

RED HILL VALLEY PARKWAY INQUIRY

TRANSCRIPT OF PROCEEDINGS
BEFORE THE HONOURABLE HERMAN J. WILTON SIEGEL
held via Arbitration Place Virtual
on Friday, April 29, 2022 at 9:31 a.m.

VOLUME 5

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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:

Robert A. Centa	For Red Hill Valley
Andrew C. Lewis	Parkway
Emily C. Lawrence	
Hailey Bruckner	
Shawna Leclair	
Chloe Hendrie	

Eli Lederman	For City of Hamilton
Delna Contractor	
Jonathan Chen	
Jenene Roberts	
Vivian Hua	
Laura MacIntyre	
Christina Shiels-Singh	

Heather McIvor	For Province of Ontario
Colin Bourrier	
Michael Saad	

Jennifer McAleer	For Dufferin Construction
Chris Buck	
Rachel Laurion	

Jennifer Roberts	For Golder Associates
Nivi Ramaswamy	Inc.
Fabiola Bassong	

INDEX

	PAGE
LUDOMIR UZAROWSKI; (PREVIOUSLY AFFIRMED)	551
EXAMINATION BY MR. LEWIS (CONT'D)	551
EXAMINATION BY MR. LEDERMAN	571
EXAMINATION BY MS. MCALEER	617
EXAMINATION BY MS. MCIVOR	636
EXAMINATION BY MS. JENNIFER ROBERTS	649
EXAMINATION BY MR. LEWIS (CONT'D)	683

LIST OF EXHIBITS

NO.	DESCRIPTION	PAGE
25	E-mail chain dated 1/25/2016 from Becca Lane to Ludomir Uzarowski, GOL2915	553
26	E-mail chain sent 9/10/2007 from Philips Red Hill to Ludomir Uzarowski, et al, GOL1618	606
27	Ludomir Uzarowski's curriculum vitae	658

1 Arbitration Place Virtual

2 --- Upon resuming on Friday, April 29, 2022

3 at 9:31 a.m.

4 MR. LEWIS: Good morning,
5 Commissioner, Counsel, Dr. Uzarowski. Just
6 continuing Dr. Uzarowski's examination. May I
7 proceed, Commissioner?

8 JUSTICE WILTON-SIEGEL: Please
9 proceed.

10 MR. LEWIS: Thank you.

11 LUDOMIR UZAROWSKI; PREVIOUSLY AFFIRMED

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

13 Q. Dr. Uzarowski, I just
14 want to come back to I think it was the last topic
15 that we were discussing yesterday afternoon, and
16 we were talking about whether Ms. Becca Lane from
17 the MTO, whether she had contacted you to obtain a
18 contact for the City of Hamilton in around -- in
19 or around November of 2010, and you indicated that
20 you did not recall Ms. Lane making this inquiry of
21 you at that time, in 2010, but you recall that she
22 had at some point in time and you thought it was
23 in and about 2015 or 2016.

24 As I indicated yesterday, we
25 didn't have any e-mails or notes about

1 communications between you and her in the end of
2 2010, but we do actually have some from
3 January 2016. So I just would like to go and see
4 if that is what you were talking about and if that
5 assists.

6 If we could go to overview
7 document 7, image 108, please. I'm not proposing
8 to get into a lot of the details about the
9 communications, I just want to place it in time.
10 I expect it will be dealt with in subsequent
11 examinations.

12 So paragraph 339 indicates on
13 January 22nd, 2016, Ms. Lane e-mailed you under
14 the subject line "Red Hill Valley Parkway,"
15 writing:

16 "I received a strange media
17 request about performance of the Red Hill Valley
18 Parkway. Do you keep in touch with Hamilton on
19 that project? Are you aware of any performance
20 issues? Perhaps there's an asphalt cement
21 cracking issue. I'm in the dark on this one."

22 And then you forward -- you
23 can see at the next paragraph, 240, you forwarded
24 that to Mr. Moore.

25 And then if we could now go --

1 just to place this in time, if we could go to
2 Golder 2915, which is not in the overview
3 document, so we'll need to mark this as an
4 exhibit, which would be Exhibit 25, Commissioner.

5 JUSTICE WILTON-SIEGEL: Okay.

6 EXHIBIT NO. 25: E-mail chain
7 dated 1/25/2016 from Becca Lane to Ludomir
8 Uzarowski, GOL2915.

9 MR. LEWIS: That's Golder
10 2915, Registrar.

11 THE REGISTRAR: Sorry,
12 Counsel, I typed in the wrong number. GOL2915?

13 MR. LEWIS: Yes.

14 THE REGISTRAR: Apologies.

15 BY MR. LEWIS:

16 Q. So the e-mail at the
17 bottom of that chain is responding to Ms. Lane,
18 and if you could expand it, the one that is at
19 11:54 a.m. Yeah, next one. Actually that one and
20 the one below it, that would be great. Thank you.

21 So then, Dr. Uzarowski, you
22 reply on January 25th, 2016, thanking her for the
23 e-mail, indicating you'll talk to the City:

24 "There are short deeps and
25 surface cracking. It is an interesting question

1 whether the cracking is related to asphalt cement.
2 RHVP was paved in 2007 and the asphalt cement came
3 from Bitumar."

4 And she responds with:

5 "Do you have Gary Moore's
6 phone number? I thought I should give him a
7 call."

8 And if you -- Registrar, the
9 next one up. There you go. You reply on the same
10 day. You give Gary Moore's phone number, and that
11 you've already passed the e-mail -- her e-mail to
12 Gary and "will call him after lunch." Thank you.

13 Is this what you -- you were
14 referring to asphalt cement. Is this what you
15 were thinking of yesterday when you were talking
16 about recalling a -- or communications with Ms.
17 Lane?

18 A. Yes, it is.

19 Q. This is January 16. That
20 is in the time period you were talking about. Do
21 you have any recollection then of communicating
22 with Ms. Lane of the MTO regarding the Red Hill
23 Valley Parkway prior to these e-mails in January
24 2016?

25 A. No, not about Red Hill

1 Valley Parkway. We were both members of the
2 asphalt cement committee organized by OHMPA, but
3 no, not about (indiscernible).

4 Q. Thank you. Registrar, if
5 we could go back to overview document 3 then.
6 Overview document. If we go to image 70, please,
7 seven zero.

8 This paragraph indicates that
9 in or about September 21 to 24th, 2008, Mr. Moore
10 and Dr. Uzarowski presented two papers at the 2008
11 annual conference of the Transportation
12 Association of Canada, and then two papers are
13 listed, one titled "Innovative, Comprehensive
14 Design and Construction of Perpetual Pavement on
15 the Red Hill Valley Parkway in Hamilton," which
16 indicates it's authored by you, Mr. Moore and
17 Mr. Peter Gamble of Dufferin. And the second one,
18 "Sustainable Pavements: Making the Case for
19 Longer Design Lives for Flexible Pavements" by you
20 and Mr. Moore.

21 Looking at the first one in
22 paragraph (a) is the one that I want to discuss in
23 some detail. This is -- did you present this at
24 the TAC conference?

25 A. Definitely I presented

1 it, but I don't -- I'm not sure whether Gary also
2 did a part or whether he was the co-presenter. I
3 definitely would be one of the presenters or maybe
4 the only one, but it's possible that Gary also
5 presented a part of this.

6 Q. Okay. If we could go --
7 actually, at footnote 199 below there, it
8 indicates that -- I don't propose to go to the
9 draft itself, but 199 indicates a draft with track
10 provisions at HAM328, that Mr. Moore revised your
11 original draft and e-mailed the revisions to you
12 on May 20th, 2008.

13 So am I correct with respect
14 to this paper, "The Innovative, Comprehensive
15 Design and Construction of Perpetual Pavement of
16 the Red Hill Valley Parkway in Hamilton," that you
17 did the initial cut and Mr. Moore revised it? Is
18 that how it worked? You were the main author and
19 he provided revisions?

20 A. Yes. Yes. Yes, it is.

21 Q. Thank you. You can take
22 that down, Registrar. Thank you. Then
23 Mr. Gamble, Peter Gamble of Dufferin is listed as
24 an author. Did he provide any comments or edits?

25 A. No, I -- he was the

1 co-author. I sent him the paper and ask him for
2 comments, but he had no comments.

3 Q. Did he provide any input
4 at all on the paper?

5 A. Like --

6 Q. I anticipate that Mr.
7 Gamble will say that he did not.

8 A. Like, he was -- the
9 contractor -- so, you know, that was basically
10 describe what we did during construction, but for
11 the paper itself he did not.

12 Q. Just why does one list
13 someone as an author in a paper when they do not
14 provide any input to the paper?

15 A. Because it -- it is a
16 good practice and we're always encouraged that
17 consultants should not be the only authors of
18 technical papers; it's more interesting and brings
19 more value if the owners and the contractors are
20 involved. So whether it was TAC or CTA, we're
21 always encouraged to involve other parties, so
22 this is what we did for this paper.

23 Q. As a matter of practice
24 you might list an owner or a contractor as being
25 an author even if they don't have any input

1 because it is something that TAC or CTAA like to
2 see; is that fair?

3 A. Yes, they appreciate more
4 people are involved.

5 Q. All right. You indicate
6 that you believe you did send a copy of the paper
7 to Mr. Gamble for review?

8 A. Yes, not me myself, but I
9 sent a copy of the paper to our administrative
10 assistant Donna Walsh and I ask her to pass it to
11 Mr. Gamble.

12 Q. I don't think we
13 necessarily need to go to that, but, Commissioner,
14 there is an e-mail where Dr. Uzarowski requests
15 his assistant, as he said, Donna Walsh, to send it
16 to Mr. Gamble, but there's no record of the actual
17 e-mail being sent to Mr. Gamble with the paper.

18 If we could go to the paper
19 itself. This is at HAM13032.

20 THE REGISTRAR: Sorry,
21 Counsel, do you mind just repeating that.

22 MR. LEWIS: Yes, HAM,
23 Hamilton, 13032.

24 BY MR. LEWIS:

25 Q. That is it. This is the

1 paper we were just speaking of, Dr. Uzarowski?

2 A. Yes, it is.

3 Q. And if we can go to image

4 4. Generally speaking, the paper is about the
5 development of the perpetual pavement structure,
6 speaks of the feasibility study that we talked
7 about earlier, about the instrumentation, the
8 installation of instrumentation for monitoring in
9 the Red Hill Valley Parkway, and some construction
10 issues as well. But generally speaking that's
11 what it covers; is that right?

12 A. Yes, it is.

13 Q. So here in section 2.0
14 speaking of the feasibility study, and that's
15 referring back to what we talked about yesterday,
16 the feasibility study that you conducted at
17 Mr. Moore's request in 2005; correct?

18 A. Yes, it is.

19 Q. The -- at the bottom
20 there, in the second last paragraph, the last
21 sentence, it says:

22 "More information about these
23 analyses is provided in..."

24 And then it's N note 10. I
25 can take you to it if you want, but I can tell you

1 that N note 10 refers to the CTAA paper from 2006
2 that we discussed yesterday which covered a lot of
3 the same ground as the feasibility study; is that
4 right?

5 A. Yes, yes.

6 Q. And then if we go to
7 image 7. So on the top there, maybe you could
8 expand this for us, Registrar, the top image with
9 the figure including the -- yeah, thank you. This
10 is the comparison, similar to what was in the CTAA
11 paper, the diagram, just showing the comparison
12 between the conventional deep strength design and
13 perpetual pavement design; right?

14 A. Yes.

15 Q. For the perpetual
16 pavement design which was actually implemented on
17 the Red Hill, at the top it's showing the 40
18 millimetre wearing course, meaning -- which is the
19 SMA layer, and then 120 millimetre asphalt binder
20 course, which we'll see is actually two different
21 layers; right?

22 A. Yes, two layer.

23 Q. And then the 80
24 millimetre rich bottom layer, the rich bottom mix
25 layer?

1 A. Yes.

2 Q. And below that there's
3 the granular base layers. If we could drop that
4 and then look at the next photograph. Can you
5 expand photograph 2. Thank you. This is a core
6 sample actually taken from the constructed Red
7 Hill; is that right?

8 A. Yes, it is a full depth
9 core taken from the Red Hill Valley Parkway.

10 Q. It's showing what we
11 discussed, but it actually shows the two middle
12 layers, right, the two binder layers?

13 A. Yes, and upper binders,
14 yes.

15 Q. With SMA on the top and
16 the rich bottom mix on the bottom. Okay. If we
17 could go to the next image, image 9. You were
18 talking yesterday about the paving approach for
19 the SMA, and the image 9 shows -- photograph 3
20 shows echelon paving of the SMA surface course
21 using material transfer vehicle. What is echelon
22 paving?

23 A. Echelon paving is used in
24 order to avoid cold joints during paving. So one
25 paver is closely followed by the other one and the

1 distance is very close, is typically 10 -- maximum
2 30 metres. So by the time the second paver comes,
3 the joint or the mix has no time to cool, so this
4 is -- by this time we avoid having additional cold
5 joint. It's basically hot joint almost looks like
6 no joint at all.

7 Q. I think you had indicated
8 that is also for more SMA because you don't want
9 it to cool because it creates compaction problems;
10 is that right?

11 A. Yes, the joints are
12 particularly difficult for SMA, so this way we
13 significantly improve the quality of the mat.

14 Q. And, Registrar, if you
15 could expand the two paragraphs immediately below
16 the photographs. Not four -- well, that's fine.
17 That's fine. We can do that.

18 In these paragraphs you are
19 discussing what we talked about yesterday about
20 the requirements were tighter than in the OPSS
21 standard specifications, particularly on
22 gradations, asphalt cement content, and
23 particularly compaction. And you indicate the RBM
24 compaction, and then with SMA, you indicate in the
25 fifth line that the compaction was to be between

1 93 and 97.5 percent. That's what we were talking
2 about yesterday?

3 A. Yes, it is.

4 Q. You indicate that it's
5 tighter than typically used. But just to confirm,
6 we saw yesterday that on the later compaction,
7 that the lower -- that the OPSS standard was
8 applied; is that right?

9 A. Yes. I think it was an
10 error, but I think yes. You showed this
11 yesterday, yes.

12 Q. Then at image 12. If we
13 could drop that and go to image 12, Registrar.
14 Under this heading "Quality Control, Quality
15 Assurance," there's a description of what we
16 talked about yesterday, being the ignition oven
17 and the issues with the breakdown of aggregates in
18 there and then the -- the high temperatures, and
19 referring to the extraction gradation method being
20 used, or the -- and you refer to the environmental
21 issues as well about no solvents being allowed
22 on-site.

23 So that's what we were talking
24 about yesterday, around that issue?

25 A. Yes. Yes, it is.

1 Q. And then you describe how
2 that was resolved and resolved any discrepancy in
3 the correlation issue so you could move past that
4 issue.

5 Image 13. So the paragraph at
6 the top in the photo deals with compaction, and I
7 wonder if you could expand that and the photo,
8 Registrar. Thank you.

9 So in the paragraph above the
10 photos, it speaks of compaction generally achieved
11 by increasing the number of rollers, the thing you
12 mentioned yesterday; is that right?

13 A. Yes, they increase to 6,
14 yes.

15 Q. And careful control of
16 the mix temperature and avoiding excessive water,
17 which I think you mentioned, and then paving in
18 echelon contributing to the successful achievement
19 of the compaction requirements and mitigated
20 problems with longitudinal joints.

21 What I note here is that
22 although it describes how the issues were
23 resolved, there's nothing -- there's no mention in
24 here of the compaction problems encountered in the
25 earlier stages; is that right?

1 A. You are right. Yeah, we
2 only describe how we resolved issues.

3 Q. I appreciate you're
4 saying that it was an error, but there's nothing
5 in there about the -- clearly about the less -- in
6 the latter days, you -- in the nuclear density
7 reports, using the OPSS lower standard for
8 compaction; is that right?

9 A. Yes, it is.

10 Q. There's also no mention
11 in here, in the paper, about the test strip
12 failure; is that correct?

13 A. Yes. No, it's not
14 mentioned -- it's not written about the test strip
15 failure.

16 Q. There's no mention of
17 your communicating to Dufferin that it was
18 proceeding at its own risk due to the failure of
19 the test strip; right?

20 A. No, we didn't include it.

21 Q. There's no mention as
22 well of concerns that you had, that you describe,
23 about using the mix aggregates or the concern
24 about the early low age friction issue or the MTO
25 skid testing that was done in October of 2017

1 arising out of those concerns; is that correct?

2 A. Correct.

3 Q. And why -- I mean, I
4 appreciate decisions have to be made about what
5 goes into a paper or not, but are those things not
6 of interest to a reader?

7 A. I think it can be. It
8 was just, you know, the purpose was to show
9 generally how this thing can be constructed, and
10 it's based on my experience, on our experience
11 that we had in the past, like, you know, with --
12 particularly with compaction, with construction,
13 with -- and that was unique to use echelon paving
14 and MTD, so just to show at least some aspects of
15 the project that, you know, could -- that had
16 positive impact on the quality.

17 Q. That -- right, that had
18 positive impact on the quality but not negative?

19 A. Oh, we mentioned that --
20 you know, we mentioned -- we wrote about problems
21 with ignition oven, problems with initial
22 compaction we had to improve, so we covered some
23 aspects. We didn't cover everything.

24 Q. There is no mention I
25 notice of the use of the vibratory roller to

1 improve compaction either. Do you know why that
2 is?

3 A. You know, it was just a
4 paper, a limited size, so, you know, we just
5 wanted to show what was successfully implemented
6 and what allowed us to improve compaction to
7 achieve what we wanted in the specification. So
8 we showed what worked. There is no vibration or
9 vibratory mentioned.

10 Q. With respect to the
11 concerns about the aggregates and skid resistance
12 and the MTO skid testing that took place, did you
13 have any discussions or communications with Mr.
14 Moore about whether or not to include that in the
15 paper?

16 A. I don't recall. I think
17 I sent him the initial version of the paper for
18 his input, and Peter Gamble didn't add anything,
19 but Gary added his comments and his added -- I
20 think that was it.

21 Q. Yeah, and I confirm from
22 the documents that have been produced, the
23 initial draft by you does not have anything about
24 those issues, and nor is there by Mr. Moore. So
25 I'm wondering if you had any discussions with him

1 about whether to include that in the first
2 instance or not?

3 A. No, I don't recall.

4 Q. You don't recall that
5 happening or you know that that didn't happen?

6 A. I think it didn't happen.

7 Q. All right. In retrospect
8 now looking at this paper, and the issues that
9 we've just discussed that are not in there, do you
10 think it provides a fair description of the
11 challenges and issues encountered on the issues
12 that we just discussed with respect to aggregate,
13 skid resistance and generally with the SMA
14 placement?

15 A. So at that time there was
16 no issue of skid resistance discussed, but I
17 think, you know, in my opinion it provide some
18 good hints for other agencies and contractor how
19 to address some, in our opinion, main aspects of
20 SMA -- not only SMA, perpetual pavement, but, you
21 know, here with particular focus on SMA
22 construction. These are typical problems that
23 were observed, so we wanted to describe how we
24 addressed them.

25 Q. Right, and on that point,

1 though, with the early age low friction issue, I
2 mean it's a typical issue, right, and so I would
3 have thought that the friction testing that was
4 done and the results which you describe in here, I
5 think not great but adequate, that that also would
6 have been a relevant thing to include. Did you
7 not consider that at all?

8 A. I think at that time we
9 did not consider.

10 MR. LEWIS: I have no further
11 questions, Commissioner.

12 JUSTICE WILTON-SIEGEL: Thank
13 you.

14 MR. LEWIS: Thank you,
15 Dr. Uzarowski, I appreciate your time and
16 preparation.

17 Commissioner, I can advise
18 that counsel for the participants have consulted
19 about their time needed and as well the order in
20 which they will question Dr. Uzarowski, and so the
21 order that is proposed is that counsel for
22 Hamilton proceed first, then counsel for Dufferin,
23 then counsel for MTO, and in accordance with the
24 rules of procedure for the inquiry, with counsel
25 for Golder examining as the final examiner for the

1 participants.

2 The estimates of course are
3 not down to the minute, but we anticipate that
4 counsel for Hamilton will be approximately
5 60 minutes, give or take 15, Counsel for Dufferin
6 perhaps 30 minutes, Counsel for the MTO another
7 30 minutes, and counsel for Golder about 60.

8 JUSTICE WILTON-SIEGEL: Thank
9 you. Why don't we have the City proceed with
10 their questions.

11 EXAMINATION BY MR. LEDERMAN:

12 Q. Thank you, Commissioner.

13 Good morning, Dr. Uzarowski.

14 My name is Eli Lederman and I am counsel for the
15 City of Hamilton. I have a few questions for you
16 this morning, and I wanted to start by asking you
17 about the friction test results that you had
18 received from the MTO in October of 2007.

19 I think the best place to look
20 is starting with the e-mail in which those results
21 were sent to you which can be found at Golder
22 document 0003513. If I could just ask the
23 Registrar to pull up that e-mail, I would be
24 grateful.

25 You'll see that this is an

1 e-mail, looking at the bottom of the string, that
2 Chris Raymond at the MTO sent to you by e-mail
3 October 18, 2007, and he says:

4 "Ludomir, attached please find
5 the friction testing results for the Red Hill
6 Valley Parkway."

7 And then there were two Excel
8 spreadsheets that were attached to that e-mail.
9 But for the ease of our review of it, it's
10 probably easiest to pull that from the OD
11 document. And if I could just ask the Registrar
12 to pull up OD4, image 61. Yes.

13 I take it that these were the
14 results of the friction test that the MTO had
15 conducted; yes?

16 A. Yes, they are.

17 Q. And you reviewed the
18 results of that at the time that they came in?

19 A. Yes, I did.

20 Q. The document that we're
21 looking at in terms of this one, image 61, you'll
22 see at the top of the page it says, in the middle,
23 "DIR," and it has a colon and it says "SBL1". And
24 am I correct that that is a reference to
25 southbound lane 1 on the Red Hill Valley Parkway?

1 A. Yes, you are right.

2 Q. Looking down towards the
3 bottom of the page, you'll see that there is an
4 average FN number at 33.9.

5 A. Yes, it is.

6 Q. And that reflects the
7 average friction number obtained from the MTO of
8 just under 34 at 33.9; correct?

9 A. Yes, it is.

10 Q. And then just looking at
11 the other results, the individual results from the
12 precise locations, there are two entries that fall
13 below FN30, and that is in the third line at 28.7
14 where it says "Barton Street" along to the right;
15 correct?

16 A. Yes, it is.

17 Q. And then going down a few
18 lines, you'll see there is one at 28.1 at
19 Queenston Road, which is the landmark referenced
20 there; correct?

21 A. Yes, it's correct.

22 Q. Just so I'm clear, just
23 dealing with southbound lane 1, you were -- you
24 found that the friction test results that the MTO
25 had conducted were acceptable; yes?

1 A. Yes, generally, yeah,
2 they were acceptable, yes.

3 Q. And that was because, and
4 I think you told us earlier, that the expected
5 value within the pavement community was that if
6 you were -- if you had an average of around 30,
7 then you were generally content; yes?

8 A. Yes.

9 Q. And then when we look
10 over at image number 62, this -- just if we could
11 enlarge that -- you'll see that at the top of the
12 page it says DIR, SBL2. Do I take it that this is
13 the test results from southbound lane 2, the
14 second lane in that southbound lanes on the Red
15 Hill Valley Parkway that the M2 conducted;
16 correct?

17 A. Yes, correct.

18 Q. Looking down at the
19 average friction number that was obtained from
20 southbound lane 2, you'll see that there is a
21 reference to 33.8 as the average; correct?

22 A. Yes, it's correct.

23 Q. Just looking at the
24 specific locations, there are, by my count, of
25 the -- I think it's 23 locations, there are four

1 that fall slightly below 30, and that is in the
2 third line at 29.6, and then just scrolling down
3 the list, about halfway through you'll see there's
4 a 28.4, and then five lines below that, 28.6, and
5 the next one below that, 29.7 at King Street. Do
6 you see that?

7 A. Yes.

8 Q. Again, despite the fact
9 that there were those specific isolated locations
10 that fell slightly below 30, you were still
11 generally satisfied with the average friction
12 number being in the southbound lanes 2 of 33.8;
13 correct?

14 A. Yes, I was.

15 Q. Now, if we could just go
16 back to the covering e-mail at GOL3513. You'll
17 see that Mr. Raymond attaches those results, and
18 he notes in the third paragraph of the e-mail:

19 "You may wish to note that
20 some of the friction numbers less than 30
21 correlate with being located under a structure."

22 As I understood your evidence
23 yesterday, Dr. Uzarowski, you understood that what
24 that was referring to was that those numbers that
25 came in under 30 related to the fact that they had

1 been taken from locations located near a
2 structure; correct?

3 A. Yes, under structure,
4 yes.

5 Q. And I think one of the
6 things you considered or indicated was that
7 perhaps the structure created a shadow which could
8 affect the frictional characteristics of those
9 specific spots?

10 A. Yeah, well, the pace (ph)
11 that the asphalt cement will wear off. Yeah,
12 that's right.

13 Q. And then in the next
14 paragraph of his e-mail he says:

15 "Should you have any questions
16 regarding the results, please do not hesitate to
17 contact us."

18 And I take it -- there doesn't
19 appear to be any notes or any e-mail or any
20 record, Dr. Uzarowski, of you contacting Mr.
21 Raymond or anyone else at the MTO to specifically
22 discuss these results. I take it you don't have a
23 specific recollection of having a discussion with
24 Mr. Raymond about them at that time.

25 A. No, I don't recall.

1 Q. Okay. But certainly you
2 have no recollection of advising Mr. Raymond at
3 that time that you were generally satisfied with
4 the results; correct?

5 A. That's correct.

6 Q. Or that you had any
7 concerns about the results in any way?

8 A. No. I knew from my
9 experience that they will come up quickly, yes.

10 Q. Sure, but that's not
11 something that you recorded anywhere to Mr.
12 Raymond or anyone else at the MTO, that was just
13 an expectation that you had in your own mind?

14 A. Yes.

15 Q. You'll see in the second
16 paragraph of his e-mail he says:

17 "Please pass the results on to
18 those involved with the project."

19 Correct?

20 A. Yes, that's correct.

21 Q. I take it that those
22 involved in the project, he's referring to the
23 City of Hamilton, representatives of the City of
24 Hamilton?

25 A. Yeah, City of Hamilton, I

1 think we also -- yes, City of Hamilton and CA and
2 Dufferin I think we pass.

3 Q. I think you were asked
4 about this yesterday, and I'm correct that you
5 don't have a specific recollection of your
6 discussion with the City of Hamilton, whether it
7 was Mr. Moore or Mr. Oddi or both of them, about
8 these results; correct?

9 A. I e-mailed them the
10 results. You know, I said I would call them. I
11 think I called them, but I don't have any notes.

12 Q. But certainly you would
13 agree that if you had any concerns about these
14 friction results, you would have communicated
15 those to Mr. Moore or Mr. Oddi when you provided
16 it to them?

17 A. Yeah, I would tell them
18 what my opinion was.

19 Q. Yes. Your opinion was
20 that the results were acceptable, as you've said.
21 I do want to ask you just about another document,
22 if I could, at GOL0002642. This fast forwards a
23 bit into the year 2013, but I'm particularly
24 interested in the middle e-mail of this exchange.
25 If we could just enlarge that portion.

1 I see that Mr. Lewis has
2 risen, so I'll just stop there for a second.

3 MR. LEWIS: Yes. Not an
4 objection per se, Commissioner. And I realize in
5 order to clarify what Dr. Uzarowski was saying
6 before that I did move forward into 2016, because
7 -- to make sure what he was talking about with
8 respect to discussions with Ms. Lane. But I do
9 have a concern since Dr. Uzarowski is going to be
10 testifying twice -- this is his pre-construction
11 construction part of it -- that while it's
12 absolutely fair to get Dr. Uzarowski's
13 recollections at the time of receiving the results
14 and so forth, I do have a concern about then
15 asking what his recollections or what his views
16 were of the results six years later.

17 So I just raise that's as a
18 concern, and I don't want to get in a -- I would
19 like to avoid getting into a situation where
20 counsel on this issue or other issues are looking
21 at what people said years later about what
22 happened at the time.

23 JUSTICE WILTON-SIEGEL: Are
24 you suggesting that that's a question that's
25 appropriate for the second stage?

1 MR. LEWIS: For his second
2 testimony at that time. I mean, he's given his
3 views on what his -- at the time what he thought,
4 and I think that's what's appropriate for this
5 phase of his evidence.

6 MS. JENNIFER ROBERTS: May I
7 just add, Commissioner, that the witness has been
8 prepared and reviewed the documents with some care
9 relating to the design and construction.
10 Obviously we've looked at these documents more
11 generally, but we prepared for this piece of
12 evidence.

13 JUSTICE WILTON-SIEGEL: Mr.
14 Lederman?

15 MR. LEDERMAN: Thank you. I
16 don't intend to question Dr. Uzarowski about the
17 events of 2013 that surrounds this e-mail. My
18 focus, and the reason why I've put this e-mail in
19 front of him now, is because this e-mail
20 specifically deals with the testing that was
21 conducted in 2007 as well as the questions that
22 Dr. Uzarowski was asked about yesterday regarding
23 other MTO testing that was being performed on the
24 Red Hill following 2007.

25 So that's -- the purpose of my

1 questions is not to get into -- we'll deal with
2 that at a subsequent time, to deal with the events
3 of 2013, but this specific e-mail relates to Dr.
4 Uzarowski's knowledge and understanding of what
5 transpired in 2007 regarding the MTO friction
6 testing that was conducted then at construction,
7 as well as the MTO testing that Dr. Uzarowski was
8 asked about yesterday following 2007.

9 JUSTICE WILTON-SIEGEL: Right.
10 I think we should remit this question to the
11 second stage at which Dr. Uzarowski testifies.

12 MR. LEDERMAN: Sure.

13 JUSTICE WILTON-SIEGEL: If he
14 hasn't been asked to focus on anything other than
15 the issues of design and construction at this
16 stage, I think we should limit the questions to
17 questions that pertain to those issues.

18 MR. LEDERMAN: That's fine.
19 Thank you, Commissioner. I'll deal with it at the
20 next round then. Appreciate that. Then we can
21 take that one down, and we can take that document
22 down as well. Thank you.

23 BY MR. LEDERMAN:

24 Q. I do want to make sure I
25 have your evidence correctly with respect to your

1 note-taking practices, Dr. Uzarowski, because I
2 understood your evidence yesterday that you would
3 often prepare notes in advance of a meeting to
4 cover topics that you intended to address at a
5 upcoming meeting; is that right?

6 A. Yes, it is.

7 Q. Can we agree that if
8 there was something particularly important that
9 arose during the course of a meeting or a
10 discussion with somebody, that it would be your
11 practice to make a note of that if it was
12 particularly important or material?

13 A. Yes. Yes, it is.

14 Q. I thought I heard you say
15 yesterday that for much of the events that go back
16 to 2005 to 2007 timeframe, given that that was 15
17 to 17 years ago, you really do have to rely on
18 your notes or other documents as opposed to having
19 an independent memory of specific meetings and
20 discussions; yes?

21 A. I think I have relatively
22 good memory, but obviously, you know, the notes
23 are critical. They help, yes.

24 Q. Now, I do want to ask you
25 some questions relating to perpetual pavement and

1 SMA, and starting with the decision-making around
2 the use of perpetual pavement and SMA on the Red
3 Hill Valley Parkway. Before you were asked, or
4 Golder was asked to conduct a feasibility study
5 for the City on the RHVP. I understand that you
6 were familiar with SMA and its proposed use as a
7 surface course?

8 A. Yes, I was.

9 Q. And you had published on
10 that topic?

11 A. Yes, I co-authored a
12 paper, 1999 paper.

13 Q. Right. And then again,
14 as I understand it, you also co-authored a paper
15 for the Canadian Technical Asphalt Association in
16 2004 called "Perpetual Asphalt Pavements"; yes?

17 A. Yes, yeah.

18 Q. And if I could just ask
19 to bring that paper up. It's at Golder 0003343.
20 This is the 2004 paper. If I could just go to
21 image 20. Jumping to the conclusions, you'll see
22 that your paper concludes at 9.0:

23 "Better materials and improved
24 analytical techniques now allow flexible pavements
25 to be designed to last 50 years without structural

1 failure."

2 That was consistent with your
3 work that you had done at that point in time as to
4 your view of perpetual pavements; correct?

5 A. Yes.

6 Q. Not only do you speak of
7 the benefits of perpetual pavement, your paper
8 also talks about the use of SMA, specifically in
9 perpetual pavement designs; yes?

10 A. Yes, it does.

11 Q. Just in terms of looking
12 at image 4 to 5, starting with image 4, you'll
13 see -- if you just back up to image 4, at the
14 bottom of that page, there is reference to 3.0
15 "Materials Technology". You see that,
16 Dr. Uzarowski?

17 A. Yes, yes, yes, I can see.

18 Q. Just in the last sentence
19 of that page, you say:

20 "Similarly, the introduction
21 of new mixed types such as stone mastic asphalt
22 --" that's SMA "-- allow the designer the freedom
23 to tailor the material selection to further
24 control the stressors imposed by traffic on the
25 roadway and to extend service life even under the

1 harshest traffic conditions."

2 That was consistent with your
3 understanding at that time in 2004 about the
4 benefits of SMA being used alongside of perpetual
5 pavement; yes?

6 A. Yes. Yes, that's
7 correct.

8 Q. You were aware that
9 perpetual pavement has been used in the province
10 of Ontario before; correct?

11 A. Yes, there was -- there
12 was a perpetual pavement project on Highway 406 in
13 Ontario.

14 Q. Yes, and also in use on
15 the Don Valley Parkway, if I'm not mistaken. Just
16 to help me with that. I think image 15 of this
17 paper addresses that. If I could just bring that
18 up. You'll see here that table 8 talks about
19 using perpetual pavement on the Don Valley
20 Parkway; correct?

21 A. Yes. It was sort of
22 perpetual pavement, yes. Yeah, we call it
23 perpetual pavement.

24 Q. Yeah. Just looking at
25 what you say under -- if I can just ask you to

1 look at image 19 to 20. You describe, under table
2 12, a 50-year analysis period totals lifecycle
3 costs, and you say at the bottom of that table:

4 "This analysis shows a
5 somewhat modest reduction in the total present
6 worth of the perpetual pavement design, with a
7 reasonable increase in the initial cost. However,
8 the real value or benefit is quite evident in the
9 considerably lower rehabilitation and maintenance
10 costs for the perpetual pavement design. If the
11 user delay costs are also factored into the life
12 cost analysis in terms of less disruption to the
13 travelling public because of less frequent
14 interventions, the perpetual pavement design would
15 show an even greater advantage over the
16 conventional design."

17 Do you see that?

18 A. Yes, I can see.

19 Q. That reflected your views
20 about the benefits associated with a perpetual
21 pavement at that point in time; correct?

22 A. Yes, correct.

23 Q. I think that point is
24 also -- if I can just now ask you about a paper
25 that you co-authored in 2006 which can be found at

1 Golder 0003367. This is the article or the paper
2 that you published alongside of Mr. Moore and Mr.
3 Aurilio in -- it was written in 2005 but I
4 understand your evidence that it was published in
5 2006; correct?

6 A. Yes, it's correct.

7 Q. In this paper you
8 describe the benefits associated with perpetual
9 pavement and SMA; yes?

10 A. Yes, I did.

11 Q. If I can ask you to look
12 at image 9. Sorry, 9.

13 THE REGISTRAR: Sorry,
14 Counsel, this is image 9. Page 9 perhaps?

15 MR. LEDERMAN: Yes, perhaps it
16 is page 9. My apologies. Yes, page 9. No, no,
17 I'm sorry. I saw it there just a moment ago. It
18 was 2.4 dealing with benefits. There it is.
19 Image 7. My apologies. Is that image 7?

20 THE REGISTRAR: So this is
21 image 11, Counsel.

22 BY MR. LEDERMAN:

23 Q. Pardon me, image 11.
24 Under 2.4 "Benefits," and I'm interested in the
25 second paragraph in which you say:

1 "Both pavement design
2 alternatives incorporate stone mastic asphalt as
3 the surface course mix. SMA is considered to have
4 improved skid resistance and offer some noise
5 reduction when compared with conventional hot mix
6 asphalt mixes. This mix type also offers superior
7 rutting resistance, fatigue endurance and
8 durability."

9 Do you see that?

10 A. Yes, I can see it.

11 Q. And that was your
12 understanding and view of the time of the use of
13 SMA with a perpetual pavement; correct?

14 A. Yes, correct.

15 Q. And when you say skid
16 resistance in that paragraph, you're talking about
17 friction levels; correct?

18 A. So friction numbers are a
19 part of skid resistance. Skid resistance is more
20 general term because there are other factors, but
21 friction numbers indicate one factor that impacts
22 skid resistance.

23 Q. Understood. But
24 certainly what you were saying and understood was
25 that as compared to the conventional designs, your

1 view was that SMA had better skid resistance?

2 A. Yes, it is.

3 Q. Thank you. Okay, we can
4 take that document down. You spoke yesterday,
5 Dr. Uzarowski, about the feasibility --

6 JUSTICE WILTON-SIEGEL: Can I
7 just interrupt. Your question was it had better
8 skid resistance than conventional designs. But
9 we're not talking about a design when we're
10 talking about skid resistance. I think what --
11 talking about SMA, we're talking about a layer of
12 asphalt, right. The corresponding question would
13 be better skid resistance than the Superpave
14 asphalts that were traditionally used. I'm not
15 trying to put words in your mouth, but I don't
16 think the question that you asked made sense in
17 what -- terms of what we've heard thus far.

18 BY MR. LEDERMAN:

19 Q. Okay. Well, then let me
20 make sure I've got the question and the answer
21 clear. When I refer to conventional design, I'm
22 talking specifically as compared to other surface
23 layers other than SMA.

24 Dr. Uzarowski, does that
25 change your answer?

1 A. SMA, yes, better than
2 conventional asphalt mixes.

3 Q. Correct. Commissioner,
4 does that --

5 JUSTICE WILTON-SIEGEL: That
6 rephrases the question in terms of what I think
7 makes sense.

8 MR. LEDERMAN: Okay, good.
9 Thank you. And my apologies if my question was
10 unclear on that.

11 BY MR. LEDERMAN:

12 Q. So you discussed
13 yesterday, Dr. Uzarowski, the feasibility study
14 that Golder had prepared, and I want to ask some
15 questions about that. Am I correct that Gary
16 Moore on behalf of the City of Hamilton had asked
17 Golder for an opinion on the use of perpetual
18 pavement with SMA; correct?

19 A. Yes, it's correct.

20 Q. And the objective of the
21 feasibility study was for Golder to determine the
22 feasibility of using perpetual pavement with SMA
23 on the Red Hill Valley Parkway; correct?

24 A. Yes, correct.

25 Q. You understood that the

1 City of Hamilton was relying on Golder for its
2 expertise?

3 A. Yes.

4 Q. And your conclusion from
5 that feasibility study was that you recommended
6 the use of perpetual pavement with SMA for the Red
7 Hill; yes?

8 A. Yes, correct.

9 Q. And you didn't qualify
10 your opinion or recommendation in any way?

11 A. Sorry, what do you mean?

12 Q. Well, you didn't say --
13 you didn't make any qualifications to your
14 recommendation that perpetual pavement with SMA
15 would be a feasible option and would be a
16 recommended course of action for the design and
17 construction of the Red Hill Valley Parkway;
18 correct?

19 A. I think correct. We
20 recommended the solution. The feasibility study
21 show that the perpetual pavement with SMA was
22 feasible for the parkway.

23 Q. Correct. And in order to
24 arrive at that recommendation, you had undertaken
25 an analysis, an independent analysis of that

1 consideration; yes?

2 A. Yes.

3 Q. And you reviewed the
4 necessary data and information that you had
5 available to you to arrive at that recommendation?

6 A. Yes, it was based on cost
7 analysis, yes -- lifecycle cost analysis, yes.

8 Q. And then ultimately you
9 signed the feasibility report?

10 A. Yes, I did.

11 Q. And you provided a copy
12 of that report to the City of Hamilton?

13 A. Yes, I did.

14 Q. I want to ask you
15 about -- as understood it, that is the feasibility
16 report that was prepared and signed in August
17 of 2005; correct?

18 A. Yes, it's correct.

19 Q. And Mr. Lewis had asked
20 you yesterday whether there was any doubt in your
21 mind that after your meeting with Mr. Moore in
22 January of 2005 that he wanted to use perpetual
23 pavement with SMA surface course on the Red Hill
24 Valley Parkway, and as I understood your answer,
25 you were convinced that perpetual pavement with

1 SMA would be the preferred course of paving the
2 RHVP, but I just want to make sure I understand
3 it. I take it that determination was only arrived
4 at after you had completed your feasibility study
5 in August of 2005; correct?

6 A. Yes, correct.

7 Q. It was only after Golder
8 had made a recommendation in favour of it that the
9 City of Hamilton decided to proceed; correct?

10 A. Yes, I understand that
11 the City based their decision on the results of
12 the feasibility study, yes.

13 Q. Indeed, if you had not
14 recommended using perpetual pavement with SMA, you
15 have no reason to believe that the City of
16 Hamilton would not have gone ahead with it anyway;
17 correct?

18 A. It's correct.

19 Q. Now, as I understand it,
20 once the feasibility study was completed, Golder
21 was then engaged by the City to develop the
22 project paving specifications?

23 A. Yes, that was in phase 2,
24 yes.

25 Q. And that included a

1 consideration of the OPSS, the Ontario Provincial
2 Standard Specifications, and special provisions
3 prepared for the RHVP paving project? Did you
4 hear my question? I'm sorry, my camera just had a
5 life of its own.

6 A. If you could repeat the
7 question, I would appreciate.

8 Q. Sure. My apologies.

9 JUSTICE WILTON-SIEGEL: There
10 was a certain amount of distraction there.

11 BY MR. LEDERMAN:

12 Q. I just wanted to be sure
13 that the part of the development of the project
14 paving specifications included a consideration of
15 the OPSS, the Ontario Provincial Standard
16 Specifications, and special provisions prepared
17 for the paving project?

18 A. Yes. I have no right to
19 change the OPSS specification, but I can develop
20 special provision where I can recommend what can
21 be added or changed, but to OPSS.

22 Q. Right. Indeed, part of
23 Golder's mandate was to develop and recommend the
24 mix design?

25 A. No, we don't develop

1 mixed design. We could state that what type of
2 mix, what type of mix, and then we indicated the
3 type of asphalt cement, like PG grade asphalt
4 cement, but the mixed design, that was up to the
5 contractor or the consultant hired by the
6 contractor to do this job.

7 Q. Perhaps I misspoke then.
8 Certainly it's the mandate to specify -- Golder's
9 mandate was to specify the specific components of
10 the mix design, aggregate and the other things
11 that go into the mix?

12 A. We would indicate that,
13 you know, for -- like, we specify the -- because
14 there were significant number of different mixes
15 depending on location and traffic load, et cetera,
16 so what mixes with what asphalt cement grade and
17 then what specification, particular specification
18 should be follow, like whether it was Marshall mix
19 or Superpave mix or SMA. So for what
20 specification to follow, that was a special
21 provision, indicate what specification would be
22 followed. So what mix type and what specification
23 should be followed for those mixes.

24 Q. And then when we're
25 looking at those specific specifications for that

1 mix, I take it there are a number of different
2 aggregates that may be suitable for the mix; yes?

3 A. Oh, yes.

4 Q. As part of Golder's
5 mandate to specify the aggregates, let's say, I
6 take it that Golder could have insisted that only
7 an aggregate that was listed on the DSM list, that
8 is something that Golder could have chosen to do;
9 yes?

10 A. We could have chosen, but
11 we -- the common approach was to identify the
12 specification, and in this case was OPSS 1003, I
13 believe it's November 2004, that would be used for
14 aggregates, and that was the common practice used
15 for municipalities.

16 Q. Right. So you were
17 comfortable that as long as the aggregate was --
18 complied with OPSS 1003, you were comfortable
19 specifying an aggregate that was -- that met that
20 specification; correct?

21 A. Yes, I was comfortable.
22 You know, I had very high opinion about OPSS
23 standards. I think they are one of the best in
24 North America, in country. And also, as I
25 mentioned yesterday, I'm a member of OPSS

1 committee so I know how -- you know, what scrutiny
2 goes into developing all the specifications.

3 Q. And it was not something
4 that you felt was necessary that you needed to
5 specify an aggregate that was on the DSM list;
6 yes?

7 A. Yes, it wasn't a common
8 practice for municipalities.

9 Q. You talked yesterday
10 about the use of the Quebec demix aggregate, which
11 was not, as I understand it, on the MTO's DSM;
12 correct?

13 A. It's correct.

14 Q. Before Golder was
15 prepared to approve the use of this aggregate, I
16 take it that you looked into the quality of the
17 Quebec demix aggregate?

18 A. Yeah, of course. I did.

19 Q. I think we looked at this
20 yesterday. You were provided with the testing
21 results of that aggregate from Dufferin in April
22 of 2007?

23 A. You know, like, initially
24 I was provided with the results from the quarry,
25 from the mix quarry, and it was in March, and we

1 didn't accept it. I describe yesterday why,
2 because they were -- some of them were outdated,
3 not everything was include, and the testing was
4 not done by the CCIL -- CCIL-certified laboratory,
5 which is required by OPSS 1003. So we did not
6 approve it and requested the testing that is
7 included in the OPSS 1003 specification should be
8 done, all tests, and then it should be done by the
9 lab that was certified, which was the standard.

10 Q. Right. When we looked at
11 the testing results -- and maybe it would just
12 help to pull those up. GOL1768. So this is the
13 e-mail dated April 23, 2007. I'm looking for
14 the -- you'll see there are attachments, and
15 perhaps the attachments are what I'm looking for,
16 GOL1769 and 1770. Let's start with 1769. And
17 1770, if we can put that next to it, I think it
18 has the chart. Yes.

19 Dr. Uzarowski, I think you
20 looked at this yesterday and described these
21 results as being -- my notes say that you thought
22 they were excellent and, in fact, rarely seen in
23 terms of these results; correct?

24 A. Yes, this was for chips,
25 and 1.7 Micro-Deval, this is excellent.

1 Q. Okay. If we can then
2 take that down. So this was provided to you on
3 April 13, 2007. If you can take that down.

4 As I understand it, a few
5 weeks later on May 8, 2007 you attended a site
6 meeting. Minutes of site meeting number 7 can be
7 found at Hamilton document HAM7883. If you can
8 just bring that up for a minute.

9 This is the minutes of the
10 site meeting 7, dated May 8, 2007, and you'll see
11 that in attendance is two individuals, Mr. Oddi
12 and Mr. Rockwood from the City of Hamilton. And
13 if you scroll down middle of page, it appears that
14 you are in attendance at this site meeting on
15 behalf of Golder; correct?

16 A. Yes, it's correct.

17 Q. And if we move over -- if
18 we scroll to the next page, you'll see under
19 "Matters Discussed" under number 2, "Asphalt
20 issues." And these minutes reflect:

21 "A detailed discussion took
22 place amongst all parties in order to solve
23 outstanding issues pertaining to the acceptance of
24 the applicable hot mix asphalt specifications.
25 The following information was agreed to in regards

1 to the outstanding asphalt issues."

2 And sub (a) says:

3 "The physical properties of
4 the Quebec trap rock are all acceptable."

5 You see that?

6 A. Yes, I can see.

7 Q. And then the -- indeed,
8 at this meeting, I take it, Dr. Uzarowski, that
9 you had indicated that the use of Quebec trap rock
10 as the aggregate was acceptable?

11 A. Like, I said that
12 those -- I was very pleased with the results of
13 the physical properties of this aggregate.

14 Q. Yes. And you
15 communicated that to the individuals at this
16 meeting, as it appears that these notes reflect;
17 correct?

18 A. Yes.

19 Q. And if I can ask you to
20 look at GOL1868. This is a fax that you send,
21 Dr. Uzarowski, to Philips Engineering, the City of
22 Hamilton and Dufferin on the same day, May 8,
23 2007. Do you see that?

24 A. Yes.

25 Q. Just so we're clear,

1 Philips Engineering, that is the contract
2 administrator?

3 A. Yes, they are the -- they
4 were the CA, yes.

5 Q. And in this fax, in the
6 second sentence, you say, "the aggregates meet the
7 specified requirements." Correct?

8 A. Yes, the aggregates --
9 looks in this fax that the aggregates used for
10 Superpave 19 and Superpave 25.

11 Q. Right, but you were
12 saying that the mixes -- the Superpave mixes do
13 not meet the volumetric requirements and are not
14 acceptable, but the sentence before that says that
15 the aggregates meet the specified requirements;
16 correct?

17 A. The aggregates in those
18 mixes, yes.

19 Q. Now, I do want to
20 understand the chronology of events -- we can take
21 that down. Thank you, Mr. Registrar.

22 I do want to understand the
23 chronology of events relating to the mix design,
24 and if I'm correct -- if I could just ask you to
25 look at Golder 1617. These are minutes of another

1 site meeting dated July 10, 2007, and you'll see
2 that in this meeting both you and Mr. Delos Reyes
3 are in attendance on behalf of Golder. Do you see
4 that in the centre of the list of attendees?

5 A. Yes, I can see.

6 Q. Okay. Just scrolling to
7 the next page. You'll see under number 2,
8 "Asphalt Issues," and the first heading is
9 "Outstanding Mix Designs Approvals." And there it
10 is recorded that:

11 "Golder indicated that after
12 only a quick glance, the SMA mix design appears to
13 be satisfactory. Golder will provide written
14 confirmation of their analysis."

15 Do you see that?

16 A. Yes, I do.

17 Q. At this point in time,
18 July 10, 2007, Golder was generally of the view
19 that the SMA mix design was satisfactory; correct?

20 A. Yeah, the mix design was
21 good, yes.

22 Q. Then just looking at
23 GOL1750. This is about just under two weeks
24 later. Mr. Delos Reyes sends an e-mail to you
25 dated July 23, 2007, and he says:

1 "Just to remind you, trial
2 strip SMA is this coming Wednesday. Also, if
3 you're going to issue written approval with
4 reservations for the SMA mix design, please
5 include the SP19 mix design. We've already given
6 the verbal approval during the regular monthly
7 meetings, just to confirm it in writing."

8 Do you see that?

9 A. Yes, I can.

10 Q. As I understand it -- so
11 you had already -- Golder had already given at
12 least verbal approval with respect to the SMA mix
13 design by this point in time?

14 A. I think so, yeah.

15 Q. And the issue around the
16 reservation, as I think you said yesterday, was
17 that it related to that ignition oven testing that
18 had been performed; correct?

19 A. Yes, to aggregate
20 breakdown during the initial testing.

21 Q. We can take that down.
22 Next document I wanted to ask you was about that
23 test trip, which is found at GOL3082. You'll
24 recall, Dr. Uzarowski, we looked at this document
25 yesterday, and I think -- as I understood your

1 evidence yesterday, I think what you said was it
2 is not uncommon for a test strip to not meet
3 specifications. That does happen; correct?

4 A. This is correct.

5 Q. And I think you said it
6 was a fairly regular occurrence for a test strip
7 to fail?

8 A. Yeah, I think so. I can
9 say.

10 Q. And that in this
11 particular case, you recommended that a new test
12 strip be completed; yes?

13 A. Yes, I did.

14 Q. And am I correct that
15 just because a test strip may fail, that does not
16 mean that the rest of the mainline paving would
17 not ultimately be acceptable? As I understood
18 your evidence, Dr. Uzarowski, I think what you
19 said was what happens is you learn from the
20 deficiencies that are identified from a test strip
21 so that you can correct those deficiencies when do
22 you the mainline paving?

23 A. Yes, this is right, the
24 test strip is not to penalize the contractor, but
25 to give them the opportunity to learn how to

1 finetune the production, placement, compaction to
2 meet the specification. So that's just to help --
3 basically not to penalize but to help them, to
4 make sure that when they move to the main part or
5 main line, they will incorporate those changes so
6 it will -- the quality will benefit.

7 Q. And again, so for that
8 reason, just because a test strip may fail doesn't
9 mean that it should be presumed that the rest of
10 the main line would be unacceptable?

11 A. Yes. You know, I said it
12 would be at their own risk so -- yeah.

13 Q. And ultimately you were
14 content with the mainline paving and found it to
15 be acceptable; correct?

16 A. Yeah, generally, yes.

17 Q. Okay, we can take that
18 one down. Now, I do want to look at Golder 1619,
19 which is another site meeting. And I think we
20 looked at -- we looked at the reproduction of this
21 in the OD yesterday, but this is the actual
22 minutes of the site meeting number 10 dated
23 August 21, 2007. You'll see in the middle of the
24 page that -- in terms of the list of attendees,
25 you and Mr. Delos Reyes on behalf of Golder are in

1 attendance; correct?

2 A. Yes, correct.

3 Q. And Mr. Oddi, at the top
4 of the page, is in attendance on behalf of the
5 City of Hamilton; correct?

6 A. Yes, correct.

7 Q. And if I just ask you to
8 scroll to the second page, you'll see that in the
9 first bullet on the second page:

10 "Golder has completed their
11 analysis and provided written confirmation
12 indicating the SMA mix design is satisfactory."

13 The second bullet:

14 "Golder has completed their
15 analysis and provided written confirmation
16 indicating Superpave 12.5 FC2 mix design is
17 satisfactory."

18 Do you see that?

19 A. Yes, I can.

20 Q. As I understood your
21 evidence yesterday, although you were unable to
22 locate a copy of Golder's written confirmation, I
23 take it that there's no dispute that at some point
24 prior to August 21 Golder had completed its
25 analysis and had given written confirmation that

1 the SMA mix design was approved; correct?

2 A. Yes, it's correct. This
3 is what it shows, yes.

4 Q. Indeed, a copy of these
5 minutes were sent to you a few weeks later, which
6 can be found at GOL1618, where the August 21
7 minutes were in fact sent to you and Mr. Delos
8 Reyes on September 10, 2007; correct?

9 A. Yes, that is correct.

10 Q. There was never any
11 response to that to say, hey, wait a second,
12 Golder hasn't provided its confirmation or written
13 confirmation of its approval; correct?

14 A. That is correct. I don't
15 have any -- this kind of records, no.

16 Q. Right. We can take that
17 one down. I'm being advised that we should mark
18 that one as an exhibit, if we could. It should be
19 Exhibit 26.

20 EXHIBIT NO. 26: E-mail chain
21 sent 9/10/2007 from Philips Red Hill to Ludomir
22 Uzarowski, et al, GOL1618

23 BY MR. LEDERMAN:

24 Q. Thank you. We can take
25 that one down. And I now want to ask you,

1 Dr. Uzarowski, about an e-mail that was sent
2 earlier in time in the beginning of August of --
3 on August 9th, 2007, and we looked at that in OD
4 number 3, paragraph 120, image 58. Yes,
5 paragraph 120 you'll see, Dr. Uzarowski.

6 You were asked about this
7 e-mail yesterday, about an e-mail that Mr. Oddi
8 had e-mailed to Mr. Hainer, Mr. Gamble and
9 Mr. Wharrie at Dufferin advising that:

10 "...the Varennes demix
11 aggregates have been approved for use in the SMA
12 and Superpave surface course asphalt mixes on Red
13 Hill Valley Parkway. The trial batches for both
14 mix designs met the specified requirements."

15 I know that Mr. Lewis had
16 asked you yesterday to speculate as to why you
17 were not copied on this e-mail, but rather than
18 speculating, as I expect we'll hear from Mr. Oddi
19 about this, is it correct, though, that by this
20 time Golder had in fact approved the aggregate for
21 use in the SMA?

22 A. I don't have records of
23 approving the aggregate. I know that I don't
24 have -- you know, I was not able to locate any
25 record showing that we approved the aggregate.

1 Q. Sure, but certainly as we
2 talked about -- and we can take this document
3 down -- certainly as we talked about, the
4 aggregate was viewed to be acceptable by Golder as
5 early as May 2007; correct?

6 A. We said the physical
7 properties were acceptable.

8 Q. Yes, okay. I do want to
9 come back, if I could. We started this -- or I
10 started these questions, Dr. Uzarowski, by asking
11 you about the friction test results in 2007,
12 October of 2007, conducted by the MTO. I just
13 want to come back to that point in time and ask
14 you about the communications that you had with the
15 MTO that led to that friction testing being
16 performed. Okay?

17 A. Okay.

18 Q. And you were asked
19 yesterday about the discussion that you had had
20 with Chris Raymond at the MTO on July 31, 2007,
21 and I think what I heard you say yesterday was
22 that after hearing this information about
23 Ontario -- that quarry -- using that Ontario Trap
24 Rock from that quarry, you were convinced that you
25 wanted to do friction testing once the RHVP was

1 complete; correct?

2 A. Yes, it's correct.

3 Ontario Trap Rock. And, you know, Chris mentioned
4 this early friction issue. So yes, I was
5 convinced I wanted to do -- to have friction
6 testing done.

7 Q. Right. And it was your
8 recommendation -- you said I think probably you
9 recommended to the City that it agree to have the
10 MTO conduct the friction testing once the Red Hill
11 had been completed; yes?

12 A. Yes, the City agreed to
13 do the friction testing, yes.

14 Q. And you understood that
15 in order for that testing to be done, which you
16 wanted to do, it required getting the City's
17 permission to do so; yes?

18 A. Of course, yes.

19 Q. And you did get the
20 City's permission; correct?

21 A. Yes, I did yes.

22 Q. Mr. Lewis showed you
23 yesterday a number of internal e-mails at the MTO
24 which seemed to discuss your request that friction
25 testing be conducted, and if I could just go

1 through those with you. It starts at OD number 4,
2 image 53. Actually, pardon me, I think we need to
3 go back to image 52. Yes, thank you.

4 You'll see that at
5 paragraph 116 there is a reference to September
6 27, 2007. You e-mailed Mr. Raymond about
7 conducting friction testing on the RHVP, and
8 you'll see in the last sentence of your e-mail,
9 you say:

10 "Also, as discussed with you
11 beforehand, with the City of Hamilton, could you
12 please carry out the skid number testing on the
13 RHVP pavement."

14 Right?

15 A. Yes.

16 Q. And as the consultant,
17 Golder, to the City of Hamilton, you're making
18 that request to the MTO on behalf of the City of
19 Hamilton; yes?

20 A. Yes, it is.

21 Q. And when you were asked
22 about the e-mail from Mr. Raymond to Ms. Lane, and
23 I recognize that you're not copied on these
24 e-mails, these are just the internal e-mails
25 between Mr. Raymond and Ms. Lane at the MTO. And

1 I'm not asking you to speculate. I don't think
2 that's useful. But in the second paragraph of
3 that e-mail, it says:

4 "Ludomir is requesting
5 friction testing, and the City does not have
6 objections to the testing but the City is not
7 making request to the ministry."

8 Do you see that?

9 A. Okay, yes. I can see it
10 now, yes.

11 Q. And that was correct,
12 which was that the City did not have objections to
13 the friction testing being conducted and that you
14 were requesting the friction testing, but I take
15 it, as you said earlier, you're making that
16 request on behalf of the City of Hamilton?

17 A. Yeah, of course.

18 Q. Okay. We can take that
19 down. Paragraph 118, again another internal
20 e-mail, you're not copied on this. Ms. Lane
21 forwards Mr. Raymond's e-mail to Mr. Kazmierowski,
22 and says:

23 "Hi Tom, I seem to remember we
24 offered some monitoring of the Red Hill Creek
25 Expressway perpetual pavement. Did that not

1 include friction testing?"

2 Did you have any knowledge of
3 the MTO monitoring the RHVP at this point in time?

4 A. Monitoring -- you know,
5 unless she's talking about the monitoring station
6 that, you know, was installed or constructed on
7 next to the Red Hill Valley Parkway, but not other
8 monitoring.

9 Q. She seems to be referring
10 to -- she puts "monitoring" in quotes referring to
11 the Red Hill Creek Expressway perpetual pavement.
12 In other words, specific to the pavement itself.
13 I take it you don't know?

14 A. No, I don't. My
15 understanding would be the monitoring station,
16 because this is what I know was discussed. The
17 monitoring station that was monitored perform --
18 the traffic and pavement performance on the Red
19 Hill Valley Parkway. This would be my
20 understanding.

21 Q. And then the next
22 paragraph, paragraph 119, Mr. Kazmierowski replies
23 to Ms. Lane, saying:

24 "Yes, but we should have
25 Ludomir instruct the City to either request the

1 testing or at least approve Ludomir's request for
2 testing and give permission for us to test on
3 their facility."

4 Again, I understand,
5 Dr. Uzarowski, that you don't -- you weren't
6 copied on this e-mail, but at this point in time
7 you knew that you had the City's approval for the
8 MTO to conduct the testing pursuant to the
9 request; yes?

10 A. Well, of course. The
11 City was the owner. I had to get their approval
12 to do anything.

13 Q. And you had already
14 obtained that approval from the City?

15 A. Yes, I did.

16 Q. And then at paragraph 120
17 Ms. Lane forwards Mr. Kazmierowski's e-mail to Mr.
18 Raymond, saying:

19 "Chris, is the City of
20 Hamilton in agreement with the testing? We don't
21 need a letter of request, but we do need their
22 approval."

23 And again, you had obtained
24 the approval to do the testing, so that wasn't an
25 issue as far as you were concerned; correct?

1 A. That is correct.

2 Q. And then at paragraph 121
3 Mr. Raymond responds to Ms. Lane -- and again I
4 recognize you were not involved in this exchange
5 of communications -- where Mr. Raymond is opining,
6 he says:

7 "Yes, the City is in
8 agreement, but it's strange, the City are not
9 willing to write a request. I asked Ludomir to
10 specifically send me a request from the City a few
11 weeks ago."

12 Do you see that?

13 A. Yes, I can see.

14 Q. And I just want to be
15 clear, you don't have a specific recollection of
16 speaking to Mr. Moore or anybody else at the City
17 of Hamilton specifically advising you that the
18 City did not wish to make the request directly;
19 correct?

20 A. No, I only recall that I
21 got the permission to go ahead with the testing.

22 Q. Right. And paragraph --
23 I just wonder whether this may provide some
24 assistance, and you can assist me with this.
25 Paragraph 11, which is image 51. I'm sorry, it

1 must be image 50. Yes, thank you. Paragraph 111:

2 "On September 11 Mr. Raymond
3 e-mailed Mr. Marciello, with a copy to Ms. Lane,
4 about a telephone call with Dr. Uzarowski about
5 the friction testing in Hamilton. He stated,
6 'Ludomir called this afternoon regarding the City
7 of Hamilton friction testing we discussed this
8 morning. He mentioned that there are very limited
9 City of Hamilton staff around this week, including
10 the project manager. So we may not have a request
11 for a few days. I'm informed that we will conduct
12 the testing once the request is received.'"

13 Do you see that?

14 A. Yes, I can see.

15 Q. I'm just wondering
16 whether you had any knowledge or recollection of
17 any practical or logistical problems of
18 potentially getting the request directly from the
19 City as a result of the absence of staff at that
20 time?

21 A. No, I was not. No.

22 Q. Just going back to --
23 we're almost finished off the e-mails, the MTO
24 e-mails at image 53. If we could go back to that.
25 We had looked at the one referred to at

1 paragraph 121, and the one at paragraph 122, Ms.

2 Lane responded to Mr. Raymond:

3 "Maybe they are concerned
4 about the results from a liability perspective.
5 Anyway, we had agreed earlier this year to provide
6 testing rather than money for instrumentation,
7 which was their original request. Please
8 coordinate with Frank."

9 Do you see that?

10 A. Yes, I can see.

11 Q. Am I correct that
12 regardless of who requests the friction testing,
13 whether it was Golder on behalf of the City or the
14 City directly to the MTO, you understood that the
15 results of that friction test would go to the City
16 of Hamilton; correct?

17 A. Of course, yes.

18 Q. There was no circumstance
19 in which Golder would make the request of the MTO
20 to conduct friction testing on behalf of the City
21 of Hamilton but then not share those results with
22 the City; correct?

23 A. Of course, I would have
24 to share.

25 Q. Okay. If you could just

1 give me two seconds, Dr. Uzarowski. Commissioner,
2 I expect to wrap up. I just want to make sure I
3 didn't miss anything in my notes. If I could just
4 have a moment.

5 JUSTICE WILTON-SIEGEL: That's
6 fine.

7 MR. LEDERMAN: Thank you.
8 Thank you, Dr. Uzarowski, those are my questions.
9 Appreciate your time.

10 THE WITNESS: Thank you.

11 MR. LEWIS: So, Commissioner,
12 Counsel for Dufferin is next, and I would just
13 note that typically the morning break is at 11:30,
14 which is 18 minutes from now. I don't know --
15 just for counsel's benefit, I don't know how long
16 you intend to be, if you are going to run through
17 the break or not, just for good order sake.

18 MS. MCALEER: I'm not sure I
19 can commit to exactly 18 minutes, but it should be
20 roughly that amount of time.

21 JUSTICE WILTON-SIEGEL: Then
22 why don't we proceed with your evidence, your
23 questioning before the break.

24 MS. MCALEER: Thank you.

25 EXAMINATION BY MS. MCALEER:

1 Q. Good morning, Dr.
2 Uzarowski. My name is Jennifer McAleer and I am
3 counsel to Dufferin Construction.

4 A. Good morning.

5 Q. I just have a -- good
6 morning. I just have a few questions for you. I
7 would actually like to start with the evidence
8 that you gave regarding the compaction results.

9 You'll recall that Mr. Lewis
10 asked you a series of questions yesterday with
11 respect to the August 1st compaction results and
12 also the August 11th and August 13th compaction
13 results. All right? You are nodding.

14 Perhaps, Mr. Registrar, if we
15 could start by pulling up Golder 1718 and the
16 native version of that Excel spreadsheet. So
17 that's Golder 1718. Those are the compaction
18 results for August 1st. Thank you. If you could
19 just scroll up to the top so that we can see that
20 this is in fact August 1st. Make it a little bit
21 larger. Great. Thank you. And then if we could
22 just scroll down to the bottom, please, first.

23 You'll recall yesterday,
24 Dr. Uzarowski, you explained that there are
25 different criteria that are applicable to the

1 longitudinal joints as compared to the centre
2 line; is that correct?

3 A. Yes, it's correct.

4 Q. All right. The different
5 descriptions of pavement, we have the outside
6 edge, the centre edge and we have the centre line.
7 Am I correct that both the outside edge and the
8 centre edge are considered the longitudinal
9 joints?

10 A. Yeah, they are close to
11 the joints. Yeah, I would classify them there,
12 yes.

13 Q. When we're looking at the
14 different criteria, when we're looking at the
15 centre edge and the outside edge, it's the
16 criteria applicable to the longitudinal joints?

17 A. Yeah, that's right.

18 Q. And then, Mr. Registrar,
19 if we could scroll back up to the top, because I
20 want to look in particular at the Excel formula
21 that's being used. So I don't know if everybody
22 can see that, but if you click -- Mr. Registrar,
23 if you click on line 11, for example. But you
24 have to click into the specification, the last
25 cell. Okay. You need to drop down the actual

1 formula so we can see the whole formula. At the
2 top where we see the Excel formula. Yeah, in
3 there. Perfect. Thank you.

4 So, Dr. Uzarowski, I'm just
5 going to go through this with you so that
6 everybody understands, in particular Mr.
7 Commissioner. And, Mr. Commissioner, if you have
8 any questions, please let me know.

9 But the way I read this,
10 Dr. Uzarowski, is that -- and, Mr. Registrar I
11 don't know if you can make that even a little bit
12 larger, because I know the print is quite small
13 and people might be struggling. Can you actually
14 call out the formula that is in the Excel
15 spreadsheet? I don't know if you can do that.

16 THE REGISTRAR: Sorry, it's in
17 native, so I can't --

18 BY MS. MCALEER:

19 Q. I'll take us through it
20 and people can check after if they need to.

21 So what this tells us is that
22 the centre line, Dr. Uzarowski, the criteria is it
23 is acceptable if it's greater than 93 and less
24 than 97.5. Do you see that?

25 A. Yes.

1 Q. There are two borderline
2 criteria for the centre line. It is 92.9 --
3 greater than 92.9 and less than 93 is a borderline
4 finding. Do you see that?

5 A. Hm-hmm. Yes.

6 Q. And then there's a second
7 borderline, which is 97.6 to 98.5. Do you see
8 that?

9 A. Yes. Hm-hmm.

10 Q. Finally, the rejectable
11 is anything that is less than 92.9. Do you see
12 that, Dr. Uzarowski?

13 A. Yeah, yeah, I'm looking
14 at this. Yeah, I can see it, yes.

15 Q. All right. So those are
16 the criteria for the centre line. And then just
17 as you indicated, both the centre edge and the
18 outside edge are treated differently? There's a
19 borderline for anything that is greater than 91
20 but less than 91.5?

21 A. Hm-hmm.

22 Q. And acceptable is
23 anything that's over 91.5?

24 A. Yes.

25 Q. Do you agree with that?

1 A. Yeah.

2 Q. And rejectable is
3 anything below 91?

4 A. Yes.

5 Q. So with that in mind, can
6 we now then turn to the results for August 11th,
7 Mr. Registrar, which is Golder 1685. The native
8 version, please. If we go -- I just want to make
9 sure it's the right date. Yes, August 11th. If
10 we go to the bottom where the criteria is
11 specified, you'll recall that Mr. Lewis put to you
12 that the rejection criteria was different than it
13 had been on the August 1st results, and you had
14 said that you thought that was an error. Do you
15 remember that evidence?

16 A. Yes, I do.

17 Q. Well, I think you're
18 correct and I'm going to try and show you why.

19 So if we go back up, Mr.
20 Registrar, into the formula again. So if you
21 click into any one of the -- correct. And I'll
22 give you a moment to look at it, Dr. Uzarowski,
23 but I think you should be able to confirm that the
24 formula is the exact same formula that was being
25 used on August 1st.

1 A. Yes, yeah, so the formula
2 is different than what's in that row, whatever it
3 is. There was an error. There was a typo, an
4 error there.

5 Q. Right. So just to be
6 clear, the typo was not in the formula. The typo
7 on the August 11th results was at the bottom of
8 the spreadsheet where somebody had manually
9 inputted the criteria; is that correct?

10 A. Yeah, it is.

11 Q. So the same formula is
12 being used on August 1st that is being used on
13 August 11th; is that correct?

14 A. Yeah, it looks like.
15 Yeah, it looks correct.

16 Q. Right. So all of the
17 results that we see on August 11th are correct?

18 A. Yeah.

19 Q. If it says that something
20 meant -- was acceptable, that a centre line was in
21 excess of 93 on August 11th, that would also be
22 the same result on August 11th -- sorry, on
23 August 1st was the same on August 11th. And the
24 rejectable had not changed. So rejectable on
25 August 1st was anything less than 92.9, and August

1 11th it was still anything less than 92.9; is that
2 correct?

3 A. Yeah, that's correct.

4 There was a typo, an error at the -- at the very
5 bottom of this spreadsheet, yes.

6 Q. Because I think it was
7 suggested to you that the criteria had changed,
8 and in fact there were a number of results that
9 were marked as acceptable that should in fact have
10 been marked as rejectable if the old criteria had
11 been applied, and we can see now that that's not
12 the case, do you agree with that?

13 A. Yes.

14 Q. And then if we were to
15 look at the next test result, Mr. Registrar, for
16 August 13th, that's Golder 1684. And again the
17 native version, please. This is August 13th. So,
18 Dr. Uzarowski, this is the last day of the
19 testing, correct? Last day of paving, I should
20 say.

21 A. Yeah.

22 Q. And the last day of
23 testing. Mr. Registrar, if you can again hover
24 over the document so that we can see the formula,
25 please. I'll just give you a moment, Doctor, but

1 again, can you confirm this is the same formula
2 that was used on August 1st and on August 11th?

3 A. Yeah, it looks the same,
4 yeah.

5 Q. So we can take comfort,
6 can we not, that these results are correct and
7 they are consistent with the same formula that was
8 used on August 1st?

9 A. Yes. Yeah, I think so,
10 yeah.

11 Q. Thank you. We can take
12 that document down.

13 I would like to ask you some
14 questions about the test strip, and yesterday you
15 testified that the objective of a test strip is to
16 test whether the contractor can produce, lay and
17 compact in compliance with the specifications. Do
18 you remember giving that evidence?

19 A. Yes. Yes, I do.

20 Q. I want to talk a little
21 bit about the specific issues that were identified
22 in the test strip that was done on July 25th. It
23 may assist if we actually pull up two e-mails.
24 One is a document that's Golder 1736, Mr.
25 Registrar. So that's Golder 1736.

1 THE REGISTRAR: Sorry,
2 Counsel, what's the other one?

3 MS. MCALEER: The other one is
4 Golder 1734.

5 BY MS. MCALEER:

6 Q. Just while those
7 documents are being pulled up, Doctor, as you
8 said, it's not uncommon for a contractor to have
9 some difficulty meeting the specified requirements
10 on a test strip; correct?

11 A. Yeah, definitely correct.

12 Q. In those circumstances
13 the expectation is that the contractor will learn
14 from that experience, I believe those were your
15 words yesterday, and that they might make some
16 adjustments; is that correct?

17 A. That's correct.

18 Q. So with respect to the
19 thickness, as I understand it, the thickness of
20 the mat was 32 millimetres instead of 40. Was
21 that your understanding?

22 A. Yes. Yes, that's right.

23 Q. And I take it that
24 problems with thickness in a test strip, that
25 that's not an uncommon issue to arise with a test

1 strip?

2 A. No, it's not. This is
3 what the test strip is for.

4 Q. And that is something
5 that a contractor can simply make an adjustment
6 for?

7 A. Yes.

8 Q. You learn and you make
9 the adjustment; correct?

10 A. Yes, that's -- this is
11 what the test strip is for. Not to penalize the
12 contractor, but to let him adjust the production
13 and placement and operation.

14 Q. And then the second
15 matter that is identified in that first e-mail is
16 that there's some sort of aggregate breakdown is
17 the comment. In your evidence yesterday, you
18 attributed this to applying too much pressure in
19 the compaction. Do you recall that?

20 A. Yes, I do.

21 Q. You also indicated that
22 that that may in fact be linked to the fact that
23 the mat was too thin, do you recall?

24 A. Yes, I do.

25 Q. Are those issues that a

1 contractor can adjust? Having done the test trip
2 and learned from the results, can the contractor
3 adjust to correct those problems?

4 A. Of course. This is what
5 it is for, yeah.

6 Q. In this case it looks
7 like, given the results we looked at for
8 August 11th and August 13th, that the contractor
9 was in fact able to adjust the compaction;
10 correct?

11 A. Yes. Yeah, they adjusted
12 and then I think -- as I said in the paper,
13 Dufferin was responsive and adjusted the placement
14 and the compaction, yes.

15 Q. Now, looking at the
16 second e-mail, another issue that was identified
17 was one with respect to the air voids. Do you see
18 that?

19 A. Yes, I can see.

20 Q. I'm going to ask, Mr.
21 Registrar, if you can pull up another document,
22 which is Golder 1723.

23 I understand, Doctor, that
24 these are the air -- or these are a number of test
25 results that were done on August 1st, so the first

1 day of the paving on the main line.

2 A. Yes. Yeah, that's
3 correct.

4 Q. Are you able to tell us
5 whether or not the air void results on that date
6 are satisfactory?

7 A. Oh, these results, these
8 air voids are good. They're 4.5 percent. They
9 are good.

10 Q. Whatever the issue was
11 with the air voids on test strip on July 25th, the
12 contractor has adjusted the mat and the air voids
13 are good on August 1st; correct?

14 A. That's correct.

15 Q. Now, you had a note --
16 you can take that down, Mr. Registrar, thank you.
17 Actually, before we go to that, you'll recall that
18 Mr. Lewis had taken you to the contract addendum
19 which talked about the trial strip and the fact
20 that if a trial strip was not acceptable that it
21 could be redone. Do you recall that yesterday?

22 A. Yes, I do.

23 Q. And I'm going to suggest
24 to you that the City actually has the discretion
25 whether or not to require the contractor to redo

1 the test strip. Do you agree with that?

2 A. Yes, I do.

3 Q. The City could require
4 that the contractor pull out a whole test trip and
5 redo it and they could also order that the
6 contractor be responsible for those costs;
7 correct?

8 A. That's correct.

9 Q. But it's also true that
10 the City could opt to allow the contractor to make
11 adjustments and to proceed with the paving and
12 continue to monitor the placement of the pavement;
13 is that correct?

14 A. Yeah, that is correct.

15 Q. Would you agree, Doctor,
16 that that's in fact what happened in this case?

17 A. Sorry, what was the --
18 that it did happen or it could happen?

19 Q. That is what happened in
20 this case, is that the contractor proceeded with
21 the paving the next day. They weren't ordered to
22 pull out the test strip; correct?

23 A. Yes.

24 Q. And they were -- they
25 proceeded with the paving on August 1st, and they

1 ultimately made the adjustments to deal with all
2 of the issues that we just went through on the
3 test strip. Agree with that?

4 A. Yeah, I agree.

5 Q. In your notes for
6 August 1st, you indicated that you were on -- you
7 looked at your notes and you were trying to
8 understand what they meant because there was a
9 reference on August 1st to four hours of time
10 incurred and it just said test strip. Do you
11 remember that (skipped audio) in your notebook?

12 A. Yes.

13 Q. And you testified I think
14 that that meant that you had been on-site talking
15 about the test strip on August 1st; is that fair?

16 A. Yes, it is.

17 Q. I'm going to suggest to
18 you that in fact you were on-site talking to the
19 contractor and having discussions about the
20 adjustments that needed to be made given the test
21 results; is that fair?

22 A. Yeah. It is fair, yeah.

23 Q. Now, I anticipate that
24 the evidence from David Hainer will be that if in
25 fact the City had ordered Dufferin to pull out

1 that test strip and redo the whole thing, that
2 that is only a day's worth of work. Do you agree
3 with that --

4 (Speaker overlap)

5 A. Yeah, it would have an
6 impact on the schedule, yeah.

7 Q. But the impact is quite
8 minor, I would suggest. It's simply a day. Do
9 you agree with that?

10 A. I think so.

11 Q. Then finally, Doctor, I
12 would like to ask you a few questions about your
13 conversation with Mr. Raymond on July 31st.

14 A. Yes.

15 Q. I just want to be clear
16 about the reason you called Mr. Raymond. You
17 called Mr. Raymond because you had heard a rumour
18 that Ontario Trap Rock had been removed from the
19 DSM; is that correct?

20 A. No. Ontario Trap Rock
21 was not removed from DSM but was not -- put it
22 this way, that MTO did not want to use it in SMA
23 mixes, but it still -- I understand it still
24 remained on the DSM list but not to be used for
25 SMA.

1 Q. Thank you. You're right,
2 I overstated it. It was simply with respect to
3 SMA. If you hadn't heard that rumour, I take it
4 you would not have called him on that day?

5 A. That was one of the
6 reasons. I also had some concerns that the
7 aggregate from the demix quarry was not on the DSM
8 list, so I just wanted to discuss and have their
9 input, their opinion.

10 Q. But you knew that -- you
11 knew that the aggregate from the DSM quarry wasn't
12 on the DSM list. You had known that from the
13 first time that Dufferin suggested that that
14 aggregate be used; right?

15 A. Yes, I did.

16 Q. Okay. So I'm going to
17 again suggest to you that on July 31st the reason
18 you're calling Mr. Raymond, because you've heard
19 the rumour about the Ontario Trap Rock?

20 A. Yeah, the main cause,
21 timewise, was because of the Ontario Trap Rock.

22 Q. I take it you wanted to
23 know why would that be. Why would the ministry no
24 longer approve Ontario Trap Rock for use in SMA,
25 that that would have been of interest to you?

1 A. Oh, yeah, that was
2 obviously of my interest why.

3 Q. You testified that at the
4 end of the call you were convinced to do friction
5 testing. Remember that?

6 A. Yes, I do.

7 Q. I'm going to suggest to
8 you that the reason you reached that conclusion
9 was because at that point you now knew that the
10 ministry had concerns about early life friction
11 results with SMA; is that correct?

12 A. Yes, that's right.

13 Q. And you had also been
14 told that an aggregate that had been previously
15 been listed on the DSM for use with SMA had now
16 been removed; right?

17 A. Sorry --

18 Q. For use with SMA?

19 A. For use with SMA. It
20 remained there, but it was not used in SMA, yes.

21 Q. I'm going to suggest to
22 you that based on that call, you would have
23 decided to do friction testing no matter which
24 aggregate was being used on this project?

25 A. I think, yes, that I

1 wanted to use -- I wanted to test early life
2 friction on that pavement. I wanted to test it.
3 Yes.

4 Q. You agree with me it
5 wouldn't matter which aggregate was being used,
6 you wanted to test?

7 A. So the -- I definitely
8 wanted to, you know, by the end of the
9 conversation -- no, maybe not by the end, but as a
10 result of this conversation, I knew I wanted to
11 test the friction on the -- this early -- to check
12 the early life friction on the Red Hill Valley
13 Parkway.

14 Q. Right, because Ontario
15 Trap Rock, which had previously been approved, had
16 now been pulled off for the use with SMA?

17 A. Yes.

18 Q. And that caused you
19 concerns?

20 A. Like -- okay, I had
21 nothing to do with Ontario Trap Rock. That was
22 SMA -- that was ministry decision, so, you know,
23 their decision. But I wanted to -- I think it was
24 a very reasonable step to address, so if I -- I
25 test it, then I will know what the usual friction

1 is because I -- I understood I think now that
2 Ontario Trap Rock was removed because of early
3 friction. So that would -- at least this would
4 give me the answer or the indicator of this early
5 life friction. So yes, I think I -- definitely --
6 Ontario Trap Rock, it had an impact of my -- on my
7 decision -- on my desire, not decision, because
8 the decision was from the ministry, on the fact
9 that I wanted to test the friction.

10 MS. MCALEER: Thank you,
11 Doctor, those are all of my questions.

12 THE WITNESS: Thank you.

13 JUSTICE WILTON-SIEGEL: I
14 think we are at our break. We'll take a 15-minute
15 break and back at what will be 52 -- eight minutes
16 before noon. Thank you.

17 --- Recess taken at 11:38 a.m.

18 --- Upon resuming at 11:52 a.m.

19 JUSTICE WILTON-SIEGEL: I
20 think you have the podium, Ms. McIvor.

21 MS. MCIVOR: Thank you,
22 Commissioner.

23 EXAMINATION BY MS. MCIVOR:

24 Q. Hello, Dr. Uzarowski, my
25 name is Heather McIvor and I am counsel for the

1 Ministry of Transportation. I'm just going to ask
2 you a few questions about your version of events
3 and the points that you've raised so far, and if
4 you would like me to clarify anything or speak
5 slower, just feel free to let me know.

6 Registrar, if you could please
7 pull up document MTO 1265, I would appreciate it.

8 So, Dr. Uzarowski, this is
9 Mr. Raymond's note about your discussion with him
10 of July 31st, 2007. So you told us that at the
11 time you spoke to Mr. Raymond, you wanted to
12 gather as much information about the aggregate in
13 question as possible because it was not on MTO's
14 DSM list; is that correct?

15 A. Yeah, I wanted input
16 on -- from the MTO because this aggregate was not
17 on the DSM list, yes.

18 Q. Then just to clarify, at
19 the same point in time you had heard a rumour
20 about the Ontario Trap Rock, the issue that the
21 Ministry of Transportation had identified with
22 Ontario Trap Rock; correct?

23 A. Yeah, I heard that it was
24 not -- no longer allowed for SMA, yes, opposed on
25 using Ontario Trap Rock for SMA.

1 Q. Right. Okay. So during
2 your phone call with Mr. Raymond, I take it that
3 he confirmed that that was in fact the case with
4 the Ontario Trap Rock; is that right? They were
5 no longer using it as for SMA?

6 A. Yeah, I think so, yes.

7 Q. And at that time did your
8 view on the appropriateness of the DSM list
9 change? And maybe I'll rephrase. You spoke
10 yesterday about the processes that are involved in
11 vetting an aggregate for MTO's DSM list, and so I
12 take it that your views on the DSM list remained
13 favourable at that time?

14 A. Yes, I have respect
15 and -- for MTO selection and the placement, the
16 material on the DSM list.

17 Q. Great. On July 31st,
18 2007, during your conversation with Mr. Raymond,
19 you noted yesterday that at that specific time you
20 had no basis on which to reject the demix
21 aggregate that was proposed for the paving to
22 start the next day, and you spoke to the fact that
23 you had contact with Mr. Fleury in Quebec who
24 provided you with reassuring information about its
25 performance, and you spoke about receiving these

1 lab results that you considered excellent; is that
2 fair?

3 A. Yes.

4 Q. I assume that in your
5 discussion with Mr. Raymond, I assume you
6 mentioned these factors in addition to the fact
7 that the aggregate was not on the DSM list?

8 A. I don't recall details
9 what we discuss. Whether I told him about the --
10 I probably shared my concern that the aggregate
11 was not on the DSM list as I would prefer, but I
12 don't recall whether I told Mr. Raymond about the
13 results. I don't recall this detail.

14 Q. Okay. Fair enough. Fair
15 enough. Do you recall, Dr. Uzarowski, about
16 whether you expressed any significant concern
17 about the aggregate or whether your request was
18 for sort of an additional assurance about its
19 quality?

20 A. I think my concern was,
21 you know, this aggregate was not on the DSM list.
22 I would prefer if it was. I work, you know, in
23 the past on -- you know, with project where
24 aggregates were, so that was my concern. I didn't
25 go -- I don't think -- I didn't go into details,

1 just express my concern.

2 Q. Fair enough. So this
3 document, Mr. Raymond mentions that a possible --
4 at the very end:

5 "A possible outcome is that
6 the City of Hamilton could make a request for
7 friction testing."

8 And we know that that request
9 was ultimately submitted by you first in
10 September, and that would have been after the
11 paving started on the Red Hill Valley Parkway; is
12 that correct?

13 A. That request was -- if it
14 was on September 17th, it was after paving was
15 completed. MA (ph) was completed on August 13th,
16 so it was completed.

17 Q. All right. And,
18 Dr. Uzarowski, had you previously requested that
19 MTO carry out any friction testing in other
20 contexts on other work that you had been involved
21 in?

22 A. No, I don't recall any.

23 Q. But fair to say that you
24 were familiar with the break force trailer and the
25 type of testing that would be conducted on the Red

1 Hill Valley Parkway?

2 A. Yeah, I had some, you
3 know, I would say general knowledge about this.

4 Q. Registrar, could we
5 please pull up document Golder 3513. This is a
6 document that my friend Mr. Lederman took you to
7 earlier today, and commission counsel Mr. Lewis
8 took you to this yesterday. This is the e-mail in
9 which Mr. Raymond is providing you with the test
10 results from the break force trailer testing of
11 the Red Hill Parkway.

12 So you noted yesterday that
13 this was the complete package, completed
14 information that was provided to you from Mr.
15 Raymond along with the two testing printouts; is
16 that correct?

17 A. Yeah, the e-mail, this
18 e-mail and to test results summary in the Excel
19 format, yes.

20 Q. So fair to say that
21 there's no application of engineering principles
22 or a report analyzing these results that was
23 drafted by MTO provided to you?

24 A. You're right, yeah.

25 Q. Mr. Raymond asks to

1 please pass the results onto those involved with
2 the project. In your view that is -- that's
3 exactly what you did; is that correct?

4 A. Yes, it is.

5 Q. You have already said
6 that you viewed the results as acceptable and that
7 you were pleased with them. When you pass them
8 on to those involved with the project, either an
9 e-mail or during your subsequent discussions, I
10 take it that no concerns were raised on their end
11 either?

12 A. Yeah, I sent an e-mail
13 with just the results only and then I believe I
14 follow with the phone call and no, I didn't -- I
15 probably -- I considered them acceptable.

16 Q. So fair to say at that
17 time after you have reviewed the results and
18 discussed with your clients, there's no reason to
19 express any ongoing concern to Mr. Raymond, is
20 there?

21 A. You're right, no, there
22 was no reason.

23 Q. You didn't express any
24 concern to Mr. Raymond about the Red Hill Valley
25 Parkway at that time, did you?

1 A. No, I didn't.

2 Q. Registrar, if we could
3 pull up the test results briefly, it is in
4 overview document 4 and I'll start with image 61.
5 Thank you.

6 So Dr. Uzarowski, we referred
7 earlier about the nature of this printout and you
8 confirmed that SBL1, which is stated at the top is
9 a reference to southbound lane 1 on the parkway;
10 is that right?

11 A. Yes, it is.

12 Q. If we go to the left most
13 column I see that there is "dist". Is it your
14 understanding that stands for distance?

15 A. Yes, it is.

16 Q. If we're looking at a
17 distance starting at zero and continuing down into
18 the last column -- sorry, the last row it says
19 3.815. Am I correct in interpreting that as 3.815
20 kilometres?

21 A. That's right.

22 Q. So that would have been
23 the section of southbound lane 1 that was tested
24 during this process; is that correct?

25 A. Yes, it is.

1 Q. Mr. Registrar, if we can
2 move on to image 62. Thank you. Similar
3 questions with this. You've identified this as
4 the result for southbound lane 2, and then I take
5 it the leftmost column "dist" again is distance;
6 is that correct?

7 A. Yes, it is.

8 Q. And then starting at zero
9 ending at 3.793, that would represent a distance
10 of 3.793 kilometres of the southbound lane that
11 was within the scope of this test; is that right?

12 A. Yes, it's right.

13 Q. Okay. Ultimately,
14 looking at these test results, I would be accurate
15 in saying that at this time only two of the four
16 lanes of the highway were tested for approximately
17 a section of about 3.8 kilometres; is that right?

18 A. Yes, it's right.

19 Q. Dr. Uzarowski, I know
20 that you noted that you didn't have concerns that
21 the City and those you passed the results along to
22 did not have concerns with the results.
23 Presumably, if there were concerns, is arranging
24 for further friction testing, for instance, by a
25 private company. Is that something that you would

1 consider?

2 A. Only if they had
3 concerns.

4 Q. Right.

5 A. But they didn't.

6 Q. Right. Okay. If they
7 had concerns and you went that route, I assume
8 that -- and of course subject to your client's
9 instructions, I assume that one option would be to
10 prepare a professional report analyzing these
11 friction levels and applying professional
12 expertise; is that fair?

13 A. It probably is, but, you
14 know, I don't want to speculate. This testing in
15 my opinion was to evaluate -- friction, initial
16 friction at early life of the pavement.

17 Q. Right.

18 A. I wanted to have this
19 indicator what it is.

20 Q. Right, right. Okay. I
21 certainly -- I have heard you that because there
22 were no concerns it was unnecessary to consider
23 anything further, and I'll leave it at that.

24 Now, you mentioned as well
25 that in terms of the application process for

1 approval on the MTO's DSM list, you were aware
2 that skid testing was involved as part of that
3 process; correct?

4 A. To place the aggregate on
5 the DSM list, yeah, there was, you know, PSV and
6 friction testing for a period of two years, yes.

7 Q. All right. You said
8 yesterday that you became aware that the demix
9 aggregate had qualified for the DSM list in 2009
10 or 2010. I appreciate that you did not know the
11 Red Hill Valley Parkway was tested as part of that
12 process, but you would have known that there was
13 further information about this aggregate that had
14 been collected; is that fair?

15 A. Yeah, my understanding
16 was that, you know, if the aggregate is placed on
17 the DSM list, that obviously this two requirements
18 would have to be met. So PSV tested and friction
19 tested. So when I noticed that the aggregate was
20 on the list, so I -- obviously I was positive or
21 anticipated this values were tested and passed.

22 Q. Right, okay.
23 Dr. Uzarowski, you also -- my friend, Mr.
24 Lederman, asked you earlier today about -- in
25 general about your note-taking practices, and I

1 believe you said that typically your practice was
2 to include any sort of material significant events
3 in your notes and that has helped you refresh your
4 memory for the purposes of this inquiry; is that
5 fair?

6 A. Yes.

7 Q. Okay, but I'm sure you
8 would agree that not every little detail is
9 included in your notes or, generally speaking,
10 anyone's notes. It's difficult to include every
11 specific detail. If you -- I'm sure you would
12 agree if you were to run into a colleague or an
13 MTO employee that you knew at a conference or
14 whatnot who asked you for contact information,
15 that wouldn't necessarily make its way into your
16 notebook, would it?

17 A. No.

18 Q. And probably -- I'm going
19 to suggest that the same is probably true if, you
20 know, someone at the MTO reached out to you via
21 telephone and you had a brief discussion about
22 contact with the City of Hamilton, that likely
23 wouldn't make it into your notebook, would it?

24 A. No. If it was just minor
25 thing, probably not.

1 Q. And then to that end, if
2 it was a brief encounter, a quick conversation,
3 I'm sure it's fair to say that eight, 10, 12 years
4 later you may not necessarily recall that
5 interaction. Would you agree?

6 A. I think so, yeah.

7 MS. MCIVOR: Dr. Uzarowski,
8 those are my questions, thank you.

9 THE WITNESS: Thank you.

10 JUSTICE WILTON-SIEGEL: Ms.
11 Roberts, I think you have the podium.

12 MS. JENNIFER ROBERTS: Thank
13 you, sir.

14 JUSTICE WILTON-SIEGEL: Just
15 before we begin, you had said that you need about
16 an hour. That will probably take us past the 1
17 o'clock time which we normally break. I think
18 because it's Friday afternoon, perhaps there would
19 be a preference amongst counsel to continue until
20 you're through, unless you have a concern with
21 that.

22 MS. JENNIFER ROBERTS: No, I
23 think that's fine. And my friends have been so
24 efficient, I anticipate actually that we should
25 finish about 1.

1 JUSTICE WILTON-SIEGEL: Even
2 better. Thank you very much.

3 EXAMINATION BY MS. JENNIFER ROBERTS:

4 Q. Dr. Uzarowski, I'm going
5 to take you back to a beginning point, the
6 beginning of your testimony. Registrar, can I
7 please call up Golder 1580.

8 Dr. Uzarowski, yesterday
9 Mr. Lewis took you through a version of your CV,
10 and I think it was a fairly early one. This is an
11 updated version, which I understand to be 2018 I
12 think. I don't propose to be long here, but I
13 wonder if you could take us through some of your
14 experience, and what I want to look at is you're
15 affiliations with different organizations. So
16 you've got a number listed here, and can you
17 please tell us about what other organizations you
18 are a member of.

19 A. I'm a P.Eng. in Ontario,
20 Alberta, Saskatchewan, a member of Canadian
21 Technical Asphalt Association, actually last year
22 I was elected to honorary membership. I'm also
23 adjunct professor at the University of Waterloo,
24 and also I am member of board of directors at
25 CPATT at the University of Waterloo. CPATT is

1 Centre for Pavement and Transportation Technology.
2 And, you know, here, you see it's CTAA. So I've
3 been a member of CTAA since probably 1995, and
4 Transportation Association of Canada. I'm a
5 member of the soil and materials and also pavement
6 committee, and because of my heavy involvement at
7 airports, I've been a member of Federal Aviation
8 Administration in the U.S. AAPTTP program, which is
9 Airport, Asphalt, Pavement, Technology Program,
10 AAPTTP. So I was, but this program ended a few
11 years. So -- and, you know, plus Asphalt
12 Recycling and Reclamation Association. So I think
13 this thing are my probably main involvement now.

14 Q. You mentioned in the
15 course of your testimony that you were on the OPSS
16 committee?

17 A. Oh, yeah, yeah. I forgot
18 about this. Since 2019 I've been a member of OPSS
19 committee for -- OPSS UV (ph), so OPSS
20 municipality pavements committee, where I
21 represent CEO, Consulting Engineers of Ontario.

22 Q. Did I understand that
23 you're also a representative Consulting Engineers
24 of Ontario?

25 A. Yeah, I represent there.

1 Of course I'm a member of CEO, and I represent --
2 at OPSS, I represent CEO.

3 Q. You've told us you're an
4 adjunct professor at University of Waterloo. What
5 do you teach?

6 A. I teach -- I taught
7 courses, asset management and pavement design and
8 construction.

9 Q. Is that -- sorry?

10 A. I also was teaching
11 pavement design and construction course at
12 McMaster University in Hamilton.

13 Q. Thank you. In the course
14 of your work with these universities, have you
15 supervised any PhD theses?

16 A. Oh, yeah, I was let's say
17 in the PhD -- I was an outside (ph) professor for
18 a number of PhD students, so I think it was
19 probably about six and two master students. So
20 two master and probably about six PhD students.

21 Q. Thank you. And your
22 title is described as senior pavement and
23 materials engineer specialist. Since most of us
24 don't really know what that is, can you take us
25 through what your expertise is.

1 A. I've been involved
2 47 years in pavement and materials area, so it is
3 pavement evaluate -- so it starts with pavement
4 evaluation, pavement design, pavement
5 maintenance -- construction, maintenance,
6 specification development. This and material. So
7 materials cover not only asphalt technology, but
8 also asphalt, concrete, granular materials,
9 emulsion, you name it. Whatever is related to
10 pavement technology type of materials, then this
11 is my area, this is I've been involved, including
12 recycling and some innovative materials, so this
13 aspects.

14 Q. Is this for just roads or
15 is this also for airports?

16 A. I would say it's roads,
17 but, you know, my -- actually my main area of
18 involvement is airports. So airports -- not
19 airport design, it's airport pavement and
20 materials. Evaluation, design, construction and
21 maintenance. Mainly airport is my main area.

22 Q. I understand that you've
23 got a designation from the Ministry of
24 Transportation, MTO?

25 A. Yes, I have designation

1 for pavement design of high complexity.

2 Q. What does that mean?

3 A. So this is the design for
4 high-complexity pavement. So mainly pavement for
5 high traffic, mainly heavy traffic and high speed.

6 Q. If I'm remembering
7 correctly, you actually have experience designing
8 some tracks for racecourses as well?

9 A. Oh, yeah, that's
10 additional. Yeah, so whatever is related, so I
11 did -- I did also racetracks. Racetracks is
12 like -- it's not only airports, municipal
13 pavements, but also industrial pavement, including
14 ports, and as you mentioned, racetracks, so
15 whatever is related to pavement and materials.

16 Q. I don't propose to take
17 you through this in detail, but, Registrar, if I
18 can turn up image 4. Dr. Uzarowski, I wonder if
19 you can sort of take us through some of the --
20 just identify some of the larger projects you've
21 worked on?

22 A. At the top is pavement
23 and materials technology review and update, so I
24 did it for a number of large municipalities, you
25 know, like main one, the City of Hamilton, three

1 phases. Then City of Toronto I updated from 2016
2 to '17 all paving and material specifications.
3 And, you know, the large -- other large
4 municipalities are region of Niagara, region of
5 Waterloo. Also not only in the province, in our
6 province, but also in other provinces, City of
7 Moncton. And, you know, here is also Toronto
8 transportation. But my previous involvement also
9 from the pavement and materials technology review.
10 And some -- a lot of large municipal and
11 provincial projects in Canada, USA and South
12 America. So not only City of Hamilton or City of
13 Toronto, but also York Consulting, TTC, you know,
14 number of highway projects for MTO, including QEW,
15 Highway 401. Like, it was forensic investigation,
16 Highway 401. Highway 404, I design pavement for
17 Highway 404.

18 So, you know, over so many
19 years, large number of large project, but at the
20 same time also like, you know, some small or
21 medium-sized projects. But, you know, it's hard
22 to describe in a short period of time. I will
23 have to go probably for about 20 something pages
24 in my main projects.

25 And of course my passion which

1 are airports. So I did airports across the
2 country, from basically Newfoundland and Labrador
3 to British Columbia, and then from the U.S. border
4 to the north, including Iqaluit, Inuvik and
5 (indiscernible), whatever it is. And also some
6 airports in the states. I did Oakland airport in
7 California. And so airports basically across
8 North America and Europe.

9 Q. Thank you. If we go
10 towards the -- I'm not going to take you any
11 further through that. Thank you for that
12 overview.

13 If you go further on, you've
14 got a long list of publications. And again, let
15 me see if I can...

16 A. I can admit that my CV is
17 not updated because there are only 47 technical
18 papers. By now I probably have about 110
19 technical papers on this subject that I wrote and
20 probably about 250 presentations.

21 Q. Thank you. Registrar,
22 can you please pull up image 10. I think that's
23 the one I want to look at. No, next one. There
24 we go. Thank you. So this is beginning list, and
25 you just said it's not complete?

1 A. Yeah, I apologize. I
2 didn't update this thing. It would be probably,
3 you know, significantly above 100.

4 Q. Thank you. Now, it looks
5 as though these are publications through the
6 Canadian Technical Asphalt Association and the
7 Canadian -- sorry, and the Transportation
8 Association of Canada?

9 A. Yes, mainly, yes, CTAA,
10 but also other agencies. I did a lot of for
11 airports. That would be Swift. And, you know,
12 some in the U.S., including some for
13 Transportation Research Board in the U.S., but,
14 you know, the majority would be CTAA and TAC.

15 Q. You've been taken to a
16 couple of your reports, and I'll go to one in a
17 minute. But can you just explain -- this is still
18 on "Papers." Can you explain the purpose of
19 writing these papers?

20 A. You know, I think it's
21 important because if you write a paper, you share
22 the knowledge with the young generation and with
23 people in the industry, and this is what I really
24 enjoy doing, and at the same time you learn. You
25 attend a conference, you share the knowledge, you

1 have a conversation with -- you ask a lot of
2 questions about this, and at the same time you do
3 the same to other people. They present, you learn
4 a lot.

5 So it's not only after, you
6 know, you complete school and this is it. This is
7 like continuous education, building your level of
8 knowledge, sharing the knowledge with the young
9 generation, with other people. So that's I think
10 a very important part of my activities.

11 Q. Who is the audience, who
12 are you sharing the knowledge and experience with?

13 A. The knowledge is --
14 audience is very wide. It's like the owners,
15 other consultants, contractors, suppliers, and a
16 lot of students, a lot of young people. So very
17 wide audience. So basically I would say, you
18 know, everybody involved in this particular
19 industry would attend or try to attend those
20 conferences.

21 Q. Thank you. I'm going to
22 move to a different document. I want to discuss
23 and take you to an example of one of those papers
24 that you were taken to this morning. So,
25 Registrar, if I could please ask you to pull up

1 Hamilton 328.

2 MS. RAMASWAMY: Jennifer,
3 pardon me. Should we make his CV an exhibit?
4 Exhibit 27?

5 MS. JENNIFER ROBERTS: Thank
6 you. Yes, please. Before we go to the next
7 document, could we please mark Dr. Uzarowski's CV
8 as Exhibit 27, Commissioner?

9 JUSTICE WILTON-SIEGEL: Done.

10 EXHIBIT NO. 27: Dr.
11 Uzarowski's curriculum vitae.

12 MS. JENNIFER ROBERTS: Thank
13 you, Registrar. Can you please pull up Hamilton
14 328. That's interesting. Is it possible to show
15 that without all the notes showing, or is that
16 just the way it is? That's curious. My version
17 doesn't look like that.

18 THE REGISTRAR: Sorry, that's
19 the way -- how it is.

20 BY MS. JENNIFER ROBERTS:

21 Q. I take it this paper was
22 in fact finalized and we just don't have it up, so
23 I apologize for the black line version. Sorry,
24 Dr. Uzarowski. I just want to look at this for a
25 minute.

1 So this was a paper entitled
2 "Innovative, Comprehensive Design and Construction
3 of a Perpetual Pavement on the Red Hill Valley
4 Parkway in Hamilton." This was -- who is it
5 published through?

6 A. I think it was CTAA.
7 Definitely CTAA and possibly also TAC. I'm pretty
8 positive it was CTAA. I'm not sure about whether
9 it was presented at TAC. Canadian Technical
10 Asphalt Association.

11 Q. Thank you. What was the
12 purpose of this paper? Is it consistent with as
13 you described before?

14 A. Yes. So basically, as I
15 mentioned, you know, like sharing the knowledge
16 and also the knowledge about design and
17 construction, but also some aspects or some
18 difficulties that we had to deal with. I realize
19 that not all of them are included in this paper,
20 but that is -- perpetual pavement was a relatively
21 new idea in the country, so share it with the
22 public or within the industry how it was done, and
23 also from the construction point of view the
24 aspects that we face. And actually that paper,
25 when we presented this thing at TAC, it got a lot

1 of interest, a lot of questions. So obviously I
2 think it was beneficial for us and also beneficial
3 for the industry, for the audience to see what
4 problems we had, how we dealt with them from all
5 possible aspects.

6 MR. LEWIS: Sorry, if I could
7 just jump in. If you are looking for the final
8 version -- was I correct, is that what you were
9 looking for?

10 MS. JENNIFER ROBERTS: Yes.

11 MR. LEWIS: And that's the one
12 I took Dr. Uzarowski to this morning.

13 MS. JENNIFER ROBERTS: Thank
14 you.

15 MR. LEWIS: This one is the
16 version with Mr. Moore's track changes.

17 MS. JENNIFER ROBERTS: Okay,
18 that's the confusion. Thank you.

19 MR. LEWIS: Yeah. And so it
20 is HAM13032 is the final version. Sorry to
21 interrupt.

22 MS. JENNIFER ROBERTS: Thank
23 you. That's helpful. Registrar, if you could
24 please pull up the document just referenced by
25 Mr. Lewis.

1 THE REGISTRAR: Sorry, I'm
2 going to have to ask Mr. Lewis to repeat that call
3 out.

4 MR. LEWIS: Yeah, that's
5 HAM13032.

6 MS. JENNIFER ROBERTS: So you
7 were asked about the fact that you -- sorry.

8 THE REGISTRAR: Sorry,
9 Counsel, it just wasn't popping up for me, so I
10 just had to re-start it. I have the document. I
11 just need to re-start.

12 BY MS. JENNIFER ROBERTS:

13 Q. It's perhaps an obvious
14 point, Dr. Uzarowski, but I take it the point of
15 this paper is not a discourse on the challenges of
16 early age friction?

17 A. No, it's not.

18 Q. Thank you. Dr. Uzarowski
19 and Commissioner, I'm going to have to impose on
20 your patience. I'm going to go back through a
21 number of points that were raised yesterday, and
22 I'll try and do it as briefly as I can.

23 I would like to go to the
24 feasibility report, which is RHVP 935, Registrar.
25 Forgive me, I've got to go to the right image.

1 Image 24 let's try. Table 6. Great. Thank you.

2 You were taken through this
3 table yesterday by Mr. Lewis, and I just want to
4 just go to one point here. This is the one where
5 I think your evidence is that it anticipates a
6 full mill and resurface at year 21. Is that what
7 that says?

8 A. Yes, I say this, yeah.
9 Mill -- yes, mill -- so this is the idea of
10 perpetual pavement, that you (indiscernible)
11 surfacing, so anticipated in (indiscernible) 21,
12 mill 40, and overlay 40.

13 Q. Would you have expected
14 to achieve that longevity if you did none of the
15 maintenance identified earlier in that column?

16 A. This is why it is stated
17 in this table that some maintenance is required.
18 So -- sorry?

19 JUSTICE WILTON-SIEGEL: My
20 apologies.

21 (DISCUSSION OFF THE RECORD)

22 JUSTICE WILTON-SIEGEL: Please
23 proceed.

24 BY MS. JENNIFER ROBERTS:

25 Q. Sorry, Dr. Uzarowski, let

1 me repeat the question. Would you expect to
2 achieve the longevity of the 21 years before the
3 first mill and pave if you did not do the
4 maintenance that is identified in this table?

5 A. So, you know, there are a
6 number factors that have to be considered, like,
7 you know, maintenance is one of the critical
8 factors because the day the pavement construction
9 is completed, the pavement starts to deteriorate.
10 So it is like -- like with any other structures.
11 So it is critical to provide timely maintenance,
12 and we assume that some -- initially I see route
13 and see the cracks and then -- and patching.

14 By routing and ceiling cracks,
15 you buy, we assume, a few years. Probably three
16 to four years you can extend the life of the
17 pavement, and also doing timely other stuff like
18 patching. So, you know, maintenance is necessary
19 for -- a necessary treatment to get the right life
20 of pavement, and also at the same time to make
21 sure that -- because this pavement is designed for
22 a particular level of traffic, so the traffic is
23 as designed and also that there is no -- what we
24 call overloading. So if it's not only the number
25 of vehicle, but also the weight of vehicles, and

1 this is -- that can be particularly destructive
2 because the damage caused by overloaded vehicles
3 goes to the power of four (ph).

4 So this is -- that can be one
5 of the critical factors. I don't know whether
6 it's, you know, a time to mention this thing, but
7 we observe significant number of overloaded
8 vehicles on that parkway.

9 Q. So just if I'm
10 understanding you correctly, to recap: If you're
11 going to achieve that sort of life expectancy that
12 you identified here, you are going want to make
13 sure you do the maintenance. It's also going to
14 be affected by the number vehicles, whether they
15 are overloaded, and -- do I have all of those
16 factors, number of vehicles and whether the
17 vehicles are overloaded?

18 A. So this basically, you
19 know, if it's -- one thing is proper type of
20 maintenance, the number of vehicles, overloaded
21 vehicles. And unfortunately on that particular
22 parkway, another impact, very significant impact
23 was flooding. The road was flooded twice, so it
24 had a very significant negative impact on
25 performance.

1 Q. Okay. I think we'll get
2 to that evidence later on in the story here.
3 Okay. So we can pull that down, Registrar. I
4 want to go, please, to Golder 3741. This is the
5 perpetual pavement design study, phase 2. If we
6 can go to image 2, please. There we go. If I can
7 just understand this.

8 So it appears that there is an
9 existing design for pavement, and then what are
10 you doing to -- let me just cross....

11 Is there an existing design
12 for the pavement on the Red Hill Valley Parkway
13 when you were engaged to do your -- provide your
14 design recommendations?

15 A. Yeah. Before I was asked
16 about perpetual pavement design, the pavement was
17 or had been designed for the Red Hill Valley
18 Parkway, but that was a conventional deep strength
19 pavement. And the entire Red Hill Valley Parkway
20 was divided into three sections and the
21 pavement -- this conventional pavement, deep
22 strength pavement, was designed by Soil-Mat. One
23 section and two sections were designed by Peter
24 McCallum. But when -- and that pavement included
25 everything.

1 When we got involved it was
2 perpetual pavement, it was only the asphalt
3 portion of the pavement. On majority of the road,
4 not only the air squared (ph) but also granular
5 layers, including subbase and base, they've been
6 already done. Maybe not everywhere, but on some
7 sections. Subbase was probably done everywhere.
8 Granular materials, I would have to check.

9 So we had to adjust the
10 pavement for that different thickness of asphalt,
11 particularly that the structures were done, the
12 clearance was fixed. So we couldn't change the
13 final elevation because otherwise would scrub the
14 clearance. So we had to design the pavement to
15 maintain the same elevation but to go down,
16 provide a little bit -- significantly thicker
17 pavement structure within what was already done.
18 So we designed that part of asphalt. This is what
19 we call perpetual pavement, but this design was
20 only -- our design was only for the asphalt. And
21 of course there's some impacts of granular layers,
22 so we had to scrape some of --

23 Q. And does this design
24 below with the perpetual pavement, does that
25 reflect the design that you ultimately arrived at

1 for the Red Hill Valley Parkway pavement?

2 A. So I -- you know, at the
3 end we had to consider what is existing, what was
4 existing, some place remove some piece of the
5 existing, and then add how much asphalt. So at
6 the end you had -- that you had sufficient
7 structure, we call it structure number, to support
8 the anticipated traffic loading over the period of
9 50 years.

10 Q. If I understood your
11 evidence yesterday accurately, the key element in
12 the perpetual pavement is this SP19 rich water mix
13 layer?

14 A. Yes. Yeah, yeah, so this
15 is the base -- how you design the perpetual
16 pavement, you start from the bottom, so you design
17 the rich bottom layer that comprise rich -- RBM,
18 rich bottom mix, that offers excellent resistance
19 to fatigue -- cracking and fatigue endurance --
20 offers excellent fatigue endurance or resistance
21 to cracking.

22 Q. Thank you. Your evidence
23 is that you prepared the specifications and
24 including special provisions, and I would like to
25 go to those. That would be I think image 5.

1 You've talked a little bit about the
2 specifications.

3 First of all, these are
4 specifications for all of the different mix types
5 and the mix types are identified in the left
6 column.

7 A. Yes, SMA -- so, you know,
8 whatever is in the top on the left column, this is
9 for -- yeah, these are the mixed types, yes.

10 Q. What specifications or
11 OPSS are relevant to the SMA, because that's the
12 one we're really focused on here?

13 A. SMA, that would be OPSS
14 1151 and OPSS -- 1151. Not 1150 because this is
15 Marshall. It will be 310 for construction. 1103
16 is -- no, this is emulsion. 1101 would be for
17 asphalt cement that we incorporated. 1003 is for
18 aggregates, and 1001 is like, you know, material
19 specification but general. These specifications.

20 Q. Thank you. And these two
21 special provisions, are either of them relevant
22 for the SMA mix?

23 A. No, no. Okay, the first
24 one, special provision for mix types, that was
25 actually the special provision we call it SP1, the

1 first special provision, because that would be
2 identify what mix types we wanted where, and those
3 mix types, what asphalt cement they would have to
4 incorporate. So I think overall we develop, as
5 far as I remember, like six special provision, but
6 that was special provision number 1.

7 The other one, special
8 provision number 6, that was use (indiscernible)
9 in HO1 mix also used on the Red Hill Valley
10 Parkway but not on the main line, was one of the
11 HO1 (indiscernible) I would have to --

12 Q. Sorry --

13 A. -- a memory that can be
14 all the shoulder or one of the residential
15 pavement. So it wasn't the main line.

16 Q. Okay. Let's just go, if
17 we could, to special provision for mixed types,
18 which I think is special provision 1. Registrar,
19 could you please pull up Golder 3742. Is this --
20 do I have that right, Dr. Uzarowski? Is this the
21 one that is attributable to the SMA?

22 A. Yes. So, this is --
23 that's SP1. So this one includes mix type, so it
24 starts with -- so main line, okay, including
25 (indiscernible), this includes SMA and then what

1 type of asphalt cement and other layers, and then
2 there are other locations. It's under the same
3 project, but not really -- not really the main
4 line someplace, not really perpetual --

5 Q. Let's just stick with the
6 SMA one. So it looks as though you specify a
7 particular asphalt cement. Can you tell us what
8 that is and why it's relevant?

9 A. Yeah, we specified
10 performance-graded asphalt cement 70 minus 28. So
11 it's a very high quality asphalt cement. 70 is
12 the high end temperature, minus 28 is the low end
13 temperature, and because, you know, the rule of
14 thumb is if you have -- if you add both and if
15 it's more than 92, then you have to use polymer.

16 So with required height, the
17 polymer content in this mix in order to get
18 enhanced cracking resistance and fatigue
19 endurance. This is definitely a really high
20 quality asphalt cement that can resist, you know,
21 cracking.

22 Q. Thank you. Let's then
23 go, if we could, please, to the OPSS specification
24 1003. Am I right that that is the one to the
25 aggregate?

1 A. Yeah, 1003 is for
2 aggregates to be used in hot mix asphalt.

3 Q. Registrar, may I please
4 ask you to turn up Golder 3905. There's lots of
5 detail in here. Dr. Uzarowski and Commissioner,
6 I'm sure you'll be delighted to learn I'm not
7 taking the witness to all of it, but I do want to
8 pull up the table 5, and that is I believe image
9 13. Thank you.

10 Dr. Uzarowski, I wonder if you
11 could please take us through this. As I
12 understand it, this is basically the key of the
13 requirements for the course mixed asphalt for a
14 number of mixes, including SMA.

15 A. But, sorry, I make a
16 correction because this table is for SMA 19, which
17 is the binder will have to go to another table,
18 which is SMA 12.5.

19 Q. Hold on. Let me find it.
20 This is what happens if, as a lawyer, I try to
21 pretend I'm a pavement and materials engineer.
22 Okay. Is that table 6 then, next page?

23 A. FC2. Yeah, FC2. Yeah,
24 this is (reading document). I think I'm looking
25 for SMA, where is it --

1 Q. Is it table 4?

2 A. Or maybe -- basically
3 just said this would be the same requirements
4 because this is the surface course, so you can see
5 here in this table the requirement -- yeah, this
6 would be the same because Micro-Deval is 10. So
7 these are the requirements for the aggregate for a
8 quarried rock. So you see this loss by washing,
9 absorption, flat and elongated particles,
10 petrographic number (reading document). These are
11 some main characteristics of the aggregate.

12 If you look in this second
13 column from the right, this is trap rock, trap
14 rock. So the rock that we use on the Red Hill
15 Valley Parkway is the trap rock -- the mixed
16 aggregate is the trap rock.

17 So this is why I said that
18 our -- the result that -- I don't know if this
19 comment -- you see the requirement is for
20 Micro-Deval, for instance, 10. Our results
21 were -- not our results, but what Dufferin
22 submitted was 1.5, so excellent. And other
23 petrographic number 120. We had 100 -- they had
24 100 or 101, so really I would say excellent.
25 Excellent results.

1 MS. JENNIFER ROBERTS: You've
2 commission counsel on the screen. Mr. Lewis?

3 MR. LEWIS: I was just
4 wondering if we had to get the right table --

5 MS. JENNIFER ROBERTS: Yeah, I
6 think we do.

7 MR. LEWIS: -- entered. I
8 think it's table 4, which is image 12.

9 MS. JENNIFER ROBERTS: Image
10 12?

11 MR. LEWIS: If that's the
12 right one. I just was on our own databases.

13 MS. JENNIFER ROBERTS: Thank
14 you.

15 THE WITNESS: Yeah, yeah,
16 sorry about that.

17 BY MS. JENNIFER ROBERTS:

18 Q. My error, Dr. Uzarowski,
19 please forgive me. As I say, it's a problem that
20 happens when a lawyer tries to pretend to be an
21 engineer. Here we go.

22 A. But basically the
23 requirements are the same for FC2 and here for
24 SMA. So you see for -- because we had SMA 12.5
25 and --

1 Q. Right. Got it.

2 (Speaker Overlap)

3 A. -- so the requirements --
4 it's a quarry rock, trap rock, so then you can
5 see, you know, loss of washing, so it's like
6 absorption that is -- nothing unusual here but --
7 okay, flatten and elongate, it depends on the
8 method of crashing. We had very low flat
9 (indiscernible). Petrographic number 120, the
10 result, as I mentioned, was I think 100 and 101,
11 so excellent, excellent values. You know,
12 particularly Micro-Deval abrasion. This is for
13 coarse aggregate. The limit was for -- for this
14 type of rock was 10, and Dufferin -- what Dufferin
15 submitted was about, you know, 1.5, I think 1.5,
16 1.7. When we tested it was 2.5, so really
17 excellent result. I would say rarely seen that
18 good number.

19 Q. I'll get you there,
20 Dr. Uzarowski. My point before that I want to ask
21 you is were you concerned that if you relied on
22 the OPSS specification and not the DSM, that
23 somehow the end resulting aggregate would be of a
24 lesser quality?

25 A. So the one thing I wanted

1 to have, you know, the aggregate of good quality,
2 so in terms of this characteristic, but at the
3 same time I would like to -- as I mentioned
4 yesterday, so that was Micro-Deval and area
5 abrasion, but also I would like to know polishing
6 characteristics, because this is important, and
7 field performance. So what Dufferin send us, that
8 was about -- for this aggregate was CPP or 0.9,
9 which is also -- indicates excellent resistance to
10 polishing, and actually they stated that this
11 aggregate is used as a reference material by MTQ,
12 which emphasizes how good the number was.

13 Q. So my understanding there
14 that in addition to whether the physical
15 laboratory results were achieved, you wanted to
16 verify the field experience of the aggregate?

17 A. Yes, this is why I
18 called, and I knew this (indiscernible) but I
19 wanted to have like additional confirmation about
20 their opinion about the aggregate, so I called
21 MTQ, Daniel Fleury, to talk about this, and also,
22 you know, some indication about field performance.
23 And, you know, I was informed that this aggregate
24 is used on high volume roads. So one of the best
25 aggregates in Quebec used on high volume roads.

1 At least this was in my notes. I probably would
2 get more information, but this is what I put in my
3 notes.

4 Q. So at this point I just
5 want stay on that point. We can come off this
6 document, Registrar, thank you. I just want to
7 dwell on that conversation with MTQ.

8 First of all, can you tell us
9 what you -- MTQ, I'm understanding that's the
10 Ministry of Transportation for Quebec; is that
11 correct?

12 A. Yes, MTQ is, yes,
13 Ministry of Quebec, yes.

14 Q. What do you know about
15 MTQ?

16 A. I think they are one of
17 the leading agencies when it comes to pavement and
18 materials. Like, you know, I have great respect
19 for MTO and their expertise, but also MTO, I know
20 some people there. I actually -- years ago I did
21 research together with MTQ on asphalt wrapping.
22 But also I know their top people for pavement and
23 materials, Guy Tremblay, Pierre Langlois, Michele
24 Paradis, Daniel Fleury. So these are the people
25 very well known, and they publish a lot of -- some

1 very significant papers on the quality of asphalt.
2 And I think they were like -- in my opinion, MTO
3 and MTQ are probably the leaders in the country.
4 I don't want to offend other agencies because I
5 work with a number of these, but I value their
6 expertise.

7 Q. Thank you. Before I
8 leave the qualification and testing topic, I
9 just -- why is it -- I'm just going to take you
10 back to the issue of the testing, and I'm not
11 going take you through it again, Dr. Uzarowski,
12 because you've done that and you've expressed your
13 opinion that you thought Micro-Deval and LA
14 abrasion were excellent. But why did you think
15 those two tests in particular were important?

16 A. You know, this is -- I
17 mention that these two gentlemen -- Pierre
18 Langlois, you know, is a very well-recognized name
19 in Quebec and in asphalt. Pierre Langlois and Guy
20 Tremblay, they wrote a technical paper in 1998 on
21 quality of aggregates used in asphalt in Quebec.
22 So they identify that these two characteristics,
23 LA, Los Angeles abrasion, and Micro-Deval, these
24 two characteristics control skid resistance of
25 asphalt pavement. So these are two factors, skid

1 resistance. Another factor is polishing
2 resistance, and in that paper they describe the
3 method, the CPP method, that they use for -- to
4 characterize polishing resistance of asphalt
5 aggregate. And actually that method is also -- I
6 mentioned I think yesterday about this technical
7 paper from U.S. Army Corps of Engineers, that they
8 recognize the same methodology.

9 So they -- on top of other
10 factors, because I mention only this factor, but
11 there are other factors that they consider. But
12 from the skid resistance and friction point of
13 view, these are three critical factors or critical
14 indicators that they consider, LA abrasion,
15 Micro-Deval, and CPP.

16 Q. Thank you. Now, you've
17 been taken through this and I'm not going to go
18 back through it all. You've been taken through
19 the review and approval of the SMA mix design.
20 You've given evidence that it appears from the
21 August -- I think it's site meeting 10 -- that it
22 was approved, but we don't have the letter.

23 Let me just ask the question:
24 Would it be usual in your experience that there
25 would be a letter of -- would it be usual in a

1 paving project that the consulting engineer would
2 provide a conformance letter specifically in
3 reference to aggregate?

4 A. No, not really, because
5 asphalt mix -- asphalt mixes, they incorporate
6 number of components, and basically -- so it would
7 be four or five, so if -- it start with asphalt
8 cement and aggregates -- there are some additives,
9 admixtures for SMA, so fibre and filler. So, you
10 know, typically they are not approved separately,
11 just go under one mix design approval.

12 Q. Thank you. Now, you said
13 yesterday and you've said again I think today that
14 you preferred that the aggregate proposed by
15 Dufferin had been on the DSM list. Was that
16 because -- had it been that effectively that mix
17 pre-qualified, that MTO would have done the heavy
18 listing?

19 A. Yeah, so I -- definitely
20 I would prefer if it was on the DSM list, then
21 there would be -- I would prefer because I would
22 have more comfort. I wouldn't have to verify all
23 the thing. So that would be -- I would prefer
24 because it would provide me more comfort. I would
25 have to -- I had to look at, you know, all

1 elements and aspects.

2 Q. And that's just it. So I
3 take it, Dr. Uzarowski, that as it was, since it
4 wasn't -- the aggregate in Trow's mix design
5 proposed by Dufferin wasn't on the DSM list, that
6 you had to do all the qualification?

7 A. Yes, so I basically -- I
8 went through step by step. As you know, initially
9 I rejected and then I check the aggregate
10 characteristics, mechanistic characteristics,
11 polishing. So this elements, and then, you know,
12 I wanted to verify field performance to have some
13 level of comfort and some opinion about the
14 quality of this aggregate.

15 Q. And that's what you did?

16 A. Yeah, this is what I did.
17 You know, all step-by-step I took to evaluate this
18 aggregate, the quality of this aggregate.

19 Q. We've heard your evidence
20 that you still had lingering reservations and you
21 still made the call to MTO on July 31st, but is it
22 the case that after going through all the three
23 sets of laboratory testings and Golder's
24 independent verification of the Micro-Deval and LA
25 abrasion and confirmation of the MTQ performance,

1 did Golder have any basis to reject the aggregate
2 proposed by Dufferin?

3 A. No, I don't think I had
4 the base for this because -- the base for the
5 aggregate to reject it. Actually, as I mentioned
6 yesterday, the DSM requirement was not in the
7 OPSS -- in OPSS 1003. I had no base to reject it.
8 But I talk to MTO to get some, you know, more
9 information. As I mentioned, as I said today, I
10 also heard about these Ontario trap rock. I
11 wanted to have as much information as possible
12 what happened and then what to anticipate and what
13 I could do on that particular pavement.

14 Q. And then after that
15 testing comes back and you find -- and as I
16 understood your evidence, it's acceptable, did
17 that put your mind at rest about the quality of
18 the aggregate that was supplied?

19 A. Yeah, at that point of
20 time I was comfortable with this. I knew I had --
21 you know, we talked that there were a few numbers
22 slightly below, but I was positive that within a
23 few days they will go -- not only a few days,
24 after it was opened to traffic. So the traffic
25 wears off the asphalt, they will come up. So at

1 that point of time I was comfortable and I
2 considered this thing acceptable.

3 Q. Thank you. I just want
4 to sort of project forward. We'll get to it, and
5 I don't propose to go to any documents, but later
6 in your evidence you are going to get to some
7 subsequent projects that Golder undertook for
8 Hamilton.

9 In your subsequent work were
10 you able verify whether the SMA supplied for the
11 pavement project was substantially consistent with
12 Trow's mix design? Do you want me to say it
13 again?

14 A. So the characteristics --
15 MR. LEWIS: I would like to
16 interject. I'm not sure this is the right time to
17 jump ahead to conclusions at a later time,
18 Commissioner.

19 MS. JENNIFER ROBERTS: I'm
20 just trying to put a bow on the point that in fact
21 what was specified was delivered, which I think
22 can be done in three sentences. But,
23 Commissioner --

24 JUSTICE WILTON-SIEGEL: Well,
25 I've already removed a question of a similar

1 nature from Mr. Lederman. I think I should
2 probably adopt a consistent approach here. You
3 can ask that question the next time Mr. Uzarowski
4 appears when we're dealing with later events.

5 MS. JENNIFER ROBERTS: Fair
6 enough. Then that concludes my questions, and
7 thank you very much, and, Dr. Uzarowski, thank you
8 for your patience.

9 THE WITNESS: Thank you.

10 JUSTICE WILTON-SIEGEL:
11 Mr. Lewis, you have the right to close the
12 examination.

13 MR. LEWIS: I just have one
14 small series of questions which I think will take
15 about one minute or two.

16 EXAMINATION BY MR. LEWIS (cont'd):

17 Q. Dr. Uzarowski,
18 Mr. Lederman took you to a July 23rd, 2007 e-mail
19 from Andros Delos Reyes. He referred you to the
20 actual document, which was Golder 1750, but it's
21 in the overview document, so I'll just go to
22 there. It's overview document 3 Registrar, image
23 52. It's the e-mail at the bottom under
24 subparagraph (b) of 105. If you could call that
25 up.

1 This is Mr. Delos Reyes's
2 e-mail to you on the 23rd of July. If you could
3 read this carefully and then I just have a couple
4 of questions. Let me know when you've read it.

5 A. (Witness reviews
6 document).

7 Q. We'll hear from Mr. Delos
8 Reyes, it's his e-mail, but I just want to be
9 clear from your perspective about what mix design
10 or designs the reservation for and what the verbal
11 approval had already been given for, and I would
12 like to take it one at a time. The first thing is
13 what mix design was the reservation in respect of,
14 do you recall?

15 A. I think, as I said
16 yesterday, we had concerns with aggregate
17 breakdown in the ignition oven, because that
18 was -- for us that was a very significant step.
19 We had only ignition oven in the Hamilton area,
20 and Trow was doing solvent testing. Typically the
21 difference is small, there is not a problem, you
22 know.

23 On a number of projects we use
24 -- the contractor may use solvent when they use
25 ignition oven. It's not a big problem. But since

1 we had this issue with aggregate breakdown, that
2 would -- that was complicated the issue. So this
3 is my understanding, that this is what this
4 reservation was.

5 Q. But that was with -- it
6 was only the SMA mix that had the aggregate
7 breakdown in the ignition oven; is that correct?

8 A. I think also SP12.5 FC2,
9 I think also it incorporated the same aggregate,
10 so that would be the same issue with the other
11 aggregate.

12 Q. All right. It says in
13 the first clause, though -- I just want to see
14 what the reservation is for. If you are going to
15 issue written approval with reservation for the
16 SMA mix design -- so that's the first part -- is
17 reservation with respect to SMA or SP19 or both?

18 A. No, no, reservation would
19 be for SMA.

20 Q. Okay. That's my
21 question. So that's the first part. Then the
22 second question is, what mix design had verbal
23 approval already been given for?

24 A. So I understand that
25 it's -- I think actually in one of the minutes

1 from the meeting, it was that Golder has had a
2 glance at the mix design for SMA and consider this
3 thing appropriate, so because the mix design
4 itself was good. The mix design met all -- I know
5 it's very complex, but, you know, the mix design
6 met the specified requirement, so the mixed design
7 itself was good.

8 MR. LEWIS: Thank you. Those
9 are my questions.

10 JUSTICE WILTON-SIEGEL: Then
11 if we don't have anything else to do today, which
12 I gather we don't, and there's nothing we have to
13 discuss, then I want to thank Dr. Uzarowski for
14 appearing for the last two days, and we'll stand
15 adjourned until Monday at 9:30. I hope that the
16 participants can enjoy the weekend.

17 --- Whereupon at 1:16 p.m. the proceedings were
18 adjourned until Monday, May 2nd, 2022 at
19 9:30 a.m.

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