because

22 they may have similar issues.

23 And they ask -- they would

24 ask, you know, what it was, how you dealt with it.

25 I was asked by number of members of the audience

1 to tell us not only the good stuff but also
2 something that is not that good, the reality.

3 Q. Thank you. Can we please
4 go to Golder 2981, image 10. Thank you. Can you
5 please call out 5, section 5. Thank you. I want
6 to go to this one first.

7 So you've been taken to this,
8 and this is where you provide a comparison of the
9 testing data that MTO did in 2007 with that done
10 by Tradewind in 2013. I'm not going to go into
11 what you did in order to provide that comparison.
12 Commission counsel observed that the 2007 data was
13 described as artificially low because of the
14 effect of early low age friction on SMA asphalt.

15 And you noted that your
16 finding didn't say that the 2007 data would have
17 reflected the early age friction. Here's my
18 question.

19 Did you -- did you understand
20 that Mr. Moore knew about early age friction issue
21 with SMA asphalt?

22 A. Of course, I think he
23 did. Well, you mean during -- just after the
24 construction, yes. I think he did.

25 Q. Right. Can we please go

1 down to the next section, which is 6. I think I
2 need also the next page. There we go. So these
3 are part of the -- sorry, forgive me, I want to go
4 somewhere else first. Could we please go to OD6,
5 pages 92 and 93. Forgive me, Registrar, I will go
6 back there, just not quite yet.

7 The Tradewind report. The
8 Tradewind report's conclusions and recommendations
9 are at the bottom of page 92 and the top of
10 page 93.

11 Registrar, can you please call
12 out -- can you call out those two sections so that
13 we can see paragraph 242. Thank you. I want to
14 see the next page too. Thank you.

15 These are the Tradewind
16 recommendations. I just want to draw your
17 attention to where Tradewind writes:

18 "The overall friction averages
19 as measured by the great grip
20 tester were below or well
21 below the same UK
22 investigatory levels."

23 And he identifies the
24 variability of the friction values. He says:

25 "In addition, it should be

1 noted in addition to the
2 overall low average grip
3 number levels on this
4 facility, there are some
5 localized sections with quite
6 low friction values reaching
7 27 to 30 in several areas. We
8 recommend a more detailed
9 investigation be conducted and
10 possible remedial action be
11 considered to enhance the
12 surface texture and friction
13 characteristic of the Red Hill
14 Valley Parkway based on
15 friction measurements recorded
16 in the current survey."

17 Do you remember that?

18 A. Yes, I do.

19 Q. Did you incorporate the
20 Tradewind recommendations within the
21 recommendations you provided in the Golder report?

22 A. I did because I
23 recommended remedial action that would address all
24 those concerns.

25 Q. We'll get to it because

1 we'll go to 6, but you don't recommend further
2 friction testing to monitor the Red Hill. Why
3 not?

4 A. Because in my opinion,
5 I -- we didn't need additional testing if my
6 recommended remedial action was implemented,
7 because that will be a new service. I recommended
8 microsurfacing, I knew it was excellent, provided
9 excellent frictional characteristics, and so that
10 would address all the concerns. That would be
11 surface costs with very good friction numbers. So
12 there was no need to repeat that testing.

13 Q. Thank you. So,
14 Registrar, now can we go, please, to OD6, page 97.
15 Call out paragraph 253, please.

16 So these are the Golder
17 recommendations, and as you say, you do identify
18 microsurfacing amongst the recommendations. I
19 just want to go back and go through this in
20 detail, and you have given this evidence. Your
21 remedial recommendations are much more significant
22 than microsurfacing.

23 Can you just take us through
24 that? You're addressing a number of things here.

25 A. Yes. When I look at this

1 thing the objective was pavement evaluation.
2 Friction was one aspect, but pavement evaluation.
3 So as I stated before, that was a perpetual
4 pavement, that was designed to last 50 years.
5 It's experienced, you know, twice floodings and
6 heavy traffic. So I -- we look at the distresses
7 and we observe this dips -- dips, cracking, micro
8 cracking, but the main thing was also
9 delamination. So that was one -- that was the
10 aspect that we had to address in our
11 recommendation.

12 At the same time, that was
13 relatively low friction numbers, so in my
14 opinion -- not only in my opinion -- I think it
15 was very good solution because if we -- one thing
16 was this mill and overlay, those areas with --
17 that were delaminating. But then for the rest, if
18 we apply this thing, I think at relatively low
19 cost, we resolve the relatively -- friction issue,
20 and also the stresses that would -- definitely
21 would have negative impact on the performance of
22 the pavement. At this relatively low cost, we
23 could address everything that we observed during
24 pavement evaluation.

25 Q. Just to cover off what

1 you observed. Amongst the deterioration you
2 observed, does that include the bumps and dips?

3 A. Oh, yes, it does. I
4 think we called it here depressions, because they
5 were -- I think they were mainly in the area where
6 there was the flooding, but not only. Also bridge
7 approaches, et cetera. So there were some dips,
8 but that would address also dips because I -- I
9 know I discuss or recommended that, you know, we
10 could put a scratch coat first and then the
11 surface coat. That would address the distresses
12 that we observed on the parkway.

13 Q. Perfect. So I want to
14 jump ahead. It's your evidence that you don't --
15 you give these recommendations and you deliver
16 them to Mr. Moore and talk about them on
17 February 7, 2014, and then you don't hear anything
18 further until we get to December of 2015, and you
19 ask -- are asked to do the initial profile work.
20 On March 4 you deliver the results to Mr. Moore.

21 Can we please go to OD7, page
22 114, 366. Please bear with me, Commissioner and
23 Dr. Uzarowski. I'm just going to sequence a
24 series of pieces of evidence.

25 So March 4, and this is

1 paragraph 366. Can you please call that up. We
2 need the next one. Thank you. Good memory,
3 Registrar.

4 These are the topics that you
5 discussed, and this is delivery of the results of
6 the additional initial profile survey work,
7 correct?

8 A. Correct.

9 Q. I believe your evidence
10 was that Mr. Moore wanted the initial profile, but
11 then he wanted that plotted against effectively a
12 map of the Red Hill?

13 A. Yes, yes. We prepared an
14 Excel spreadsheet with -- we identify the location
15 and severity of the dips and what -- so we
16 classified on the three, I think low, medium and
17 high severity dips with locations, but also we
18 showed them on this -- like a significant number
19 of -- because I don't remember, like 15 or
20 something for each piece. So we identify where
21 those dips were.

22 Q. You've given testimony
23 about the evidence that follows immediately here
24 about the blasting and the Skidabrader. The
25 reference to microsurfacing here, are you

1 proposing microsurfacing again in March of 2014 as
2 a treatment for the bumps and dips?

3 A. I think definitely. If
4 it's in my notes, we talk about this.

5 Q. And then we've got the
6 back and forth about where you provide the
7 information on Skidabrader. I would like, please,
8 to go to OD7, page 118, paragraph 378.

9 You'll remember that you've
10 got that exchange that you've been taken to by
11 commission counsel where you recommend the
12 Skidabrading and back and forth. This is Mr.
13 Moore's final e-mail where he said:

14 "I thought you were talking
15 about more testing. I've
16 never heard of this technology
17 or what it does. Besides, it
18 doesn't address the cracking,
19 and we need to address the
20 surface distresses and
21 deformations, pumps and sumps,
22 so I don't think we are
23 interested." (As read)

24 Do you remember that?

25 A. Yes, I do.

1 Q. Was he right that the
2 Skidabrader wouldn't address the surface
3 distresses and deformations?

4 A. Yes, he was. Only
5 friction, no other distresses.

6 Q. Then could we please go
7 to page 120. 383, please.

8 I'm going to take you to some
9 evidence here that you weren't copied on and your
10 evidence is you didn't know about, but here we've
11 got Mr. Andoga to Mr. Becke, Ms. Jacob, copying a
12 number of people, including Mr. Oddi:

13 "Asset management has
14 programmed both the LINC and
15 RHVE for rehabilitation 2017.
16 The objective is to improve
17 skid resistance on the RHVE,
18 repair settlement areas, as
19 well as repair the ramps of
20 the LINC. Both Miller and
21 Norjohn have been invited to
22 provide a proposal for a
23 rehabilitation strategy to
24 meet these objectives, in
25 addition to completing

1 500-metre test section on
2 Dartnall Road interchange."
3 How do you interpret repair
4 settlement? Do you understand that to mean the
5 bumps and dips?

6 A. Yes, this is my
7 understanding, clearly, yes.

8 Q. Could we please go to
9 paragraph 122 -- sorry, page 122, paragraph 391.

10 Again, this is an e-mail you
11 weren't copied with. Can I ask you please to read
12 it, Dr. Uzarowski. This is Mr. Cifelli, and I
13 think you've said that he's from Miller Paving,
14 he's from Miller Paving?

15 A. Yeah, I know Mr. Cifelli.

16 Q. Okay. And it looks as
17 though he's done -- well, he says:

18 "We drove LINC and Red Hill
19 last week and took notes and
20 photo. We drove a loop."

21 And he tells you where he's
22 gone, and he summarizes his findings:

23 "Bad paver joints in general,
24 in various states of cracked,
25 open, potholes, blowouts. May

1 need to repair areas (crack
2 seal, cold mix, hot mix)
3 before micro. Wheel path
4 cracking suggests the road has
5 reached or exceeded its
6 designated ESALs and is now
7 failing in fatigue. Likely
8 not high-RAP."

9 I'm not sure what he means
10 there, "REOB-related."

11 A. Recycled engine oil.

12 Q. So he identifies the
13 possibility you do it as well. Okay.

14 "Surface still has black
15 colour. Could also be poor
16 base, inadequate structural
17 number. Can you send us some
18 recent traffic data?" (As
19 read)

20 And then he talks about the
21 ramps, and he talks about a bad cold joint.

22 Now, this is two years after
23 the Golder six-year review. Does this reflect
24 same issues that you identified, just more
25 deterioration in the ensuing two years?

1 A. It's similar. I don't
2 agree with the statement about failing in fatigue,
3 but Mr. Cifelli didn't know that it was a
4 perpetual pavement and it was top-down cracking.
5 But the observations were like, you know, the next
6 stage of the distresses that we observed two years
7 before.

8 Q. So the last paragraph,
9 though, is:

10 "Brad feels micro is a good
11 option, however we need to
12 allow for some
13 pre-construction repairs
14 (potholes, crack sealing,
15 base, etc.), and perhaps some
16 crack sealing the year after
17 the micro in case some cracks
18 return."

19 Would this work that's
20 identified here, would that effectively conform
21 with the recommendations you provided to the City
22 of Hamilton in the six-year review?

23 A. Yeah, this is almost
24 exactly what we observed, except that the
25 potholes, we didn't -- at two years prior we

1 didn't observe any potholes, but the rest was
2 exactly what we observed, was the cracking,
3 opening of the joints, and these depressions. So
4 it was exactly what we observed two years prior.

5 Q. If Miller Paving had
6 proceeded, and as you see in the bottom paragraph
7 they are proposing some pre-construction repairs,
8 potholes, crack sealing, base, et cetera, and then
9 before micro, does that essentially conform for
10 your recommendations for remedial work on the Red
11 Hill?

12 A. That was almost exactly
13 what we recommended two years prior, but the
14 pavement condition, you know, it has deteriorated,
15 so it wasn't as good. It was two years ago, so
16 the deterioration progress, but it was what we
17 recommended and -- yeah, this is actually what we
18 recommended two years prior, exactly.

19 Q. Had the City proceeded to
20 engage Miller to complete the work proposed, would
21 that have addressed the pavement condition
22 deterioration as well as the relatively low
23 friction that you identified two years earlier?

24 A. Oh, it would. It would
25 require more repair work than two years ago, but

1 that would address the pavement -- that would
2 address the distresses that were observed and the
3 friction, relatively low friction.

4 Q. Thank you. I know you
5 weren't part of this and your evidence is you
6 didn't know about it, but do you have any idea why
7 City of Hamilton wouldn't have followed through in
8 April of 2016 with this remedial work?

9 A. They didn't tell me. I
10 didn't know about this. I don't know.

11 Q. Thank you. You can take
12 down the callout.

13 Commissioner, I think I've got
14 probably 15, 20 more minutes. Is it our break
15 time? Would it be convenient to take a break
16 before we finish?

17 JUSTICE WILTON-SIEGEL: I
18 think it would be convenient, and perhaps that
19 will allow you to review your notes.

20 MS. JENNIFER ROBERTS: Thank
21 you.

22 JUSTICE WILTON-SIEGEL: Okay,
23 so let's take a 15-minute break, roughly. We'll
24 return at a quarter to 12.

25 --- Recess taken at 11:26 a.m.

1 --- Upon resuming at 11:45 a.m.

2 MS. JENNIFER ROBERTS: Thank
3 you, Commissioner. May I begin?

4 JUSTICE WILTON-SIEGEL: Please
5 begin.

6 MS. JENNIFER ROBERTS: Thank
7 you.

8 BY MS. JENNIFER ROBERTS:

9 Q. Dr. Uzarowski, I want to
10 take you to some different evidence. One of the
11 things you said in the course of your testimony
12 was -- and this is in the course of talking about
13 the Tradewind testing results, is you said that
14 the friction numbers were not that different from
15 those on many Ontario highways. Do you remember
16 saying that?

17 A. Yes, I do.

18 Q. So I want to go --
19 because I think it's easier for understanding to
20 go to the MTO numbers. So, Registrar, can you
21 please go to OD4, images 97 and 98. Thank you.

22 Dr. Uzarowski, is this data --
23 have you seen -- have you had a chance to look at
24 this data?

25 A. Yes, I have.

1 Q. Would it be helpful for
2 you to go to the originals, or are you content to
3 look at this?

4 A. For me, I can look at
5 this.

6 Q. Thank you. So this
7 shows -- this is a compilation of the test data
8 over a number of years taken by MTO, and your
9 evidence is that you didn't know that they --
10 apart from 2007, you didn't know and didn't have
11 access to any of the MTO data from 2008 to 2014;
12 that's the case?

13 A. Yes, that's the case.

14 Q. Maybe you can just help
15 us out and we can recap this because I think what
16 you can see is a trajectory of what happens with
17 this SMA surface. Can you explain that? If you
18 go to the 2008 data and then show -- maybe you can
19 take us through and explain what your analysis is
20 of these numbers now.

21 A. So this shows the FN
22 numbers, FN numbers as tested by the ministry. I
23 think on the left-hand side we have 2008 to 2014
24 on the right-hand side. It includes also the 2007
25 results.

1 Q. Maybe what we can do just
2 to make it easier on the eyes is we just call out
3 the test data on the left side. Make that a
4 little bit bigger. I think for the purposes of
5 what I'm asking, that will do. Does that help to
6 make it easier to see?

7 A. Oh, yeah, it is. So it
8 shows that, you know, how the results change from
9 year -- because I'm looking at the lane, it is --
10 I'm looking at what lane it is. Red Hill Valley
11 Parkway -- I'm looking at the difference between
12 the first -- the top one and the bottom one, which
13 one is -- whether it's lane 1 and lane 2, but I
14 don't --

15 Q. I see. I think we might
16 have to go back and -- sorry, Registrar, just stay
17 on the left page. We need to see a little more
18 information as to which lane it is.

19 THE REGISTRAR: Would it be
20 helpful if we looked at the native instead?

21 MS. JENNIFER ROBERTS: Sorry?

22 THE REGISTRAR: Would it be
23 helpful if I pulled up the native instead?

24 MS. JENNIFER ROBERTS: Sure.
25 Let's do that. I've got the MTO 22943 is one of

1 them. There you go. Can you make that bigger,
2 Registrar, or not? That's good. Thank you.

3 BY MS. JENNIFER ROBERTS:

4 Q. So you've got northbound
5 lane 1.

6 A. Yes, exactly, yes. So I
7 think this time the ministry not only tested SBL,
8 what they tested in 2007, but also NBL, so
9 northbound lane. So this is northbound lane 1.
10 So it shows that in 2008 -- so actually the
11 numbers, you know, I remember what numbers they
12 had in 2007, but it was in the different
13 direction. But basically you can see that the
14 numbers came up to the average of 41 and then they
15 started to go down, and from 41, 39, 37. I
16 believe that the last one is probably a typo, it
17 should be 2014. So they started to go down, and,
18 you know, it looks to me that they likely started
19 to stabilize, because you can see it's 35, 35.
20 It's like almost an indication that they would
21 start to stabilize.

22 Q. When you look at this, in
23 your view is this fairly consistent with what you
24 might expect to see on any number of Ontario
25 highways?

1 A. I would say it's pretty
2 consistent with what was observed on other SMA
3 pavements, and in particular keep in mind the
4 paper that MTO presented in -- I think it was 2008
5 at CTA conference when they presented the results
6 of SMA performance on Highway 401, and they showed
7 the SMA results over 10 years and also the results
8 of DSC, which is dense friction course, so it was
9 like conventional dense graded mix. So, you know,
10 I think this is typical what was observed on other
11 roads incorporating SMA, or in that case also DSC
12 was very similar. So that was typical.

13 Q. And the MTO's evidence is
14 that in their view these results indicated that
15 the friction was acceptable.

16 Yet, Dr. Uzarowski, when
17 you -- admittedly, you're looking at the Tradewind
18 data which is -- which is doing a different
19 methodology, but you recommend microsurfacing to
20 address what you describe as the relatively low
21 friction numbers. And my question is, is why is
22 it that in your view the Red Hill -- that it was
23 appropriate to recommend microsurfacing on the Red
24 Hill?

25 A. So, you know, I -- I knew

1 that in my opinion those results were not red
2 flagged, so they were not red flagged compared to
3 MTO and what I saw in MTO papers of 30 (ph), so
4 they were not.

5 But at the same time, I knew
6 once that the opinion from the police, and at the
7 same time, you know, I knew what Tradewind
8 Scientific was telling about their opinion about
9 friction numbers on the parkway. So in their
10 opinion it was low -- below or well below the
11 limit. So as I mentioned, as I stated before, I
12 thought they were excessively conservative with,
13 you know, saying 4 to 8, but overall that was
14 their opinion.

15 And also I look at the TAC
16 1997 pavement design and management guide, and
17 that table 26 what -- I know it was in
18 Pennsylvania, but it was included in -- table was
19 from Pennsylvania that was from the NCHRP paper.
20 So when I put this -- all this things together,
21 then I concluded that -- 26 -- table 26 and 27.

22 When I put all these things
23 together, then in my opinion this pavement would
24 require, you know, improvement or addressing and
25 improving the frictional numbers of the pavement.

1 Q. Thank you. I'm just
2 going to go in a different direction. Thank you
3 for that.

4 You just identified whether
5 you thought that numbers were levelling off. It
6 may be helpful just to complete that thought. Can
7 we please go the ARA test information.

8 So first of all,
9 Dr. Uzarowski, you knew that ARA conducted
10 friction testing on the Red Hill in May of 2019?

11 A. During this inquiry.

12 Q. Right. Registrar, could
13 you please pull up -- I'm just going to go to one
14 of them -- Hamilton 9628. That needs to be
15 native, I think, otherwise we're not going to be
16 able to understand it, or even a fighting chance.
17 Thank you.

18 Dr. Uzarowski, can you see
19 this?

20 A. Yes, I can. I know it
21 very well.

22 Q. Some of this is tested at
23 90. It's hard to see. Right. So, Registrar, if
24 you look at the speed, if you get to the part
25 where the speed is basically being tested at 90,

1 that what we want to look at. Column S we're
2 looking at. If you keep going. There we go. I
3 think it's line 83. There we go. If you can just
4 make this section, the whole thing, a little
5 larger. Is that possible? No, I don't need just
6 that. It's fine. We want to look at the numbers.
7 So you made it a little bit larger.

8 Dr. Uzarowski, can you see
9 this or do we need to make it even bigger?

10 A. I can see it quite well.

11 MS. JENNIFER ROBERTS:

12 Commissioner, can you see that?

13 JUSTICE WILTON-SIEGEL: I can
14 see a lot of numbers.

15 BY MS. JENNIFER ROBERTS:

16 Q. The question I'm asking,
17 Dr. Uzarowski, is when you look at the test data
18 that's done by ARA from May of 2019, in your
19 opinion do the friction numbers on the Red Hill
20 begin to level out?

21 A. Yes, I know these numbers
22 very well. I actually plotted them immediately
23 when I saw this. Yes, they stabilized at that
24 time or before. So they stabilized.

25 Q. Thank you. So while we

1 saw in the MTO that the numbers were quite high in
2 2008 and then had a trajectory down, if I'm
3 understanding you correct, you're telling us that
4 that deterioration stabilized and levelled out; am
5 I understanding you correctly?

6 A. Yes, that's correct. So
7 they go, they reach the peak, and they go down and
8 they stabilize, they level out at this -- at least
9 at this point. Likely before but definitely
10 during that time.

11 Q. Thank you.

12 JUSTICE WILTON-SIEGEL: Just
13 before we go from this, which column has the
14 actual friction numbers in it?

15 MS. JENNIFER ROBERTS: It's --

16 THE WITNESS: In column P, it
17 says SN AVG, SN average.

18 JUSTICE WILTON-SIEGEL: Thank
19 you.

20 MS. JENNIFER ROBERTS: Thanks.

21 Actually, Registrar, can you just make that a
22 little larger for us. That will help. There we
23 go. Thank you. Registrar, you can take that
24 down.

25 BY MS. JENNIFER ROBERTS:

1 Q. Dr. Uzarowski, one of the
2 points that's been made a couple of times is that
3 the friction number when it was tested by
4 Tradewind in 2013 was significantly different
5 between the Lincoln Alexander and the Red Hill.
6 Do you remember that testimony?

7 A. Yes, I do.

8 Q. Is that usual, that you
9 would have different friction -- surface friction
10 values between different segments of pavement
11 paved at different times with different materials?

12 A. Oh, yeah, this is like
13 you showed just a moment ago. The friction
14 numbers reach the peak and then they will go down
15 and they will level out. So the pavement that are
16 at different age will very likely have different
17 friction number. That's common sense, that's
18 obvious.

19 Q. So travelling on any road
20 you're going to have different friction depending
21 on when it was most recently paved. Do I
22 understand that right?

23 A. That's correct. So one
24 aspect, one factor is the age, and also there can
25 be some differences in mixed types and aggregate

1 sources, et cetera, but this is definitely a very
2 significant factor, the age of the pavement.

3 Q. Thank you. Going to go
4 to a different topic. I want to talk briefly
5 about the British pendulum testing and the weather
6 conditions. Registrar, could you please pull up
7 Golder 7414. Image 76 first, please.

8 I think your testimony on
9 this, Dr. Uzarowski, is that these are your notes
10 in preparation for the meeting you've talked about
11 on March 9 with various representatives of the
12 City. Do I have that right?

13 A. Yes. I have two sets of
14 notes. One was to prepare for the meeting, and
15 this is undated, but that was like a support --
16 like there were supportive notes for that meeting,
17 yes, that's right.

18 Q. And you've said -- let's
19 see if I can find it. In item 2 -- Registrar, can
20 you pull up where it says BPN. There we go. Help
21 out our eyes.

22 "BPN, very variable, average,
23 good, but ranges from 21 to
24 62."

25 And does that note here

1 'unreliable' represent your view of the British
2 pendulum testing numbers?

3 A. Yes, I plotted them, I
4 look at the trend, and I concluded that they were
5 unreliable.

6 Q. Thank you. You're
7 anticipating exactly the question. So can we
8 please turn up image 78.

9 You talked in your evidence
10 about a number of factors that might contribute to
11 the results being unreliable, the freezing
12 conditions, the presence of de-icer. My question
13 is a bit different. My question is how you made
14 the determination that these numbers were
15 unreliable.

16 A. These are the numbers.
17 These are the numbers, plus I knew the location of
18 each test, so I plotted -- in both directions I
19 plotted the test location versus BPN number, and I
20 look at the plot and I -- and it was all over the
21 place, all over place. I look at the trend, it
22 didn't make sense to me. I compared this thing to
23 what was in the Tradewind report. So they didn't
24 make any sense to me, and actually when -- this is
25 just outside later on when I -- as part of this

1 inquiry, when I look at the results from Englobe
2 testing, I saw that there was very good
3 correlation between Englobe and Tradewind. So I
4 think, you know, based on my plot, the trend
5 didn't make any sense.

6 Q. I just want to
7 understand that plot. You're plotting and you can
8 see the ups and downs, you think that doesn't make
9 sense, and am I understanding you that you also
10 are comparing it against the test data you do have
11 from Tradewind?

12 A. Yes, I realize that that
13 was a number of years ago and these are totally
14 different metals, this one is BPN and Tradewind
15 has grip tester. But, you know, just to compare
16 the trend. So compare the trend and -- you know,
17 this trend didn't make any sense, didn't compare.
18 Didn't make any sense to me, so I -- and based on
19 what I found out of the weather conditions and
20 snow and my concern about de-ices, I concluded
21 that we were testing the weather, not the
22 pavement.

23 Q. Thank you. I want to go
24 to another piece of evidence, about the hot
25 in-place recycling. Registrar, can you please

1 turn up Golder 7415, it's Exhibit 84.

2 Dr. Uzarowski, you testified
3 that you had a meeting on October 18, 2018 with
4 the City and at that meeting you presented your
5 gradation analysis, and we're just going to go to
6 it. Golder 7415. It's Exhibit 84.

7 THE REGISTRAR: Give me one
8 second.

9 MS. JENNIFER ROBERTS: No
10 problem.

11 THE REGISTRAR: Doesn't seem
12 like it wants to come up for me right now. Did
13 you want the native version of it instead?

14 MS. JENNIFER ROBERTS: Yes, if
15 that's possible.

16 THE REGISTRAR: That's why it
17 wasn't coming up for me. My apologies.

18 BY MS. JENNIFER ROBERTS:

19 Q. There we go. Mr. Lewis
20 took you to this, and I just want to have a look
21 at it with you, and perhaps you can explain how
22 this shows how difficult it would be to use the
23 SMA surface course in a hot in-place treatment?

24 A. Yes, so this is the
25 gradation analysis I prepared for the meeting

1 with -- this is what you want me to comment on?

2 Q. Yes.

3 A. So this is a gradation
4 analysis that I did in preparation for the meeting
5 with Mr. Mike Becke to talk about how hot in-place
6 recycling. Can we go a little bit.

7 Q. Down. We need to scroll
8 down.

9 A. Where you have the --
10 yeah. So again, I cannot comment about the
11 colours because as you know I'm colour blind, so
12 it's hard to say for me what colour it is. But
13 it's -- at the very bottom, I think it's called
14 SMA. I believe it's blue.

15 Q. Yes, it is.

16 A. So this is the gradation
17 of the SMA mix, and so the SMA mix, whether it
18 was -- QA, so that's the mix design, QA, and also
19 I think QA --

20 Q. Can we just call out the
21 plot actually a little bit, Registrar. I think
22 that will make it easier for Dr. Uzarowski. We
23 don't need to see the data. No, the other side.
24 Yes, that one. Scroll down, please, and can you
25 make that part bigger. There you go.

1 A. So the bottom one was the
2 SMA. SMA is an upgraded mix, so as you see on
3 this gradation, it has course aggregate, then --
4 so the course aggregate would be, say, in this --
5 yeah, from --

6 JUSTICE WILTON-SIEGEL: Could
7 I ask before we get further into this if you could
8 explain or just tell us what the two axes are.

9 THE WITNESS: Sorry about
10 that. It's not very precise. The horizontal axe
11 is sieve size.

12 JUSTICE WILTON-SIEGEL: Is the
13 sieve size. Okay.

14 THE WITNESS: Actually it
15 should be sieve size, but, you know, it was not
16 shown precisely, but it reflects sieve size,
17 because it should be from 0.075 to 12.5. But it
18 reflects sieve size. And the vertical one is
19 percent passing.

20 BY MS. JENNIFER ROBERTS:

21 Q. And the dotted line in
22 the middle?

23 A. So the dotted line in the
24 middle, the straight line is what we call maximum
25 density line, I believe. Is it?

1 Q. Got the EXP, SP12.5 --

2 A. So rather it may be that
3 would be like the gradation that, you know, that
4 would be somewhat in the envelope of the FC2 mix.
5 Because what I wanted to find out here before I
6 met with Mr. Becke, how we would have to change
7 the gradation. So this is -- like, this dotted
8 line is SP12.5FC2. Then I also mark the gradation
9 envelope for those mixes. It would be average
10 gradation --

11 Q. Is the SP12.FC2, that's
12 what you're trying to end up with?

13 A. Yes, so that would my
14 objective. Now, you have -- you know, the second
15 is specification minimum and specification
16 maximum. So this is the envelope. So that's the
17 envelope that my -- I would have to modify SMA
18 gradation in such a way that I would end up in
19 that envelope for FC2. Ideally it would be close
20 to that dotted line, more or less in the middle.
21 So that was my objective, okay, and I think I also
22 used -- I tried to see, you know, how I can --
23 what I should add to do it.

24 So what I did, I look at
25 typical gradation of aggregates that more or less

1 would have -- I would have to add to SMA to adjust
2 the gradation to be within that envelope. So I
3 use, you know, like I call it blend one, blend
4 two, LINC mix. So I use different aggregates, and
5 I wanted to see where this gradation is -- how can
6 I -- is there any -- what would be the best way to
7 fit it. But here I used the aggregate that's
8 whatever available and use on other projects. And
9 I couldn't fit it.

10 So at the end my conclusion is
11 that there is -- such aggregate is not available,
12 whether it's -- you know, I consider in this
13 case -- I know I consider more blends, but blend
14 one, blend two, or blend from the mix, such
15 aggregate -- only a particular side. Such
16 aggregate was not available, so what I would have
17 to do in order to adjust the gradation of SMA to
18 be within that envelope, they would have to add
19 custom-produced aggregate.

20 So it was the main -- there
21 wasn't anything like this available, at least when
22 I checked different blends. So it would have to
23 be on one hand high-quality aggregate that would
24 meet PSV, but at the same time it would have to be
25 custom-produced from the gradation point of view

1 so if it was added to SMA, it would move the
2 gradation of the SMA to the envelope, to be more
3 or less in the middle of that envelope.

4 Q. It's the -- so this is
5 the blends that you would have -- or the aggregate
6 you would have to add in to get -- to try and get
7 to that middle line where you've got the FC2, do I
8 understand that right?

9 A. To be close to the -- so
10 the idea would be -- we have the envelope for the
11 FC2, but ideally would be close to that dotted
12 line.

13 Q. If it's the case that you
14 have to actually get a custom aggregate, go to a
15 quarry and have them cut to a particular size to
16 get to the FC2, what does that do to the cost
17 efficiency of using a hot in-place recycling?

18 A. You know, I was in charge
19 of a quarry. I know it's possible, but it would
20 be very expensive, because aggregates produce
21 standard gradation fractions of aggregate and they
22 stockpile this material, like quantities, but then
23 if you come and you ask for a custom-produced
24 aggregate and custom gradation, then obviously
25 they would charge you much, much high -- much

1 higher.

2 Q. So whereas hot in-place
3 recycling might in an ordinary surface pavement --
4 circumstance of an ordinary pavement offer a cost
5 saving, in this case it would not, do I understand
6 you?

7 A. Correct. That would
8 be -- you know, that would be -- it was a very
9 significant -- I tried to try different
10 percentage, but at the end it would probably have
11 to be about -- my conclusion was about 50 percent
12 of this custom-produced aggregate to move this
13 thing to more or less the middle of the envelope,
14 so that would be very expensive.

15 MS. JENNIFER ROBERTS: Thank
16 you. Commissioner, do you have any -- subject to
17 questions, that's all I wanted to ask on this.

18 JUSTICE WILTON-SIEGEL: That's
19 fine.

20 BY MS. JENNIFER ROBERTS:

21 Q. Thank you. So last
22 topic, Dr. Uzarowski, I want to go to the PMTR
23 reports, and you've given testimony on them. Can
24 we please go to -- Registrar, can I please ask you
25 to call up three reports; Hamilton 723, Golder

1 7440 and Golder 7504.

2 THE REGISTRAR: Sorry,
3 Counsel, I can only share two at a time.

4 BY MS. JENNIFER ROBERTS:

5 Q. No problem. We'll look
6 at them sequentially. I've just given the
7 numbers. Let's pull up Hamilton 723.

8 This is Phase 1 PMTR, pavement
9 and materials technology review. You've given
10 testimony on it, Dr. Uzarowski, I don't propose to
11 take you back to it. Can we please go to image
12 24. Dr. Uzarowski, is this your signature?

13 A. Yes, it is.

14 Q. Can you just take us
15 through the process for finalizing what you did to
16 finalize this report and how it was that you ended
17 up signing it?

18 A. We prepared this,
19 prepared a draft. We discuss this thing with the
20 client, and I -- I don't think that they had any
21 significant comments, so they -- Phase 1 was --
22 yeah, that was a (indiscernible) I think. They
23 didn't have any significant -- we presented, they
24 agreed with the content of the report. They
25 didn't want any significant changes. So then we

1 finalize, signed it, and submitted the finalized
2 copy to -- yeah, to the City, but it was -- I
3 think we submit a number of copies. I had a big
4 presentation.

5 Q. Was this a paper that you
6 presented just to Mr. Moore, or was it to a larger
7 contingent within the City?

8 A. The presentation was to a
9 large crowd from the City, the presentation of the
10 findings of Phase 1.

11 Q. Let's look at phase 2.
12 Can we please turn up Golder 7440. There we go.

13 Is this -- this is pavement
14 and materials technology review, phase 2?

15 A. Yes.

16 Q. Registrar, can you please
17 go to image 55.

18 Again, this is signed by you
19 as well as Dr. Henderson?

20 A. Yes, it is.

21 Q. Again, do you present
22 this to a large contingent within the City of
23 Hamilton?

24 A. I think, because that was
25 one of the major steps of this, yeah, to make the

1 City staff familiar with the observation and
2 recommendations, and then -- because that would be
3 the step to make sure that it's implemented, yes.

4 Q. Can we please turn up
5 phase 3, which is Golder 7504. Pavement and
6 material technology review, phase 3.

7 This is submitted to the
8 public works department. The prior two were
9 submitted to Gary Moore. Why is this one to
10 public works?

11 A. Well, it's probably --
12 it's still Mr. Gary Moore, attention Mr. Gary
13 Moore, so I don't recall why we put this, because
14 it's still the same --

15 Q. He's still primary
16 contact?

17 A. Yeah, still the primary
18 contact for this assignment.

19 Q. Can we please turn up
20 image 34. Can you just go back to the first page
21 again on that one too, Registrar, I just want to
22 note something.

23 This is December 31, 2013.
24 That was when the PMTR3 was finalized?

25 A. Yes. Yes, it is. Also

1 it's possible that later on some work was edit to
2 this, but it was basically finalized, yes.

3 Q. This is around the same
4 time as you were working on the Golder report; is
5 that correct?

6 A. Yes, it is, yes.

7 Q. Let's got to image 34.
8 Again, this is your signature?

9 A. Yes, it is.

10 Q. It's also signed by Dr.
11 Henderson and Ms. Rizvi?

12 A. Yes, it is.

13 Q. Do you have any
14 recollection of why these three reports were
15 delivered in the signed final form that they were?

16 A. Because they were
17 presented to the client, you know, discuss, ask
18 about any comment or changes. There were not any.
19 Nothing significant as I recall. I think
20 everything was as it should be, and so we
21 delivered the final report and signed -- final
22 reports and signed it.

23 Q. Why was it that the
24 Golder report wasn't signed?

25 A. You mean the Golder 2014,

1 February 2014, yes?

2 Q. I do.

3 A. Okay. Because that
4 was presenting -- we ask for -- in the e-mail we
5 ask for any -- whether there were any questions,
6 any comments, and then I met, I presented, but we
7 never received any comments and any requests for
8 finalizing.

9 Q. Mr. Moore didn't get back
10 to you and request a final copy?

11 A. No, never.

12 MS. JENNIFER ROBERTS: Thank
13 you. Commissioner, I'm not sure if I've covered
14 off any questions that you might have, but those
15 are my questions.

16 JUSTICE WILTON-SIEGEL: Thank
17 you. I have no questions myself. Mr. Lewis.

18 MR. LEWIS: Yes, thank you,
19 Commissioner, I just have a few questions.

20 EXAMINATION BY MR. LEWIS (CONT'D):

21 Q. The first thing,
22 Dr. Uzarowski, if we could go to the Golder report
23 attaching the Tradewind report. I just have a
24 couple of questions around that. Registrar, this
25 is GOL2981 at image 105. If you could call out

1 the chart and the language just immediately above
2 it at the bottom of the page.

3 Ms. Roberts was asking you
4 about this. It's the ramp -- the Tradewind ramp
5 grip tester results. Of course the first two --
6 after the changes are the Greenhill off ramp and
7 on ramp you talked about. I just wasn't clear
8 from your evidence about the Stone Church off
9 ramp. We know that the Greenhill ramps were paved
10 with SP19FC2, as the other ramps were as well.
11 But I thought there was a reference, and I'm not
12 sure if it was you or Ms. Roberts who referred to
13 the Stone Church off ramp and mentioned SMA.

14 Is the Stone Church off ramp,
15 is that part of the Mud Hill interchange?

16 A. I wasn't on-site during
17 the testing, Dr. Henderson was, but my
18 understanding is that if we look at the map, this
19 is the off ramp going from the Red Hill Valley
20 Parkway to Mud Street.

21 Q. Right, and is that -- is
22 your understanding that that is the ramp where the
23 SMA test strip was done, or is it a different
24 ramp?

25 A. I wasn't there, but my

1 understanding would that be that this would be the
2 SMA test strip ramp.

3 Q. Just if we could pull up
4 Exhibit 22, which is RHV930. Maybe just expand
5 the picture itself. Yeah, thank you.

6 So this is when you testified
7 back in April, you identified your understanding
8 of where the SMA test strip was placed on
9 July 25th, 2007, and that's what that red marking
10 was, it was the approximate location of it. And
11 this is the Mud Street interchange, and then
12 coming off going eastbound and then turning to the
13 northbound on the Red Hill, if you come on to this
14 red marked off ramp, that takes you there -- as it
15 bends south, it then takes you down to what is
16 Stone Church; is that right?

17 A. Yes, I think this is --
18 yeah, this is my understanding.

19 Q. Thank you. And you think
20 that that's the same one as is referenced in the
21 Tradewind report as the Stone Church off ramp that
22 was measured?

23 A. This is my understanding.
24 I wasn't on-site, so Dr. Henderson would know, but
25 my understanding is that this is the -- what you

1 would call off ramp to Stone Church because Stone
2 Church is the street going down, yes.

3 Q. Well, Stone Church is
4 actually the street at the bottom of the image,
5 Stone Church Road East, as opposed to the ramp
6 itself. It goes down to what's called Upper Red
7 Hill Valley Parkway is what's south of that, but
8 the east-west road down at the bottom right where
9 it says the Home Depot and so forth, that's Stone
10 Church, is my understanding. I know it doesn't
11 show on there, but it takes you to Stone Church?

12 A. Yeah, so that would be my
13 understanding, that this is what they would likely
14 call Stone Church off ramp. I don't see any
15 other.

16 Q. All right. So that is
17 the ramp where the SMA was laid, and the other two
18 are where the FC -- sorry, SP19FC2 were laid.
19 What does this tell you? What do those results
20 tell you? Do you have any insight into that?

21 A. So obviously because the
22 other ones would be SP12.5FC2, and this one was
23 SMA, so that would be -- we indicate the numbers
24 for the SP12.5. The friction numbers were higher,
25 but they incorporated the same -- yeah, they

1 incorporate the same aggregate, from Demix
2 aggregate.

3 Q. Thank you. You can take
4 those down, please. I only meant take one down.
5 If you can keep the Golder report up, please. I
6 know what I said, but that's not what I meant. If
7 you could go back to Golder 2981, please. If we
8 could go to image 104, so the preceding image.

9 Ms. Roberts asked you about
10 the Tradewind report and the LINC grip tester
11 results and about the LINC of course having been
12 resurfaced in 2011, and then topic of there being
13 much better grip number results for the LINC.

14 And at the bottom of 104, if
15 you call out the last paragraph there, Registrar,
16 there's the reference how -- in the last sentence,
17 third line up:

18 "Only a short section,
19 approximately 600 metres in
20 length, of the right-hand
21 wheel track of the right-hand
22 outside lanes near the
23 southwest end of the parkway
24 had friction values above the
25 UK investigatory level 2."

1 We can see this -- if you take
2 that down, Registrar. If we can go to images 108
3 and 110.

4 These are the Red Hill Valley
5 Parkway Tradewind results, and as you can see on
6 the far left-hand side it shows for the right
7 lane, the outside lane for both directions, that
8 there's 5 or 600 metres where the results are 50
9 or above and then dropping off after that. Do you
10 have any insight, do you know whether that portion
11 was paved in 2011 with the LINC? Do you have any
12 knowledge of that?

13 A. In 2011, you know. I
14 think it was repaved right to the SMA. I'm not
15 sure, but I can only guess especially that that
16 part that is higher, it was probably -- it was
17 likely the mix that was placed as part of the LINC
18 resurfacing.

19 Q. So you don't know, but
20 you think that's a reasonable assumption, but you
21 don't actually know it; is that fair?

22 A. No, I -- I would have to
23 check other records because -- from LINC paving,
24 but that would be my reasonable assumption.

25 Q. Did you do LINC -- were

1 you involved in the LINC resurfacing?

2 A. Yes, I was.

3 Q. What was your role with
4 that?

5 A. I was on the LINC
6 resurfacing -- 2011 who was the -- something
7 similar to what it was on the Red Hill Valley
8 Parkway, so I was -- I'm not sure whether I was
9 the project manager, but I was definitely involved
10 in designing the resurfacing, mix review and this
11 work.

12 Q. So we won't play a memory
13 test right now, but we may have a follow-up then
14 just on that issue to try to nail that down.
15 Thank you.

16 The last thing I wanted to ask
17 about was -- you can take those down, please,
18 Registrar, thank you -- Ms. Contractor asked a
19 number of questions around the language in the
20 draft and final pavement evaluation reports of
21 Golder. Of course the draft dated December 17th,
22 2017 that you brought to the December 18th meeting
23 with Mr. McGuire and then the final one dated
24 February 28th, 2019. Around the December 17th
25 draft there's the language which stated "if there

1 is a concern about frictional characteristics,"
2 that language that then Mr. McGuire took some
3 issue with in his e-mail. You recall that?

4 A. Yes, I do.

5 Q. And then that language
6 was altered in the final to -- final version to:

7 "...the immediate effective
8 treatment to address a concern
9 with friction characteristics
10 of the SMA surface course on
11 the RHVP would be to carry out
12 shot blasting/skidabrading,"
13 et cetera.

14 The suggestion and the
15 questioning was that Golder was not expressing a
16 concern about the pavement. So much time had
17 passed since the Golder report was issued in 2014.
18 Had anything changed from your perspective with
19 respect to the conclusions and recommendations in
20 the 2014 Golder report? Did those recommendations
21 still stand?

22 A. Between 2014 and '19?

23 Q. Yeah.

24 A. Oh, yeah, I received an
25 e-mail from Mr. Hein with a link to the article

1 from Hamilton Spectator, and also I knew from
2 Amelia what when she was doing the testing there
3 were bumper to bumper. So yeah, from that point
4 of view, I -- that I knew this, so it was
5 different than what it was in --

6 Q. Right, but did the
7 recommendations still apply from the Golder report
8 to -- the recommendation to improve friction?

9 A. The recommendations, it
10 was -- microsurfacing was long term, but our
11 recommendation -- of course microsurface --
12 microsurfacing -- actually in 2019 I -- I'm not
13 sure how effective microsurfacing would be because
14 there were significant number of distresses, but
15 at least to do skidabrading or shot blasting as an
16 immediate measure to improve this one aspect of
17 friction characteristics. So that would be the --
18 I realize that this is a short-term improvement.

19 In 2019, microsurfacing would
20 require more preparation work than it was in 2013
21 or 2014. If it was -- would have to be still
22 considered carefully, look at the condition,
23 because microsurfacing can be applied when the
24 pavement is in good condition, yes. So there were
25 obviously more cracks, some potholes, et cetera.

1 MR. LEWIS: Thank you. I
2 don't have any further questions, Commissioner.
3 Thank you, Dr. Uzarowski.

4 THE WITNESS: Thank you.

5 JUSTICE WILTON-SIEGEL:
6 Dr. Uzarowski, thank you very much for attending
7 over a number of days. You're excused.

8 THE WITNESS: Thank you.

9 MR. LEWIS: Commissioner, it
10 is 12:43. We have Ms. Rizvi, but I assume it's
11 going to take a few minutes at least to get her
12 set up and so forth, and Ms. LeClair is doing the
13 examination at our end, so it may make sense to
14 start lunch and finish lunch earlier at both ends.

15 JUSTICE WILTON-SIEGEL: Sure.
16 Why don't we take our break now for lunch and
17 we'll return at 2 o'clock. Stand adjourned until
18 2 o'clock and we'll hear Ms. Rizvi at that time.

19 --- Recess taken at 12:44 p.m.

20 --- Upon resuming at 2:00 p.m.

21 RABIAH RIZVI; AFFIRMED

22 MS. LECLAIR: Good afternoon,
23 Commissioner. Good afternoon, Ms. Rizvi. I'm
24 Ms. Leclair, and I'm commission counsel. May I
25 proceed?

1 JUSTICE WILTON-SIEGEL: Yes,
2 please proceed.

3 MS. LECLAIR: Thank you.

4 EXAMINATION BY MS. LECLAIR:

5 Q. Ms. Rizvi, I would like
6 to start with some questions about your
7 professional background.

8 A. Okay.

9 Q. You've worked at Golder
10 Associates since 2010; is that correct?

11 A. Yes, that's correct.

12 Q. And what roles have you
13 held since 2010?

14 A. I started out as a co-op
15 student back in 2010 I believe it was, and then I
16 was part-time for a period of time while I was
17 completing my undergrad, and then I joined
18 full-time as -- initially as a junior pavement
19 analyst and then a pavement and materials engineer
20 and then a senior pavement and materials engineer.

21 Q. Okay. And could you
22 describe your day-to-day tasks in those various
23 roles and how they might have changed over time?

24 A. So initially I started
25 out primarily doing, you know, limited pavement

1 and engineering analysis under the supervision of
2 Dr. Ludomir Uzarowski. I also did limited amounts
3 of project management for small projects. As I
4 went with my career I started managing larger
5 projects. I got more into airport pavement
6 engineering, so I did -- my role was primarily
7 associated with design inspections, investigations
8 and construction of airport pavements with a
9 limited involvement in road pavements as well from
10 a design perspective.

11 Q. Thank you. And where did
12 you complete your schooling?

13 A. University of Waterloo.

14 Q. Okay. And when did you
15 graduate?

16 A. In 2011.

17 Q. And I understand that you
18 are a licensed professional engineer?

19 A. Yes.

20 Q. Okay. And when were you
21 first licensed in Ontario?

22 A. 2016.

23 Q. Okay. And are you
24 licensed in any other jurisdictions?

25 A. Yes, I am.

1 Q. Which other
2 jurisdictions?

3 A. I'm licensed in Alberta,
4 in British Columbia and Northwest Territories and
5 Nunavut.

6 Q. Okay. So I understand
7 from the evidence that we'd heard from
8 Dr. Uzarowski and Dr. Henderson the idea for a
9 review of the performance of the RHVP five years
10 after construction was first raised in or around
11 October 2012. There was subsequently a paper
12 abstract delivered to the City and then a project
13 proposal, which I'll come to in a moment, which
14 was delivered to the City in March 2013. Prior to
15 this broad period, so October 2012 to March 2013,
16 had you worked on any projects regarding the RHVP
17 while at Golder?

18 A. No, I had not.

19 Q. Okay. So would this
20 period be the first time you became involved in a
21 project specifically related to the RHVP; is that
22 correct?

23 A. Yes, that's correct.

24 Q. Okay. Registrar, if we
25 could go to overview document 6, pages 15 and 16.

1 Okay.

2 So you'll see at paragraph 28,
3 which starts at the bottom of page 15 and
4 continues to the top of 16, on March 1st, 2013
5 Dr. Uzarowski e-mailed Mr. Moore attaching three
6 project proposals and an authorization to proceed
7 and consulting services agreement. You're copied
8 on this e-mail, as was Dr. Henderson.

9 So I'll be asking you some
10 questions related to the proposal for the RHVP
11 five-year condition evaluation which for sure I'll
12 refer to as the Golder project, if that's okay,
13 and it's clear what I'm referring to.

14 A. Yes, that okay.

15 Q. Okay. So before we turn
16 to the details of the proposal, I would like to
17 ask you about those at Golder involved in the
18 project -- involved in the Golder project rather
19 at this time in a more general sense. What was
20 your role on the Golder project?

21 A. Well, my role was
22 primarily to carry out FWD -- analysis of the FWD
23 testing data.

24 Q. Okay. And I understand
25 that Dr. Henderson and Dr. Uzarowski both signed

1 the proposal, and I understand from Dr. Henderson
2 that the three of you often worked closely
3 together. Can we please describe how your
4 respective roles differed on the project. What
5 you were responsible for versus what they were
6 responsible for, to your knowledge.

7 A. To my knowledge I was
8 responsible for the FWD testing analysis and
9 preparing the components of the report associated
10 with the FWD analysis itself for subsequent review
11 by Ludomir. I do not recall any involvement in
12 the preparation of the proposal if it -- there was
13 any involvement, it would have been very limited.

14 Q. Okay. And on the project
15 did you have any client contact?

16 A. I did not personally have
17 any client contact, no.

18 Q. And who did you
19 understand to be responsible for client contact?

20 A. My understanding was
21 Dr. Uzarowski was involved with contacting the
22 client.

23 Q. Okay. Okay. And,
24 Registrar, if you can go to GOL3779. And if you
25 call out the bulleted items, the three bulleted

1 items in the middle of the page. Thank you.

2 So underneath "Field
3 Investigation" I see "limited falling weight
4 deflectometer testing." Is that what you were
5 referring to as your area of responsibility?

6 A. Just the analysis of that
7 data, not the actual testing itself nor the --
8 what testing needed to be carried out.

9 Q. Okay. And other than the
10 FWD testing looking at the items listed here, was
11 there anything else that you were responsible for?

12 A. No, that's the only thing
13 I was responsible for.

14 Q. Okay. Registrar, if we
15 can close this and go back to OD6 at page 27.

16 And at paragraph 56 I
17 understand that the FWD testing occurred on
18 May 9th, 2013. Did you attend on-site for that
19 testing?

20 A. No, I did not attend
21 on-site.

22 Q. Okay. But I understand
23 that you conducted the analysis?

24 A. That is correct.

25 Q. And what does that

1 entail?

2 A. So the analysis for this
3 particular -- there's a number of different
4 analyses that can be done. For this particular
5 investigation we carried out the initial analysis
6 which is determining the -- normalizing the
7 deflection values that are measured for a specific
8 load and temperature and then determining an
9 overall pavement surface modulus, and then using
10 the thickness data that we have about the pavement
11 structure and back-calculating modulus values for
12 the individual pavement layers.

13 Q. Okay. And what do the
14 results -- speaking first generally, what do
15 results from FWD testing tell you?

16 A. The FWD is a means of
17 quantifying the structural capacity of a pavement,
18 so its load bearing capacity.

19 Q. Registrar, if we can go
20 to GOL2625. And if you can just call out the body
21 of the e-mail so it's a bit easier to see. Thank
22 you.

23 So this is an e-mail that you
24 sent to Dr. Uzarowski on May 17th, 2013 related to
25 the results from the FWD testing. So I'll just

1 give you a moment to review the content of the
2 e-mail.

3 A. I'm good.

4 Q. Okay. So your e-mail
5 references some issues you identified. At this
6 time did you have any concerns regarding the
7 condition of the pavement?

8 A. No, I didn't have any
9 specific structure-related concerns. There was
10 some amount of cracking that was noted during the
11 visual condition inspection by other people, and
12 any cracking is not ideal but does occur so -- but
13 structurally based on my analysis, there wasn't
14 any major concerns with the condition.

15 Q. Okay. And why did you
16 suggest resurfacing or microsurfacing at this
17 time?

18 A. As noted in my e-mail,
19 primarily to prevent the ingress of water into the
20 pavement structure through the cracks, which would
21 have an impact on the structural capacity of the
22 pavement. But since there wasn't any major
23 structural issues from FWD testing, from my
24 limited experience, very limited experience at
25 that time, you know, major structural improvement

1 wasn't needed.

2 Q. Okay. And do you recall
3 Dr. Uzarowski's response?

4 A. I don't recall it
5 offhand, no.

6 Q. Okay. Registrar, you can
7 take that down, and if we can go to TRW55.

8 MS. LECLAIR: And just at the
9 outset I believe this document needs to be marked
10 as an exhibit which I believe we are at 94 by my
11 count.

12 THE REGISTRAR: Noted,
13 Counsel. Thank you.

14 EXHIBIT NO. 94: E-mail chain
15 dated 11/18/2013 to Rabiah
16 Rizvi; TRW55.

17 BY MS. LECLAIR:

18 Q. I understand from the
19 documents that Dr. Henderson first contacted
20 Tradewind Scientific on November 6th, 2013 through
21 its website. So at this time in November 2013
22 were you aware that the City requested that Golder
23 conduct friction testing as part of the Golder
24 project?

25 A. I don't recall whether I

1 was -- I was aware that they had requested
2 friction testing, but that was the extent of my
3 knowledge.

4 Q. To confirm, you weren't
5 aware of any of the reasons or any context
6 surrounding that request; is that right?

7 A. No, I was not aware of
8 it.

9 Q. Okay. Do you recall when
10 you first became aware of the request?

11 A. I don't recall offhand
12 when I became aware of the request, no.

13 Q. Okay. Do you recall how
14 you became aware?

15 A. No, I don't recall that.

16 Q. Okay. And, Registrar, if
17 we can go to images 3 and 4 of this document.

18 Thank you.

19 The formatting is a little bit
20 difficult to see, but what I am drawing your
21 attention to is just at the top of the image on
22 the left -- yeah, as discussed --

23 I guess actually could we have
24 images 2 and 3. I think that that discussion
25 continues over, I guess, a page earlier just so

1 that we can see the header of the e-mail. Yeah.

2 Okay. So right at the bottom -- thank you,

3 Registrar.

4 And, Ms. Rizvi, are you able
5 to see those --

6 A. I can see that now, yes.

7 Q. Okay. Thank you. So
8 you'll see on November 18th, 2013 Susan Ames of
9 Tradewind forwarded you an e-mail exchange between
10 Dr. Henderson and Tradewind from the day prior,
11 and she wrote "as discussed." Do you recall any
12 discussion with Ms. Ames regarding the friction
13 testing or what was discussed?

14 A. I don't recall it.

15 Q. Okay. And were you
16 involved in arranging any of the logistics of the
17 testing?

18 A. Not that I recall.

19 Q. Okay. I believe I
20 understand from Dr. Henderson that you may have
21 had some involvement while she was out of town on
22 another matter. Is that possible?

23 A. Yes, that would have been
24 possible.

25 Q. Okay. Do you recall any

1 substantive discussions regarding the equipment or
2 methodology of testing with anyone from Tradewind?

3 A. No, I don't recall having
4 any substantive discussions with them.

5 Q. Okay. Okay. And,
6 Registrar, if we can go to image 1. And you can
7 close out the other image. Thank you. Okay. If
8 you can call out, it's the second e-mail
9 underneath Susan Ames's signature. Starts with
10 "hi Susan." Thank you.

11 You wrote:

12 "We received confirmation from
13 our client that they were okay
14 with the date and the costs."

15 (As read)

16 And provided some details
17 regarding invoicing.

18 At this time did you have any
19 direct contact with the City?

20 A. No, I don't believe I
21 did.

22 Q. Okay. So would this
23 information -- would this have been information
24 you received from Dr. Henderson or Dr. Uzarowski?

25 A. Yes, that is my

1 understanding.

2 Q. Okay. And at this time
3 had you previously worked with Tradewind?

4 A. Not that I recall, no.

5 Q. Okay. And at this time
6 did you have any experience with friction testing?

7 A. No, I did not have any
8 experience.

9 Q. Okay. Did you attend the
10 friction testing on-site on November 20th, 2013?

11 A. No, I was not on-site.

12 Q. Registrar if we can close
13 that out and go back to overview document 6, at
14 page 82.

15 And I'm looking specifically
16 at paragraph 212, but you don't need to call it
17 out, Registrar, unless it would be helpful,
18 Ms. Rizvi, so please let me know.

19 A. (Indiscernible).

20 Q. Thank you. And on
21 December 20th, 2013 Dr. Uzarowski e-mailed you and
22 Dr. Henderson, I don't believe the overview
23 document notes that you were copied, but I can
24 tell you that you were a recipient, and I'm happy
25 to take you to the document itself, if helpful.

1 He forwarded information on microsurfacing and
2 slurry seal he had received from Trevor Moore from
3 the Miller Group. To your knowledge was this
4 related to the RHVP or to the Golder project in
5 any way?

6 A. Not to my knowledge at
7 the time.

8 Q. Okay. And do you have
9 any recollection of why he was sending this to
10 you?

11 A. There were a number of
12 times that Ludomir would forward e-mails to me
13 just as a mentioning exercise because I worked
14 under -- with him being my mentor, so it was more
15 of a -- you know, ensuring that I, you know, had
16 e-mails that were going back and forth regarding
17 technical information just for my knowledge
18 because I was a very junior engineer at the time.

19 Q. And at any time were you
20 involved in discussions regarding methods to
21 remediate the friction on the RHVP?

22 A. Could you clarify
23 discussions with who?

24 Q. Discussion at Golder,
25 discussion with consultants, that specifically

1 related to the RHVP?

2 A. I wasn't involved beyond
3 that e-mail that I sent in terms of putting on
4 a -- recommending or stating that a microsurfacing
5 may be used to address the cracking.

6 Q. Okay. And to confirm,
7 that was the e-mail that we looked at a bit
8 earlier from --

9 A. That is correct.

10 Q. And at this time how many
11 years out of school were you?

12 A. 2013 -- two-and-a-half.

13 Q. Thank you. Okay. And,
14 Registrar, if we can go to page 91.

15 And you'll see at paragraph 240
16 on January 26th, 2013, Mr. Taylor of Tradewind
17 sent Dr. Henderson and Dr. Uzarowski the final
18 Tradewind report. You aren't copied on this
19 e-mail. To your knowledge when did you first
20 receive a copy of the Tradewind report?

21 A. I do not have a
22 recollection of when I first received a copy of
23 the report. It might have been when Ludomir sent
24 it to a number of people via e-mail within Golder.

25 Q. Okay. And do you have a

1 sense of when that might have occurred?

2 A. Maybe a few weeks to a
3 month after this when he initially received it.

4 Q. Okay. For a moment,
5 Registrar, if we can go to images 93 and 94.

6 And at paragraph 245 you'll
7 see that Dr. Uzarowski e-mailed you along with a
8 number of colleagues at Golder, and this is the
9 following day so January 27th --

10 A. That would have been the
11 one.

12 Q. Okay. So I'll say the
13 report, and I'm happy to go to the e-mail itself
14 if helpful. I don't believe is copied here --

15 A. Okay.

16 Q. -- referred to. Would
17 this have been around the time that you likely
18 would have received a copy?

19 A. Possibly. Again, I don't
20 have recollection of having received the report in
21 its entirety. I don't recall whether I was sent
22 the report in its entirety or whether I merely saw
23 it when I got the draft 2016 -- draft 2017 Golder
24 report.

25 Q. When you say that draft

1 2017, are you referring to the 2014 Golder report
2 or --

3 A. Sorry, yes, the 2014,
4 yes, sorry.

5 Q. No problem. And do you
6 think you would have read it at sometime prior to
7 the draft Golder report being provided to the
8 City?

9 A. No, and I don't believe I
10 read it at the time the Golder report was provided
11 to the City either.

12 Q. Okay. Okay. Do you
13 recall Dr. Uzarowski, Dr. Henderson or anyone at
14 Golder, including those copied on the e-mail at
15 paragraph 245, do you recall anyone expressing any
16 concern regarding the information in the Tradewind
17 report?

18 A. No, I don't recall having
19 those conversations with anyone.

20 Q. Do you recall having any
21 discussions regarding the report beyond what we
22 see in this e-mail?

23 A. No, I don't recall having
24 any conversations.

25 Q. And I take it from your

1 response, it would not have been your role to
2 analyze or review the report for the purpose of
3 its inclusion in the Golder report; is that
4 correct?

5 A. Yes, that's correct.

6 Q. And did you have a sense
7 of whose responsibility it would be?

8 A. No, I didn't a sense of
9 that.

10 Q. Okay. Registrar, if we
11 can go to page 96.

12 So as we previously discussed
13 Dr. Uzarowski e-mailed Mr. Moore attaching what he
14 described as an updated draft report on the
15 condition of the pavement of the RHVP six years
16 after construction. Were you aware -- so as I
17 stated, Dr. Uzarowski sent updated draft report.
18 Were you aware of a prior draft being sent to the
19 City?

20 A. I was not aware of a
21 prior draft, no.

22 Q. Okay. And I would like
23 to take you to a copy of the report itself. If we
24 could go to GOL2981, Registrar. If we can go to
25 the second image. I believe that's the table of

1 contents. Okay.

2 And do you recall if you
3 drafted any parts of this report?

4 A. I would have drafted
5 section 4 of this report.

6 Q. Okay. And would you have
7 had input in any other sections of the report?

8 A. No, I wouldn't have.

9 Q. And would you have
10 reviewed any of the other parts of the report?

11 A. No, I would not have.

12 Q. Okay. After you received
13 Dr. Uzarowski's e-mail on January 31st, 2014, did
14 you have any discussions with Dr. Uzarowski or
15 Dr. Henderson about next steps on the project?

16 A. No, I did not have any
17 discussion with them.

18 Q. Okay. And did this
19 project -- is it something that stayed on your
20 radar? Were there any follow-up steps to your
21 knowledge?

22 A. There were none to my
23 knowledge, no.

24 Q. Okay. And at any time
25 did you provide any drafts of the Golder report to

1 anyone at the City?

2 A. No, I did not.

3 Q. Okay. And did you have
4 any subsequent contact with Tradewind regarding
5 the report?

6 A. No, I did not.

7 Q. Okay. Registrar, if we
8 can go to overview document 7 at pages 82 and 83.

9 So this is moving forward a
10 bit in time to December 2015. And at
11 paragraph 258 which starts at the bottom of 82 and
12 continues at the top of 83, you'll see
13 Dr. Uzarowski sent an e-mail that you were copied
14 on along with a number of other colleagues at
15 Golder, and he wrote:

16 "I had a phone call from Gary
17 Moore from the City of
18 Hamilton. Please go ahead
19 with the inertial profiler
20 scan on the RHVP. It would be
21 great if we could do it
22 between Christmas and the new
23 year. I will then need
24 localized roughness analysis.
25 I have to tell them where to

1 do the repairs and what
2 repairs would be the best. We
3 would definitely need the GPS
4 coordinates."

5 So prior to this e-mail, so
6 December 23rd, 2015, had you performed any work on
7 projects related to the RHVP since the Golder
8 report?

9 A. No, I had not been
10 involved in any other projects.

11 Q. And had Golder report or
12 the Tradewind report come back up at this time to
13 your knowledge?

14 A. Not to my knowledge.

15 Q. And in his e-mail
16 Dr. Uzarowski mentioned a call with Mr. Moore.
17 Were you involved in that call?

18 A. No, I was not.

19 Q. And did you know why the
20 City was requesting inertial profile testing at
21 this time? I understand the City had conducted
22 inertial profile testing as part of the Golder
23 report in 2013. Do you know why it was being
24 requested again?

25 A. No, I don't why it was

1 being requested again.

2 Q. Registrar, if we can go
3 to page 85.

4 At paragraph 267 there's a
5 transcription of a note from Dr. Uzarowski's
6 notebook, so it's not your note. But it lists for
7 February 22nd, 2016 "Gary Moore, RR-LU-VH." Would
8 this reflect Rabiah Rizvi, Ludomir Uzarowski and
9 Vimy Henderson, to your knowledge?

10 A. Yes, to my knowledge.

11 Q. And recognizing that it
12 isn't your note, does this reflect a meeting or a
13 discussion with Mr. Moore?

14 A. I did not have a meeting
15 with Mr. Moore around -- in an around that time,
16 so I don't believe so but not to my knowledge.

17 Q. Did you ever have any
18 meetings or calls with Mr. Moore related to the
19 Red Hill Valley Parkway?

20 A. No, I did not.

21 Q. Okay. And to your
22 knowledge did the inertial profile assignment
23 relate in any way to friction on the RHVP or to
24 the Golder project?

25 A. I have no idea whether

1 it's related to any -- to either of those things
2 or what it's related to.

3 Q. Okay. And at this time
4 in February 2016 did you have any concerns
5 regarding the safety or condition of the RHVP?

6 A. No, I did not have
7 concerns regarding the safety.

8 Q. Did Dr. Uzarowski or
9 anyone else at Golder express to you at this time
10 that they had any such concerns?

11 A. No, they did not express
12 any such concerns to me.

13 Q. Okay. Registrar, if we
14 can go to overview document 8, pages 17 and 18.

15 So we're moving forward a bit
16 in time. This is now in November 2017. And
17 paragraphs 40 and 41 you sent a draft proposal for
18 a project titled "(interruption) of Pavement
19 Surface Skid Resistance Red Hill Valley Parkway,"
20 Dr. Uzarowski and Dr. Henderson. And for the
21 purpose of the inquiry we refer to this project as
22 the 2017 Golder pavement evaluation, so if I refer
23 to it that way I'm referring to work flowing from
24 this proposal.

25 A. Okay.

1 Q. And, Registrar, if we can
2 go to GOL5923. If we can open images 4 and 5 of
3 that document. Okay.

4 So towards the bottom of the
5 page on the left, on November 21st you'll see that
6 Dr. Uzarowski forwarded you an e-mail he received
7 from Gary Moore that day.

8 A. Yep.

9 Q. And Mr. Moore's e-mail
10 was requesting a proposal and time frame for
11 cores, (interruption) and PSV for the Red Hill?

12 A. Yep.

13 Q. Do you recall receiving
14 this?

15 A. I don't recall
16 independently, but I can see I did.

17 Q. Okay. Ms. Rizvi, would
18 it be helpful if we took a five-minute break?

19 A. I should be okay.

20 Q. Okay. If that changes,
21 please let me know.

22 A. Thank you.

23 Q. Okay. Other than
24 receiving this forwarded e-mail did you have any
25 additional discussions with Dr. Uzarowski

1 regarding the assignment and proposal?

2 A. Ludomir would --

3 Dr. Uzarowski would have simply given me either
4 verbally, and I can't recall whether it was on a
5 piece of paper as well perhaps, just a bullet
6 point of the scope of work of the assignment. So
7 what field investigations needed to be carried out
8 would have been about the extent of the
9 conversations I had with him about this
10 assignment.

11 Q. Okay. And to your
12 recollection is this the first time you became
13 aware of this assignment?

14 A. Yes, that's correct.

15 Q. Okay. And if we can go
16 to images 3 and 4 of the same document, Registrar.

17 Okay. And, again, at the
18 bottom image 3 on the left and continuing to the
19 image 4. But you reply to Dr. Uzarowski writing:

20 "Rather than testing the PSV
21 for aggregates that have
22 already been in place for a
23 while and have already been
24 polished, can we not just test
25 the aggregate from the source

1 quarry. I understand that
2 there would be variability
3 even within one quarry, but I
4 --"

5 Sorry, I've lost my place --
6 Could we actually call that
7 out. That would be helpful. Perfect.

8 And I'll just let you read
9 through now that it is called out. Let me know
10 once you have had a chance to review.

11 A. Yeah, I'm good.

12 Q. Thanks. Why did you
13 raise these questions with Dr. Uzarowski?

14 A. Well, my initial
15 experience with PSV testing was primarily from
16 airports, and essentially the comment I was making
17 is that the pavement had been in surface, so some
18 of the aggregates at the surface, the limited
19 exposed aggregates at the surface would have
20 already had tire pavement interaction, and so
21 there would have been some limited amounts of
22 polishing that may have occurred if -- you know,
23 depending on how susceptible they were. So that
24 is why I had made that comment to Ludomir.

25 Q. And if we can close that

1 call out. I'll take you to the proposal itself.

2 So that's G0L5925.

3 And at the time you drafted
4 this proposal, so this would be November 2017,
5 what was your understanding of the purpose of this
6 assignment?

7 A. I don't know that I had
8 an extensive understanding. I was simply drafting
9 up a proposal to -- per Ludomir's direction in
10 terms of what the scope of work was essentially,
11 and I knew what testing was being carried out, but
12 the intent of the testing or what the -- what
13 conclusions, you know, we were -- what the purpose
14 was, I was not aware of.

15 Q. Okay. And that's not
16 something that you discussed with Dr. Uzarowski?

17 A. No, I would not have
18 discussed that with him.

19 Q. And if we can call out,
20 Registrar, from scope of work to above both the
21 friction testing. There's that middle section.
22 Yeah. That's fine. Thank you.

23 And how did you come to
24 include these specific tests in the proposal? Was
25 this input from Dr. Uzarowski?

1 A. Yes, that is correct.

2 Q. And did you have any
3 knowledge of whose idea it was to view these
4 specific tests? Whether it came from Golder or
5 from the City?

6 A. No, I don't know it came
7 from.

8 Q. Okay. And I gather from
9 your response that you did not have any role in
10 the decision or discussions regarding the
11 selection of British pendulum rather than other
12 than friction testing equipment; is that correct?

13 A. Yes, that is correct.

14 Q. Okay. And, Registrar, if
15 we can go to overview document 8, page 18. You
16 can see at paragraph 43, Dr. Uzarowski sent a
17 revised draft of the proposal to Mr. Moore on
18 November 2nd, 2017. You are not copied on this
19 e-mail, to confirm. To your knowledge did
20 Dr. Uzarowski revise that proposal?

21 A. I don't know who revised
22 the proposal.

23 Q. Did you revise the
24 proposal?

25 A. No, I did not.

1 Q. And were you aware that
2 the proposal had been revised?

3 A. No, I was not.

4 Q. And if we can also open
5 up page 19, Registrar. Thank you.

6 So I'm happy to take you to
7 the revised proposal itself, but I would like to
8 discuss some of the revisions between the initial
9 draft you provided and the draft provided to
10 Mr. Moore on the 22nd. We've outlined some of
11 those changes in paragraph 44. I take from your
12 response that you don't know why these revisions
13 were made; is that correct?

14 A. Yes, that is correct.

15 Q. And they were not
16 discussed with you?

17 A. No, they were not
18 discussed with me.

19 Q. And if we can go to
20 images 19 and 20. Thank you.

21 At paragraph 46 we've
22 excerpted some e-mails you exchanged with
23 Dr. Uzarowski regarding the scheduling of the
24 field testing. Dr. Uzarowski wrote:

25 "I am concerned with the BPN

1 testing. We have to use water
2 for it and will not be able to
3 use it if the temperature
4 drops significantly below
5 zero."

6 Do you have any knowledge on
7 the effect, if any, of significantly below zero
8 temperatures on BPN testing?

9 A. My only understanding
10 was -- at the time was that the water used to
11 carry out the testing that's sprayed on the
12 surface would freeze up. So the impact of that
13 frozen -- there might be an impact on the test
14 results based on the water freezing up.

15 Q. Okay. And how did you
16 come to this understanding?

17 A. Based on the discussion I
18 had with Ludomir.

19 Q. Okay. And do you recall
20 if you had discussions apart from the e-mails
21 we're looking at here?

22 A. Not that I recall
23 independently.

24 Q. Okay. And do you have a
25 sense of how significantly below zero it has to be

1 further to be an impact?

2 A. No, I don't have a sense
3 of that.

4 Q. And at paragraph 47
5 Dr. Uzarowski provided the final signed proposal
6 to Mr. Moore on November 24th, 2017. Again, I'm
7 happy to take you to the proposal, but I can tell
8 you that the proposal reverted to the original
9 language from your initial draft on November 22nd,
10 2017. Are you aware of why that occurred?

11 A. I'm not aware of why that
12 occurred. I suspect it might have been because I
13 had never had a copy of the updated version that
14 was initially sent to Mr. Moore.

15 Q. Okay. And so would that
16 be that the only version you had was the original
17 version and that's what was finalized?

18 A. Yes, that's correct.

19 Q. But you don't have a
20 specific recollection of that; is that correct?

21 A. I don't have a specific
22 recollection of why that reverted.

23 Q. So you don't have -- to
24 your recollection no one asked you explicitly to
25 revert to the language in the initial draft?

1 A. Nobody asked me
2 specifically to revert to the language.

3 Q. And did the language
4 change either way affect what Golder was going to
5 do and did do?

6 A. Not to my understanding,
7 no.

8 Q. Okay. And can you please
9 describe your role on this project.

10 A. My role was initially the
11 drafting of the proposal, and then I was involved
12 in coordinating some of the field investigations.

13 Q. Okay. And when you were
14 coordinating the field investigations, did you
15 have direct contact with anyone at that time city?

16 A. Yes, I would have via
17 e-mail.

18 Q. Do you recall who that
19 was with?

20 A. I don't recall offhand
21 the -- all the people, but I know there were some
22 contact with them for the purpose of coordinating
23 traffic control and field permits.

24 Q. Okay. And when dealing
25 with City staff did you ever discuss the friction

1 testing conducted in 2013 by Tradewind?

2 A. No, I did not.

3 Q. Okay. And did anyone,
4 including City or Golder staff, at this time
5 express concern regarding safety or friction
6 levels on the RHVP?

7 A. Nobody mentioned any
8 concerns to me.

9 Q. Okay. And was your
10 contact with the individuals at the City limited
11 to coordination and logistics, or did you have any
12 substantive or technical discussions with anyone
13 at the City?

14 A. My contact was limited to
15 coordination and organization of the field
16 investigations.

17 Q. And for this project can
18 you discuss how your role compared with
19 Dr. Uzarowski's and Dr. Henderson's and whether it
20 was similar to what we discussed previously with
21 the Golder project?

22 A. It was similar and -- but
23 also I had even less technical involvement due to
24 the fact that I did not carry out any analyses
25 whatsoever.

1 Q. Okay. Registrar, if we
2 can go to page 27, please.

3 I understand that testing for
4 the Golder pavement evaluation occurred on the
5 night of December 6th to 7th, 2017; is that
6 correct?

7 A. Yes, that is correct.

8 Q. And did you attend that
9 testing?

10 A. No, I did not.

11 Q. And to your knowledge who
12 from Golder did attend?

13 A. Amelia Jewison, and then
14 there was another individual from our London
15 office, I believe.

16 Q. Okay. And what was Ms.
17 Jewison's role on the project?

18 A. Amelia was -- Ms. Jewison
19 was supposed to be the supervisor on-site ensuring
20 that traffic control was set up and making sure
21 the data was collected, and Ms. Jewison was also
22 doing -- carrying out the British pendulum testing
23 itself, if I recall correctly.

24 Q. Okay. So she would have
25 been conducting the testing? Would she have --

1 A. That's correct.

2 Q. -- also been -- sorry, go
3 ahead.

4 A. That is correct.

5 Q. Thank you. And would she
6 have been responsible for analyzing the testing?

7 A. I do not recall whether
8 she was responsible for analyzing it or not.

9 Q. And after the testing was
10 conducted on December 6th to 7th, did you
11 discuss -- did anyone who was on-site discuss with
12 you any issues that arose during the testing?

13 A. Yes. I recall while they
14 were on-site that there had been three collisions
15 near the vicinity of the traffic control that had
16 been set up for the testing itself. Those were
17 the only issues I heard of.

18 Q. Okay. And do you recall
19 the discussion that -- or discussions that you may
20 have had surrounding those collisions?

21 A. Simply that they had
22 occurred and that police did attend site for them
23 and that nobody within the enclosures was -- there
24 was no harm caused to anyone within traffic
25 control enclosures.

1 Q. Okay. And did anyone
2 express any concern regarding safety or collisions
3 more generally on the Red Hill at this time?

4 A. No one mentioned any
5 concerns to me, no.

6 Q. Okay. And do you recall
7 who you had those discussions regarding the, I
8 think, three collisions?

9 A. With Amelia.

10 Q. Okay. Registrar, if we
11 can go to page 29.

12 And just looking at paragraph
13 69. So on December 11th, 2017 Dr. Uzarowski
14 forwarded you an e-mail exchange he had with
15 Stephen Lee and Joel Magnan from the MTO.
16 Dr. Uzarowski had contacted the MTO to determine
17 if they had capacity to conduct the PSV testing
18 for the RHVP aggregates from the 2017 pavement
19 evaluation. Prior to receiving this forwarded
20 e-mail were you aware Dr. Uzarowski intended to
21 contact the MTO?

22 A. No, I was not aware of
23 that.

24 Q. Okay. And if we can go
25 to this e-mail itself. It is GOL2900, I believe.

1 And can we go to image 3 of this document.

2 So you weren't copied on the
3 e-mail originally sent from Dr. Uzarowski to
4 Mr. Lee at the MTO, but this e-mail was forwarded
5 as part of that e-mail we just looked at.
6 Dr. Uzarowski wrote in the initial e-mail:

7 "Typically we would send the
8 samples to Ireland or the UK,
9 but due to urgency I wonder if
10 this can be done by MTO."

11 Do you know what urgency he
12 was referring to?

13 A. No, I do not.

14 Q. And had you had any
15 discussions with anyone from the MTO at this time?

16 A. No, I hadn't had any
17 discussions with the MTO.

18 Q. Okay. And I believe
19 you've given an answer on this, but just to
20 confirm I understand, were you responsible for any
21 analysis relating to the testing conducted on
22 December 6th to 7th, 2017?

23 A. No, I was not responsible
24 for any of the -- conducting any of the analysis.

25 Q. Okay. I understand from

1 the documents that PSV testing was to be conducted
2 by a sub consultant in Ireland, but to your
3 knowledge who was responsible for analyzing the
4 BPT results and the measured texture depth?

5 A. I don't recall who
6 specifically was responsible for analyzing it. I
7 believe some amount of analysis was done by
8 Ms. Jewison.

9 Q. Okay.

10 MS. LECLAIR: And, Registrar,
11 if we can go to GOL7505. And I believe this
12 document needs to be marked as an exhibit, so that
13 would be 95.

14 THE REGISTRAR: Noted,
15 Counsel. Thank you.

16 EXHIBIT NO. 95: E-mail chain
17 from Rabiah Rizvi to Amelia
18 Jewison dated 12/19/2017;
19 GOL7505.

20 BY MS. LECLAIR:

21 Q. And on December 19th,
22 2017 Ms. Jewison e-mailed you writing:

23 "I have a couple more
24 questions about the Red Hill
25 Valley Parkway project. Will

1 the Whitby lab be able to
2 extract the aggregates this
3 week or should I be arranging
4 for them to get shipped to
5 Ireland in the new year? What
6 should I be doing with the
7 British pendulum data? Also
8 do you have a report that I
9 could use as a template for
10 this one." (As read)
11 Then you replied the same day

12 writing:

13 "The ASTM for the British
14 pendulum testing is attached.
15 Also attached to this e-mail
16 are two references that can
17 you use to find out more
18 information on the testing and
19 analysis of the results." (As
20 read)

21 Does this clarify your
22 recollection of whether or not Ms. Jewison was
23 responsible for analyzing the British pendulum
24 data?

25 A. Yes, it does.

1 Q. Okay. And at this time
2 had anyone advised you or were you aware that the
3 British pendulum data was considered unreliable or
4 had anyone used --

5 A. Not to my knowledge, no,
6 I was not aware of that, yes.

7 Q. Just to confirm, did you
8 say you were not aware of that yet?

9 A. No, I was not aware of
10 that--

11 Q. Did you ever --

12 A. -- yes.

13 Q. -- become aware of that?

14 A. After reviewing the
15 report that was associated with this testing.

16 Q. So that would be
17 significantly further in time in 2018; is that
18 correct?

19 A. Correct.

20 Q. And why did you include
21 these attachments in your e-mail to Ms. Jewison?
22 What information did you think would be helpful
23 for her?

24 A. The actual calculations
25 to determine the numbers, and I -- my

1 understanding is there might have been some
2 references for numbers in terms of mean texture
3 depth for the sand patch testing.

4 Q. Okay. And at this time
5 was it your understanding that Golder was going to
6 provide an analysis of the British pendulum
7 results to the City?

8 A. That some testing results
9 would be provided.

10 Q. Okay.

11 A. The actual analysis
12 interpretation I do not -- I was not was not aware
13 of what would be provided and would not be
14 provided and in what format.

15 Q. Okay. Registrar, if we
16 can go to back to overview document 8 page 29.
17 Actually if we can do 29 and 30. I believe
18 paragraph 72 continues onto -- perfect. Thank
19 you.

20 This is the same day,
21 December 19th, 2017, and you sent Ms. Jewison
22 what's referred to as a report skeleton for the
23 2017 Golder pavement evaluation. Was this in
24 response to her request in the e-mail we just
25 looked at for a template for the report?

1 A. Yes, that is correct.

2 Q. Okay. And at this time
3 did you anticipate that Golder would provide a
4 draft and ultimately a final report reflecting the
5 testing conducted on December 6th to 7th, 2017?

6 A. Yes. My understanding
7 would have been that some format or a report would
8 have been sent.

9 Q. And at this time, so in
10 December 2017, were any other drafts other than
11 this document prepared to your knowledge?

12 A. Not to my knowledge.

13 Q. Okay. And were you
14 responsible for preparing draft reports on this
15 assignment?

16 A. No, I was not.

17 Q. Okay. If we can go --
18 back up, page 30 is there. That's fine.

19 Looking at paragraph 73, so
20 this is the same day -- thank you, Registrar --
21 December 19th, 2017. You sent an e-mail to
22 Mr. Jeremy Rose, who I understand to be an asphalt
23 laboratory supervisor/manager at the Golder --
24 Golder's Whitby office; is that correct?

25 A. Yes, that is correct.

1 Q. Okay. So in your e-mail
2 you wrote:

3 "Is there any way it can be
4 started the week of January 2?
5 I hate to be a pain, but the
6 aggregates then have to be
7 shipped to Ireland and the
8 testing there will take
9 another couple of weeks. The
10 client is facing an urgent
11 safety issue with their road
12 and would like an answer
13 before further issues arise.
14 Please let me know if that
15 will be possible. Also how
16 long do you think the
17 extraction will take?"

18 What were you referring to in
19 writing "is there any way it can be started"?
20 What does "it" refer to?

21 A. The extraction of the
22 aggregates from the course.

23 Q. And why did you tell
24 Mr. Rose, "the client is facing an urgent safety
25 issue with their road and would like an answer

1 before further issues arise"?

2 A. My understanding at the
3 time was simply that the client was looking for
4 the testing results as soon as possible, and I
5 wanted to make sure that the samples didn't sit on
6 the shelf over -- you know, after the holiday
7 period. I also knew that the lab in Ireland was
8 backlogged, so I wanted to make sure that it got
9 put to the front of the line and it wasn't lost in
10 amongst all the other samples that were arriving
11 at the lab especially noting that this was a
12 period of holiday season where a number of
13 personnel were off, and, you know, people were
14 going to go off for lengthy periods of time. So
15 it was essentially to make sure that the sample
16 didn't just get left on the shelf and that it
17 actually got dealt with at the time.

18 Q. Okay. And I think that
19 speaks to the urgent component of urgent safety
20 issue. At the time did you not think it would be
21 sufficient to say to Mr. Rose that the results
22 were needed urgently? Why add the safety
23 component?

24 A. From my perspective it
25 was simply to add a little bit more urgency and to

1 ensure that it wasn't a long-term -- to
2 communicate it wasn't a long-term project that
3 could just wait, and it was just simply to note to
4 them that it was important, and it needed to be
5 dealt with right away.

6 Q. So is it your evidence
7 that at this time you had no views and no
8 information or insight into safety and collisions
9 on the RHVP?

10 A. Yes, that is correct. I
11 did not have information in terms of collisions
12 beyond what were noted during testing, during the
13 field investigations that Golder carried out in
14 December of 2017. And I did not know of any
15 safety issues specifically.

16 Q. Okay. And did your
17 comment regarding urgent safety issue relate in
18 any way to the discussion you had had regarding
19 the collisions during the testing on December 6th
20 to 7th?

21 A. No, it did not.

22 Q. Okay. And were you aware
23 of aware of any discussions at Golder relating to
24 safety or collisions on the RHVP?

25 A. No, I was not aware of

1 any discussions related to safety or collisions.

2 Q. And at this time did you
3 have any concerns regarding safety of the roadway?

4 A. No, I did not have any
5 concerns related to the safety of the roadway.

6 Q. Okay. Had anyone
7 expressed to you any concern or had discussed any
8 collisions with you?

9 A. No, they had not.

10 Q. And what is the
11 relationship with the type of work you do on the
12 pavement and material side and any impact on road
13 safety?

14 A. I do not have any
15 experience with any safety analysis associated
16 with roads. My experience is simply designing a
17 pavement structure from the perspective of
18 adequate structural capacity.

19 Q. Okay. And I believe you
20 said that you didn't know of any safety issues
21 specifically. What about in a general sense? Did
22 you have any general discussions around safety or
23 collision s? Was that ever a subject of
24 discussion in Golder's offices?

25 A. Not with me, no.

1 Q. And I understand from
2 your response that safety is not directly part of
3 the work that you do. You do understand that
4 there is a relationship -- that friction plays a
5 role in road safety; is that correct?

6 A. Yes, I have a general
7 understanding of that.

8 Q. And are safety issues
9 typically something that Golder would identify or
10 assess?

11 A. Not typically, no.

12 Q. Was it atypical for you
13 to use such language?

14 A. For -- yes, it was
15 atypical for me to use such language, but it was
16 also in terms of making sure that it didn't get
17 left on the shelf because I know answers were
18 needed urgently, and Ludomir was telling me that
19 answers were needed and that deadlines had been
20 promised. I used that language. It was -- had I
21 done it before; yes, I had just to ensure that
22 something was done as quickly as possible.

23 Q. So that language -- the
24 use of that language in this instance was only to
25 reflect the urgency and did not reflect any

1 understanding -- or there was no basis in safety
2 in your view; is that correct?

3 A. Not to my knowledge, no.

4 Q. And did you ever use
5 similar language regarding the RHVP with anyone at
6 Golder other than Mr. Rose?

7 A. No, I did not.

8 Q. Did anyone at Golder ever
9 use similar language regarding the RHVP with you?

10 A. No, they did not.

11 Q. Did you ever use similar
12 language with anyone at the City?

13 A. No, I did not.

14 Q. And did anyone at the
15 City ever express to you that they faced an urgent
16 safety issue with the RHVP?

17 A. No, they did not.

18 Q. Registrar, if you can
19 take down this callout for a moment.

20 MS. LECLAIR: And,
21 Commissioner, I'm about to move on to a bit of a
22 different topic. I note that it would be a bit
23 early for a break, but I believe it will allow me
24 a moment to review my notes, if this might be an
25 appropriate time.

1 JUSTICE WILTON-SIEGEL: That
2 will be fine. Let's take a 15-minute break and
3 return at 3:15.

4 MS. LECLAIR: Thank you.

5 --- Recess taken at 3:00 p.m.

6 --- Upon resuming at 3:20 p.m.

7 MS. LECLAIR: Thank you,
8 Commissioner. May I proceed?

9 JUSTICE WILTON-SIEGEL: Yes
10 please.

11 BY MS. LECLAIR:

12 Q. Ms. Rizvi, before I move
13 on to the next topic of discussion, I just want to
14 make sure I understand your evidence clearly on
15 the last point we discussed. You told me you were
16 not specifically aware of safety issues on the
17 RHVP; is that correct?

18 A. Yes, that's correct.

19 Q. You also told me that you
20 were not generally aware of safety issues or any
21 discussion of collisions on the RHVP apart from
22 the discussions with Ms. Jewison regarding the
23 collisions on December 6th to 7th; is that
24 correct?

25 A. Generally or specifically

1 the only conversation I had was -- the only
2 collisions that I was aware of were the ones on
3 the night of December 6th and 7th.

4 Q. Were you aware of any
5 discussion around Golder's office, even
6 informally, water cooler talk, around collisions
7 on the RHVP?

8 A. Not that I recall in
9 terms of timelines when or where or whether any
10 conversations happened.

11 Q. Okay. Even if you don't
12 recall the timing, just so I understand, do you
13 have any recollection of whether those discussions
14 occurred at all?

15 A. I believe I became aware
16 of some collisions from Ludomir. I don't recall
17 when, though.

18 Q. Okay. So you don't have
19 a sense of the timing, but you understand -- or
20 you recall that you may have had discussions with
21 Dr. Uzarowski regarding collisions; is that right?

22 A. Yes, that's correct.

23 Q. Do you recall the nature
24 of those discussions?

25 A. Just that there had been

1 some collisions. That's about it.

2 Q. Okay. And did

3 Dr. Uzarowski ever reference that he understood
4 there to be concern from the police on slippery
5 conditions on the RHVP?

6 A. Not from -- not from
7 Dr. Uzarowski to me.

8 Q. From anyone else to you?

9 A. No.

10 Q. Okay. And did

11 Dr. Uzarowski ever reference any media articles or
12 media coverage more generally regarding collisions
13 on the RHVP?

14 A. Not in my presence, no.

15 Q. Okay. Thank you.

16 Registrar, if we can call up overview document 8,
17 page 66.

18 And you'll see at
19 paragraph 181 that the PSV results were received
20 from Golder's sub consultant in Ireland, Test
21 Consult, on February 15th, 2018. Can you explain
22 Golder's involvement in obtaining the PSV results.

23 Essentially can you walk me
24 through what the process entails from the core
25 extraction to receiving the final results in a

1 high level.

2 A. So from my understanding
3 the cores were extracted from the Red Hill Valley
4 Parkway. They were then taken to our Whitby lab
5 where the aggregates from the cores were extracted
6 out, were retrieved from the asphalt matrix --
7 from the mix itself. The samples were then mailed
8 to Ireland. In -- I don't know the process of the
9 PSV testing itself. I don't carry out that
10 testing. I understand that those aggregate
11 samples are then tested for PSV. What happens
12 once they receive that test, I don't know. And
13 then those test results I e-mailed -- I know I
14 e-mailed -- I think both myself and Dr. Uzarowski
15 as well as perhaps Ms. Jewison e-mailed the lab in
16 Ireland at multiple times to get those results
17 from them, which was I believe a test report.

18 Q. Okay. And were you
19 involved in reviewing or analyzing the PSV results
20 once received?

21 A. No, I was not.

22 Q. Okay. And if we can turn
23 to page 78 of the same overview document. Thank
24 you. If we can call out paragraph 214, Registrar.

25 So you received an e-mail on

1 March 14th, 2018 from Dr. Uzarowski regarding a
2 meeting he had with the City on March 9th, 2018.
3 I'll will you review the content.

4 A. Okay.

5 Q. To your knowledge was the
6 March 9th, 2018 meeting the first time the City
7 received information on the test results from
8 December 6th to 7th, 2017?

9 A. I have no knowledge of
10 whether this was the first time or not.

11 Q. Okay. And did you attend
12 this meeting?

13 A. No, I did not.

14 Q. Prior to receiving this
15 e-mail did you have any discussions with
16 Dr. Uzarowski regarding this meeting?

17 A. No, I did not.

18 Q. And did you understand
19 Dr. Uzarowski to have any concerns regarding the
20 RHVP at this time in any sense?

21 A. I recall Ludomir being
22 frustrated by the fact that he had given
23 recommendations for microsurfacing and
24 skidabrading, and that those recommendations
25 weren't being taken -- or weren't being

1 implemented, rather.

2 Q. And did you understand
3 what the nature of that frustration was? Was it
4 related to --

5 A. No, I don't know why he
6 was frustrated, simply that he was -- that they
7 weren't taking his recommendations.

8 Q. And from your
9 understanding were those frustrations related to
10 maintenance? Were there any concerns about safety
11 at this time?

12 A. Not to my knowledge.

13 Q. Okay. Do you know why
14 you received this e-mail?

15 A. Simply as a record of a
16 conversation, was my understanding.

17 Q. Okay. And was he looking
18 for your input or your opinion regarding the
19 feasibility of hot in-place recycling on SMA?

20 A. No, he was not.

21 Q. At this time did you have
22 any experience regarding the use of hot in-place
23 recycling on SMA?

24 A. No, I did not.

25 Q. And at this time, so

1 March 2018, what was your involvement in the 2017
2 Golder pavement evaluation?

3 A. I don't believe I had any
4 significant involvement at this time.

5 Q. And I had asked you a bit
6 earlier in time in the context of December 2017
7 whether you expected Golder to prepare a report
8 related to the testing conducted on December 6th
9 and 7th, 2017, and I believe you said that that
10 was your expectation. At this time --

11 A. That was my understanding
12 at the time that a report would be prepared by
13 Golder.

14 Q. Thank you. And at this
15 time, March 2018, was your understanding the same?

16 A. That a report would be
17 prepared, yes, by Golder.

18 Q. And did you have any
19 discussions regarding sending or not sending a
20 report at this time?

21 A. No, I did not.

22 Q. And am I correct that
23 preparing a draft report was not something that
24 you were responsible for at this time?

25 A. That is correct.

1 Q. Okay. Registrar, if you
2 could take us to page 88, please. Actually if you
3 can do 88 and 89 because, I believe, paragraph 244
4 spills over to the next page as well.

5 So on April 10th, 2018 you
6 received an e-mail along with a series of other
7 colleagues at Golder from Dr. Henderson. In the
8 e-mail show wrote that the City of Hamilton wants
9 to try a pavement rehabilitation method, hot
10 in-place recycling, in a new application, and then
11 further in the e-mail that this idea has been
12 driven by the City and not by Golder. What was
13 your involvement with hot in-place recycling on
14 the RHVP at this time?

15 A. Limited to none.

16 Q. Okay. And a bit more
17 generally what was your familiarity with hot
18 in-place recycling at this time?

19 A. I had very limited
20 familiarity with it. I knew that the technology
21 existed, and that's about it.

22 Q. Okay. Did you have --
23 apart from Dr. Henderson's comment did you have
24 any understanding of whether the idea was driven
25 by the City?

1 A. No, I did not.

2 Q. And at this time is the
3 project Dr. Henderson was referring to separate
4 from the 2017 Golder pavement evaluation we've
5 been discussing?

6 A. I'm not sure, honestly.

7 Q. And did you have any
8 discussion relating to the risk committee and the
9 hot in-place recycling suitability study proposal
10 at this time?

11 A. No, I did not.

12 Q. Okay. Registrar, if we
13 can go to Overview Document 9, page 23.

14 You'll see at paragraph 51,
15 Dr. Uzarowski e-mailed Mr. Becke at the City
16 attaching Golder's proposal titled "Hot in-place
17 Recycling Suitability Study."

18 And, Registrar, if you can
19 pull up GOL -- sorry, I'll take you to a different
20 document, GOL6061. Okay. And if you can do a
21 side-by-side with the attachment to this document
22 which is 6062, just for your reference. Okay.

23 MS. LECLAIR: And I believe
24 both these documents need to be marked as
25 exhibits, so if we could mark GOL6061 as

1 Exhibit 96 and GOL6062 as Exhibit 97.

2 THE REGISTRAR: Noted,

3 Counsel, thank you.

4 EXHIBIT NO. 96: E-mail chain
5 from Vimy Henderson to Ludomir
6 Uzarowski dated 6/4/2018;
7 GOL6061.

8 EXHIBIT NO. 97: Letter dated
9 June 4, 2018 to Mike Becke;
10 GOL6062.

11 BY MS. LECLAIR:

12 Q. So on the left you'll see
13 an e-mail from Dr. Henderson to Dr. Uzarowski that
14 you're copied on attaching the proposal for hot
15 in-place recycling. Did you draft this proposal?

16 A. No, I don't believe I
17 did.

18 Q. Okay. And how did it
19 relate, if at all, to the 2017 Golder pavement
20 evaluation?

21 A. I wouldn't be aware of
22 that.

23 Q. Okay. And what was your
24 role on this project?

25 A. I didn't have any

1 substantive role on this project at that time.

2 Q. Okay. And do you know
3 why Dr. Henderson copied you on this?

4 A. Just for information in
5 case she was -- in case she may have needed
6 assistance. I suspect in case she may have needed
7 assistance if she was out of town with some
8 coordination, so just for information.

9 Q. Okay. And, Registrar, if
10 we can go to overview document 9, page 39.

11 I understand that the samples
12 for the hot in-place recycling suitability study
13 were removed from the RHVP on July 22nd, 2018 and
14 August 19th, 2018 for the southbound and
15 northbound lanes, respectively. Did you attend
16 on-site on either occasion?

17 A. No, I did not.

18 Q. And around this time, so
19 between July 22nd and August 19th, 2018, did you
20 have any discussions with Mr. Becke or anyone else
21 at the City regarding the Tradewind report, the
22 Golder report or any prior work Golder had
23 conducted on the RHVP?

24 A. No, I did not.

25 Q. If you can call up

1 pages 53 and 54.

2 And at paragraph 126 and 127
3 you'll see Dr. Uzarowski, copying Dr. Henderson,
4 sent Mr. Becke a copy of the Tradewind report on
5 August 27th, 2018 writing:

6 "As requested, please find
7 attached the 2014 report on
8 friction on RHVP and LINC
9 prepared by Tradewind
10 Scientific." (As read)

11 Were you aware around this
12 time that Dr. Uzarowski sent Mr. Becke the
13 Tradewind report?

14 A. No, I was not.

15 Q. Did anyone from the City
16 ever request any historical friction data or
17 pavement evaluations from you?

18 A. No, they did not.

19 Q. And were you ever
20 involved in any discussions with anyone from the
21 City regarding the Tradewind report?

22 A. Nope, I've had no
23 discussion with them.

24 Q. Okay. I understand that
25 Dr. Henderson left Golder sometime in

1 September 2018. Does that accord with your
2 recollection?

3 A. Yep, around then I
4 believe.

5 Q. Okay. And how did
6 Dr. Henderson's departure affect your role on
7 projects related to the RHVP?

8 A. I became involved. I
9 took over the portions associated with invoicing
10 and billing for the most part.

11 Q. And did you take on any
12 technical or substantive responsibilities at this
13 time?

14 A. No, I did not.

15 Q. And, Registrar, if we can
16 go to GOL3061.

17 MS. LECLAIR: I believe this
18 document needs to be marked as an exhibit as well
19 which would be 98.

20 THE REGISTRAR: Noted,
21 Counsel. Thank you.

22 EXHIBIT NO. 98: E-mail chain
23 to Ludomir Uzarowski from
24 Rabiah Rizvi dated 11/12/2018;
25 GOL3061.

1 BY MS. LECLAIR:

2 Q. And if we can pull up the
3 second image to this document as well, Registrar.

4 On November 28th, 2018
5 Dr. Uzarowski e-mailed you a draft e-mail
6 addressed to Mr. McGuire at the City, and in
7 Dr. Uzarowski's e-mail he wrote "do you agree with
8 this?" I'll just give you a moment to review the
9 two e-mails.

10 A. (Witness reviews
11 document). Yep, I'm good.

12 Q. Why did Dr. Uzarowski
13 send this to you to your knowledge?

14 A. It would merely have been
15 for reviewing from a grammatical or editorial
16 perspective, which was common practice for the two
17 of us.

18 Q. Okay. So he was not
19 seeking any technical --

20 A. No.

21 Q. Okay. Registrar, if we
22 could go to overview document 9, page 206.

23 And at paragraph 504 on
24 December 13th, 2018 Dr. Uzarowski e-mailed you
25 attaching a draft letter report for the 2017

1 Golder pavement evaluation. In his e-mail he
2 wrote:

3 "Could you please review the
4 report, format it and include
5 the PSV texture and BPN
6 results. I would need to send
7 it to Michael and Tony for
8 review ASAP." (As read)
9 And, Registrar, if we can also
10 call up GOL6721.

11 MS. LECLAIR: And I believe
12 GOL7621 needs to be marked an exhibit which would
13 be 99.

14 THE REGISTRAR: Noted,
15 Counsel. Thank you. It's 99.

16 MS. LECLAIR: Thank you.

17 EXHIBIT NO. 99: E-mail chain
18 to Ludomir Uzarowski to Rabiah
19 Rizvi dated 12/14/2018;
20 GOL6721.

21 BY MS. LECLAIR:

22 Q. Ms. Rizvi, you replied
23 the same day attaching what you described as the
24 formatted and edited letter report. What did you
25 understand the nature of the review requested by

1 Dr. Uzarowski to be?

2 A. Merely editorial.

3 Q. Okay. So, again, is it
4 correct that you did not have a substantive or
5 technical input into the draft or final report?

6 A. Yes, that is correct.

7 Q. And at this time had you
8 been actively involved in work related to this
9 project?

10 A. No, I had not.

11 Q. And this is
12 mid-December 2018. This is nearly a year after
13 you sent Ms. Jewison the report skeleton for this
14 project that we spoke about a bit earlier. Do you
15 have an understanding of why there was a delay?

16 A. No, I do not.

17 Q. Was that something that
18 was discussed to your knowledge?

19 A. No, it was not.

20 Q. I understand from the
21 documents that between December 2018 and
22 March 2019 Dr. Uzarowski provided you with several
23 draft reports of the 2017 Golder pavement
24 evaluation. I'll take you to a few different
25 drafts you received as they arise in a chronology,

1 but generally was your involvement with respect to
2 these documents the same as we've discussed?

3 A. Yes, that is correct,
4 merely editorial and grammatical changes.

5 Q. Okay. Did you ever
6 undertake a technical review of the report or
7 provide substantive comments?

8 A. No, I did not.

9 Q. And to the extent as we
10 go through the chronology, if we come to a draft
11 report where you did provide such comments, please
12 let me know.

13 A. Will do.

14 Q. In addition during the
15 same time period, so December 2018 to March 2019,
16 you're also provided with draft reports for the
17 hot in-place recycling suitability study. Was
18 your involvement with that project and that report
19 the same?

20 A. As 2017 Golder report,
21 yes, editorial, formatting, administrative.

22 Q. Okay. Is it correct
23 that -- did you ever undertake a technical review
24 of the hot in-place recycling suitability study
25 report or provide substantive comments?

1 A. No, I did not.

2 Q. During the course of the
3 hot in-place recycling suitability study did you
4 come to learn at some time that the City no longer
5 was considering the use of hot in-place recycling
6 to resurface the RHVP?

7 A. No, I did not come to
8 learn of that.

9 Q. So at no time before the
10 report was presented in 2019?

11 A. I did not know.

12 Q. Okay. Registrar, if we
13 can take these down and go to Golder 6707.

14 MS. LECLAIR: I believe this
15 document also needs to be marked as an exhibit
16 which brings us to Exhibit 100.

17 THE REGISTRAR: Noted,
18 Counsel. Thank you.

19 MS. LECLAIR: Thank you.

20 EXHIBIT NO. 100: E-mail chain
21 to Rabiah Rizvi to Ludomir
22 Uzarowski dated 12/17/2018;

23 GOL6707

24 BY MS. LECLAIR:

25 Q. This is December 17th,

1 2018. Dr. Uzarowski sent you a revised draft.
2 And to confirm, this is the 2017 Golder pavement
3 evaluation report that we've been discussing, and
4 in his e-mail he wrote that Michael had reviewed.
5 To your knowledge who does "Michael" refer to?

6 A. Michael Maher.

7 Q. And what was Dr. Maher's
8 role on this project to your knowledge?

9 A. I'm not sure what his
10 role on the overall project prior, but I
11 understand he was doing a technical review of the
12 report.

13 Q. Okay. Registrar, if we
14 can go to overview document 9, page 250.

15 At paragraph 609 we've
16 excerpted an e-mail that you received on
17 January 14th, 2019 in which Dr. Uzarowski asks you
18 to review a draft e-mail he intended to send to
19 you to, Dr. Skinner, Mr. Tony Linardi and
20 Dr. Maher for their records. The report attached
21 the draft letter report for the 2017 Golder
22 pavement evaluation. I'll let you review the
23 e-mail.

24 A. I reviewed it. We're
25 good.

1 Q. Oh, okay. Sorry.

2 A. No worries.

3 Q. What was your

4 understanding of the kind of input Dr. Uzarowski
5 was seeking in asking for your review? Was it the
6 same as we discussed previously?

7 A. Yes, it was the same. It
8 was merely editorial, grammatical changes.

9 Q. Okay. And, Registrar, if
10 we can go to GOL6448. And so this is moving
11 forward in time. This is now February 28th, 2019.
12 You received an e-mail from Dr. Uzarowski who
13 wrote:

14 "Could you have a quick look
15 at it and then finalize the
16 report. I have made one
17 change suggested by Michael.
18 I suggest to remove his final
19 suggestion about
20 microsurfacing. Also could
21 you please attach the
22 attachments from the old
23 report, PSV texture and BPN
24 results, and also two
25 brochures, one about

1 Skidabrader and the other one
2 about Blastrac."

3 Does the reference to Michael,
4 again, refer to Dr. Maher?

5 A. Yes, that's my
6 understanding.

7 MS. LECLAIR: And, Registrar,
8 I believe that GOL6448 needs to be marked as an
9 Exhibit, 101.

10 THE REGISTRAR: Noted,
11 Counsel. Thank you.

12 EXHIBIT NO. 101: E-mail chain
13 to Rabiah Rizvi from Ludomir
14 Uzarowski dated February 28,
15 2019; GOL6448.

16 BY MS. LECLAIR:

17 Q. And in his e-mail when he
18 wrote "I suggest to remove his final suggestion,"
19 did you understand this to be a request for
20 substantive input or for your view on the matter?

21 A. No, it wasn't a request
22 for substantive input.

23 Q. So I would like to take
24 you to the draft Dr. Uzarowski attached that
25 includes Dr. Maher's comments.

1 And, Registrar, if you can
2 open GOL6453 but in the native form. If you can
3 scroll to page 3 towards the bottom, and if you
4 can just zoom in to the text below the table so
5 that the comments remain visible. Thank you,
6 Registrar.

7 Ms. Rizvi, do you recall if
8 you reviewed this draft?

9 A. No, I don't recall if I
10 did or did not. And any review I would have
11 carried out would not have been technical or
12 substantive.

13 Q. I expect from the
14 e-mail -- Dr. Uzarowski's e-mail that we just
15 looked at about his comment:

16 "I have made one change
17 suggested by Michael. I
18 suggest to remove his final
19 suggestion about
20 microsurfacing."

21 I expect that that refers to
22 the last paragraph above closure that we see
23 highlighted in yellow.

24 A. Okay.

25 Q. Do you recall if you

1 reviewed that comment in particular?

2 A. No, I didn't.

3 Q. So I take it that you did
4 not ultimately make the decision regarding whether
5 or not to include the stuck-out text?

6 A. No, I did not make the
7 decision to include or not include that.

8 Q. Okay. Registrar, you can
9 take this down. Thank you.

10 And, Ms. Rizvi, other than
11 what we've discussed today did you at any time
12 have any views or concerns regarding the safety of
13 the RHVP?

14 A. No, I did not.

15 Q. And other than what we've
16 discussed do you recall this ever being topic of
17 conversation at Golder?

18 A. No, I do not recall it
19 being topic of conversation at Golder.

20 MS. LECLAIR: Thank you,
21 Ms. Rizvi, Commissioner, those are my questions.

22 JUSTICE WILTON-SIEGEL: Okay.

23 MS. LECLAIR: And I understand
24 that counsel for the City may have a few questions
25 for Ms. Rizvi.

1 JUSTICE WILTON-SIEGEL: Okay.

2 MS. TALEBI: Good afternoon,
3 commission counsel. Mr. Commissioner, may I
4 please proceed?

5 JUSTICE WILTON-SIEGEL: Yes,
6 please proceed, Ms. Talebi.

7 MS. TALEBI: Thank you.

8 EXAMINATION BY MS. TALEBI:

9 Q. Good afternoon,
10 Ms. Rizvi. My name is Sahar Talebi. I'm a lawyer
11 with the City of Hamilton. I just have a couple
12 of questions for you this afternoon.

13 Earlier in your discussion
14 with commission counsel around your December 19,
15 2017 e-mail sent to Mr. Rose, you were asked
16 whether safety issues are typically something that
17 Golder would identify, and your response was no.
18 I just want to clarify that if in the course of
19 providing services to a client Golder did identify
20 a potential safety issue, Golder would notify the
21 client of that issue; is that correct?

22 A. If there was a safety
23 issue that we could comment on, then it would be
24 notified, yes.

25 Q. That's right. So if you

1 did develop a concern in the course of providing
2 your services, it would be fair to say that you
3 would raise that?

4 A. Yes. And if it was
5 within our realm of expertise to actually comment
6 on that concern.

7 Q. Right. Okay. So if it
8 was within the realm of your expertise, but also
9 in general in the course of providing those
10 services, if it was something that if it was an
11 identifiable concern obviously based on the work
12 that you are doing --

13 A. Yes.

14 Q. -- it's something that
15 you would then raise to the client?

16 A. Yes.

17 Q. Thank you. And you gave
18 evidence earlier that you recall Dr. Uzarowski
19 being frustrated that the City did not want to
20 implement the recommendations that he provided.
21 And I appreciate you may not recall the exact date
22 of sort of when those expressions were
23 communicated, but is it fair to say that it was
24 around likely the 2017, 2018 time period?

25 A. I don't recall

1 specifically, in all honesty.

2 Q. Okay. So you don't have
3 any recollection of him expressing his frustration
4 or any specific recollection anyway of him
5 expressing his frustration earlier than that time
6 period either, right?

7 A. No, I don't recall.

8 Q. Okay. You just don't
9 know?

10 A. No, but within the year
11 timelines that would have occurred.

12 MS. TALEBI: Okay. And if I
13 could just take one moment, Mr. Commissioner. I'm
14 just pulling up a note here.

15 BY MS. TALEBI:

16 Q. Commission counsel took
17 you a document, I think it was the last document
18 that she took you to.

19 Mr. Registrar, if I could ask
20 you to pull up Golder 6453.

21 And I realize, Ms. Rizvi, your
22 evidence was that your involvement with this
23 document was largely editorial in nature. But is
24 it consistent with your understanding, having
25 reviewed the document, that Golder did not

1 conclude friction was inadequate on the RHVP?

2 A. I honestly did not review
3 it from a technical perspective, nor did I carry
4 out -- like, I haven't reviewed in detail this
5 report in particular, so -- and -- or what the
6 term inadequate would mean neither.

7 Q. Okay. So particularly in
8 relation to the Michael Maher comment that you see
9 at the top, you did not review that comment? You
10 didn't have any views with --

11 A. No, I did not.

12 Q. And you did not have an
13 understanding with respect to that comment?

14 A. No, I did not.

15 Q. Okay.

16 MS. TALEBI: Thank you, Ms.
17 Rizvi. Those are all my questions for you this
18 afternoon.

19 THE WITNESS: Thank you.

20 MS. TALEBI: Oh, sorry. I'm
21 just being told that that document wasn't actually
22 made an exhibit previously. So, Mr. Registrar, if
23 we could -- it's Exhibit 102 I think.

24 THE REGISTRAR: Yes, Counsel
25 thank you.

1 EXHIBIT NO. 102: Letter dated
2 December 14, 2018 to Gordon
3 McGuire; GOL6453.

4 MS. LECLAIR: I understand
5 counsel for Golder have some questions as well.

6 MS. RAMASWAMY: Thank you, Ms.
7 Leclair. Actually we have no questions. Thank
8 you, Mr. Commissioner.

9 JUSTICE WILTON-SIEGEL:
10 Counsel for the MTO?

11 MS. MCIVOR: We also have no
12 questions. Thank you very much.

13 JUSTICE WILTON-SIEGEL: Okay.
14 And counsel for Dufferin?

15 MR. BUCK: Similarly we have
16 no questions, Commissioner.

17 JUSTICE WILTON-SIEGEL:
18 Ms. Leclair?

19 MS. LECLAIR: No further
20 questions, Commissioner.

21 JUSTICE WILTON-SIEGEL: Okay.
22 Well, then, first of all, Ms. Rizvi, thank you for
23 appearing before the inquiry this afternoon.
24 You're excused. And for the rest of the counsel,
25 I think we stand adjourned until 9:30 tomorrow

1 morning. Thank you. Have a good evening.

2 --- Whereupon at 3:54 p.m. the proceedings were

3 adjourned to Friday, June 24, 2022 to

4 9:30 a.m.

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