

CONSOLIDATED HEARINGS BOARD

IN THE MATTER OF Sections 2 and 3 and 6 (3) of the Consolidated Hearings Act, 1981, S.O. 1981, c.20;

- and -

IN THE MATTER OF Section 12(2) of the Environmental Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER OF Sections 30, 35 and 38 of the Environmental Protection Act, R.S.O. 1980, c.141, as amended;

- and -

IN THE MATTER OF Sections 24 and 61 (2) of the Ontario Water Resources Act, R.S.O. 1980, c.361, as amended;

- and -

IN THE MATTER OF Section 28 (3) of, and Regulation 164 under, the Conservation Authorities Act, R.S.O. 1980, c.85, as amended;

- and -

IN THE MATTER OF Section 40(12) of the Planning Act, S.O. 1983, c.1, as amended; in connection with site plan control of the sanitary landfill site;

- and -

IN THE MATTER OF Section 22(1) of the Planning Act, 1983 in connection with a referral to this Board by the Honourable Bernard Grandmaitre, Minister of Municipal Affairs, on a request by the Regional Municipality of Halton to amend the Official Plan for the Town of Milton to redesignate a parcel of land comprising Part Lots 3 and 4, Concession 2 N.S. in the Town of Milton from "Agriculture" and "Conservation and Hazard Lands" to permit the construction, operation and maintenance of a landfill site, Minister's File No. 24-OP-0208-A01;

- and -

IN THE MATTER OF Section 34(11) of the Planning Act, 1983 in connection with an appeal to this Board by the Regional Municipality of Halton for an order directing an amendment to By-law 61-85 of the Town of Milton to rezone the lands situated at Lot 3 and part of Lot 4, Concession 2 N.S., in the Town of Milton from "Agriculture" to permit a regional sanitary landfill site and ancillary uses;

- and -

IN THE MATTER OF Section 15(1) of the Planning Act, R.S.O. 1980 ch.379 in connection with a referral by the Honourable Claude F. Bennett, Minister of Housing on a request by Tremaine Britannia Citizen's Group for consideration of part of the Official Plan for the Halton Planning Area with respect to Sections 1 to 5 inclusive, 7, 9 and 10 of Part III D3 Solid Waste Management, Minister's File No. OPC-0026;

- and -

IN THE MATTER OF Section 64 of the Ontario Municipal Board Act, R.S.O. 1980, c.347 as amended in connection with an application by the Regional Municipality of Halton for an order approving:

a) the acquisition of land for the construction, operation and maintenance of a sanitary landfill site to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton and to do so by one of two alternative methods as follows:

- (i) landfilling at the site referred to in Halton's Environmental Assessment as Site F in the City of Burlington;
- (ii) landfilling at the site commonly referred to in Halton's Environmental Assessment as Site D in the Town of Milton

at an estimated cost of \$12,775,000.00, and the borrowing of money by way of temporary advances not exceeding in the aggregate such estimated cost pending the sale of debentures, and

(b) the issuance of necessary debentures to a maximum of \$12,775,000.00 for a term not to exceed fifteen years;

- and -

IN THE MATTER OF Section 193(5) and Paragraph 84 of Section 210 of the Municipal Act, R.S.O. 1980, c.302, as amended;

- and -

IN THE MATTER OF Sections 6, 7 and 8 of the Expropriations Act, R.S.O. 1980, c.148;

- and -

IN THE MATTER OF an undertaking of the Regional Municipality of Halton to provide facilities for the purpose of receiving, dumping and disposing of waste as required by section 137 of the REGIONAL MUNICIPALITY OF HALTON ACT, R.S.O. 1980, c.436, as amended, by acquiring the land for, constructing, operating and maintaining a landfill to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton.

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<u>Witnesses</u>	<u>Page No.</u>
<u>PEARCE</u> , Dr. Robert James (resumed)	
Examination in chief by Mr. Hodgson (cont'd)	2254
Cross-examination by Mr. Dahme	2262
Cross-examination by Mr. Tzekas	2275
Cross-examination by Ms Vigod	2300
Re-examination by Mr. Hodgson	2305
<u>SCOTT</u> , Owen R.	
Examination in chief by Mr. Hodgson	2306
Cross-examination by Mr. Leitch	2329
Cross-examination by Ms Nurvo	2339
Cross-examination by Mr. Tzekas	2347
Re-examination by Mr. Hodgson	2362
<u>COULTER</u> , John Emerson	
Examination in chief by Mr. Hodgson	2363

E X H I B I T S

<u>No.</u>	<u>Description</u>	<u>Page No.</u>
H-41-8	Map 8 from Exhibit H-41	2257
H-35-4	Copy of Table 4 from H-35	2417
H-42B-8	Revised drawing from Exhibit H-42B	2432
H-36-5	Figure 5 from Exhibit H-36	2434



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- 1 IN THE MATTER OF Sections 2 and 3 and 6(3) of the
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BEFORE:	H. H. Lancaster, Q.C.	-	Chairman
	Dr. D.J. Kingham	-	Member
	S. Tanner	-	Member



Nelhercut & Co. Ltd.

Toronto, Ontario

Hearing conducted at The Oakville
Granary Commercial Centre, 105 Robinson
Street, Oakville, Ontario, on Monday,
May 25, 1987

VOLUME 10

APPEARANCES:

T.R. Lederer and
H.D. Hodgson

for the Regional
Municipality of Halton
(Proponent)

J.R. Tidball

for the Ministry of the
Environment

T. Vigod
J.F. Castrilli

for the West Burlington
Citizens Group

D. Estrin,
F.E. Leitch and
H. Dahme

for the Corporation of the
Town of Milton

S.R. Garrod and
A. Nurvo

for the Milton Area Citizens
Coalition and several
affected Milton area
landowners

R.B. Tuer, Q.C.
E.A. Cronk and
F. Perrier

for National Sewer Pipe
Limited

L.F. Longo

for Azova Investments
Limited

M.J. McQuaid, Q.C.
and C.J. Tzekas

for the City of Burlington

C. Mansfield

for the Ministry of Natural
Resources

P. Renaud

for Cumis Limited



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Toronto, Ontario

APPEARANCES (Cont'd):

1	C. Stevenson	for Framgard Holdings,
2	P. Hancock	Fosseri Investments
3		Limited, Seriphos
4		Investments Limited and
5		Topic Investments
6		
7		
8		
9		
10		
11		
12		
13		
14	J.H. Olah	for the Halton Region
15		Conservation Authority
16		
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25		

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Per: C. F. Nethercut, C.V.R.



1 --- Upon commencing at 10:00 a.m.

2 THE CHAIRMAN: Good morning. Thank you.
3 Please be seated. Mr. Hodgson, I believe you were
4 continuing with Dr. Pearce.

5 MR. HODGSON: Yes, thank you very much.

6 DR. ROBERT JAMES PEARCE, (resumed):

7 EXAMINATION IN CHIEF BY MR. HODGSON, (continued):

8 Q. When we stopped on Thursday, and
9 it seems like it was a month ago now, but I had asked you
10 whether or not subsequent to your work for the Halton
11 Region at Stage 2C, you had done any work for any other
12 clients and I believe you had told the Board that you did
13 some additional fieldwork at Sites D and E and perhaps
14 you could, just so I don't contaminate the record,
15 perhaps you could reiterate for the Board the portion
16 of D that you surveyed for the Ontario Waste Management
17 Corporation and describe for the Board what it is you
18 found.

19 A. Subsequent to our work for Halton
20 Region, we undertook a survey of lands on Site D that
21 became available for survey due to the fact that they
22 had been cultivated, that is this field and all of this
23 portion, an additional 52 hectares, and we found one
24 additional significant archaeological site in that area
25 which was surveyed.



1 Q. Did you subsequently reconsider
2 your ranking of Sites D and F?

3 A. Yes, we did and the ranking did
4 not change from our previous one in that Site F was
5 still preferred over Site D.

6 Q. Did you prepare a memorandum
7 which subsequently appeared in Exhibit H-14?

8 A. I did.

9 MR. HODGSON: That memorandum is at
10 page J1 of the green book, and we should have done them
11 all so it would be easier, but could you simply -- you
12 told us your ranking didn't change, but would you review
13 quickly the memorandum that appears as Exhibit J1 before
14 the Board?

15 A. The memorandum first summarizes
16 what the results were from our work on behalf of Halton
17 Region and then it summarizes the additional work we did
18 on behalf of the Ontario Waste Management Corporation
19 and it concludes by saying that by combining those two
20 pieces of work, there are two significant archaeological
21 sites on Site D and the conclusions for Site F did not
22 change, no archaeological survey was done and no known archaeo-
23 logical sites are located on it.

24 Q. Having found significant archaeo-
25 logical sites on Sites D, and not having an opportunity



1 to survey in the way you told us on Thursday you would
2 like to survey Site F, do you have any recommendations
3 for this Board should this Board approve landfilling at
4 one of Site D or Site F? What are your recommendations
5 with respect to each of the sites?

6 A. The recommendations are first to
7 complete the archaeological survey of whatever site is
8 selected, involving the strategy I outlined last
9 Thursday, namely test pitting areas that cannot be
10 visually surveyed, and the second conclusion was to
11 carry out mitigation on the identified archaeological
12 sites, either through avoidance or archaeological excava-
13 tion.

14 Q. Let me ask you first about
15 completing the archaeological surveys. Referring to Site
16 F, should Site F be approved for landfilling, what
17 portions do you recommend be surveyed and what are your
18 recommendations in terms of preparing the ground in
19 conducting such a survey?

20 A. Ideally the field that is now
21 pasture at the extreme north end of Site F could be
22 ploughed to allow visual surface survey, and if that is
23 not possible we would excavate a series of test pits at
24 ten-metre intervals in this area, non-wooded area that
25 is now pasture on Site F, and the elevated plateaus that



1 extend from north to south on Site F, these being
2 relatively flat tableland overlooking the stream portions
3 that flow through Site F.

4 On Site D the only areas that require
5 an archaeological survey are the two woodlots located
6 here and here (indicating). They would be examined
7 through test pitting.

8 Q. With respect to the archaeological
9 sites that have already been identified in Site D,
10 perhaps you could put up that chart. That is an exhibit
11 from the design and operations report, Site D, and I
12 should find a number, drawing 8 and it will be from
13 Exhibit H-41. So, perhaps we should just refer to it
14 as H-41, drawing 8. Is that satisfactory, and then there
15 would be no need to renumber it, documents that are
16 already in evidence, or would you like to give it a
17 separate number?

18 THE CHAIRMAN: No, I think that that
19 will work out all right.

20 MR. HODGSON: Could we call it H-41-8?

21 THE CHAIRMAN: That would be better.

22 --- EXHIBIT NO. H-41-8: Map 8 from Exhibit H-41

23 MR. HODGSON: Q. Then, referring,
24 Dr. Pearce, to Exhibit H-41-8, would you tell the Board
25 not too much detail but some detail about the general



1 location of the two significant sites identified and
2 then describe your recommendations?

3 A. One of the significant archaeolo-
4 gical sites is located in the buffer zone around the edge
5 of the site and the second is within the landfill area.
6 Our recommendation for both would be to carry out an
7 archaeological excavation prior to any site preparation
8 work connected with the landfill if Site D were selected.

9 Q. Did you make those recommendations
10 to your client, the Region of Halton?

11 A. Yes, we did.

12 Q. Are you aware of any response the
13 Region has made to those recommendations?

14 A. Yes. They passed a resolution
15 agreeing to carry out those recommendations and that
16 appears in Schedule N to H-77A on page 29.

17 THE CHAIRMAN: Which number again?

18 THE WITNESS: Twenty-nine.

19 MR. HODGSON: H-77A is a document which
20 accompanied the Region of Halton's response to the first
21 review conducted by the Ministry of the Environment, I
22 believe in February of 1986, and so it appears with the
23 words "Schedule N" and on page 29 is the following
24 resolution and I would like to read it:

25 "THAT Halton agrees to conduct



1 test excavation studies of whatever
2 landfill site is approved as the landfill
3 component of Halton's solid waste
4 management system; and
5 THAT Halton agrees to avoid archaeological
6 sites identified as significant on any
7 approved landfill site or conduct salvage
8 operations thereon if avoidance is not
9 possible due to landfilling operations."

10 Now we will have a description from the design and
11 operations engineer about the extent to which he was
12 able to avoid any significant sites, but I think it is
13 clear that one of these sites appears to have been in the
14 fill area which could not be avoided and we will lead
15 his evidence as to the one located in the buffer zone.

16 DR. KINGHAM: When you talk about a
17 site, and you talk about that many times, what actually
18 are you talking about?

19 THE WITNESS: An archaeological site is
20 a location where artifacts are found and in the case of
21 the archaeological sites that were found on Site D, they
22 were both campsites dating to the late Archaic period
23 and I would refer you to this table in our Stage 2C
24 report, and the Archaic period is divided into three
25 general time periods, early, middle and late, and the two



1 sites we have found date in the time range of 4000 B.C.
2 to 1000 B.C. and on the ground what you see is a
3 collection of artifacts covering an area of no larger
4 than 50 metres by 50 metres and is simply a place where
5 people camped for a week or a month and made artifacts
6 and left behind evidence of their being there and, in all
7 likelihood, had a campfire and would sit around a camp-
8 fire making stone tools, the products of which we
9 have found.

10 DR. KINGHAM: These sites as you have
11 explained are sort of 50 metres by 50 metres and unlike
12 what we normally think about in terms of archaeological
13 digs elsewhere in the world, we are not talking about
14 several storeys worth of buildings to dig through, but
15 you are looking at the ground surface?

16 THE WITNESS: Just the ground surface
17 and in both these cases the sites have been ploughed in
18 previous years and you have a collection of artifacts
19 laying on the surface and then there is the possibility
20 there would be features just below the ploughed disturbed
21 soil in the subsoil, fireplaces or little pits dug in the
22 ground for storage.

23 MRS. TANNER: What would you expect to
24 find? I realize you think there should be a visual
25 survey or test pitting of the field and then in addition



1 to that there should be test pitting of the plateau.
2 What kind of thing -- would it be the same sort of thing
3 you would expect to find in the plateau overlooking the
4 stream?

5 THE WITNESS: Yes. It is a small,
6 confined area and if there is a small, flat piece of land
7 overlooking a creek with well-drained soils, then that
8 has the potential for containing an archaeological site
9 and steep sloped areas or the bottoms of ravines have a
10 very low archaeological potential and they are not
11 conducive to camping and so you would expect to find
12 the same type of sites there as were found here and,
13 as I outlined before, they would most likely date to the
14 Archaic period since the later sites are located much
15 farther north.

16 MRS. TANNER: Thank you.

17 MR. HODGSON: Q. Do you expect to find
18 anything on those ridges in Site F?

19 A. In my opinion, no.

20 Q. But you want the opportunity to
21 look?

22 A. But we must look into it just to
23 confirm that.

24 Q. Should this Board make the
25 recommendations that you have asked for and they be



1 carried out at each of those two sites, D and F or one
2 of the two sites, D and F, do you as a professional
3 archaeologist see any impediment once those recommenda-
4 tions are carried out to landfilling at either one of
5 these sites?

6 A. No, I do not.

7 MR. HODGSON: Mr. Chairman, those are all
8 my questions.

9 THE CHAIRMAN: Thank you.

10 CROSS-EXAMINATION BY MR. DAHME:

11 Q. I will be referring to the same
12 exhibits Mr. Hodgson referred to, H-13, H-14 and H-55 --
13 my mistake -- also H-27, the archaeological assessment.
14 Dr. Pearce, I would like to begin by looking at your
15 curriculum vitae and perhaps we could begin at page 6.

16 A. I didn't bring it up with me.

17 Q. That's the portion of your CV
18 which documents the manuscripts and reports to which you
19 have contributed.

20 A. Yes.

21 Q. I notice at the bottom of page 6
22 that's the first time we see you have conducted an
23 assessment of archaeological resources; is that correct?

24 A. In 1979?

25 Q. Yes.



1 A. Yes, that is correct.

2 Q. Turning the page to page 7 we see
3 1979d and you conducted another archaeological resource
4 assessment?

5 A. Yes, that is correct.

6 Q. Further down the page in 1981,
7 a, b and c, we see that you have conducted further
8 archaeological resource assessments.

9 A. In 1981?

10 Q. Yes.

11 A. Yes.

12 Q. Then, turning the page and at the
13 bottom of page 7 we see in 1982, that was a busy year
14 and you conducted further archaeological resource
15 assessments.

16 A. That is correct.

17 Q. In particular I notice 1982m, the
18 second reference from the bottom of page 8, where you
19 conducted "An Overview of the Archaeological Resources
20 Present Between the Credit River and Rouge-Duffins
21 Creek Drainages"?

22 A. Yes.

23 Q. Am I correct that that gave you
24 a particularly good appreciation of the potential for
25 archaeological resources in not only the vicinity from



1 the Credit River and Duffins Creek, but also in this
2 general vicinity?

3 A. Yes, correct.

4 Q. I note on the subsequent pages,
5 1984, 1985 and in particular in 1986 you were busy -- if
6 you were busy in 1982 then in fact you were very busy
7 in 1985 and 1986 conducting archaeological resource
8 assessments?

9 A. Yes.

10 Q. Am I correct, and I suppose there
11 is no need to be modest, but as a result of having
12 conducted that extensive number of archaeological resource
13 assessments you have developed a very sound and compre-
14 hensive basis for being able to determine archaeological
15 potential?

16 A. I believe so, yes.

17 Q. In other words, your assessment
18 of archaeological resources based on an extensive degree
19 of knowledge and experience is based on an extensive
20 amount of expertise?

21 A. Yes.

22 Q. I would like to involve -- discuss
23 your involvement with this project. When you began, your
24 work consisted of looking at the sites which were
25 registered with the Ministry of -- the archaeological



1 sites registered with the Ministry of Citizenship and
2 Culture?

3 A. Yes.

4 Q. In Stage 2A you mapped those
5 locations in the vicinity of the sites proposed?

6 A. At that time the sites were
7 mapped in the vicinity of the candidate areas and not
8 specific candidate sites.

9 Q. The rationale for that approach;
10 am I correct it could be summarized that where you find
11 some you would expect to find more?

12 A. That is a possibility, yes.

13 Q. So, if we focus on Site D for a
14 moment, you found in those first two stages that in fact
15 there were two sites registered in the vicinity of
16 Site D?

17 A. Actually there are two sites on
18 Site D that were registered at that time.

19 Q. One of those sites was signifi-
20 cant?

21 A. Yes.

22 Q. Based on this information and
23 based on what we have just said and having found two
24 you would expect to find more?

25 A. Yes.



1 Q. And in fact you did find more
2 and in subsequent study you found ten more?

3 A. Yes, that is correct.

4 Q. So we have a total of 12 sites
5 and there are six on the site area?

6 A. Yes, I believe that that's correct.

7 Q. If we turn to Exhibit H-27, page
8 5-2, there is Table 3 at the bottom of that page and we
9 see that having surveyed 50 per cent of the land area
10 within the site plan area you found six on-site?

11 A. That is correct.

12 Q. Now, just referring to page 5-3,
13 the opposite page, your conclusion there, and perhaps
14 you could just read the first sentence in the third
15 paragraph.

16 A. "Site D has six known archaeolo-
17 gical sites within the Site Plan Area,
18 one of which (AiGx-46) is significant
19 and all of which indicates sporadic but
20 repeated use of the area in prehistoric
21 times."

22 Q. If we refer to page 3-18 which
23 is your discussion, your discussion of archaeological
24 potential on Site D, at the bottom of the page we see that
25 indeed you conclude here that beginning with the fourth



1 line:

2 "The sites found on Site DR are indica-
3 tive of a more intensive prehistoric
4 occupation."

5 That is beginning and I am quoting from the fourth line
6 at the bottom of the page, the bottom paragraph.

7 A. Yes.

8 Q. The only reason I raise that is
9 because in H-13, if I could refer you to Chart 4, and
10 this is a matter of correcting because, if you will, this
11 is page 13L, but do you have that in front of you?

12 A. I don't.

13 Q. I will show you my copy. It's
14 really just a point of clarification, but on that we see
15 on the chart, page 13L, Chart 4 under "Archaeological
16 Resources" but with respect to Site D it says that only
17 two archaeological sites were found on Site Area D and
18 that isn't correct, it should actually be six?

19 A. Yes, that is correct. I believe
20 the error comes from the fact that there are two signifi-
21 cant archaeological sites, but it should read six.

22 Q. It should read six but you didn't
23 find the second significant site until following the
24 technical stage?

25 A. Right.



1 Q. For the purposes of 2C, that should
2 read six?

3 A. Yes, that is correct.

4 Q. To the extent that in this summary
5 if the number two is used, that number should be six?

6 A. Yes.

7 Q. We are clear on that. If the
8 number is six, then D becomes even, if you will, less
9 preferred than might otherwise be indicated of the
10 evaluation based on two, or even less preferred for a
11 landfill site. I am saying this; to the extent that
12 any comparative evaluation is based on this table which
13 indicates two, we have seen that that number is incorrect;
14 is that right? That number should read six?

15 A. In the summary, yes.

16 Q. To the extent that any comparative
17 evaluation is conducted, if that number is six that makes
18 D even less preferred from the perspective of a landfill
19 site?

20 A. Well, that is a summary document
21 and our ranking was based on the results of our 2C work
22 which as Exhibit H-27 outlines appears to be discussing
23 the six sites.

24 DR. KINGHAM: Could you clarify for us
25 exactly where the two should read six and vice versa?



1 MR. DAHME: This is archeology, Exhibit
2 H-13, Chart 4, and it's confusing but if you number the
3 pages consecutively it is 13L and there is a table which
4 indicates "Archaeology".

5 DR. KINGHAM: Right.

6 MR. DAHME: The first line under that
7 says "Number of Archaeological Sites Documented Within
8 the Site Plan Area" and going over to the column under D
9 we see the number two.

10 MR. HODGSON: Before we get too far down
11 this road, I believe that is a transposition error and
12 if everyone looks at H-27 on page 5-2 under Site D, it
13 has six sites and so the information just didn't get
14 accurately repeated in the summary report.

15 MR. DAHME: That is simply my point.
16 What I am getting at is to the extent that if two was
17 the number used for the comparative evaluation and D
18 was found not to be preferred for a landfill site, if
19 we put in the number six instead of the number two in
20 that position, D becomes even less preferred for a
21 landfill site.

22 THE WITNESS: I don't agree with that
23 statement because the ranking was based on the number six
24 in the Stage 2C report.

25 MR. DAHME: Q. To the extent there was



1 any evaluation done by Mr. Walker in the valuation of
2 the summary report, that could be taken into considera-
3 tion if the number is six.

4 A. The number in that report should
5 read six.

6 Q. Following the completion of the
7 2C report you conducted a study that was already
8 referred to by Mr. Hodgson for the OWMC and which
9 appears as Appendix J-1 to Exhibit H-14.

10 A. Yes.

11 Q. I would like you to read the last
12 sentence in Appendix J-1 to Exhibit H-14.

13 A. "In fact, the discovery of site
14 AiGw-190 on Site D reinforces the
15 museum's conclusion that Site F is
16 preferred over Site D."

17 Q. So you concluded that Site F was
18 preferred and following further evaluation you concluded
19 it was even more preferred?

20 A. Yes.

21 Q. I would like to talk about Site
22 F. What you did in Stage 1 and 2A was the same thing
23 you did for Site D, you went -- you did it for all the
24 sites -- you looked at which sites were registered
25 with the Ministry of Citizenship and Culture?



1 A. Yes.

2 Q. Were there any sites registered
3 in the vicinity of Site F?

4 A. There are.

5 Q. How close are they to Site F?

6 A. They are within one to two kilo-
7 metres of Site F.

8 Q. But they are located in a
9 different, if you will, situation, they are located closer
10 to watercourses?

11 A. Yes, they are located -- one is
12 located on a ridge of well-drained soil overlooking
13 Falcon Creek to the north of Site F.

14 Q. Generally those sites are located
15 on, if you will, a topography or in landforms which are
16 different than Site F?

17 A. Well, the northern part of Site F
18 has certain parallels where both have archaeological
19 sites located and both are overlooking a major water-
20 course.

21 Q. Going on that evaluation, the only
22 area in which you would even expect to find any archaeo-
23 logical resources would be that small field to the north,
24 on the north end of Site F. That is the only area
25 where you have any expectation?



1 A. That is the area where we have
2 the highest expectation of finding a site and there are
3 other areas, as I mentioned before, flat tableland between
4 the ravines towards the south end of Site F.

5 Q. But I believe you said in response
6 to a question from Mr. Hodgson that you did not expect
7 to find any archaeological resources or sites...

8 A. That is correct.

9 Q. ... on that other portion?

10 A. But we would recommend they be
11 examined anyway.

12 Q. But you wouldn't expect to find
13 any?

14 A. No.

15 Q. You have already told us that you
16 have had extensive experience in evaluating archaeolo-
17 gical potential?

18 A. Yes.

19 Q. In fact you conducted innumerable
20 studies it seems on precisely that topic?

21 A. Yes.

22 Q. In other words, you have a good
23 basis on which to evaluate archaeological potential?

24 A. I believe so, yes.

25 Q. You have the ability to assess



1 areas in terms of their attractiveness to native popula-
2 tions?

3 A. Yes.

4 Q. And you would have to agree that
5 Site F is not particularly attractive, or was not
6 particularly attractive?

7 A. It has a lower potential than
8 other areas in Halton Region which were examined.

9 Q. And so without having actually
10 conducted a study of the site -- let me go back. You
11 have actually been on the site?

12 A. I have.

13 Q. You have had the opportunity to
14 assess on the site what the potential might be?

15 A. Yes.

16 Q. So, we can say that you feel
17 secure in not having done a thorough archaeological
18 survey of the site that the archaeological potential
19 is indeed low?

20 A. Yes.

21 Q. Further, you have said that if
22 there are any sites on Site F, and again the only sites
23 you might expect might be on the northern portion of
24 Site F in the field, but if there are any sites then
25 that impact can certainly be mitigated?



1 A. That is correct.

2 Q. That is why in your comparative
3 evaluation you concluded that F as opposed to D is indeed
4 much more preferred from the perspective of landfill?

5 A. Yes.

6 MR. DAHME: Thank you, Dr. Pearce.

7 THE CHAIRMAN: Mr. Tzekas?

8 MS NURVO: Excuse me, but for the record
9 we have no questions.

10 MR. TZEKAS: Mr. Chairman, members of
11 the Board. There are a number of exhibits I will be
12 referring to very briefly which have not been mentioned.
13 First of all the witness' statement, Exhibit H-8A; a
14 portion of the consolidation report on Phase 2, Stage 2B
15 study, Exhibit H-11, and as well Exhibit H-109, the
16 government review, and I may refer to but I doubt I will
17 read from Schedule K to Exhibit H-45, the cost analysis,
18 and it included some analysis of the mitigation costs
19 relating to archaeology.

20 DR. KINGHAM: Did you say H-109?

21 MR. TZEKAS: H-109.

22 DR. KINGHAM: We are talking about this
23 document, and because it was an MOE document it was given
24 an "E" designation.

25 MR. TZEKAS: I missed that, but it is that



1 document.

2 CROSS-EXAMINATION BY MR. TZEKAS:

3 Q. Dr. Pearce, the first document I
4 would like to refer to is Exhibit H-11 and if you could
5 have that in front of you. I would like to turn you,
6 please, to Table 24 which appears at approximately page
7 166 of that report. The pages actually cease after 163,
8 but it is Table 22 called "Final Rating of Candidate
9 Sub-Areas". Do you have that?

10 A. Yes, sir.

11 Q. I'm not interested in the first
12 or second table, but if you turn to the third table,
13 Table 24, and under "Archaeology" there is an L in the
14 first column under the heading D4g. Is D4g the
15 candidate area for what became Site D?

16 A. Yes, it is, but it is a much
17 larger area than Site D itself.

18 Q. You are referring to an area on
19 Exhibit H-99 and you say it is a much larger area.

20 A. Sorry. That approximates the
21 boundary of the current Site D.

22 Q. I see. Now, can you tell me
23 what the significance of that rating is and what was
24 done to arrive at that rating at this stage of the
25 process?



1 A. I don't recall doing this.

2 MR. HODGSON: Before the witness answers,
3 this witness was not involved in preparing Exhibit H-11.
4 He submitted some data which was used by someone else
5 and that was brought out in the evidence in chief and I
6 don't think, with respect, he can answer these questions.

7 THE CHAIRMAN: Can you answer the
8 question?

9 THE WITNESS: I can't, we weren't involved
10 in the preparation of this table.

11 MR. TZEKAS: I'm sorry, Mr. Chairman.

12 Q. I understood, Dr. Pearce, you had
13 prepared information and it was that information which
14 was used to develop these tables, but if you weren't
15 involved in the development of it I can move on to my
16 next point. You became more active in the Stage 2C
17 part of this process and I understood from your evidence
18 that you were only asked to examine those areas of the
19 six candidate sites that had ground surface exposed
20 during this portion of the process.

21 A. Yes.

22 Q. May I refer you to Exhibit H-- I
23 hope I gave this at the beginning--H-55, and it is one
24 that has been referred to, and at pages 20 and 21.

25 A. Yes.



1 Q. Under "Archaeological Analysis",
2 paragraph 8.1; under the objectives it refers to an
3 investigation of archaeological resources and then it
4 states:

5 "This will involve documentation of known
6 archaeological resources, and an archaeo-
7 logical surface survey of cultivated
8 fields and sites."

9 A. Yes.

10 Q. That seems to be repeated through-
11 out the work program analysis, and in getting to page 1
12 it says:

13 "The Stage 2C work program is designed
14 to investigate all candidate sites in
15 terms of the lands where the ground is
16 exposed."

17 A. Yes.

18 Q. I take it in preparing your work
19 for the Stage 2C process, you took those directions into
20 account and I take it you didn't go beyond those
21 directions?

22 A. No, we did not.

23 Q. Now, that being the case, I take
24 it that throughout the 2C stage part of this analysis,
25 there was never any effort on your part or on anyone



1 else's part, as far as you are aware, to actually excavate
2 test pits?

3 A. No.

4 Q. Am I correct in thinking that the
5 excavation of test pits is actually one of the two
6 methods available for carrying out archaeological field-
7 work?

8 A. Yes, that is correct.

9 Q. Now, for the five of the six sites
10 that were considered at this stage of the process, I take
11 it that the methodology which you were directed to use
12 permitted you to actually carry out your preliminary
13 investigations in the field, and that is there were some
14 portions of these sites or adequate portions of these
15 sites to permit this kind of archaeological investiga-
16 tion?

17 A. Yes.

18 Q. In connection with Site F, I take
19 it that that was not possible?

20 A. No, it was not.

21 Q. At the time that this particular
22 analysis was carried out and at the time you prepared
23 your report, I take it you had not at that stage done
24 any archaeological fieldwork on Site F?

25 A. That is true.



1 Q. Now, if I were to have asked you
2 to provide me with your comments as an archaeologist,
3 Dr. Pearce, on the possible investigation of Site F, and
4 if I was a person interested in carrying out archaeolo-
5 gical fieldwork in that area, what process or which of
6 the two methods would you have recommended someone under-
7 take in order to do that kind of work on Site F?

8 A. The recommendation would have
9 been to have the lands at the north end of Site F
10 ploughed and then subjected to an archaeological survey.

11 Q. In the absence of ploughing, I take
12 it you would also have recommended the digging of test
13 pits?

14 A. Yes, sir.

15 Q. That could either be done in the
16 north or I take it portions in the south that were
17 undisturbed?

18 A. Yes.

19 Q. Is it fair to say that there are
20 times when differences in topography might well lead an
21 archaeologist to a different methodology in terms of their
22 fieldwork?

23 A. In a particular instance, yes.

24 Q. But this was not done in this
25 instance?



1 A. No.

2 Q. With the result there was no
3 archaeological fieldwork done for Site F?

4 A. No. Perhaps I could clarify this.
5 We had discussions with our client and it was felt that
6 it would bias the overall comparative evaluation if we
7 adopted test-pitting strategy on one site and not all
8 sites, and it was not their desire to do test pitting on
9 all sites so nothing was done on Site F.

10 Q. Do you not think that not having
11 any archaeological fieldwork on a site, because the
12 topography makes a particular kind of methodology
13 completely inappropriate, you don't think that biases
14 the study in any way?

15 A. No, because the end result is
16 whichever site is selected it will be investigated, and
17 any archaeological resources that might be present on
18 that site will eventually be found.

19 Q. I see. That may be the ultimate
20 conclusion and the ultimate result of all of our dis-
21 cussion, but I was just curious as to the thinking at
22 this stage of the process and I think you have answered
23 that. Now, if I may turn you to your witness statement
24 very briefly, and this may tie in with what you just
25 indicated, but on page 3 of that statement you make a



1 recommendation which appears in the fourth paragraph on
2 that page that reads as follows:

3 "The museum made the recommendation that
4 an additional examination including the
5 excavation of test pits where necessary
6 be made of the candidate site selected at
7 the end of the Stage 2C as the preferred
8 location for the landfill facility."

9 Do you find that?

10 A. Which page?

11 Q. I am reading from page 3, and it's
12 the second-to-last page in that statement and there is a
13 paragraph No. 3 that says "Stage 1 Background Study".

14 A. Yes.

15 Q. Just above that I read you the
16 sentence beginning:

17 "The museum made the recommendation that
18 an additional examination..."

19 Do you see that, sir?

20 A. Yes.

21 Q. I take it, Dr. Pearce, that that
22 is simply based on the discussion that we have just had
23 to the effect that the methodology that had been used to
24 this stage in the process, and in particular that metho-
25 dology as it applied to Site F, really didn't give you



1 enough information to allow you to locate all of the
2 potential archaeological sites?

3 A. I'm sorry, could you repeat that?

4 Q. Sure. This recommendation I take
5 it is based on the thinking that the methodology that was
6 used at Stage 2C was inadequate to really do a testing of
7 Site F?

8 A. No, I wouldn't say it was inade-
9 quate. It is standard archaeological procedure on any
10 type of project to do the type of fieldwork that we did,
11 and it is always understood that it is just part of an
12 overall sequence and once a particular location is
13 selected to install a facility, then a thorough, complete
14 100 per cent coverage archaeological survey is done and
15 that could apply to a landfill, a highway, a hydro
16 corridor, any type of project. So, we were concerned
17 with a preliminary first-cut examination to identify
18 what was there.

19 Q. But your preliminary first-cut
20 evaluation, the one you prepared for this stage of the
21 process, didn't involve any archaeological fieldwork on
22 Site F?

23 A. That is correct.

24 Q. Would it be fair of me to say that
25 that preliminary, first-cut evaluation as it related to



1 Site F, is really speculative on your part?

2 A. Speculative in what way?

3 Q. In the sense that it is not based
4 on anything you have actually found in the field or not
5 found in the field?

6 A. It is based on a consideration of
7 archaeological potential and existing, known resources
8 in the area, all of which suggests it has a low potential.

9 Q. And I don't mean to impose any
10 negative connotation on the word, but that is specula-
11 tion, is it not?

12 A. Well, it's just part of the
13 archaeological process, assigning potential in areas that
14 can't be surveyed.

15 Q. Let's carry on and I would like
16 to refer you now to Exhibit H-27, the final technical
17 report that you prepared in this matter. I take it this
18 report, so there is no misunderstanding, this is the
19 one prepared in relation to Phase 2 Stage 2C?

20 A. H-27, yes.

21 Q. Am I right in thinking that this
22 particular report was based or essentially was based on
23 the fieldwork that your firm conducted in connection
24 with the six candidate sites that had been identified
25 to this point in the process?



1 A. Yes, but it included information
2 gathered from earlier statements.

3 Q. That information included known
4 archaeological resources?

5 A. Yes.

6 Q. There was a question put to you
7 by the Board that I would like to pick up because I had
8 understood that the term "site" as it is used here,
9 "archaeological site", can really range from a single
10 artifact to a large village. I would refer you to page
11 1-1, the introduction of that particular report, the
12 first sentence of the third paragraph.

13 A. Yes, that is correct.

14 Q. So, when reference is made to
15 archaeological sites in this report, I take it that it
16 can mean anything from a single artifact on up?

17 A. Yes.

18 Q. You make a comment at page 4-1 of
19 that report that I would like to have you give us some
20 additional comment on. It appears as the second
21 sentence on that page where it says:

22 "Due to the variable coverage of the
23 candidate sites in terms of our field-
24 work and the extent of previous
25 archaeological research, it is difficult



1 to draw comparisons between candidate
2 sites."

3 Now, that particular statement, does it relate in some
4 way to the difference in topography of Site F and the
5 problems that creates in terms of applying the methodo-
6 logy that was the basis of this report?

7 A. Well, it is not necessarily a
8 question of topography, it is in reference to the fact
9 that the survey coverage of the six candidate sites was
10 variable, from zero per cent on Site F to 73 per cent on
11 Site D.

12 Q. I hope I understood your evidence
13 correctly yesterday, but does the analysis or the results
14 which appear beginning at page 3-1, does that refer to
15 the analysis or the fieldwork you did on the entire
16 candidate site and not just the site plan area?

17 A. Yes, it does.

18 Q. When reading that we should be
19 careful to note, I assume, that that really deals with a
20 broader area than we are looking at now?

21 A. In some instances, yes.

22 Q. All right. You say there or make
23 reference to the discovery in that section of ten pre-
24 viously unknown archaeological sites, and I take it that
25 that number ten is also a reference to the candidate site



1 area and not the actual site plan area where the landfill
2 is now proposed?

3 A. On Site D?

4 Q. Yes.

5 A. Yes.

6 Q. Can I turn you to pages 5-1 and
7 5-2? This is the conclusion section of the report and
8 I take it at this stage you were aware of what the site
9 plan area was, Dr. Pearce, and you have made some
10 attempt in here I think to reduce the number of archaeo-
11 logical sites that actually impact on that site area?

12 A. Yes, that is correct.

13 Q. Looking down on that list and to
14 the one on the other side, I take it there were six sites
15 that were discovered as being within the actual site
16 plan area of Site D?

17 A. Yes.

18 Q. Could I take you through those
19 sites very, very quickly and try to get some feel for
20 what all of this language really means? With respect
21 to the first one, the AiGx-45, as I read the text on
22 page 3-11, that seemed to be a finding of an isolated
23 tool.

24 A. Yes, that is correct.

25 Q. You speculated I think that it



1 might be something that was lost by a hunter passing
2 through the area. Am I right in thinking that when you
3 find such a thing, you do a more intensive investigation
4 of the surrounding area?

5 A. We do.

6 Q. In each one of these cases where
7 an isolated tool or some artifact like that has been
8 found, I take it that that was followed up by a more
9 extensive search and those extensive searches didn't
10 reveal any additional artifacts of interest?

11 A. That is correct.

12 Q. The second one, the one numbered
13 100, again as I read the text, and it is described at
14 page 3-18, but it also was an isolated find and I think
15 you speculated it might be a weapon lost by someone
16 passing through the area?

17 A. Yes.

18 Q. With respect to the third one, the
19 one ending with 185, the description there in the text,
20 and it is found at page 3-14, but that it was undiagnos-
21 tic and I didn't understand what that word meant.

22 A. It is simply that the first two
23 you referred to were arrowheads which have specific size,
24 shape and form by time period, and it changes through
25 time and you can find an arrowhead and if it's complete



1 you are able to date it to a specific time period and
2 that is what we refer to as a diagnostic artifact. The
3 material you referred to in AiGw-185 is simply some
4 pieces of chert that are the by-product from the manu-
5 facture of a stone tool and it's undiagnostic in the
6 sense that we can't assign any age to it. We know it
7 is manmade at some point in history, but at what point we
8 don't know.

9 Q. I take it from that that the
10 significance or the archaeological significance of those
11 materials you suggest are undiagnostic are not as
12 significant as the diagnostic ones?

13 A. No, there is no difference because
14 they are equally significant. It's just that one can be
15 dated and one can't. They both indicate prehistoric
16 land use and the presence or a presence in that parti-
17 cular area at some point in time.

18 Q. The next one on the list is
19 AiGw-186 and it's also undiagnostic and the description
20 of that, I take it, appears at page 3-15?

21 A. Yes.

22 Q. The fifth one on that list, again
23 looking at page 3-14, the speculation is that it repre-
24 sents an isolated tool. I take it again, Dr. Pearce, in
25 the area where this was found, you were not able to



1 identify any other artifacts of significance?

2 A. That is correct.

3 Q. Having gone through that list we
4 get to AiGx-46 and that is a site that I understand you
5 had labelled as being one of some significance?

6 A. Yes.

7 Q. It was just west of a homesite
8 which is currently located on the property?

9 A. Yes.

10 Q. You had indicated that this
11 particular significant site had been disturbed by both
12 a driveway and the construction of a pipeline. Can you
13 give us some indication of the extent of that disturbance
14 created by those two factors?

15 A. Well, in this sense disturbance
16 means the top portion of the ground surface has been
17 impacted in some way, and in the case of the laneway this
18 has been documented on other archaeological sites where
19 a driveway goes over an archaeological site and it is
20 still possible to excavate the undisturbed subsoil under
21 the driveway, if that is deemed to be important, and you
22 can still find archaeological features. So, it is
23 simply a reference to the fact there has been some
24 disturbance, but part of the site remains intact.

25 Q. I take it those areas that have



1 been disturbed or impacted by that kind of construction
2 activity, you were not able to investigate in the same
3 way?

4 A. At the time of our fieldwork, no.

5 Q. Is this the significant site
6 which according to your calculations is located within
7 the buffer zone?

8 A. Yes.

9 Q. Within the zone proposed for Site
10 D?

11 A. Yes.

12 Q. In dealing with Site F you made
13 the statement, and it appears at page 5-3, that approxi-
14 mately 33 per cent of the site has been previously
15 disturbed. I take it, sir, that was a reference to
16 the excavation and quarrying activity that had gone on
17 on Site F?

18 A. That is correct.

19 Q. Can you tell me how you did your
20 calculation to arrive at the figure of 33 per cent?

21 A. That figure is derived from
22 another report and unfortunately I can't provide you
23 with the reference. I believe in the draft of our report
24 we said a large portion or a certain portion of Site F
25 had been impacted by quarrying and we were corrected by



1 the consultants who said it was 33 per cent and the proper
2 reference was a shale extraction pit and not a quarry.

3 Q. I take it you don't know and can't
4 tell me whether that 33 per cent is actually a reference
5 to the actual amount of area under licence or potentially
6 can be quarried or the amount of area that has
7 actually been quarried?

8 A. I don't know.

9 Q. In any event, the 33 per cent is
10 not your figure and it's something given to you by
11 another consultant?

12 A. Yes. I would say that since we
13 say 33 per cent has been disturbed, that would refer to
14 areas that already had shale extracted and not what was
15 under licence.

16 Q. But that is speculation on your
17 part?

18 A. Yes.

19 Q. Now, I would like to turn to the
20 evaluation and summary report, Exhibit H-13.

21 A. I don't have a copy of that.

22 Q. Mr. Dahme took you through por-
23 tions of this and he pointed out what appeared to be a
24 typographical error or transcription error in a portion
25 of the report. I would like to ask you as well about



1 something that appears under Site D in the summary of
2 site plan factors and that is Chart No. 8, and the last
3 page reference is 16.

4 A. H-13?

5 Q. I'm sorry, yes. I would like to
6 refer -- the easier way to do it is this; if you look
7 at the chart opposite page 17, that is the easiest way
8 to do it. It says under Site D -- are you with me?

9 A. Yes.

10 Q. "Relatively large number of known
11 archaeological resources."

12 and the number 12 is included there.

13 A. Yes.

14 Q. I understood that that number
15 was in fact the number for the entire candidate area.

16 A. That is correct.

17 Q. Should that number appropriately
18 at this stage or should it have been six?

19 A. Yes, it should.

20 Q. I would like to turn you then to
21 the review under the Environmental Assessment Act
22 conducted by the various provincial ministries and
23 agencies and specifically to pages 45 and 46 of that
24 document.

25 A. Yes.



1 Q. At paragraph 4.1.4 there is a
2 synopsis of the comments made by the Ministry of
3 Citizenship and Culture. I take it from what you said
4 on Thursday of last week that that is the Ministry that
5 has jurisdiction over archaeology in this province?

6 A. Yes, it does.

7 Q. Are you familiar with the comments
8 or the concerns that were raised by the Ministry at this
9 stage in the process, Dr. Pearce?

10 A. As referred to in this document?

11 Q. Yes.

12 A. I believe, if you read between the
13 lines, their concerns for the mitigation measures are for
14 the heritage component and not the archaeological com-
15 ponent, and it is my understanding that the only
16 paragraph which refers to the archaeology is the final
17 paragraph.

18 Q. That is the paragraph that reads:
19 "Finally, the Ministry has stated that
20 'The proponent is expected to complete
21 the archaeological surveys as recommended
22 in the Archaeological Assessment docu-
23 ment'."

24 That was your report, sir, the one we just considered?

25 A. Yes.



1 Q. Are you aware of what the Region's
2 reaction involved in the formulation of -- any reaction
3 to that particular comment?

4 A. I believe that was summarized
5 earlier in the passing of their resolution saying they
6 would carry out the required archaeological assessment.

7 Q. Yes, they did enact that resolu-
8 tion, but prior to enacting that there was a series of
9 negotiations, if I can call it that for the moment, with
10 respect to the Ministry's recommendation and were you
11 part of that process?

12 A. No, I was not.

13 Q. I take it from what you said that
14 ultimately the resolution was enacted and it satisfies
15 you that the Region will in fact comply with the
16 Ministry of Citizenship and Culture's recommendations?

17 A. Yes.

18 Q. Without actually having you refer
19 to it, I would like to ask you to comment on something
20 that appeared in Schedule K of Exhibit 145. It was an
21 exhibit which included some capital cost estimates for
22 the various sites. Before I get into that, were you
23 involved in the preparation of those cost estimates under
24 the archaeology component?

25 A. At one point we did submit some



1 cost estimates but I'm not sure which figures you are
2 referring to.

3 Q. Let me actually take you to the
4 documents. The ones I am interested in -- one figure
5 I was interested in, and perhaps if I indicated to you
6 what they were then we wouldn't need to refer to the
7 document, but there was a suggestion that the survey
8 costs for Site D would be \$16,000, the additional survey
9 costs, and the additional survey costs for Site F would
10 be approximately \$39,000.

11 A. I believe that that is correct.

12 MR. TZEKAS: I don't need to refer to
13 the report for anything other than that now that we have
14 those figures.

15 Q. Dr. Pearce, I was interested in
16 those numbers for this reason; by this stage it appeared
17 to me from what you had indicated but something like in
18 the order of 92 per cent of Site D had been surveyed?

19 A. Yes.

20 Q. To this point no portion of Site
21 F had been surveyed?

22 A. Right.

23 Q. I took it that the surveying of
24 Site F would have to perhaps be done by way of test
25 pitting which I take is a more expensive procedure?



1 A. Yes.

2 Q. I was curious to know why the
3 difference in these costs, the difference between
4 \$16,000 and \$39,000 and why it was only \$23,000.

5 MR. HODGSON: I'm having a bit of
6 difficulty. My friend has the witness agreeing with
7 some numbers, and the witness is looking at a document
8 and everyone else is looking at a document, but I would
9 like to know where the numbers are because I have a copy
10 of H-45 and at page 2-3 it shows archaeological investi-
11 gation and salvage at \$66,000 at Site D.

12 THE WITNESS: If I might explain ...

13 MR. TZEKAS: Q. I can give you one.
14 That wasn't the cost I was referring to. I was referring
15 to just the survey cost, but perhaps you could explain.

16 A. At various times we have provided
17 cost estimates and they varied because the site plan
18 area kept changing, and at one point we were asked to
19 submit figures based only on this portion, the straight,
20 rectangular portion of Site F and not the L-shape, and
21 so there were several different or a series of dollar
22 figures pertaining to Site F and they also varied for
23 Site D. I can't recall which is the final or most
24 recent version, but the simple explanation to your
25 question is the reason for the cost difference is that at



1 one point we had included the recommendation that the
2 northern part of Site F be ploughed which would be
3 contracted to a farmer at a cost of approximately \$20
4 to \$50 per acre, and then a visual survey and so it is
5 more cost-effective to do that and it would reduce the
6 cost as opposed to test pitting, and also although the
7 area to survey on Site D is relatively small, our
8 recommendation included the re-investigation of the two
9 significant archaeological sites and so the dollar figure
10 for Site D was increased to allow investigation of those
11 sites.

12 Q. So the \$16,000 survey figure which
13 appears in that exhibit is a reference to not only the
14 remaining eight per cent of Site D but, I take it, also it
15 includes something for the resurveying of what had
16 already been done?

17 A. That was part of our recommenda-
18 tion, yes.

19 Q. Could I take you back to Exhibit
20 H-27, and dealing with the potential for this particular
21 site. I would like to refer you to page 3-23.

22 A. Yes.

23 Q. The second paragraph under
24 "Candidate Site F" there is this statement in the third
25 sentence:



1 "However, these fields must be considered
2 to have good archaeological potential as
3 they form part of a well-drained upland
4 area in close proximity to Falcon Creek."

5 I take it -- can you point out on the exhibit which
6 appears before us, M-103, what area you are referring to?

7 A. It's this area in here which is
8 currently pasture and it shows as grass on this aerial
9 photograph and free of wooded vegetation.

10 Q. Below that area which you have
11 put your finger on, there appears to me to be a wooded
12 area.

13 A. This (indicating)?

14 Q. That entire area.

15 A. Yes.

16 Q. Would that not have any archaeo-
17 logical potential or significance?

18 A. The archaeological potential
19 decreases the further you get away from Falcon Creek and
20 so the highest archaeological potential is here and then
21 it decreases moving southward.

22 Q. Would there be any significant
23 difference between the archaeological potential of those
24 wooded areas and the wooded areas that appear on Site D
25 that required further investigation?



1 A. Would there be any difference?

2 Q. Yes, in potential.

3 A. Well, again we are talking about
4 minor variations -- local variations in topography and
5 drainage, and it depends upon whether they are elevated,
6 well-drained areas and how close they are to a major
7 watercourse. There is a minor watercourse flowing
8 through this woodlot here which eventually joins up with
9 this larger -- Bronte Creek, I believe, so it does have
10 archaeological potential.

11 Q. Under the Ontario Heritage Act my
12 understanding is that the Minister has the option to
13 take steps in order to designate any archaeological site
14 as being one of archaeological significance.

15 A. Yes.

16 Q. Is that your understanding,
17 Dr. Pearce?

18 A. It is.

19 Q. Can you tell me if any of the
20 sites or any of the archaeological sites we have been
21 discussing and if any steps have been taken by the
22 Minister you are aware of to have these designated as
23 being archaeologically significant?

24 A. Not to my knowledge.

25 MR. TZEKAS: Thank you.



1 THE CHAIRMAN: Thank you, Mr. Tzekas.

2 Ms Vigod?

3 CROSS-EXAMINATION BY MS VIGOD:

4 Q. I would like to refer to H-52.

5 A. Which is that?

6 Q. The final program, 1983. First of
7 all, from your witness statement I understand you were
8 retained on this matter from September, 1982; is that
9 correct?

10 A. Yes.

11 Q. I take it you had some input into
12 the methodology that was to be used for the archaeology
13 investigations at Stage 1 and 2 of the Environmental
14 Assessment; is that correct?

15 A. In the case of Stage 1 we had
16 received our terms of reference from the client.

17 Q. I would like you to turn to page
18 25 of Exhibit H-22.

19 DR. KINGHAM: H-52?

20 MS VIGOD: Page 25 of H-52, sorry.

21 Q. I would refer you to basically
22 the top paragraph which speaks about the two stages that
23 will be undertaken and the second paragraph, if I can
24 read it:

25 "The field survey should involve surface



1 surveys of areas in open crop cover (i.e.,
2 ploughed fields or fields planted in
3 crops such as corn or beans) and/or test
4 pitting (excavation of 30 cm square test
5 pits to subsoil at intervals of 10 m
6 areas in close crop cover ..."

7 et cetera. I take it the area or the two fields we are
8 talking about at the north of Site F would be this close
9 crop cover; is that correct?

10 A. Yes, that is correct.

11 Q. I take it at this point in time
12 the methodology was one of either surface survey and/or
13 test pits; is that correct?

14 A. That is what it says in this
15 document.

16 Q. Did you have input into this
17 document or are you saying you didn't?

18 A. We provided a work program which
19 outlined both of those strategies and at some point in
20 time prior to the initiation of Stage 2C the client and
21 Halton Region agreed only to the former strategy, the
22 surveying and ploughing of cultivated fields and not
23 test pitting.

24 Q. That was a decision not made by
25 yourself?



1 A. That is correct.

2 MS VIGOD: Those are my questions.

3 THE CHAIRMAN: Thank you.

4 MR. TIDBALL: I have no questions.

5 DR. KINGHAM: Very briefly on that very
6 point that Ms Vigod raised, the sentence says:

7 "The field surveys should involve ..."
8 and it's either surveys of these areas and/or test
9 pitting and you were saying it could be both or either?

10 THE WITNESS: A combination of both to
11 allow 100 per cent coverage.

12 DR. KINGHAM: You say and/or in there,
13 and I just wanted to understand how you read and/or.

14 THE WITNESS: Well, as I explained
15 earlier, if there are ploughed fields to survey then we
16 would survey them and if there are not then the alterna-
17 tive strategy of test pitting.

18 DR. KINGHAM: You are not uncomfortable
19 with the "or" hypothesis and that is just doing ...

20 THE WITNESS: No.

21 THE CHAIRMAN: Is there any re-examination?

22 MR. HODGSON: Actually, no, Mr. Chairman,
23 I don't think.

24 THE CHAIRMAN: Thank you, doctor.

25 DR. KINGHAM: I would like to have for



1 the Board's sake your views on a few more general
2 questions about the entire area. Are the artifacts which
3 were found or which were reported unexpected or unique
4 in any of the candidate areas?

5 THE WITNESS: No.

6 DR. KINGHAM: They were not. Does
7 their distribution represent an unusual or unique
8 settlement pattern in southwestern Ontario?

9 THE WITNESS: No.

10 DR. KINGHAM: Would future generations
11 be able to say more, much more, and I realize this is a
12 bit of a speculative question, but than they can now say
13 -- than they could say based on the known information on the
14 native people of southwestern Ontario and based on these
15 artifacts?

16 THE WITNESS: The amount of information
17 is increasing daily or yearly, and because of large
18 development along the entire north shore of Lake Ontario
19 we are learning a great deal more about that area's
20 prehistory, but the basic conclusions that I outlined
21 on Thursday are reinforced and substantiated by all this
22 recent research.

23 DR. KINGHAM: The gist of that question
24 could apply to many scientific fields and the return on
25 investment is beginning to get weaker with each passing



1 decade.

2 THE WITNESS: Weaker?

3 DR. KINGHAM: Yes, in the sense that you
4 would have to make a breakthrough or would you make a
5 breakthrough based on this archaeological information?

6 THE WITNESS: Well, inasmuch as we
7 can't be 100 per cent clairvoyant, we never know exactly
8 what will be found, and there are always surprises and
9 something totally unique could be found.

10 DR. KINGHAM: My final question was what
11 would happen at Sites D and F if neither site was land-
12 filled and what would happen to those artifacts where at
13 D you have a history of agriculture and presumably it
14 would continue for some time and at Site F certain things
15 will happen, but what would happen to them from an archaeo-
16 logical point of view?

17 THE WITNESS: Basically there would be
18 little change on Site D, the known archaeological sites
19 are in cultivated fields and they have been ploughed for
20 probably close to 100 years and probably would continue
21 to be ploughed, and that really just continues to turn
22 the artifacts over on the surface and it may remove them
23 from their original context a metre or two in each
24 direction, but, other than that, they would just continue
25 to have no change from what already exists.



1 On Site F I suppose there would be the
2 potential for an unknown archaeological site to be
3 destroyed through shale extraction or some other
4 activity.

5 DR. KINGHAM: There would be no protec-
6 tion for that given the private ownership of Site F, I
7 take it?

8 THE WITNESS: That is a touchy situation.
9 If it was brought to the attention of the Ministry of
10 Citizenship and Culture, they do have the power to enforce
11 a stop-work order for a period of time to allow an
12 archaeological excavation.

13 DR. KINGHAM: Thank you, and thank you,
14 Mr. Chairman.

15 MR. HODGSON: Just following up on that
16 last point.

17 RE-EXAMINATION BY MR. HODGSON:

18 Q. That would be the point where some
19 archaeological find was made during the course of the
20 excavation and it could be stopped ...

21 A. It would stop construction
22 activity.

23 Q. The Ministry would not impose on
24 the developer or a private developer of Site F the
25 obligation to conduct a survey?.



1 A. Under Pits and Quarries at this
2 time, no.

3 THE CHAIRMAN: Thank you. We will
4 recess for 15 minutes.

5 --- Recess

6 THE CHAIRMAN: Thank you. Please be
7 seated.

8 MR. HODGSON: Mr. Chairman, the next
9 witness is Mr. Owen Scott and perhaps he could be sworn
10 at this time.

11 OWEN R. SCOTT, (sworn):

12 EXAMINATION IN CHIEF BY MR. HODGSON:

13 Q. Mr. Scott, I understand you took
14 your Bachelor Degree specializing in landscape horticult-
15 ure from the University of Guelph in 1965?

16 A. I did.

17 Q. In 1967 you received a Master's
18 of Landscape Architecture from the University of
19 Michigan?

20 A. I did.

21 Q. You have worked as a landscape
22 architect more or less continuously actually since 1964?

23 A. I have.

24 Q. From 1964 to '69 you were
25 associated with Project Planning as a landscape architect



1 and from 1969 to 1981 you were an associate professor
2 in the School of Landscape Architecture at the University
3 of Guelph?

4 A. Yes.

5 Q. A full-time position?

6 A. It was.

7 Q. During the latter part of that
8 time you also became involved in the consulting business?

9 A. I was.

10 Q. From 1975 to 1979 you were
11 Director of Ecological Services for Planning Limited and
12 that is the firm Dr. Mackintosh is also associated with?

13 A. Yes.

14 Q. From 1975 or in 1977 you became
15 involved with Landplan Collaborative Limited?

16 A. Yes.

17 Q. You are president of that company?

18 A. I am.

19 Q. I also understand between 1975
20 and 1981 you were editor and publisher of a magazine,
21 and is it a magazine called Landscape Architecture
22 Canada?

23 A. Yes, it was a magazine and a
24 journal.

25 Q. A magazine and a journal?



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Scott, ex (Hodgson)

1 A. Yes.

2 Q. One publication?

3 A. As one publication and the journal
4 is issued once a year and the magazine is issued
5 for three years.

6 Q. Was that a professional publica-
7 tion?

8 A. It was a professional publication.

9 Q. Who was the target market?

10 A. Mainly landscape architects in
11 Canada, although there was some international distribution
12 of the magazine as well.

13 Q. How did that publication come into
14 existence?

15 A. It was a publication that had
16 existed about ten years prior to my re-initiation of the
17 publication, and I was requested by the Canadian Society
18 of Landscape Architects to produce a publication which
19 I did and it was done under the auspices of the Canadian
20 Society of Landscape Architects.

21 Q. How would you describe your area
22 of specialty in landscape architecture and have you
23 one or more than one?

24 A. One particular area of specializa-
25 tion would be historic landscapes or heritage landscapes,



1 and to describe that it would be to research into discover-
2 ing what heritage landscapes exist and what historic
3 landscapes exist, especially in southern Ontario, although
4 I have ranged into other areas of Canada and the United
5 States as well, and publishing the results of that
6 research which I started in about 1969, publishing
7 the results of the research, becoming involved in the
8 design of heritage landscapes mainly in terms of
9 conservation and restoration of heritage landscapes and
10 again most of that work has been in southern Ontario
11 although some has been in western Canada and the United
12 States.

13 Q. And in that capacity you were a
14 founding member of the Alliance for Historic Landscape
15 Preservation?

16 A. Yes, I am.

17 Q. Is that a Canadian group?

18 A. It's an international group of
19 Canadians and Americans.

20 Q. Just referring in your curriculum
21 vitae -- I wanted to ask you about three projects. You
22 were involved in the design of an 1860's recreation of
23 a Victorian garden for the City of Toronto?

24 A. Yes, St. James Park Victorian
25 Garden on King Street in Toronto in the St. Lawrence



1 Market area.

2 Q. Since a great many people may have
3 seen that garden, it's on the north side of King Street
4 between Jarvis and Church. I happen to pass it every
5 morning in the street car on my way to work and I don't
6 know if anyone else has had the opportunity to see it.
7 You were involved in a Government of Ontario light rail
8 transit route selection?

9 A. Yes, the area between Burlington
10 and downtown Hamilton.

11 Q. What was your task on that?

12 A. I had a number of tasks on that
13 and the major one being co-ordinating all of the natural
14 environmental and cultural environmental aspects of the
15 environmental assessment and, more particularly, looking
16 at the heritage aspects of the environmental assessment
17 for the GO-ALRT, Government of Ontario rapid light rail transit
18 proposal, from Burlington to downtown Hamilton.

19 Q. Then, the last project you mention
20 in your curriculum vitae is entitled Magnet School/The
21 Parade, Buffalo, New York and could you tell us about
22 that?

23 A. That is a project which is still
24 ongoing and, as a matter of fact, if I get finished today
25 I have to get back this afternoon, but it's in Buffalo,



1 New York and it's a park designed by Frederick Law
2 Wolmstead in 1870 and redesigned in Wolmstead's office
3 in 1896 and in 1926 the Buffalo Museum of Natural Science
4 was built in the park. The proposal is to build a
5 school called the Magnet School, magnet being attracting
6 children from all over the City of Buffalo to this
7 particular school. The school would be built adjacent
8 to and attached to the museum in the park, and my parti-
9 cular job or our firm's job is to integrate that school
10 into the park and with the museum in the best way
11 possible to preserve and conserve the historical aspects
12 of the park and, at the same time, utilize that park for
13 contemporary use. It is now called Martin Luther King Jr.
14 Park. We are working with the architectural firm doing
15 the building in the City of Buffalo, with the school board
16 of the City of Buffalo and the New York State Historic
17 Preservation Office in Albany.

18 Q. For the record, does Frederick Law
19 Wolmstead hold a particular place in landscape architec-
20 ture in North America?

21 A. He is considered to be the father
22 of landscape architecture in North America. He was
23 the gentleman who coined the phrase "landscape architec-
24 ture" and of course he is probably best known for his
25 design of Central Park in association with Calvin Low.



1 Q. Central Park in New York City?

2 A. Yes.

3 Q. Could I ask you first what is an
4 assessment of heritage features?

5 A. An assessment of heritage features
6 in the particular instance of this particular project
7 is one in which the heritage features themselves, be they
8 of a landscape nature or architectural nature, are
9 inventoried, examined, assessed as to their significance,
10 and their significance might be on a local level or a
11 regional level, provincial or national level, and then
12 beyond that in this particular case the assessment
13 included mitigation measures if and when a landfill
14 proposal would be instituted on one of the sites.

15 Q. When did you first become involved
16 in the Halton Environmental Assessment?

17 A. At the Stage 2C level in June of
18 1984 we were engaged.

19 Q. Who were you retained by?

20 A. Walker, Wright, Young & Associates
21 Limited.

22 Q. What were your instructions at
23 that stage?

24 A. Our instructions at that stage
25 were to conduct a heritage assessment for a number of



1 candidate sites, A, B, C, D, E and F within the
2 Regional Municipality of Halton.

3 Q. What methodology did you employ?

4 A. We reviewed all the existing
5 documentation that could be found on the heritage features
6 of these various sites, contacted the local architectural conservation
7 / advisory committees for information and contacted the local
8 historical societies for information, contacted the
9 Ministry of Citizenship and Culture for criteria for
10 assessing significant heritage features and for informa-
11 tion on heritage features. Then, we inventoried those
12 features in the field that we found in documentation,
13 looked for other features in the field that may not have
14 been documented, photographed those features, rated them
15 for significance and also noted mitigation potential in
16 the event that landfilling would occur on any one of those
17 sites.

18 Q. Did you prepare a report?

19 A. Yes, we did.

20 Q. Is that Exhibit H-25 in these
21 proceedings?

22 A. I believe it is. Yes, it is.

23 Q. Could you review what you found
24 in terms of heritage features at each of the six
25 candidate sites at Stage 2C, with particular emphasis if



1 you will on Sites D and F and if you could perhaps
2 wait a moment. Starting with Site A, perhaps you could
3 review that.

4 A. The findings basically, if I could
5 start at the conclusions in terms of the number of
6 significant features that were found, and it's a bit
7 confusing because we talk about candidate site areas
8 and then site plan areas and the first go-round was to
9 look at a larger area and the second was to look at
10 something smaller, something called the site plan area.
11 Within the site plan areas themselves we found signifi-
12 cant heritage features on five of the six sites and at
13 Site F there were no significant heritage features found
14 and no heritage features found at all on Site F, as a
15 matter of fact. On Site A we discovered one significant
16 feature, on Site B there were two, on Site C five, Site
17 D three and on Site E one significant heritage feature.

18 Q. Just referring to the map behind
19 you, could you show the Board what the heritage features you
20 found on Site D were?

21 A. On Site D all three heritage
22 features were found in this area we referred to as the
23 Ford farmstead because that was the name of the owner
24 when the work was started. The three heritage features
25 are the house, the farm residence itself, the outbuildings



1 associated with that farm residence, and the cultural
2 landscape plantings associated with that farmstead.

3 Q. Is there a picture of that farm-
4 stead in your report?

5 A. Yes, there is.

6 Q. Perhaps you could refer the Board
7 to that.

8 A. Reference D.2 in the appendix,
9 Appendix B of inventory sheets.

10 Q. The reference is in the upper
11 right-hand corner.

12 A. Yes, it is.

13 DR. KINGHAM: I wonder if it would be
14 helpful for us to have a definition of heritage feature
15 or whatever it is you are using, Mr. Scott.

16 THE WITNESS: We looked specifically at
17 manmade or cultural features and not natural features in
18 terms of heritage features. I'm not sure whether this
19 answers your question or not, but the statement that was
20 made on Exhibit 8A on the second page was:

21 "My assessment for this project was limited
22 to manmade heritage features of historical,
23 architectural, aesthetic and scenic
24 interest."

25 So any feature, be it architectural or landscape, that has



1 historical significance would be considered a heritage
2 feature.

3 DR. KINGHAM: Regardless of age?

4 THE WITNESS: Regardless of age, yes.

5 MR. HODGSON: Q. Now you are referring
6 -- you are telling us about the heritage features you
7 found on Site D and you referred to reference D.2 and
8 perhaps you could describe that feature.

9 A. The description given in the
10 Stage 2C report, Exhibit H-25, is that it is a storey-
11 and-a-half centre gable Ontario Gothic house with a
12 stone foundation and stucco finish, and that being one
13 of the heritage features found. The remnant farmstead
14 plantings would be another heritage feature and those
15 remnant plantings included a windbreak you can see in the
16 photograph on the north side of the site, an orchard
17 just below the windbreak and then the laneway plantings
18 and the garden plantings associated with the farmhouse
19 itself and the third feature being the outbuildings
20 associated with that farmstead, barn, driveshed, garage,
21 chicken coops and other farm buildings. Perhaps the
22 interesting thing about this whole complex is the fact
23 that most if not all of those features -- most if not
24 all of the features of that particular farmstead remain
25 from a very early period in the history of the settlement



1 of this area, unlike many farms which have modernized
2 over time and changed, things have not changed in this
3 particular area.

4 Q. With this particular farm?

5 A. This particular farm.

6 Q. What other features did you find
7 at Site D?

8 A. On Site D there were no other
9 heritage features.

10 Q. Now, did you subsequently rank
11 these six candidate sites in terms of heritage features
12 you found there?

13 A. At the Stage 2C report we did, yes.

14 Q. First you could describe how did
15 you go about ranking the six sites in terms of heritage
16 features?

17 A. The first thing we did was use
18 the Ministry of Citizenship and Culture guidelines on
19 manmade heritage component of environmental assessments
20 to determine the significance of the various heritage
21 features found and then we looked at the heritage features
22 themselves in terms of how they might -- how things might
23 be mitigated to save a heritage feature or move a heritage
24 feature, whatever aspect could be done in terms of the
25 landfilling situation, and then we did a ranking on each



1 of the site plan areas.

2 Q. What was your ranking?

3 A. The ranking was Site F, which was
4 the most preferred site for landfilling from a heritage
5 features perspective, obviously because there are no
6 heritage features there, followed by A and E and then B,
7 D and then C.

8 Q. Where is that in your report?

9 A. The conclusions and recommendations
10 section, page 7-1.

11 Q. That showed that Site F was the
12 most preferred and Site B was fifth in line?

13 A. Yes.

14 Q. And Site C was the least preferred.
15 Subsequent to your work summarized in Exhibit H-25, were
16 you retained to do another evaluation of heritage features
17 at Site F and Site D?

18 A. We were.

19 Q. By whom?

20 A. By the Regional Municipality of
21 Halton.

22 Q. When was that?

23 A. That was in August of 1985.

24 Q. Now, did you subsequently prepare
25 a report?



1 A. We did.

2 Q. That is H-26. Now, what work
3 did you do at this stage? We have been calling this,
4 Mr. Scott, the technical stage of the Environmental
5 Assessment.

6 A. The work we did at the technical
7 stage was to look for any additional documentation that
8 might exist on the heritage features on Sites D and F.
9 We did an update with the local architectural observa-
10 tion advisory committees and contacted them again and
11 also went to see the local museums, the Ministry again.
12 We had a lack of information on the cultural landscape,
13 the overall landscape, if you like, and rather than a
14 specific landscape such as the area around the farmstead,
15 and looking at the entire landscape of the site plan
16 area.

17 Q. Both D and F?

18 A. Both D and F, sorry. So, what
19 we did to try and gather more information on the history
20 of the larger landscape was to search through the
21 Ministry of Natural Resources Archives in Toronto for
22 aerial photographs that might give us some clues as to
23 what the landscape looked like when aerial photographs
24 were available. The earliest photographs we found
25 were 1942 for Site F, and you can find that in the



1 appendix of H-26, Appendix D. In that appendix are
2 photographs from 1942, '49, '51 and then '82 and with
3 Site D the earliest photograph we could find was 1953
4 and you will find 1953 and 1982 aerial photographs in
5 that report.

6 Q. I wonder, referring to the
7 aerial photographs in your report, H-26, and also to the
8 aerial photographs on the board as M-103 and M-102, perhaps
9 first going to Site F and then Site D, would you describe
10 the historical patterns and heritage features and the
11 change through time at each one of these two sites?

12 A. Okay. I can't describe any
13 heritage features. As I mentioned, there were none that
14 were discovered on Site F at this time, but unfortunately
15 the aerial photographs in the report don't indicate
16 heritage features on Site F either, but if the photograph
17 went below the bottom of the page, and I will try and
18 illustrate that on here, but, i.e., in this area where
19 Highway 403 and the North Service Road is, you would
20 have found in 1942 and prior to 1942 some significant
21 industrial activity associated with the removal of clay
22 and shale from the area of Site F. That, of course, was
23 obliterated by Highway 403 and the North Service Road when
24 they were built and, as a result, none of that industrial
25 activity or none of that area that could be considered



1 heritage features exists today on Site F.

2 Q. Could you make it clear for the
3 Board? Referring to Exhibit M-103, what did the pattern
4 of development of the area look like prior to the
5 driving of Highway 403 through that area?

6 A. There were a number of farm fields
7 in the bottom half of Site F and in the top portion of
8 Site F, as you can see on the old photographs. The rest
9 of the area seemed to be from the photographs in their
10 rather natural condition, and that is the area in between
11 and with the exception of an area on the western edge
12 which was quite heavily disturbed as early as 1942, as
13 you can see quite clearly in the photographs and also
14 in 1949 it shows. In 1951 the photograph also indicates
15 a great deal of disturbance just on the western edge of
16 Site F, the area that is now landfilled, and this area
17 was very heavily disturbed. So, I gather that distur-
18 bance was related to the industrial activity which took
19 place in the area which is now Highway 403.

20 Q. What exactly was happening at
21 Highway 403, was it a brickwork?

22 A. I'm not sure what exactly the
23 nature was, either a clay pipe or brickworks related to
24 the excavation of material on the area now called Site F
25 in the area I pointed out and the area adjacent to Site F.



1 In addition to that, of course, there has been a major
2 disturbance just the other side of Site F on the eastern
3 edge which was a former landfilling area called Bayview
4 Park and closed, I believe, in 1972.

5 Q. Whose landfill was that?

6 A. I believe it was the City of
7 Burlington landfill, Bayview Park. Beyond that, of course,
8 we have the landfill on the western edge of Site F that
9 was opened, I believe, when the Bayview Park was closed
10 in 1972.

11 Q. How would you describe the changes
12 to the patterns of development that had occurred prior
13 to the construction of 403, and how would you describe
14 the changes to the whole area over the past, say, 15
15 years?

16 A. What do you mean by "the whole
17 area"?

18 Q. The area of Site F or in the
19 context of Site F.

20 A. In the context of Site F? Mainly
21 from what we can determine from the aerial photographs
22 and the history of the area, one of great disturbance
23 through excavation for quarry, landfill, another landfill
24 site, and then excavation within Site F itself and just
25 below Site F where the highway went for the manufacturing



1 process that went on and of course 403 and the North
2 Service Road itself provided a major disturbance to
3 Site F. The agricultural use that existed before the
4 1940's supplanted by mainly excavation and construction
5 and filling.

6 Q. Now, would you carry out, please,
7 the same exercise for Site D and would you describe the
8 context of Site D, the features in the context of Site D?

9 A. Site D is quite different of
10 course because it is an agricultural area and has been
11 an agricultural area from the 1820's. The thing that
12 has changed is the way the area has been farmed and
13 because the area is now being farmed in a different way
14 than in the past, the landscape has changed quite
15 dramatically as well. If you look at the photograph in
16 the report from 1953, you will see a pattern of a great
17 number of small farm fields within Site D, which is the
18 pattern that existed at least until 1953. After that
19 time, some time between 1953 and 1982, that landscape
20 pattern has been dramatically altered and now we have
21 very large singular fields with no hedgerows, the
22 hedgerows being removed and the fencerows being removed,
23 and mainly related of course to a different way of
24 farming with mechanization and the only thing remaining
25 really is the area we have called the Ford farmstead in



1 its original or historic context. So, the overall
2 pattern of agricultural landscape is one that is very,
3 very different from that which existed at least as late
4 as the 1950's. The only thing remaining other than
5 specific small areas of a historic nature is the grid
6 pattern of roads itself which was laid out in the early
7 1800's.

8 Q. In your subsequent work on Site D,
9 did you find any additional heritage features?

10 A. What we actually did in the Stage
11 2C report, we looked at the Ford farmstead as a heritage
12 feature and subdivided it into three categories at the
13 later stage and so we looked at the landscape itself
14 and we looked at the house itself and then we looked at
15 the outbuildings themselves, each one of which we considered
16 a significant heritage feature and the fact that all
17 three are in the same place and all related to each other,
18 that added more significance to the features.

19 Q. This is the only historical feature
20 at Site D?

21 A. On Site D, yes.

22 Q. Would you please describe that
23 historical feature in some detail and also incorporate
24 into your answer any changes that have taken place
25 recently in that feature?



1 A. I think perhaps the easiest way
2 to do that would be to refer back to the report, again
3 H-26, Appendix C, the inventory sheets, and they include
4 photographs of the heritage features and the first one
5 of which is of the house itself. There is a bit more
6 description in this sheet than there was in 2C and we
7 have classified it as an Ontario classical vernacular
8 with whimsical Gothic overtones, and I didn't mean to be
9 poetic if it sounds that way, but the barns and out-
10 buildings, there are three photographs of barns and
11 outbuildings. It is a large barn with a terra cotta
12 tile foundation after 1914, and I can't date it specific-
13 ally, but terra cotta was developed about 1914, but a small
14 barn and a driving shed both of which are in ruins and
15 a number of other small outbuildings, chicken coops,
16 garage and toolsheds on the property and then the third
17 feature, the farmstead plantings themselves, the mature
18 evergreen/deciduous windbreaks which I pointed out earlier
19 on the north side of the farmstead, the orchard again on
20 the north side of the house, the laneway plantings
21 themselves and then the garden plantings associated with
22 the residence. I noted it was an unusual combination
23 in 19th century plantings associated with farm residences
24 and outbuildings of the same era and unusual in that
25 there aren't many plantings like that left. The



1 subsequent changes are that this property we have called
2 the Ford farmstead has been severed into two parcels and
3 the northerly parcel which was the windbreak and the
4 orchard, has recently seen the construction of a new home
5 that has removed the orchard and removed a portion of
6 that windbreak, and this is only in the last few weeks
7 that this has occurred.

8 Q. Is there any change to the other
9 plantings or outbuildings?

10 A. I'm not sure whether there are or
11 not.

12 Q. Have you made any recommendations
13 for mitigation with respect to that heritage feature on
14 Site D?

15 A. Yes, we did.

16 Q. What are your recommendations and
17 do they change in any respect now that there has been
18 recent construction activity there?

19 A. It's difficult now to think of
20 saving some of the plantings since they have already
21 been removed and so perhaps the recommendations would
22 change slightly. The recommended mitigation measures
23 are given on page 18 of H-26 and of course our first
24 choice would have been to avoid the three heritage
25 features associated with the Ford farm. Our second choice



1 was to avoid as many and as much of the three heritage
2 features as possible with the landfilling proposal. In
3 reviewing the landfilling proposal and working in
4 association with the other consultants, we ended up
5 recommending that the farmhouse itself be retained
6 during and after the landfilling proposal and that the
7 plantings as much as possible be retained, and as I
8 mentioned some of those are lost already and having
9 nothing to do with the landfilling operation of course;
10 that the residence itself could be used for some other
11 purpose other than as a farmhouse and, of course, during
12 the landfilling operations and then it could be retained
13 after the landfilling operation for some other purpose;
14 that any of the outbuildings, any of the artifacts that
15 might be found on site should be documented and perhaps
16 removed from the site if they were to be demolished and
17 used by any other historical societies, museums or
18 agencies that might be interested in conserving or
19 preserving any artifact deemed worthy of that.

20 Q. Is there a museum in the area
21 that does that kind of thing?

22 A. I'm not sure if there is a museum
23 that would want any of those particular artifacts, but of
24 course there are quite a number of museums in the area
25 including the Region's own museum.



1 Q. Now, referring to H-41-8 which
2 is on the floor, and perhaps you could lift it up, and
3 perhaps you could indicate for the Board how the site
4 designer has taken into account your recommendations.

5 A. There is a screening berm to be built
6 along First Line and that berm was turned on this corner
7 on a 45-degree angle in order to preserve the farmhouse
8 itself and the plantings associated with the farmhouse.
9 The berm does remove the outbuildings behind the farm-
10 house but preserves the farmhouse and some of the
11 plantings.

12 Q. Were you subsequently asked to
13 conduct another comparison and rank Site F and Site D
14 in terms of landfilling?

15 A. There really was no comparison
16 since there are no heritage features extant on Site F,
17 and so Site F and a Site D comparison does not really
18 exist.

19 Q. From your point of view which is
20 the preferred site?

21 A. Site F.

22 MR. HODGSON: Mr. Chairman, those are all
23 my questions.

24 THE CHAIRMAN: Thank you. Mr. Leitch?

25 MR. LEITCH: Thank you, Mr. Chairman.



1 CROSS-EXAMINATION BY MR. LEITCH:

2 Q. Mr. Scott, what is Ontario
3 vernacular in terms of architectural meaning? What does
4 it mean?

5 A. I think you could use the word
6 "vernacular" to mean common for that particular area.
7 It's not a style that can be given a particular name
8 after a period or person, but a style that developed as
9 a common style within that area of southern Ontario.

10 Q. As I look at the photograph of
11 the Ford farm residence which I find -- the best photo-
12 graph is in H-26, the photograph through the trees at
13 the front of the building, and is the commonness you
14 talk about the rather box-like structure with a single
15 peak in the roof at the front?

16 A. A centre gable and the three-bay
17 front, yes. You are referring to D-2 in H-25? Inventory
18 sheet D-2 in H-25?

19 Q. I was looking actually at H-26
20 but let's look at H-25.

21 A. I think that's a bit clearer.

22 Q. We have seen, all of us I suppose,
23 many examples of that particular type of architecture.

24 A. Yes, there are many.

25 Q. It is symmetrical with a gable over



1 the front entrance?

2 A. Yes.

3 Q. What is different about this
4 particular structure from most structures like it?

5 A. Not very much.

6 Q. When you talk about whimsical
7 Gothic overtones, what are you referring to?

8 A. The gingerbreading or barge board
9 or verge board you can see on the gable ends, and it's
10 not very clear but I think the photograph on D.2 of H-25
11 does indicate that and the tracery in the Gothic window
12 within the centre gable also -- I said Gothic window.

13 Q. But in this particular vernacular
14 style of architecture you don't find those features much?

15 A. The tracery in the windows is
16 common. I wouldn't hazard a guess as to the percentage
17 of houses of this nature that have the tracery, but there
18 are quite a number of them.

19 Q. What about the other work?

20 A. The barge board or verge board
21 again is common although very much of it has disappeared
22 with time.

23 Q. In my roving around this area I
24 don't find very much of either one of them, or am I not
25 seeing what I should be seeing?



1 A. I suspect you are seeing the
2 result of time and that the barge board or verge board
3 has disappeared over time simply because it has not been
4 maintained and it depends on what you categorize as the
5 area in which you travel.

6 Q. I'm talking about the agricultural
7 plain in Milton generally to be found around Site D and
8 lying south of urban Milton and running down to its geo-
9 graphical boundary with Oakville and Burlington and would
10 you agree?

11 A. I would agree it's not as common
12 as it was.

13 Q. In fact the significance of the
14 Ford farm grouping is that it hasn't changed as others
15 have?

16 A. That's true.

17 Q. So I suppose it makes sense to
18 say that things become more significant as we see fewer
19 and fewer of them?

20 A. Yes, they do.

21 Q. The particular significance, if I
22 understand your evidence of the grouping, is the fact that
23 all of its elements have retained themselves up until
24 very recently?

25 A. Yes.



1 Q. How much, by the way, of the wind-
2 break and the orchard were removed recently?

3 A. I don't know exactly how much has
4 been removed. I drove by it on my way down here this
5 morning and that's a brief view at 50 miles an hour, so
6 I can't tell you.

7 Q. Can you assist with an approximate
8 length of the windbreak?

9 A. No, I can't. I wouldn't hazard
10 a guess.

11 Q. Some of it has been removed?

12 A. Some of it has been removed and
13 some of the orchard has been removed.

14 Q. But you can't give me a percentage?

15 A. I can't.

16 Q. Some of those features still
17 remain?

18 A. Some of them do.

19 Q. And apparently a new structure
20 will rise up?

21 A. It has already.

22 Q. What does it look like from an
23 architectural point of view?

24 A. That will be a very subjective
25 answer which I am not going to give.



1 Q. Very well. You may be asked by
2 someone else but I won't press that. I am somewhat
3 interested in the foundation of the barn, the terra cotta
4 building material which is not terribly common.

5 A. No, it's not.

6 Q. It was made, I take it, by
7 excavating some clay deposit and baking the units?

8 A. Yes, the same way clay brick is
9 made.

10 Q. It has a sort of ceramic, brown
11 face?

12 A. It ranges from brown through red
13 through yellows and oranges, depending upon the colour
14 of the clay in the deposit.

15 Q. It was more commonly used, I think,
16 with the construction of silos?

17 A. Not more commonly I don't believe,
18 but it was used in the construction of silos and in
19 foundations for barns.

20 Q. Would you say there would be many
21 examples of that left in that area of Halton?

22 A. No, there are not many examples
23 left.

24 Q. Do you know of another barn that
25 has a foundation of that material?



1 A. In the Regional Municipality of
2 Halton, no, off-hand I can't tell you another one that
3 does. That 's not to say there isn't one.

4 Q. I'm not aware of another one
5 either.

6 MR. HODGSON: I take it that my friend is
7 going to call his own witness or will he just put in his
8 evidence as he goes along?

9 THE CHAIRMAN: You can cross-examine on
10 any evidence he gives.

11 MR. HODGSON: Thank you, Mr. Chairman.

12 MR. LEITCH: Q. In relation to the
13 impact that the landfilling will have on this feature
14 of the site, I understand that you did not take into
15 account the visual aspect of the landform itself that
16 would rise behind the building?

17 A. No, I did not.

18 Q. Your purpose in not doing that
19 was that someone else was addressing the question of the
20 visual aspect of the landfill?

21 A. That is true.

22 Q. You would agree with me, I think,
23 that because the landfill will be commencing with the
24 berm approximately ten metres behind the Ford residence,
25 that it will have some considerable impact on its



1 significance?

2 A. It will have a visual impact.

3 Q. Would you consider that to be
4 important in relation to that particular architectural
5 feature?

6 A. I looked at the heritage features
7 from a heritage perspective and if the heritage feature
8 was to be retained, then there really is no impact on that
9 heritage feature, from a heritage perspective. From a
10 landscape perspective or a visual perspective or some
11 other perspective then, yes, there would be an impact
12 but it doesn't increase, decrease or change its signifi-
13 cance as a heritage feature unless the surrounding
14 landscape is also of that same vintage and the building
15 is in relation to that. In this particular case I
16 pointed out, and you can see on the aerial photograph
17 that the historical landscape associated with this
18 particular area is no longer and therefore the impact
19 of doing something different with that piece of land
20 from that which exists now in my opinion does not affect
21 the heritage significance of that structure itself.

22 Q. Well, you would agree with me
23 that "heritage" is a term which relates somewhat to the
24 context?

25 A. Yes, and the context has changed



1 and the context is no longer in association with the
2 feature itself.

3 Q. The heritage feature of the Ford
4 farm, assuming we only have the residence left, would be
5 more appropriate within a farming context as opposed
6 to a land mass rising behind it?

7 A. It is my understanding that the
8 land mass after-use would be agriculture so it would
9 still be in farming, a farming context.

10 Q. And not like the one that exists
11 now?

12 A. No, not like the one that exists
13 now, but on the other hand, across the road the farming
14 context is no longer there and if you look at the 1953
15 photograph and the new photograph, you can see the context
16 is entirely different on the other side of the road from
17 what it was early on.

18 Q. Because of the construction of
19 residences?

20 A. That's right.

21 Q. I think you said the significance
22 of the Ford farm grouping was greater because of the
23 combination of features.

24 A. Yes, I did.

25 Q. So by removing two out of three



1 you don't reduce it by two-thirds but maybe by more than
2 two-thirds?

3 A. You couldn't put a number on it,
4 but obviously it is more significant as a group than
5 each individual piece by itself.

6 Q. Did you have access to the
7 residence, by the way?

8 A. No, I did not.

9 Q. Are you able to give us an opinion
10 as to what might be found underneath the structure?

11 A. No, I could only guess. It could
12 be frame or it could be brick, but I don't know.

13 Q. You are referring to underneath
14 the stucco?

15 A. Underneath the stucco.

16 Q. I'm referring to underneath the
17 grade and what would one expect to find in the basement,
18 if there was a basement, or is there a basement?

19 A. I don't know if there is a base-
20 ment or there isn't a basement because I couldn't get
21 any closer than the pictures show me, and I can only
22 assume that there is a basement because these houses
23 invariably were built with basements.

24 Q. The stone foundation you can see
25 from that point at grade and rising up some distance,



1 would it be continuous into the basement?

2 A. If there is a basement, and I assume
3 there is, then yes, it would be.

4 Q. What construction would you use
5 for the stone foundation?

6 A. Usually a rubble wall, different
7 size pieces of stone laid together with a lot of mortar
8 and with a fair amount of sand in the mortar.

9 Q. So if water found its way down
10 beside that basement ...

11 A. It will find its way into the
12 basement.

13 Q. Very easily?

14 A. Very easily.

15 Q. Is there anything in the design
16 of the berm or of the land mass that is going to be behind
17 this residence which would lead you to believe that there
18 will be surface runoff towards the basement?

19 A. I have no idea on that detailed
20 level of design.

21 Q. I suppose that the designing
22 person would be the one to ask that question of.

23 A. Yes.

24 Q. If a lot of water found its way to
25 the underpinnings of this structure, would it in your



1 opinion have a potential to harm it?

2 A. I think you would have to ask a
3 structural engineer that question.

4 MR. LEITCH: Thank you. I think those
5 are all my questions.

6 THE CHAIRMAN: Thank you. Ms Nurvo?

7 MS NURVO: I do have some questions, but
8 I was going to suggest if I could be given the lunch
9 break to re-organize in light of Mr. Leitch's questions
10 as I realize it is now 12:30.

11 THE CHAIRMAN: I'm sure we can work it
12 in. Two o'clock?

13 --- Luncheon recess (12:30 p.m.)

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

15 THE CHAIRMAN: Thank you. Please be
16 seated. Ms Nurvo?

17 CROSS-EXAMINATION BY MS NURVO:

18 Q. I will be referring to Exhibits
19 25 and 26. I would like to start off with Exhibit H-25,
20 your Stage 2C report. I would like to refer you to the
21 tables starting at page 3-2 and which set out the
22 heritage features on the candidate sites, page 3-5
23 which sets out four under D, or with a D in front of it.

24 A. Yes.

25 Q. The three marked with asterisks



1 are heritage features within the site plan area and I
2 take it the one on top of that which is indicated as
3 D1 is an additional one located in the candidate site
4 area?

5 A. That's right.

6 Q. Can you show us on the aerial
7 photograph behind you, M-102, the location of those
8 heritage features?

9 A. Yes, those are the same three I
10 pointed out this morning. The one-and-a-half storey stucco
11 Ontario Gothic house is of course the residence here, the
12 remnant plantings and orchard -- or the orchard and
13 plantings associated with the farmhouse and then the
14 original barns includes all of the barns and outbuildings
15 located behind it.

16 Q. That is the Ford farm we have
17 been talking about?

18 A. Yes.

19 Q. Can you show us D1 on that map
20 which was in the candidate site area but is no longer
21 in the site plan area?

22 A. I will as soon as I look for it.
23 I think it is noted on map ...

24 Q. ... 2?

25 A. Map No. 2, yes. It is this one



1 here (indicating).

2 Q. When the site plan area was
3 reduced that was no longer considered?

4 A. That's right.

5 Q. Your next report, the technical
6 study phase, Exhibit H-26, it also refers to another
7 heritage feature on page 14 of the report in the middle
8 paragraph where you refer to the Tomosky residence?

9 A. Yes.

10 Q. Can you show us the location of
11 the Tomosky residence on the aerial photo?

12 A. This one here (indicating).

13 Q. You say in your report that the
14 property extends into the site plan area?

15 A. Yes, it does. The property
16 includes this triangle here within the site plan area
17 (indicating).

18 Q. Again this was not considered
19 because it is not located within the site plan area by
20 you?

21 A. That's right.

22 Q. Did you look at or consider any
23 other heritage features located in the immediate vicinity
24 of Site D, or do you know if any exist or did you just
25 not consider them?



1 A. At the technical study level we
2 only concerned ourself with features that would occur
3 within that red line, Site D, and at the Stage 2 level
4 we looked at the area called the candidate site area
5 which included a larger portion up through here and
6 those were the only heritage features.

7 Q. You did not look at or look for
8 other heritage features within the area of Site D?

9 A. No, and the reason being that
10 those would not be affected by a landfiling proposal,
11 i.e., they would not be destroyed or moved.

12 Q. So what we will have here if the
13 landfill is established in Site D is one heritage feature
14 located in the property immediately to the north and
15 another heritage feature, the Tomosky property to the
16 northeast of the landfill site but, in your opinion you
17 did not assess any impact on those heritage features,
18 any impacts associated with being located immediately
19 adjacent to a landfill site? You did not address that
20 issue?

21 A. No, I did not.

22 Q. Do you think that the value of
23 the heritage features would be impacted by being
24 located immediately adjacent to a landfill site?

25 A. What do you mean by "value"?



1 Q. Well, as I understand it the value
2 of a heritage feature is in part through public percep-
3 tion of the heritage feature and it's only as desirable
4 as the public views it to be. Do you think the public
5 perception of those heritage features would be affected?

6 A. From the perspective of heritage,
7 if they are not being destroyed or defaced, then I
8 consider there to be no impact on the heritage feature.

9 Q. Regardless of how the people
10 living there and maintaining that residence would view it?

11 A. It wouldn't make any difference
12 to me whether the people who live there perceived it as
13 an impact or not, it is not an impact in my opinion on the feature
14 as a heritage feature, and I'm not suggesting it's not an
15 impact from other perspectives, but from the perspective
16 of the feature value as a heritage feature, I see no
17 impact.

18 Q. If it's not totally demolished
19 it's not impacted?

20 A. Not demolished or defaced in any
21 way.

22 Q. So the only ones you looked at
23 were the three features we looked at in the Ford farm
24 and we have seen that two of these would be substantially
25 destroyed, being the outbuildings and the landscape



1 plantings, and only the residence would remain. If I
2 could refer you again to your final report, H-26, page
3 11 of that report, your technical studies report, you
4 state that these three features in the bottom paragraph,
5 and referred to as the Ford farm:

6 "...combine to form a farmstead complex.
7 The features, singly and in combination,
8 when evaluated against the criteria, are
9 rated 'high' significance."

10 We would see two of the three demolished and one left,
11 and the residence that would be left would be located
12 immediately adjacent to a landfill and, as you said in
13 your report, the berm would be I think ten metres away
14 from that, but again are you maintaining your position
15 that because it is going to be left that it will not be
16 destroyed and therefore there is nil impact?

17 A. There is an impact because as I
18 have mentioned there are three features, two of which
19 will be substantially altered or destroyed in the
20 process of a landfill and one feature is not but, as
21 the report states, the three in combination make each
22 of those features perhaps more significant than they
23 would be if they were there singly and therefore the
24 impact is probably greater because of the landfilling
25 proposals.



1 Q. You are losing the group value?

2 A. That's right, the group value is
3 lost.

4 Q. Looking at the residence by itself,
5 you said that although the farm residence isn't physically
6 affected by the landfilling proposal it will still be
7 right next door to a landfill site. You have also
8 addressed the issue of mitigation as far as that residence
9 is concerned and you noted in your report, I believe at
10 pages 18 and 19 of that report, you state that during
11 the landfilling operations this residence could be
12 utilized for field offices or for security headquarters
13 or something along that line.

14 A. Yes.

15 Q. I believe that is being carried
16 forward in the D&O report. You also suggest in the
17 middle of page 19, under sub-paragraph III, the last
18 sentence:

19 "Following closure of the landfilling
20 operation ... the farm residence may be
21 utilized for a residence for farmer/farm
22 helpers or as a rural residence."

23 Can you tell us about the condition of the residence at
24 the current time?

25 A. I cannot. I was not given access



1 to the residence so I don't know.

2 Q. You don't know the extent of
3 restoration or renovations?

4 A. I have no idea.

5 Q. Have you any idea what kind of
6 maintenance and upkeep the residence might be expected
7 to receive during the 20 years if it was used as a
8 field or operational office -- field operational office?

9 A. Have I any idea of what kind of
10 maintenance it would receive?

11 Q. Yes.

12 A. No, I don't know what kind of
13 maintenance it would receive.

14 Q. I assume it would be used by
15 workmen who were involved and actually working the
16 landfill site?

17 A. I don't know.

18 Q. Is that what you had in mind?

19 A. I suggested the house should be
20 kept and it should be put to some good use and that good
21 use, or the suggestion was that it be used for operational
22 functions such as field office and/or security headquarters
23 and how it would be used by the Regional Municipality is
24 something I don't know.

25 Q. You don't know what kind of



1 condition we can expect to find the house in after 20
2 years of operation?

3 A. I don't know what kind of condi-
4 tion it's in now, let alone 20 years from now.

5 MS NURVO: Thank you. Those are my
6 questions.

7 THE CHAIRMAN: Thank you.

8 CROSS-EXAMINATION BY MR. TZEKAS:

9 Q. Sir, I think you said this morning
10 that you had no involvement in either the Stage 2A or
11 2B process.

12 A. I didn't say that, but I did have
13 no involvement in those two processes.

14 Q. Under the 2A process I would ask
15 you to accept this for the time being. My understanding
16 is that people who considered the heritage features at
17 that time were looking at features designated under the
18 Ontario Heritage Act. Can you tell me what the signifi-
19 cance of that designation is?

20 A. The significance of the designa-
21 tion under the Ontario Heritage Act is one which a
22 building or feature is designated at the request of the
23 owner and, as such, basically no alterations or changes
24 can be made to that structure or feature without going
25 through the municipality and consultation with the



1 provincial government, the Ministry of Citizenship and
2 Culture.

3 Q. Are any of the heritage features
4 on Site D designated under the Ontario Heritage Act?

5 A. No, they are not.

6 Q. Do you know if there is any level
7 of protection, and I mean that from the legal point of
8 view, imposed on these heritage features on the Ford
9 property?

10 A. None to my knowledge.

11 Q. Now, I would like to refer you to
12 Exhibit H-26 and specifically to the air photographs
13 that appear of Site D in 1953 and in 1982. Now, it may
14 just be the photography and the quality of these two
15 photographs, but the landscape features in the proximity
16 of what we have been calling the Ford house, they seem to
17 be much more distinct in 1953 than they are in 1982.
18 Can you comment on that?

19 A. I think you have surmised that
20 the quality of the photography is the real difference,
21 or the reproduction of the photographs is the difference.

22 Q. Then, you gave evidence this
23 morning about the changing pattern of the farm fields in
24 this particular area. May I ask you to consider the
25 photograph of 1953 and indicate to me how many houses or



1 residences are there in that photograph, and I don't mean
2 to confine it to the area, the site plan area?

3 A. Are you talking about 1953?

4 Q. Yes.

5 A. In 1953 it appears as if there are
6 three residences that I can see, and perhaps near the
7 binding of the photograph there are more, but that is a
8 little difficult to determine.

9 Q. Those three residences are the
10 Ford farm?

11 A. Yes.

12 Q. And there seems to be a residence
13 almost directly to the east of that?

14 A. Off Highway 25, this one right
15 here (indicating).

16 Q. And further north I think the one
17 you were describing?

18 A. Referred to as the Tomosky resi-
19 dence, yes.

20 Q. By 1982 how had that changed?

21 A. Those three residences are still
22 there and in addition to that there are a number of
23 residences on First Line, and it looks like about six from
24 the photograph and then of course on the opposite side of
25 Highway 25 there are a number of residences, although it



1 is difficult to count because it's close to the binding
2 edge, and there also appears to be another residence in
3 the bottom corner of Site D.

4 Q. Is there also a property located
5 in what would now be the north end?

6 A. Yes, sorry, I missed that one.
7 This one here (indicating).

8 Q. That is the home we have been
9 describing during the evidence of the archaeologist and
10 is that an airstrip?

11 A. It appears to be, yes.

12 Q. Now, in addition to those parti-
13 cular houses that we see in 1982, we have as well your
14 evidence that a portion of the Ford property has been
15 severed.

16 A. Yes, it has.

17 Q. And a house is now under const-
18 ruction I think you said on that northerly parcel?

19 A. Yes, in this general area
20 (indicating).

21 Q. I take it that that particular
22 severance and the construction of that home is something
23 that is consistent with the development of the other
24 homes we see in this area?

25 A. Yes, you could say that.



1 Q. Have you any knowledge as to how
2 that severance on the Ford property was created or when
3 it was created?

4 A. No, I don't know.

5 Q. Do you have any information or
6 knowledge about whether any heritage concerns were
7 expressed at the time of the severance?

8 A. No, I do not.

9 Q. Reference was made as well, or
10 you commented on the unification of the farm fields and
11 the patterns that are emerging. May I refer you to
12 Exhibit H-51, and it's not one that has been previously
13 cited, Mr. Chairman. If I could refer you -- I have
14 opened the page for you and I think it is numbered ...

15 A. ... 51B.

16 MR. TZEKAS: It is a map showing the
17 ownership of properties in the area, Mr. Chairman.

18 Q. I would like to deal first of all
19 with what has been referred throughout as the Ford farm.
20 I see there first of all two small parcels, one in the
21 name of C. Ford and the other in the name of R. Ford.
22 Am I correct in thinking that the home heritage feature
23 appears on the property owned by C. Ford or listed here
24 as being owned by C. Ford?

25 A. The farmhouse exists on the



1 property labelled C. Ford, yes.

2 Q. Would I be correct in thinking
3 that some of the heritage plantings and features appear
4 on the property owned by R. Ford?

5 A. Some of the plantings and some of
6 the outbuildings would be on that property.

7 Q. It's on that property, I take it,
8 that the orchard existed?

9 A. Yes.

10 Q. It is on that property that we
11 are now seeing a new house under construction?

12 A. Yes.

13 Q. Which has destroyed some of those
14 heritage features?

15 A. Yes.

16 Q. My understanding is that since
17 this map was prepared, each of those parcels has in fact
18 changed ownership and is that something you are familiar
19 with?

20 A. I don't know that for a fact, but
21 I assume so, yes.

22 Q. It is also my understanding, sir,
23 that the barn, the large barn which was described in your
24 reports, is not on either of those two parcels but it
25 exists on the parcel listed as the Rudolf Verres Estate?



1 A. It appears to be that way from
2 the map and the photograph, but I don't know that for a
3 fact.

4 Q. Were you aware at the time you
5 prepared your report of this split in the ownership of
6 the property?

7 A. I can't recall. No, I didn't
8 know that the barn was not -- perhaps it's not on the
9 C. Ford property. I was aware there were two Fords, I
10 believe father, and son and I'm not sure again, but who
11 owned the two parcels which make up what we call the
12 Ford farm.

13 Q. Just looking at the rest of this
14 site, would you agree with me that although on the
15 aerial photography it appears to be a collection of
16 very large fields, in fact the ownership and the rest of
17 the site area is actually rather fragmented?

18 A. I'm not sure which site area you
19 are speaking of, the entire Site D?

20 Q. The entire Site D, for example, and
21 looking at the area of the Tomosky property on the
22 aerial photography, and this is actually outside of that
23 area. I'll use an example right within the Site D area,
24 but immediately north of the Ford farm on the 1982
25 photograph it appears to be one large field.



1 A. This field right here?

2 Q. Yes. Would you agree with me
3 that on the ownership plans that appears to be in actually
4 two and possibly some additional ownerships?

5 A. I can't really tell from here
6 because this candidate Site D map does not show the Site
7 D -- oh, yes, it does, so it is inside. It appears to
8 be one, and if you take that line and extend it across
9 I believe that would be the line between Rudolf Verres
10 Estate, Martin Thibault and however the other name is
11 pronounced, M-A-R-A-N-G-O-N-I, and then everything
12 below that line down to the bottom is within the same
13 ownership, the Rudolf Verres Estate, I believe.

14 Q. And to the north of that, the north
15 extension of the site and that seems to be under the
16 ownership of Martin?

17 A. This piece (indicating)?

18 Q. Yes. Then there seems to be
19 partial ownership affected by the site area for
20 Depauly, Tomosky and the others?

21 A. And the others. There would
22 appear to be four property ownerships within that
23 triangle.

24 Q. And the eastern extension of
25 Site D, it appears to be on this ownership map in the



1 three separate parcels, the small house seems to be
2 located on the Jelinek property.

3 A. This one in the bottom corner.

4 Q. And the other property seems to
5 be divided between two companies known as Wombat
6 Investments and Miller Figa Investments?

7 A. Miller Figa being a long, skinny
8 rectangle associated with these buildings, and Wombat
9 being the area around that.

10 Q. Just looking at these aerial
11 photographs, although they certainly show a change in
12 the field pattern between 1953 and 1982, it appears
13 from the ownership maps that the ownership of that area
14 may be more fragmented than appears on the aerial
15 photography.

16 A. The aerial photograph doesn't show
17 the fragmenting as well as the property map does, yes.

18 Q. First of all let me ask you; do
19 you know how the large barn you described is actually
20 being used?

21 A. I don't know how it is being used
22 now, no.

23 Q. If it is being used, I suggest it
24 doesn't appear to be used as part of the integrated unit
25 you have been referring to as the Ford farm, and does that



1 comment appear to be sensible in light of the ownership?

2 A. I really don't know.

3 Q. With respect to the house under
4 construction on the corner farm, you indicated it has
5 removed some of the orchard and do you know how large
6 that orchard was?

7 A. No, I don't know in size and
8 acreage or in numbers of trees, but probably no more than
9 a half a dozen to a dozen trees.

10 Q. That's how large it was?

11 A. That's the remnant of the orchard
12 that was originally there. There are a number of spaces
13 in the orchard which I can only assume were originally
14 filled with trees. You will notice we have noted it as
15 a remnant orchard and not an orchard.

16 Q. I think I got down correctly that
17 the construction of the house also removed a portion at
18 least of the windscreen?

19 A. Yes.

20 Q. On the assumption that this house
21 is being constructed under permit, are you aware of any
22 heritage concerns being expressed during the processing
23 of that building permit?

24 A. No, I have already stated I am not.

25 Q. Now, do you know how the house --



1 what we have been referring to as the Ford house, do you
2 know how that's being used currently?

3 A. I believe it's being used as a
4 residence.

5 Q. Are you aware that a portion of
6 it is also being occupied by a commercial use called
7 Cindy's Dog Grooming?

8 A. I have seen a sign that states
9 that, yes.

10 Q. Assume for a moment that that use
11 is there or that commercial use is there by virtue of
12 a change in the zoning designation for that particular
13 property. Are you aware of any concerns being expressed
14 with respect to that heritage feature at the time the
15 rezoning application was being processed?

16 A. No, I am not.

17 MR. LEITCH: I hope that my friend will
18 be putting the factual basis for these suggestions into
19 evidence eventually.

20 MR. TZEKAS: Yes, we will be.

21 Q. With respect to the outbuildings,
22 two of them I think you indicated were in ruins, those
23 being the driving shed and the small barn?

24 A. Yes.

25 Q. And the three remaining I made note



1 of were the chicken coop, the garage and the toolshed.
2 Do you know what use is being made of these outbuildings
3 at the present time?

4 A. No, I do not.

5 Q. It is these outbuildings, I take
6 it, which are not going to be preserved under any scheme
7 which would impose a landfill site on Site D?

8 A. Not according to the scheme we have
9 before us, no.

10 Q. But the house we have been
11 discussing, the Ford house will be?

12 A. Yes.

13 Q. With respect to the large barn,
14 I am informed, and again I will be presenting evidence
15 on this, but it is currently being stripped of the barn-
16 board cladding, and are you aware of that, sir, and do
17 you know why that is being done?

18 A. No, I do not.

19 Q. May I ask you to refer to page 13
20 of H-26? There is a sentence there that comments on
21 the uniqueness of the Ford homestead, Ford farm from a
22 heritage perspective, and it is the sentence beginning
23 or which starts the third paragraph:

24 "None of the three heritage features, ..."
25 Could I ask you to read that to the Board?



1 A. "None of the three heritage fea-
2 tures, alone or together are considered
3 to be of provincial or national signifi-
4 cance as these features represent a small
5 proportion of the total number of
6 similar features in the immediate environs.
7 In addition, the original farm, in its
8 entirety, is no longer intact. The farm
9 has been severed from the residence/out-
10 buildings and, therefore, its original
11 setting has been altered."

12 Q. Do I take it from that that the
13 features we have been describing today can be found else-
14 where and this is not a unique situation?

15 A. I don't think we have ever stated
16 it's a unique situation.

17 Q. This appears to confirm it. Could
18 I also ask you to look to your heritage features list
19 in Exhibit H-25 at page 3-2? If I understand this
20 correctly, sir, this is a listing of the heritage features
21 on five of the candidate sites that were being considered
22 at this stage of the process.

23 A. Yes, it is.

24 Q. By my count with respect to the
25 plantings there are at least 12 other properties that



1 have a high rating for the heritage value of their
2 plantings. Would that number appear to be approximately
3 right?

4 A. Actually I count 13.

5 Q. That includes the Ford site as
6 well?

7 A. Yes.

8 Q. Would you agree with me, sir, that
9 there are other sites with barns that were rated highly
10 from a heritage perspective?

11 A. Yes.

12 Q. And other sites as well with out-
13 building complexes that were rated highly?

14 A. Yes.

15 Q. Indeed, looking at the description
16 of the features which appears under A3 at page 3-2, it
17 is described as a unique outbuilding complex?

18 A. Yes.

19 Q. I take it there is some signifi-
20 cance to the use of the word "unique" in that?

21 A. Unique in that it's the only one
22 of its kind.

23 Q. All that seems to confirm, I think,
24 the paragraph that we read in your subsequent technical
25 report, and I take it you would agree with that statement?



1 A. Yes.

2 Q. The Ministry in reviewing the
3 Environmental Assessment expressed some concerns with
4 respect to the mitigation issues as they related to the
5 heritage features. Do you know, sir, what or how the
6 Ministry's concerns have been dealt with?

7 A. No, I do not.

8 MR. TZEKAS: Thank you.

9 THE CHAIRMAN: Ms Vigod?

10 MS VIGOD: I have no questions of this
11 witness.

12 MR. TIDBALL: No questions, Mr. Chairman.

13 DR. KINGHAM: Mr. Scott, could you
14 clarify for us the present owners of the Ford farm as we
15 have been calling it, they could demolish or change
16 that site at will and is there anything to prevent them
17 from doing it?

18 THE WITNESS: They would have to receive
19 a permit from the municipality the same as you would for
20 a non-heritage or historic feature.

21 DR. KINGHAM: That permit would not be
22 denied them on the basis of a heritage feature?

23 THE WITNESS: The only way it could be
24 denied is if the municipality desired the building be
25 designated and be preserved and then they would have to



1 model municipal noise by-law, I moved into private
2 practice with a consulting firm in Mississauga and spent
3 four or five years there and since 1980 I was involved
4 with Barman Coulter Swallow & Associates as a private
5 consultant and that was the context within which this
6 work was carried out and then recently in the last month
7 I have gone into my own practice.

8 Q. You have left Barman Coulter
9 Swallow & Associates?

10 A. I have.

11 Q. Now it's Coulter?

12 A. J.E. Coulter Associates.

13 Q. Perhaps you could simply describe
14 for the Board one or two of your other significant
15 projects that relate to the kind of analysis you did on
16 this site, for instance GO-ALRT. Who was the client on
17 GO-ALRT?

18 A. GO-ALRT, and in that case our direct
19 client would have been the consultant for the general
20 area, but eventually back to the Ministry of Transporta-
21 tion and Communications through the GO office, and we had
22 two portions of the GO-ALRT analysis and one was the
23 piece from Oakville out to Burlington and the extension
24 of the ALRT which is the light rapid transit that would
25 be proposed along the railway corridor and the other



1 piece was from Pickering through to the Scarborough Town
2 Centre that was proposed to travel along Highway 401, and
3 basically looking at what the impact would be along those
4 corridors as they brought in what is a high speed street-
5 car.

6 Q. You also did a study for the Town
7 of Seaforth with respect to its noise impacts from its
8 landfill.

9 A. Yes, and the Town of Seaforth is
10 a relatively small landfill site, being a relatively small
11 area, and basically a bulldozer pushing landfill material,
12 waste material around once in a while, and it was fairly
13 straightforward.

14 Q. Have you studied other landfills
15 from the point of view of noise?

16 A. We have been involved in Peel's,
17 especially the transportation component of Peel's preparation.

18 Q. Peel's environmental assessment
19 to site a new landfill?

20 A. Yes, and we are involved with
21 St. Vincent near Collingwood, west of Collingwood on
22 landfill, and, in fact, landfill for our purposes are
23 inverted quarries, it's the same type of equipment but
24 just that it's held up in the air instead of down in a
25 hole and in our practice it's most like that analysis for



1 the various quarries we have looked at, for instance up
2 in Caledon.

3 Q. You have studied quarries?

4 A. Yes, up Caledon way and we were
5 involved in an application up there and we have been
6 involved out in Storington for a quarry but it was a
7 sand excavation that had to be cut out of the ground and
8 we have been involved in Cornwall and a quarry applica-
9 tion down there and we are currently involved in a
10 couple more. Basically the similarity being the type
11 of equipment being used.

12 MR. HODGSON: I ask this witness be
13 qualified to give opinion evidence in the area of sound
14 or noise impacts.

15 THE CHAIRMAN: Yes.

16 MR. HODGSON: Q. Mr. Coulter, when did
17 you become involved in Halton's Environmental Assessment?

18 A. We received the initial questions
19 in May of 1984 and became involved properly in June and
20 July of 1984.

21 Q. Was that at the beginning of
22 Stage 2C?

23 A. Yes, I understand that was the
24 beginning of Stage 2C and we were involved with Walker
25 as our client.



1 A. Yes.

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3 Environmental Assessment expressed some concerns with
4 respect to the mitigation issues as they related to the
5 heritage features. Do you know, sir, what or how the
6 Ministry's concerns have been dealt with?

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19 a permit from the municipality the same as you would for
20 a non-heritage or historic feature.

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22 denied them on the basis of a heritage feature?

23 THE WITNESS: The only way it could be
24 denied is if the municipality desired the building be
25 designated and be preserved and then they would have to



1 go through the process of designating the building.

2 DR. KINGHAM: You proposed in mitigation
3 the possibilities for Site D and a possibility which
4 would see the building preserved?

5 THE WITNESS: Yes.

6 DR. KINGHAM: In essence, one could con-
7 clude that landfilling at that site would be one way of
8 preserving that building?

9 THE WITNESS: Yes, that is true.

10 DR. KINGHAM: Thank you.

11 RE-EXAMINATION BY MR. HODGSON:

12 Q. I wanted to know, Mr. Scott, why
13 is it that you weren't able to get more information about
14 the condition of the so-called Ford farm? You were
15 asked questions by at least one of my friends about the
16 condition of the basement, for example.

17 A. It's my understanding that the
18 owners wouldn't give the Region permission for us to go
19 on-site and we were not given permission to go on-site
20 so all of our information was taken from the road or
21 from documents or from being adjacent to the site and
22 from photographs from as close as we could get.

23 MR. HODGSON: Those are all my questions.

24 The next witness is Mr. Coulter and he
25 is just getting his materials organized. Perhaps to save



1 you some time, Mr. Coulter's report appears as -- or his
2 Stage 2C report is Exhibit H-34 and his Site D report is
3 H-35 and his Site F report is H-36 and perhaps you could
4 pull those; 34, 35 and 36.

5 JOHN EMERSON COULTER, (sworn):

6 EXAMINATION IN CHIEF BY MR. HODGSON:

7 Q. Mr. Coulter, you graduated as an
8 engineer from the University of Toronto in 1971?

9 A. That's correct.

10 Q. Specializing in electrical
11 engineering?

12 A. That is correct.

13 Q. Perhaps you could tell the Board
14 how you became trained as what we call a sound engineer.

15 A. Acoustician, perhaps, or noise
16 engineer.

17 Q. Noise engineer is easier to
18 pronounce.

19 A. Okay. I spent a year and a half
20 working in industrial sales in the acoustical field and
21 I spent four years at the Ministry of the Environment,
22 approximately, heading up their noise and noise investi-
23 gation problems, noise problems that had to be
24 investigated by the Ministry, at stationery sources.
25 After working at the Ministry and helping them write the



1 model municipal noise by-law, I moved into private
2 practice with a consulting firm in Mississauga and spent
3 four or five years there and since 1980 I was involved
4 with Barman Coulter Swallow & Associates as a private
5 consultant and that was the context within which this
6 work was carried out and then recently in the last month
7 I have gone into my own practice.

8 Q. You have left Barman Coulter
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22 two portions of the GO-ALRT analysis and one was the
23 piece from Oakville out to Burlington and the extension
24 of the ALRT which is the light rapid transit that would
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19 in May of 1984 and became involved properly in June and
20 July of 1984.

21 Q. Was that at the beginning of
22 Stage 2C?

23 A. Yes, I understand that was the
24 beginning of Stage 2C and we were involved with Walker
25 as our client.



1 Q. What were your instructions at
2 the beginning of Stage 2C?

3 A. Basically we were given the site
4 outlines, the proposed areas for consideration for
5 Sites A, B, C through to F as they existed at Stage 2C,
6 and we were given some of the criteria that had been set,
7 the height, the final height of the filling, and the
8 area, size, and the buffers and various pieces and asked
9 to evaluate what the impact would be and look at the
10 mitigation that might be possible around those sites.

11 Q. Were these sort of generic criteria
12 at this point because you were looking at six sites?

13 A. Yes. We tried to approach it very
14 generically rather than site-specifically at that time,
15 although as we analyzed it there were some site-specific
16 properties that became involved, particularly in
17 mitigation.

18 Q. What criteria were you using to
19 evaluate the comparison of these six sites?

20 A. We had two criteria in mind.
21 Primarily it had to meet the Ministry of the Environment's
22 55 dB Leq criterion which is -- Leq being an average
23 sound level over a period of time measured in a specific
24 way, controlled way, and we also looked at not only the
25 houses that might be beyond that and perhaps requiring



1 mitigation, but we looked at the next level, the houses
2 that might be between 50 and 55 to see how many were
3 involved in being able to hear the landfill even if they
4 weren't found to be above the MOE criterion.

5 Q. First, what is the status of this
6 Ministry of the Environment criterion? Is this law or
7 something that falls short of law?

8 A. Well, most of the noise criteria
9 for the Ministry of the Environment exist in the model
10 municipal noise control by-law and this is outside of
11 that and specific to landfill sites. Now we are talking
12 about stationery noise on a landfill site and not the
13 transportation component. It has the force of a
14 Ministry letter on I believe the Glanbrook site in which
15 the Ministry looked at the problem of landfill sites
16 and came up with a compromise solution as to what their
17 criterion would be for landfill sites.

18 Q. The criteria is exactly?

19 A. Fifty-five dB Leq.

20 Q. Would you take this one piece at
21 a time? What does "dB" stand for?

22 A. The dB is small "d" and large "B"
23 and is short for a decibel and in this case it is under-
24 stood that those decibels were being measured A-weighted
25 and that is with a filter on the sound level meter



1 which will stimulate the ear's response to the sound and
2 you don't have high fidelity ears and therefore we have
3 to take the measurement in a form that is closest to
4 the weight at which you will hear the sound.

5 Q. And could you just describe what
6 55 decibels sound level is in relation to sound levels
7 that are familiar to persons in their ordinary lives
8 rather than living beside landfills?

9 MRS. TANNER: Does he sing?

10 MR. HODGSON: Q. Do you sing,
11 Mr. Coulter?

12 A. I would only admit to that if I
13 don't have to give you an example. Perhaps I could go
14 over a range of sound levels that one might expect. If
15 we start out in rural recreational Ontario in the depths
16 of Muskoka on a quiet night, we are talking of sound
17 levels at night of 30 dBA and during the daytime of 40
18 or 45 dBA.

19 Q. dBA and dB, and is it the same?

20 A. Actually Leq perhaps -- dB Leq
21 which would imply the A-weighting. As you move south
22 and come to the higher traffic density, the sound levels
23 gradually grow until as we get into the kind of environ-
24 ments we see back away from the highway, or if we get into
25 the core of a large suburban area where we are well away



1 from the roads, we will see 40 to 45 at night and 45 to
2 50 dB during the daytime in those yards and generated
3 mostly by traffic in the area. There are specific
4 occurrences with lawnmowers and kids in pools and things
5 like that which will stick out, but that is probably
6 the easiest way to describe how people talk about their
7 neighbourhood noise.

8 As we come further into the core of the
9 city or closer to the roadways, either one, a roadway
10 being a roadway no matter where it is, the sound levels
11 start to climb and as we get into urban areas or areas
12 within a few lots of a main road we are talking about
13 sound levels of 50 to 55 dB in the rear yards and at 55
14 dB that is the point at which the Ministry of the
15 Environment says that is our criterion for new housing
16 and we don't want new housing in if it's going above
17 that, although they will relax up to five dB's more and
18 allow housing to go in at 60 in some conditions -- often
19 pressure for land required in an area.

20 As you keep coming in and you get closer
21 to roads like Trafalgar Road or Highway 25 or any of
22 the arterials like the Lakeshore, we are starting to get
23 within a lot or so of these roads and you are starting
24 to get close to 60 to 65 dB in the yards and as you
25 approach the Queen Elizabeth Way in this area or 401 we



1 start seeing numbers getting close to 65 and 70 dB and
2 people are literally having to almost shout to be heard
3 in their yards. Not shout, per se, but it requires
4 quite a raised voice to communicate. I think that sort
5 of spans the range of experience we would normally hear
6 in the outgoing environment.

7 Q. Again, 55 dB Leq is a measurement
8 of what, over time?

9 A. What Leq is is if you had or were
10 taking the sound levels steadily along a period of time
11 over a period, and it might be a period of an hour or
12 it might be eight hours, whatever the averaging time,
13 and you sum all the sound energy you are receiving and
14 take the average over that time and if the sound level
15 was 60 dB's steadily for an hour the Leq would be 60 dB.
16 The one thing about Leq is it is very sensitive to short,
17 loud sounds so if the sound level is 80 decibels for a
18 short time and, say, one-100th of the time as a period
19 of measurement, then the Leq would be 60 dB and it doesn't
20 take a loud sound very long to have a large affect on
21 the Leq in an average.

22 Q. That electric drill through that
23 wall is elevating the sound level in this room even
24 though it is intermittent and it would show up in the
25 Leq?



1 A. Yes, and the heat pump above the
2 ceiling really shows it. It would drag the sound level
3 with it. Actually I think my voice is probably the
4 dominant Leq in here for the next little while.

5 DR. KINGHAM: Just for clarity, are you
6 telling us that the weighting of time and intensity of
7 sound are not equal and that is to say a short, loud
8 sound gets more weight in computing the average?

9 THE WITNESS: That is right, it is
10 heavily weighted to short, very loud events and an
11 aircraft fly-over or something like that will take the
12 Leq and pull it quite a ways if it is a relatively quiet
13 neighbourhood.

14 MR. HODGSON: Q. With respect to land-
15 fills, what sources of sound did you study?

16 A. We looked for two components for
17 all of the sites and we looked at the transportation to
18 and from the site essentially to see whether or not we
19 were increasing the sound levels along the roadways, and
20 here we were looking for a threshold and if we increased
21 the sound energy by approximately a doubling then we
22 were starting to show an impact on that area. That would
23 be a three-decibel increase. The other aspect we looked
24 at then was the landfill site itself and in most cases
25 the worst case is when you are filling on the top and



1 start seeing numbers getting close to 65 and 70 dB and
2 people are literally having to almost shout to be heard
3 in their yards. Not shout, per se, but it requires
4 quite a raised voice to communicate. I think that sort
5 of spans the range of experience we would normally hear
6 in the outgoing environment.

7 Q. Again, 55 dB Leq is a measurement
8 of what, over time?

9 A. What Leq is is if you had or were
10 taking the sound levels steadily along a period of time
11 over a period, and it might be a period of an hour or
12 it might be eight hours, whatever the averaging time,
13 and you sum all the sound energy you are receiving and
14 take the average over that time and if the sound level
15 was 60 dB's steadily for an hour the Leq would be 60 dB.
16 The one thing about Leq is it is very sensitive to short,
17 loud sounds so if the sound level is 80 decibels for a
18 short time and, say, one-100th of the time as a period
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22 were starting to show an impact on that area. That would
23 be a three-decibel increase. The other aspect we looked
24 at then was the landfill site itself and in most cases
25 the worst case is when you are filling on the top and



1 we have several vehicles up there involved in filling and
2 covering, that process, and we also have vehicles going
3 to and from the area on top, and so the worse case
4 condition we are looking for it right up on top of the
5 hill essentially when they are filling.

6 Q. We'll come back to that. With
7 respect to traffic, in Stage 2C could you review for us
8 the changes in sound levels that you anticipate or are
9 anticipated at that stage would be affected by increased
10 traffic levels in relation to each of the six sites, A,
11 B, C, D, E and F?

12 A. Okay. The main courses, and I
13 will start with A, B and C as they are very similar in
14 some ways, but the main course of traffic coming in is
15 either from the south up Trafalgar Road or from the
16 north down Trafalgar Road, and there will be a new 403
17 connection through here that might eventually affect
18 the route to the site, but basically what we looked at
19 is how much traffic is there now and how much noise
20 does it make and then we added in the truck traffic.
21 We modified the models under use at the time of the
22 Ministry of the Environment because we knew there were
23 changes coming from the Ministry and the current models
24 did not reflect the effect of the heavy truck traffic
25 and tended to underestimate the effects.



1 Q. What kind of models are we talking
2 about?

3 A. Noise prediction models for high-
4 way traffic and they are simply equations based on how
5 much traffic there is and how far back from the road you
6 are.

7 Q. And are these standard models the
8 Ministry has created and used?

9 A. Yes, they are published and accepted
10 as the standard model, but we had to take the model in
11 use and modify it according to the data in 1974, '75 and
12 '76 at the Ministry and the fact that heavy trucks were
13 really quite a bit louder than was accounted for in that
14 model and in order to give a fair evaluation of how much
15 more sound energy would be there when we put heavy trucks
16 on these routes to service the landfill sites.

17 So, we took that model and applied it to
18 the traffic on Trafalgar Road, and I'll just remind myself
19 of what that volume is. The model is laid out in our
20 report on page 5-1 of Stage 2C.

21 Q. You are now referring to Exhibit
22 H-34?

23 A. Yes, H-34. We have approximately
24 12,000 vehicles at present on Trafalgar Road and we were
25 going to be adding roughly 100 vehicles in one direction



1 and 20 in the other direction, and I'm not sure 100 per
2 cent of the exact split, but the effect of that was to
3 have only one or two dB changes along this roadway among
4 the three sites. What we did have to watch for ...

5 Q. Excuse me, but you said you would
6 have changes of one dBA. Could you describe for the
7 Board ...

8 A. ... a one dB change?

9 Q. A one dB change in terms of its
10 perception.

11 A. It represents a 25 per cent
12 increase in energy but, as far as loudness goes, if I gave
13 you two sound events that were one dB different and
14 allowed a reasonable length of time between them, even
15 a few minutes, you would have trouble coming back and
16 telling me which one was the higher sound level. If I
17 gave them to you one and then the other, you would
18 probably get it right most of the time but if there is
19 any kind of time delay between the two you won't notice.
20 A one dB change is the kind of change that happens in
21 an urban community about every five years or so as the
22 traffic grows on the roads, two or three per cent per
23 year. So, a one dB change is not really noticeable for
24 the community.

25 As we get to two dB we have a little more



1 change and you probably will have to have a longer time
2 period before you won't be able to tell which is louder,
3 and by the time you get to three decibels most people
4 would be able to tell even with a significant time delay
5 that there had been a change and I would say the change
6 would be noticeable but not particularly notable by the
7 time it got to three decibels. So, that is the onset
8 of impact that we talk about insofar as traffic noise
9 is concerned.

10 Q. You were giving us the results of
11 your prediction of the changes in sound levels on
12 Trafalgar Road?

13 A. Yes, Trafalgar Road being common
14 to all, it is a common access route to all of A, B and
15 C. On Site B and C the access is straight off Trafalgar
16 road and right near where the turn-out is we might see
17 more like a two decibel increase because the trucks are
18 stopping and starting right in that area and it's still
19 less than our criterion for significance. On Site A,
20 originally we talked about bringing the trucks down
21 Burnhamthorpe and that would have had a very major
22 impact on the sound levels in that area, but instead the
23 trucks were to be routed across the top of this site area
24 and right adjacent to what eventually will be presumably
25 Highway 403 and there was one house in there that might



1 have a small impact, although it would depend on the de-
2 tails of the turn-out and whether it would make a
3 significant change at that house, but basically the
4 sound levels in this area all stayed below our three
5 decibel increase in traffic that we considered as the
6 onset of impact.

7 Q. You are confining your evidence
8 to the traffic noises and not the noises generated by
9 the landfill?

10 A. Yes. We come to Site D which is
11 accessed from Highway 25 which I believe is at about 8,000
12 vehicles a day and similar to Trafalgar except for some
13 heavy truck traffic -- more heavy truck traffic on
14 Highway 25; the impact is less than three dB at any
15 point even including the turn-out. It's a bit more
16 impact at the turn-out -- I shouldn't say impact, but a
17 bit more affect at the turn-out, but because there is
18 already so much traffic noise it doesn't have as much
19 impact or exceed our criterion. Site E required that
20 the access come along Britannia Road, which fortunately
21 is virtually unpopulated. It did have the effect when
22 a truck turned north on a couple of residences on either
23 side of Tremaine Road and there would be an impact here
24 of an increase of several dB, but the houses are set back
25 so far from the roadway that the sound level would not



1 have exceeded 50 dB at those houses even if they had --
2 even if this site was used, and so we considered there
3 was some impact there but it was very minor and the levels
4 were not very much more than what is there in the
5 community to start with. There was an increase, but it
6 didn't bring the increase up to much of a sound level
7 to start with.

8 Site F is accessed from the service road
9 for the bulk of its traffic which comes off at Brant
10 Street and runs along the North Service Road and in doing
11 so it runs right along a freeway that has 40,000 vehicles
12 a day or 43,000 I think to be specific, and the noise of
13 that freeway masks the truck noise completely and we
14 would not be able to estimate whether there was a change
15 or not and it would be very small to ever go and measure.
16 Right at the turn I think we found one residence with
17 about a one decibel increase at the top of Brant and
18 the North Service Road, that corner. Otherwise the
19 truck traffic to the landfill is minor compared to the
20 noise coming from Highway 403.

21 DR. KINGHAM: I am finding it a bit
22 difficult understanding the relative versus the absolute
23 nature of the sound increases. You said a one dB increase
24 with respect to Sites A, B and C constituted about a 25
25 per cent ...



1 THE WITNESS: Increase in sound energy
2 but not loudness.

3 DR. KINGHAM: At Site F, presumably with
4 the same number of trucks, they each create their own
5 noise but it's lost as you point out in the sound of
6 Highway 403?

7 THE WITNESS: There is so much sound energy
8 coming from 403 that you don't notice the trucks being
9 there.

10 DR. KINGHAM: So one dB from the trucks...

11 THE WITNESS: It's so small I wouldn't
12 even want to postulate how small the change would be,
13 0.1 or 0.2 decibels, because you have a high speed roadway
14 generating -- I think you would virtually have to stand
15 in the middle of the road which would cause an impact
16 noise at some point in order to make more noise from
17 the trucks going into the landfill and standing in the
18 middle of the North Service Road than you would from 403.
19 As soon as you back away from the North Service Road then
20 the 403 dominates.

21 DR. KINGHAM: My question is are you
22 telling us that the 25 per cent is relative or absolute?

23 THE WITNESS: The 25 per cent represents
24 how much more energy -- if you take a roadway that had
25 1,000 cars on it and you wanted to increase the sound



1 level by one dB, you would have to add another 250. But,
2 when you stand beside it and listen to it, and if I
3 blindfold you so you can't count the cars, then you
4 probably won't be able to tell me when I was running
5 1,250 and when I was running 1,000 and so the change as
6 far as loudness is concerned does not track the change
7 as far as energy is concerned.

8 DR. KINGHAM: So it is relative?

9 THE WITNESS: Well, I have given you an
10 absolute and the noise of the traffic will reach 50 and
11 everywhere else I have talked about it being just how
12 much more in decibels it would be. The only absolute
13 value was Site E at 50, but at Site F the absolute value
14 is about seven.

15 MR. HODGSON: Q. I'm sorry, what is the
16 absolute value?

17 A. If you are near the North Service
18 Road here, the sound levels are about 70 dB if you held
19 a sound meter up and standing at the side of the road,
20 but it's coming from 403 and not the service road.

21 Q. Does that mean the same volume
22 of truck traffic added to the volume of sound already
23 present has a much lower impact or no impact at all in
24 relation to the change at, for example, Site A?

25 A. The measure or impact at Site F



1 is immeasurably small and the increase in energy over what the back-
2 ground is is so small I don't know how to say -- no one
3 could ever detect it, but at Site A, or if we took
4 Burnhamthorpe Road and ran the trucks down Burnhamthorpe
5 Road where the noise from the roadway might be 50 and we
6 are adding all that traffic it could be 60 and that
7 would be a ten dB change and that would be very
8 noticeable.

9 Q. With respect to traffic, changes
10 in sound levels as a result of truck traffic at each one
11 of the six sites, that element alone, what -- how did
12 your assessment of those changes affect your ranking on
13 the six sites at Stage 2C?

14 A. The changes were all below our
15 criterion for onset of impact and we gave very little
16 weighting to the traffic noise because it doesn't
17 distinguish among them, they are all very low. Some are
18 infinitesimally small and some are barely detectable by
19 a microphone, but they are all too low and they don't
20 affect our recommendations.

21 Q. From the point of view of traffic
22 to and from the sites, it was your view that each of the
23 six sites was acceptable?

24 A. Yes.

25 Q. Now, with respect to noise or



1 sounds generated on a landfill by the operation of the
2 landfill. Perhaps you could describe to the Board, as
3 we haven't had anyone describe at this hearing yet, what
4 happens on a landfill in case there is someone in this
5 room who doesn't already know, but what pieces of
6 equipment are there and how do they move and what kind
7 of sounds do they generate?

8 A. Perhaps I could take an example
9 here of Site D. When they start out on the landfill in
10 this case they would be starting at the north end of
11 the site and they have to excavate a hole essentially
12 to start putting the fill in. They will be taking the
13 fill out and placing it along a berm which is to be
14 built along the side of the site. So, you have the
15 noise of the excavation with bulldozers excavating the
16 material and perhaps a front-end loader or two and
17 then you have what is called a scraper, you have probably
18 seen the big articulated vehicles on highways and
19 construction sites which are used to move material from
20 one area to another, and a scraper comes along and drops
21 its blade and the material is forced up into a hopper
22 and then they close the hopper and it drives down and
23 drops it as it moves along here, and those scrapers
24 continue to be used on the site to move that material
25 that has been stored around the site back on as cover



1 material over the waste material.

2 Once you have the excavation and you
3 start to fill, you have the trucks coming on the site
4 and similarly on Site F, but driving on to the site and
5 coming to a weigh station and then driving up -- or down
6 into the hole at first and dumping the waste and back
7 out again and then the packer, which looks like a bull-
8 dozer with great, big steel wheels on it and a very
9 strange looking plough on the front, is used to move
10 that fill material and spread it into a reasonable layer
11 and then either take with the bulldozers or a packer
12 later in the day, they will push the fill material
13 brought in, or the cover material brought in from outside
14 of the site or from around the perimeter of the site,
15 but back over to cover over the fill material at the
16 end of the day and in a case like this they will be
17 filling and covering constantly.

18 So, on the site where you are actually
19 putting the material you will perhaps have a bulldozer,
20 two or three scrapers -- sorry -- two or three packers,
21 the scraper coming and going and then you will have the
22 trucks coming up on to the site. Of those, as far as
23 noise goes, all of the on-site equipment, the packers,
24 the dozers, the scrapers, those are all powered by the
25 same kind of diesel unit, and you have probably seen



1 Caterpillar's name or somebody else's name on the side
2 in bright yellow and it looks just like a highway con-
3 struction site essentially. The most prevalent noise
4 comes from the scrapers -- excuse me -- the packers
5 which are running virtually constantly up on top. Other
6 things come and go, but the packers are going all the
7 time and they are the most ubiquitous and the controller
8 of the noise energy that's coming from the top.

9 The trucks come up and you will hear
10 them while they come up but they park usually in line as
11 they get into the busier part of the day until they can
12 dump and while they are sitting there parking, idling,
13 they are not very important as far as a noise source
14 goes, maybe ten per cent of the sound energy as when
15 they start to move. When it comes their turn, they back
16 up and some of them will have backup signals so you
17 will hear a "beep, beep, beep" when they start up and
18 they dump and if it's a dumptruck you will have the tail-
19 gate which will go "bang" once or twice while they try
20 and empty it and then he will pull down off the site
21 and go for his next load.

22 So, we have essentially what looks like
23 a busy highway construction site or a quarry or pit
24 operating and one of the major differences being that
25 eventually these things start getting pretty high in the



1 air and in this case we are designing 15 or 20 metres
2 into the air and they get higher.

3 So, we put a model together for all of
4 these events which takes into account how many vehicles
5 are there, how much of the time when they are up there
6 they are actually making noise because trucks are not
7 making noise all the time they are sitting up there,
8 -- how much noise they make and how much time they take,
9 their duty cycle, and then you add up all the sound
10 energy they generate in order to get an average sound
11 energy output from that location.

12 From that model, which is a sound source
13 model, we project the sounds across into the nearby
14 residential areas within 30 metres, which is the Ministry
15 guideline to the amenity area surrounding each residence,
16 and that is the area of consideration along the way.

17 In Stage 2C the model was a relatively
18 simple model. We looked at the case where they had in
19 a generic situation, where they had dug out some of the
20 material and piled it ten feet high or three metres high
21 around the perimeter as a generic berm which would be
22 used at all the sites and we looked at what would be
23 happening when the sound was being generated as they
24 got to grade or as they came out of the hole and then
25 what would happen when they were 15 metres in the air.



1 The results of that piece of modelling
2 are given in our report on page 2-1, the noise model.

3 Q. Page 34?

4 A. Page 34. There is a table there
5 of sound levels at various distances for that worst-case
6 scenario of a very busy site with filling going on at
7 the highest elevation.

8 Q. Would you take us inch by inch
9 through at least a couple of lines of this table and
10 explain to us what it means?

11 A. Okay. The first column is the
12 distance from the actual filling going on and not from
13 the landfill site because all of these except Site F
14 have at least 100 metres of buffer area around the
15 outside and so the first case would be somebody living
16 right on the edge of the buffer and it shows that when
17 they are filling right at grade level and as they start
18 to come out of the hole you would get 68-1/2 decibels.

19 Q. Is that Leq?

20 A. That's Leq. Beside it we had
21 originally -- the second column is indicative of using
22 the best available technology for mufflers and engines
23 of these pieces of equipment. If we go down to 500
24 metres and they are at grade you will see the sound
25 level for older construction vehicles would be 49 decibels



1 and as we go up in height and reading across you would
2 see that at 500 metres we have reached 55 decibels when
3 we are ten or 15 metres in the air at a 500-metre
4 distance and that figure, that 500-metre distance, is the
5 figure which we eventually plotted contours on around
6 the sites as the figure mentioned by the criterion, it
7 would be coming along that contour. Also in the next
8 part of the table we showed the berm being installed
9 which drops the sound levels estimated when they are
10 working close to the edge of the area and down below
11 the berm, but as soon as they come up above the berm
12 then the sound levels pop back up again depending on
13 the setback.

14 So, that is how we set out to draw the
15 generic contours around the various sites.

16 Q. Where do we find the generic
17 contours?

18 A. The generic contours are shown --
19 perhaps because there are two sets of contours we might
20 go over the mitigation we suggested so I can explain them
21 as we go there.

22 Q. Yes.

23 A. Because we didn't know of the
24 quantities of fill existent, we didn't know what mitiga-
25 tion we could use for sure on every site and we didn't



1 know whether we had a lot of dirt to make berms or what
2 we would have to do. What we did was sit down with the
3 design engineer and said what sort of mitigation could
4 we do and the one element that has been used for
5 Hamilton-Wentworth was that when we got to the edge of
6 the site and started to get close to houses, we suggested
7 it would be better to take one year and build the land-
8 fill up to full height as quickly as possible and
9 thereafter work behind that berm made out of landfill
10 essentially and that could be done at any site. It was
11 a sort of generic solution. I didn't say it could be
12 done, as there was a limitation on where it could be
13 used, but it was a generic solution which didn't require
14 a detailed knowledge of the fill quantities available.
15 We looked at the various sites ...

16 Q. Could you explain that in more de-
17 tail? Exactly how are you landfilling in a way which you
18 can create a berm behind which machinery could operate?

19 A. It shows on Figure 1 of our
20 report, Stage 2C report. On the right of that diagram
21 it's a small house and there is a berm shown in about
22 the middle of the page and then you can see that the
23 bottom of the excavation is shown with the dotted line.
24 What we have done is build the landfill right up to full
25 height along the edge of the filling area and thereafter



1 we are working behind -- we have one year of a lot of
2 noise and then thereafter we are working behind that
3 berm. We felt that that would be preferable to having
4 noise there constantly and better one year of a fair
5 amount of noise in a concentrated area and thereafter
6 quiet than to spread the noise over ten or 15 years, the
7 life of a site.

8 So, that method was proposed as a
9 mitigation measure where we found that the houses fell
10 within the 55 dBA contours. It can only be applied --
11 it cannot be applied evenly to all the sites and the
12 reason was that in order to start the landfilling you
13 had to put down the drainage tiles and if you happened
14 to be in an area where you wanted to start putting in --
15 that is a low spot on the site where you wanted to start
16 putting in the drainage tiles anyway, then it was very
17 inexpensive to build the landfill right on top of that,
18 but if you were working as in Sites B and C where the
19 residences that were impacted were on the north of the
20 site and the drainage was all to the south, you would
21 have had to put the leachate collection system in for
22 the entire site and these are pipes coming on regular
23 intervals and we would have to excavate the whole site
24 to get the drainage up to the area where the residences
25 were before we could start landfilling and it made it a



1 very heavy capital cost at the outset to do that. So,
2 on Sites B and C we considered that mitigation measure
3 as very expensive and could not recommend it for those
4 two locations.

5 There is also an effect on Site E because
6 of a house to the north of it where we could not put in
7 the mitigation. We could do it on Site A and we could
8 do it down the back side of Site D and we could do it on
9 part of Site E to shield the houses, and it was with
10 that mitigation in mind that we prepared contours shown
11 in our report as Map 1 after page 6-2 for Site A.

12 Map 1 shows two 55 dB contours, one
13 that curls in close to the site and one that comes up
14 further in hatched as we look around the south of the
15 site and the reason for those two contours is that one
16 is with the mitigation in place and the other is without
17 the mitigation in place. You see the 55 dB contour
18 after mitigation runs basically through the yards,
19 through the houses on the south side of Site A, and you
20 will find similar maps for Sites B and C except that
21 there is no mitigation shown so there was only one set
22 of contours around the site. Site D shows two changes
23 in the contours, one in the southeast corner to account
24 for some housing down in this area and one along the
25 western property line to account for the housing that sits



1 on the lower portion of the site and across the road.
2 Site E is similarly mitigated with the two sets of
3 contours to account for the houses.

4 So, our mitigation basically said there
5 would be one year where the sound levels would exceed
6 the Ministry of the Environment criterion and then after
7 that it would reach the Ministry of the Environment
8 criterion.

9 Q. Would that be true for Site D?

10 A. Site D is slightly above and I
11 would like to point out a correction in the summary on
12 the first page of this document, Stage 2C. There is a
13 summary page and Site D is shown as seven homes well
14 above MOE criterion and that's an error in the transcrip-
15 tion of the notes because it should say seven homes just
16 above the MOE criterion and in fact it was about 57
17 decibels rather than 55 along this stretch (indicating).

18 Q. Where is the correction?

19 A. The correction is on page I in
20 the report just before the introduction.

21 Q. My report says seven homes
22 slightly above MOE criterion.

23 A. Well, that's the truth, but the
24 report I have here as I read it over last night said
25 well above. If you have a copy of the report that says



1 under Site D "well" it should be corrected to say
2 "slightly".

3 MR. HODGSON: Which does the Board have?

4 THE CHAIRMAN: Slightly.

5 MR. HODGSON: You are the only one with
6 a defective report.

7 THE WITNESS: Just as well. I know that
8 it was there before. It should read "slightly" and if
9 that's what you've got, then great.

10 DR. KINGHAM: How could that kind of
11 change take place because that's fairly significant,
12 well above and slightly above?

13 MR. HODGSON: I think he has the draft
14 report in his hand and he has confused it with the final
15 report.

16 Q. What is the date on the bottom of
17 yours?

18 A. That's right. The copy I have
19 must have come out of the wrong box.

20 THE CHAIRMAN: Is there any difference
21 between slightly or just above?

22 THE WITNESS: Slightly or just above and
23 it's one or two decibels above the Ministry criterion.

24 DR. KINGHAM: What happens between a
25 draft report and a final report where well above becomes



1 slightly above?

2 THE WITNESS: It's a typo and if you
3 read the text on the discussion on Site D, it is correct
4 but it's only the summary sheet where we had the typo.

5 MR. HODGSON: You will recall that
6 these draft reports aren't the usual kind of draft reports
7 that lawyers get and everybody else doesn't. This is a
8 draft report circulated to the public for public comment
9 and then the final report was done after the public
10 comments were received and considered.

11 DR. KINGHAM: So you are telling us that
12 the substance of the report made it clear that it was
13 slightly above and somebody in preparing the summary page
14 prepared that saying well above instead of slightly
15 above?

16 THE WITNESS: Yes. It has been corrected
17 in the final version and I had asked for an extra copy
18 when I came in this morning and I saw that it still
19 said slightly, but your report does read correctly it is
20 slightly above one or two decibels.

21 MR. HODGSON: Q. Can we go back to Site
22 D?

23 A. Yes.

24 Q. What are the impacts or what
25 impacts did you foresee at Site D in Stage 2C in respect



1 of noise generated by the landfill?

2 A. Well, the traffic and noise we
3 have covered already, but basically we were going to have
4 a one or two-decibel impact along this part (indicating),
5 along the houses here in the Stage 2C, because there would
6 be a period of a year in which we had a significant impact
7 for a while, 60 dB, and then it would drop to 57 or so
8 and it's not a constant 57 but 57 when they were working
9 in an area that was close to the edge.

10 Q. When you say a one or two-decibel
11 impact you mean one or two decibels above the MOE
12 criterion?

13 A. Yes, after the mitigation was in
14 place and there was a time period to put the mitigation
15 in place of about a year where we have a fairly signifi-
16 cant impact for that time.

17 Q. What about Site F, what did you
18 find in Stage 2C about Site F?

19 A. Stage 2C, Site F. As far as the
20 55 dB criterion of the Ministry of the Environment is
21 concerned, there are four houses sitting up in here which
22 are just sitting at the 55 dB criterion without any
23 mitigation at all. So, relative to the MOE criterion
24 we did not see an impact on that site. The Bayview Park
25 came up as a concern because there is a horse ring



1 facility in use here on a regular basis which involves a
2 lot of outdoor time for people, and we had concerns about
3 Saturday operation of the landfill interferring with
4 speech communication through the period of the day. It's
5 not that the sound was going to stop communication, but
6 the steady sound level in the background would be enough
7 that people after a while would find the voice strain a bit of
8 an annoyance and they would say they've had enough for
9 today after a couple of hours of this. It's not as
10 though it's a tremendous roar, but we felt that was having
11 an impact on the use of that facility where people would
12 be standing a significant distance from each other and
13 trying to discuss whatever they discuss in a horse ring.
14 We had concern about communication. You could communi-
15 cate, it wouldn't stop you, but it would be a strain and
16 after several hours you would find it somewhat annoying.
17 So, we pointed out to the Region that that horse ring
18 facility, which is just in this area of Bayview Park,
19 might be considered for moving off-site so we didn't
20 interfere and it was left in that state at the end of
21 Stage 2C that there was a recommendation to move the
22 Saturday operations if it was going to conflict.

23 Q. That recommendation came from you?

24 A. We suggested they consider moving
25 that park.



1 Q. All right. Would you please tell
2 us how you went about ranking the six sites at Stage 2C
3 from the point of view of noise impact?

4 A. We looked at the impact from two
5 points of view and one was did it meet the Ministry of
6 the Environment criterion and the second was, in absolute
7 terms and also relative to the background noise that the
8 area was used to, how much would these people notice the
9 site and how many people are in that range from 50 to
10 55 decibels that meets the criterion but might still be
11 quite audible to the people living in the area. We
12 summarized the findings of that, and they are each
13 laid out with the number of houses and to come up with
14 a ranking virtually ignoring any traffic impact, and
15 that ranking comes up in our conclusions on page 7-1
16 and that took Site F with its large, natural buffer and
17 a very noisy area to the south of it and it would have
18 the least impact and in fact it didn't involve any
19 mitigation to meet the MOE criterion.

20 The next site would be Site A which
21 was fairly easily mitigated and so its impact was on a
22 one-year basis. Sites B and C you will recall we
23 couldn't really apply the mitigation method we were
24 talking about because the leachate collection system
25 installation was going to be a difficulty to do that.



1 Q. They were ranked ...

2 A. They were ranked right at the
3 bottom and they were equally bad as far as we were
4 concerned in that rating. Then we go back to D and E
5 and E because we can virtually eliminate the impact
6 except for one house and it was ranked above D where
7 we had some impact with regard to the MOE criterion
8 along the western property line as we had devised the
9 site at that time. So, in order of ranking as shown
10 on page 7-1; F, A, E, D and B and C effectively tied for
11 dead last.

12 Q. And traffic, changes in sound as
13 a result of traffic levels did not play a role in your
14 ranking of the sites?

15 A. No, we did not use the traffic --
16 there wasn't any significant impact anywhere from
17 traffic.

18 Q. There were no impacts between
19 sites or no significant ...

20 A. No significant impacts.

21 Q. Then, was this information sub-
22 sequently summarized by Walker, Wright, Young in their
23 report H-13?

24 A. Yes.

25 Q. And that appears after page 13;



1 13j of Exhibit H-13, and I don't think we really need to
2 refer to it. I'm about to take the witness to the next
3 phase of the study, the technical stage, and if you were
4 planning to take a break this would be a convenient time
5 but if not I'm happy to continue.

6 THE CHAIRMAN: I think this would be an
7 appropriate time.

8 --- Recess

9 THE CHAIRMAN: Please be seated.

10 MR. HODGSON: Q. Mr. Coulter, we were
11 turning to subsequent work you did. After Stage 2C were
12 you retained again to make a study in connection with
13 the Environmental Assessment?

14 A. We were retained by the Region of
15 Halton to do a noise impact study for the technical
16 analysis of Sites D and F.

17 Q. The results of those studies are
18 presented as Exhibit H-35 and H-36?

19 A. That is correct.

20 Q. And you are responsible for the
21 preparation of those documents?

22 A. That is correct.

23 Q. How did you do your work at this
24 stage, and in answering that question could you please
25 emphasize the differences between the work at this stage



1 and the work at the earlier stage?

2 A. Okay. The major difference being
3 that we were much more site-specific about the analysis
4 and we now have detailed information about how the site
5 would come together and that allowed for in calculating
6 the noise from the operation on the site to be done in
7 detail rather than generically. We took the model we
8 have been working in and, as I mentioned originally, we
9 made some assumptions about the kind of equipment and
10 its calibre which showed up in the 2C report about how
11 loud it would be. We went to the current site operat-
12 ing adjacent to Site F, this area, and actually had them
13 come and bring the vehicle to a side area where we could
14 run them by at full torque and at high rpm to find out
15 whether or not they met the Ministry of Environment
16 standards for construction equipment and the reason being
17 that the standard that came in came in as per 1980 and
18 so 1980 or older equipment wouldn't meet it and newer
19 would and we wanted to make sure we were dealing with the
20 kind of equipment we would be seeing on the site.

21 We did those measurements and we found
22 that the equipment that was currently in use in fact
23 meets the standards of 85 decibels at 15 metres set by
24 the Ministry of the Environment for off-road equipment,
25 and in fact some of it is two or three dB quieter than



1 that standard. That allowed us to calibrate the model
2 more specifically for the type of operation we are
3 expecting on the proposed new site. Otherwise, the
4 modelling of the source we were doing was essentially
5 the same model, slightly adjusted for new topographical
6 features that would be installed and more detail about
7 where exactly the fill was going and the houses and
8 the distance relative to that.

9 The traffic noise was studied using the
10 model the Ministry of the Environment was considering
11 introducing and in fact has introduced now as of last
12 January because it had properly accounted for the truck
13 traffic, the energy contribution of the truck traffic
14 much more accurately than the old one. Remember we had
15 to modify the old model to make it work for Stage 2C.

16 Q. You used this new model for
17 modelling impacts of truck traffic notwithstanding that
18 it had not yet become formal policy?

19 A. It was already formal policy at
20 the Ministry of Transportation and Communications for
21 their evaluations, and the Ministry of the Environment
22 had not implemented it fully at the time but has since.

23 Now, if I can get this one out of here,
24 we now had new information about the sites and the areas
25 that allowed us to be much more specific.



1 Q. To recap, at Stage 2C you didn't
2 test the equipment that was currently used at the
3 regional landfill to determine the extent to which it
4 generated sound; is that right, and did you do that in
5 this stage?

6 A. In Stage 2C we assumed generic
7 off-road equipment, something that anybody might have
8 in their garage, but for the detailed analysis we went
9 to the site and we measured all the various types of
10 vehicles they were using to find out whether or not
11 they met the older -- I shouldn't say standard because
12 there wasn't a standard pre-1980, but whether they met
13 the 1980-on standards when they did. The other change
14 was we went out and took specific measurements of the
15 environment in the area and took noise measurements
16 adjacent to the sites and in the areas we felt might be
17 critical as far as noise impact was concerned.

18 Q. I'm going to ask you what you
19 found, what sound levels you measured, existing sound
20 levels, but before I do that would you with respect to
21 Site D describe for this Board the sound generators in
22 the vicinity of Site D?

23 A. I have so many displays here.
24 Site D is sitting here and the Town of Milton is to
25 the north. Milton has a substantial bedroom community



1 to it which commutes to the south and so we have commuter
2 traffic running down 25 and also down the backroads and
3 there are 1,500 or several thousand vehicles a day running
4 down here and about 8,000 a day ...

5 Q. You have described it as a back-
6 road, and is it a paved road?

7 A. The First Line and as I rode on it
8 the last time I was on it, it's not a high-grade paving,
9 it's fairly rough, but Highway 25 being a high-grade MTC
10 /quality roadway. So we have some traffic running down behind the
11 site and not substantial traffic but fairly typical and
12 we also have running through here and showing -- I need
13 the equivalent picture to that one.

14 DR. KINGHAM: It is behind.

15 THE WITNESS: This is the CN Halton
16 Subdivision and this is a main freight line that comes
17 down from Georgetown and CN loads up north of the City
18 of Toronto and the traffic heading to southwestern
19 Ontario comes through Brampton, Georgetown and then turns
20 south and comes down this line and eventually runs along
21 this line here (indicating).

22 MR. HODGSON: Q. Do you have occasion
23 to note the traffic patterns on that subdivision of the
24 Canadian National Railways?

25 A. During the daytime this line is



1 mostly switching traffic with some heavy freight traffic.
2 At nighttime is when most of the heavy freight traffic
3 moves through the Toronto area. They load up in the
4 yards all day and then pull the trains out in the later
5 part of the evening, and then there is another group of
6 trains coming back into the yard in the early morning.
7 So, this line is mostly a nighttime contributor as far
8 as its impact by itself on the community, but it is
9 nearly a kilometre from the First Line, so it is not a
10 big contributor but definitely a part of the noise
11 environment in the area.

12 Q. Can you tell the Board why it is
13 you know what you said about the traffic on that line?

14 A. We have done a number of studies
15 for the two railway companies, and we are constantly
16 doing studies up and down this line through Georgetown
17 and down to Burlington, anywhere where a new subdivision
18 will be and we must deal with those traffic patterns all
19 the time.

20 Q. You have studied it in the past?

21 A. Oh, yes.

22 Q. Now, what else do we find in the
23 sound or noise environment around Site D?

24 A. Around Site D you are going to
25 have what is left of the agricultural uses and you have



1 people with lawnmowers and dogs barking and birds, all
2 of the sort of environment that involves people. It's
3 what we would call an ex-urban, it's not really in a
4 sense rural. Acoustically, and as the Ministry of the
5 Environment refers to rural, they are thinking in terms
6 of rural recreational where there is just really no
7 traffic in the area moving, but this area is sort of
8 similar in its environment to the sound levels you would
9 find in a suburban back yard at its current level, not
10 a suburban back yard on a major arterial road, but into
11 the community as you move away from the arterial roads.
12 That is the kind of environment these people are in.
13 These residences here are in quite high sound levels and
14 in fact if you wanted to build a new subdivision adjacent
15 to Highway 25 there would be noise barriers and all the
16 common things you see with subdivisions in Brampton and
17 Burlington and Milton. This is a relatively noisy
18 area along this strip and that is shown when we produce
19 the noise contours from the traffic models. This is
20 shown in Figure 1 and we have put the contours of the
21 roadway straddling each side of it and you can see the
22 55 dB contour runs through an awful lot of those, or
23 runs behind an awful lot of the houses on Highway 25,
24 and in fact the furthest houses back in here are sitting
25 at about the 51 dB contour right about now.



1 Q. That's along Highway 25?

2 A. Yes.

3 Q. Would you take the Board to Table
4 1 and describe for them -- first of all where your sound
5 level metres were located, for what period of time they
6 were located, what time of year they were located and
7 what you found by way of existing sound levels around
8 Site D?

9 A. The two measurement points are
10 actually shown in Figure 1, but they are in here and
11 over right across from this driveway (indicating).

12 Q. The exhibit you are looking at
13 is a Milton exhibit, but I am sure they will forgive you
14 if you took a pen and wrote on their exhibit. Could
15 you identify on Exhibit M-102 where your sound level
16 metres were located? Why not do it with a red "C"
17 for "Coulter" and not very big because there may be
18 other people writing on these exhibits in the next six
19 months.

20 A. One of them is sitting in here
21 and I don't know if anyone will see that.

22 Q. Is that a circle?

23 A. I have put a blob so you can find
24 it.

25 Q. That's a red blob about two inches



1 to the right of Highway 25, or to the east of Highway 25
2 at about the middle of the eastern portion of the site.

3 A. It's on the long laneway straight
4 across from this piece. The next one is just south of
5 the residence south of the watercourse in here, in here
6 (indicating).

7 Q. All right, thank you. Now, which
8 one do you want to do first, the one on the east or the
9 one on the west?

10 A. I have to remember off the top of
11 my head which is Table 1 and which is Table 2.

12 Q. Table 1 is First Line, Milton.

13 A. On First Line, and that's this table...

14 Q. It follows page 4 in the text.

15 A. Yes. The noise monitor sits
16 there and samples the sound level once per second and
17 takes a sound level reading and that is built into the
18 various indices we use to reflect the noise in the
19 community. The first column under the top heading is
20 where it was, what time it started and how many days we
21 took data, that is the calibration. The first column is
22 the hour of the day, and these are all done on an hourly
23 basis and so for instance the very first row starts out
24 with the number 15 and that represents the hour from
25 3:00 o'clock in the afternoon to 4:00 o'clock in the



1 afternoon, 1500 to 1600, and the next down would be 1600
2 to 1700 or 4:00 o'clock until 5:00 o'clock and the day,
3 you can see the day zero -- you add the zero to the 26th
4 of the 9th which would be September, I believe.

5 Q. Could you indicate is September
6 a good, bad or indifferent month for taking this kind of
7 measurement?

8 A. September is actually a relatively
9 good month as it is fairly typical. The traffic volumes
10 in the summer will tend to drop off in all areas, so if
11 you go out in the middle of summer you would find a some-
12 what atypical condition and if you go out in the winter
13 you have all kinds of problems with weather, so the spring
14 and the fall are normally reflective of people's
15 impression of their neighbourhood and when the traffic
16 volumes are sort of an average as they would be through-
17 out the year. September is a good time because we
18 still have decent weather to do the measurements in.

19 Q. One other thing. Time of day.
20 What is your understanding of the hours at which a land-
21 fill might operate should it be located at Site D?

22 A. Well, I would presume that some
23 of the activity would start as early as 7:00 o'clock when
24 they are preparing the site and on the site, but we
25 won't see the truck buildup until a little later in the



1 morning and it should peak somewhere around 11:00 o'clock
2 or so from my understanding of the traffic information,
3 if that is correct, and in fact it is at that peak we
4 are considering the sound level as far as the worse case
5 is concerned.

6 Q. In terms of existing sound levels
7 would we not look at the period when the landfill is
8 officially open each day as the hours during which
9 landfill operations will contribute to the existing
10 sound levels in the area?

11 A. Yes, through to the last thing
12 going on on the site, because they must be covering until
13 it is covered, so there will be something going on even
14 if they close the landfill site at 1700 or 5:00 o'clock,
15 there will be some covering going on still, but the main
16 volume of that will be from 8:00 o'clock through until
17 about 5:00 o'clock.

18 Q. In terms of reading this table,
19 we should look at that period of time?

20 A. That's correct, in the middle of
21 the day.

22 Q. Can you tell the Board going
23 across the top of Table 1 what the various column headings
24 mean?

25 A. The first column is Leq which we



1 have discussed and that is the energy average sound level
2 over the hourly period, and as you read down through
3 there you will see it fluctuating. At 1600 or 4:00
4 o'clock in the afternoon we see there has been a specific
5 event going on in that yard and that particular one is
6 probably local to the yard, and if we get down to 1800
7 we see the number of 52 and that is fairly typical in
8 there and we go down to the next day and we see numbers
9 starting at 55, 58, 57, 55 and on to the next day where
10 you see they drop down in the day, in the middle of the
11 day to the 52, 53 range. Our monitors have picked up
12 some activity and it may be fairly local to that site
13 and it is reflected in the data there.

14 The next column is the L90 which is the
15 sound level that is exceeded 90 per cent of the time and
16 it usually represents how quiet the area can get, sort of
17 the background sound level.

18 The next column, L50, is the sound level
19 exceeded 50 per cent of the time and the next one being
20 L10, the level being exceeded ten per cent of the time
21 and it is usually fairly close to the Leq. The L1, which
22 is the level exceeded one per cent of the time, and now
23 we are talking about short events and that is only 36
24 seconds out of an hour and you are looking at how much
25 of the time there are fairly loud events, and the L0.1



1 represents 3.6 seconds every hour and that is a door
2 slamming or a barking dog or something that would show up.

3 Q. So the last column would give us
4 an indication of the loudest sound events that would
5 occur in the environment on any given day?

6 A. Yes. You can see the lowest
7 reading a sampling device can take is 43 and so you
8 see in the middle of the night it had dropped to 43 or
9 lower and then you go across and see that the sound is
10 made up -- we get higher and with subscripted values
11 we get higher and higher levels and if you get an air-
12 craft going over you will see the LO.1 go up to 90 dB
13 and even though it is just a short time that will drag
14 the Leq up with it when it happens.

15 We use the L90 through LO.1 to see the
16 kind of sound it was that caused the Leq to move around.
17 If someone gets out there with a lawnmower, then the L50
18 will be fairly high and the L90 will still drop down
19 and we can get an idea of what is happening because we
20 don't attend at the site while we are taking these
21 measurements.

22 Typically that area we took to be around
23 Leq 53 to 55 in here once we took out the specific events
24 that appeared to be going on around this location.

25 Q. Just to go back, with respect to



1 the Leq measurement and taking the period of 8:00 until,
2 say, 6:00 every day and eyeballing the numbers, are those
3 the sound level magnitudes that you would expect in this
4 area or are they unusual?

5 A. They are fairly typical for the
6 setback from the road. They are perhaps a tich high,
7 but there is nothing there that would raise my curiosity
8 to go and find out what it was that made the noise. You
9 can get those kind of numbers on a bad night with
10 crickets. They are fairly common levels for that
11 environment.

12 Q. Table 2 is your monitor on Highway
13 25?

14 A. That is correct.

15 Q. How far off Highway 25 were you?

16 A. It's set back in and off the top
17 of my head it would be a guess, but as I recall it it's
18 in a good 100 metres or more from there. I think there
19 is a description of where it is. Perhaps I can just
20 scale it off for you on the map. It's in nearly 200
21 metres from the road at that point, so we are getting well
22 back from the road at that point.

23 Q. What kind of readings did you get
24 at this point?

25 A. Actually the numbers are fairly



1 similar to the numbers we measured back on this roadway
2 here and being set back as far from the highway as we
3 are we are getting numbers in the mid-fifties, 55, 57 dB,
4 which was a little higher than we would have anticipated
5 from that roadway, and the prediction model for the road-
6 way and the model is based normally on fairly short
7 distances, normal use because we were concerned about
8 the first row of houses, but the numbers are three or four
9 dB higher than we were expecting that far back from the
10 roadway.

11 Q. Those are the existing sound
12 levels. Now, in this technical stage how did you define
13 the problem you had to deal with and how did you tackle
14 it?

15 A. Site D?

16 Q. Site D.

17 A. Site D. We started out from the
18 Stage 2C and we had identified that we still had some
19 excesses down here, small but excesses above the Ministry
20 of the Environment, so the technical problem was bringing
21 this site into line and we had discussions with the site
22 design consultant who indicated that he had a good deal
23 of fill available and maybe we should consider using
24 that fill as a berm, a screening berm down the side to
25 bring the site into compliance with the Ministry of the



1 Environment criteria.

2 Q. Is that something you had designed
3 into the thing at Stage 2C?

4 A. The berm?

5 Q. Yes.

6 A. No, we had intended they would
7 build up this fill area rapidly and work behind it in
8 Stage 2C and we had not considered or we couldn't assume
9 in 2C there would be enough earth to do this kind of
10 thing coming from the excavation and so in Stage 2C we
11 were still going on the idea they would be building this
12 quickly and then working behind it.

13 Q. Who set the design criteria for
14 that berm?

15 A. The height of it we set, and we
16 certainly had an input to say what would happen as they
17 work up from the lower area and to make sure that this
18 was high enough that by the time they got up to where
19 they could see over it they were far enough back that
20 the distance would mitigate the sound level for this
21 area along here.

22 Q. You set the elevations for the
23 design engineer?

24 A. Yes.

25 Q. Are those presented in your report?



1 A. They are shown on Figure -- our
2 Figure 2 after page 9.

3 Q. What height is this berm to be
4 constructed to over existing levels?

5 A. I believe it ranges from a minimum
6 of eight metres above existing grade to a maximum of
7 about ten metres above existing grade in the low area
8 here where the drainage goes through under the road.
9 So, because it is not perfectly flat to start with, it
10 varies a little bit, but it reaches an elevation of
11 190 by the lagoon here and the existing in there is about
12 180.4 or 180.6.

13 Q. With that berm -- first of all,
14 would you describe for the Board what will be the noise
15 level impacts at Site D in the construction of that berm
16 and what will be the impacts after the berm has been
17 constructed in terms of the continued operation of the
18 landfill and through the life of the landfill?

19 A. The berm itself, to erect that
20 berm you are going to make a fair amount of noise doing
21 it, and we had discussions with the Region and the
22 regional engineers as to how fast that material could be
23 put up there so the impact on the housing would be
24 minimal. It would appear we would have levels as high
25 as 65 decibels Leq at times as the berm comes in front of



1 any particular household, and it will be in that general
2 range for 150 metres either side of that point and then
3 it will fade away as it drops down. That time period
4 they are in front of any one house looks like about six
5 or eight weeks of construction, so there are six to eight
6 weeks of living across from a fairly noisy construction
7 site and then once they are finished -- we have made
8 some recommendations on minimizing that impact and they
9 are part of the appendix to our report and so they don't
10 spend a lot of time running across the top of the berm
11 but build it in little pieces and go up and right back
12 down so they don't spend a lot of time on top.

13 Q. You are recommending they build a
14 number of access roads to that berm?

15 A. Essentially ramps going up so they
16 can loop up onto the berm and down and not run across
17 the front of it all the way down to here and then back
18 up on top of that berm and that would give much more
19 exposure and they will only have exposure when they are
20 down here on that (indicating).

21 Q. What will it be like living in the
22 environment of Site D should Site D be approved by this
23 Board?

24 A. Well, we felt -- I should mention
25 at this point that in our Figure 2 -- Figure 3 of this



1 report it shows a cross-section of that berm, existent
2 and what the contour would look like back through here.
3 We also did make one other recommendation to change the
4 final contours in this area to make sure they didn't
5 exceed the height that would see over the berm while they
6 were working.

7 Q. Is that the reason why the land-
8 fill is going to be lower at the south end than the north
9 end?

10 A. No. It was an area in here.

11 Q. "In here" being about the middle?

12 A. Just north of the lagoon. This
13 final contour was to run like this, but we found if they
14 worked on top of that contour you had a direct line of
15 sight and had excess over the MOE criterion.

16 Q. Did you make recommendations about
17 the slope of this berm?

18 A. The slope of the berm was dictated
19 by the visual aspects and we would have been just as
20 happy had it been three-to-one instead of six-to-one on
21 the outside and we would have been happier if it could
22 go even higher, but there is a limitation on the visual
23 impact so there is a compromise on the height and not
24 to go higher than necessary for the MOE criterion
25 because as we went higher the impact of that visually



1 became more significant. So, those slopes were chosen
2 on the basis of visual impact.

3 Q. The height was dictated by the
4 necessity to at least meet the Ministry of the Environment
5 criterion of 55 dBA Leq?

6 A. That's right.

7 Q. What will it be like living in
8 the vicinity of Site D for the 20 years of this operation?

9 A. We put together Figure 4 which
10 I have a plot of. Now, the axes have been amplified
11 vertically a little bit here, but it gives a time history
12 of the upper limit of the sound levels that will be heard
13 by a house that is along in this area.

14 MR. HODGSON: Before you continue, perhaps
15 we should mark that. Continuing with the method we have
16 been using, let's call this H-35-4 for Figure 4.

17 --- EXHIBIT NO. H-35-4: Copy of Table 4 from H-35.

18 THE WITNESS: H-35-4?

19 MR. HODGSON: Q. H-35-4.

20 A. I think when we demonstrate the
21 sound levels this way it will give you a better feel for
22 what it will be like. We start out before year one of
23 filling and we have to construct that berm and the
24 sound level will go up to about 65. This figure repre-
25 sents the upper limit of the sound levels throughout the



1 periods and so there are times when it will be much
2 lower than this, but this represents the upper limit of
3 people's experience and what they will relate to. They
4 won't remember when it's quiet, they will remember when
5 it's the loudest.

6 Q. The lower line represents the
7 upper limit?

8 A. It is running here.

9 Q. It's a solid line?

10 A. It's a solid line, right. We will
11 have that initial berm erection for a few weeks which we
12 have actually shown here as being larger than that so
13 it would show up on the display, but it is only a few
14 weeks time, and then the sound level will gradually
15 increase as they build up cell 1, the northern cell, and
16 then drop back down as they go into cell 2 at the bottom
17 of it. It will rise up as cell 2 reaches its peak and
18 then drop down and come back up and level off right at
19 our criterion at cell No. 3. We are expecting a short
20 event at the very end while they put the final cover
21 over that area and this could only be a couple of weeks
22 time where it will be at that, but again we have had to
23 show it broader. Eventually there was some discussion
24 of reclamation of that berm and I am not familiar with
25 the status of that berm in the long term at this point



1 and it may be left where it is and this event similar
2 to the erection of that berm would disappear and in fact
3 I believe ...

4 Q. I understand at the moment that
5 the berm will be left in place and not removed.

6 A. If that is the case, then this
7 event will not occur. But, as you are listening to
8 these, on the noisier days this is the sort of sound level
9 you are going to hear and it will range from below the
10 background noise which we have given here, the sound
11 level that the traffic is going to produce and there is
12 a little bit of question mark about how much the traffic
13 will grow so we have shown that as a band. You can see
14 that for much of the time in the first part it is well
15 below the traffic noise and eventually it starts to come
16 above it and then it picks up and sits right in the area
17 of the traffic noise over the period of a couple of years
18 here and about six or seven years here in which that
19 landfill site will be fairly audible to people to the
20 west.

21 Q. During that period will it exceed
22 the 55 dB?

23 A. It just comes to it and the design
24 was on the basis of holding it just at 55 dB.

25 Q. The highest peak on Exhibit H-35-4



1 is at the 55 level?

2 A. Of the operations time, yes.

3 Q. But it will exceed the criteria
4 during the construction of the berm?

5 A. The construction and if there is
6 a final covering event when there are a lot of scrapers
7 up on top, there will be a short period again, but this
8 is a matter of days and you cannot show that except as
9 a straight line.

10 Q. What is the dashed line or the
11 two dashed lines?

12 A. The dashed line is the background
13 traffic noise and that's the Leq of the traffic in that
14 area.

15 Q. Are those the measurements you
16 took which were presented in Tables 1 and 2?

17 A. They come from those measurements.
18 The measurements we had would have drawn a line about
19 here.

20 Q. "About here" means ...

21 A. Starting at about 54 or 55 and
22 we would have gone along like this and had we just taken
23 those measurements, but we feel the measurements have
24 some contamination, I suppose, of locally generated noise
25 in them and so we don't expect the traffic noise to be



1 that loud. The traffic noise background is the way the
2 Ministry of the Environment judges most stationary
3 noise sources or sources like this and if you don't
4 stick out above the background noise it's okay and if
5 you do then you must do something about it and this is
6 the criteria the Ministry uses rather than an absolute
7 criterion of 55. This is the time when people will
8 notice the landfill and they won't notice it very much
9 when it's down there.

10 Q. They will notice it when it
11 exceeds the existing sound levels?

12 A. When it starts to stick out of
13 the existing Leq and it will become something they will
14 be fairly aware of it. They may hear it at other
15 times, but they will become quite aware of it when it's
16 up in this area.

17 Q. Why are there two dotted lines?

18 A. The projections of the traffic
19 volumes and the increases up there are pretty difficult
20 to make without knowing in 20 years from now -- it's
21 hard to nail down a traffic engineer who will tell you
22 what the traffic on a road that far back will be, so we
23 have allowed a range and it could be argued for either
24 the top line or the bottom line and it's only a couple
25 of dB difference at the end so it's not that big a



1 difference.

2 Q. Your evidence so far with respect
3 to Site D has concerned the noise that would be
4 generated by the activities taking place on the site
5 during the lifetime of the site?

6 A. That's right.

7 Q. Did you also look at noise impacts
8 from road traffic during the life of the site?

9 A. We looked at the road traffic
10 noise impacts and in spite of the new model and every-
11 thing else we came up with the same conclusions we had
12 the first time around in Stage 2C, that there would be a
13 one or two dB increase depending on how close you were
14 to the turnout along Highway 25 and that was the gist
15 of the sound level increase and it was below our thresh-
16 hold of three dB for traffic noise as an impact.

17 Q. In your view is that a notable
18 change in the sound level of the traffic?

19 A. One to two dB?

20 Q. Yes.

21 A. It might be noticed, but I wouldn't
22 call it notable. It would depend upon sensitivity as a
23 few people might be able to pick it out.

24 Q. That is Exhibit H-35 and can we
25 go now to H-36? Just to shorten this examination in



1 chief, is the methodology employed in H-36 in any way
2 similar to the methodology in H-35?

3 A. The prediction procedures,
4 et cetera, all of that comes from the same place, from
5 the selection of measurement points and it's all done
6 for the same reasons.

7 Q. You have already told us that at
8 this stage of your study you have taken exact measure-
9 ments of the sound generated by machinery currently
10 operating at the existing regional landfill adjacent
11 to Site F?

12 A. Yes. We took measurements at
13 Site F as shown on Figure 1, the locations are shown on
14 Figure 1 of that report, and they are just in a loop of
15 the road up here and over ...

16 Q. Could I ask you to again take the
17 red pen and put on a "C" for Coulter and show us -- show
18 the Board just where it is where you took measurements?
19 These are marks that are being made on Exhibit M-103.
20 Do you mind me doing that to your exhibit?

21 MR. DAHME: I wanted to object, but I
22 won't.

23 THE CHAIRMAN: He may have some designs
24 on yours.

25 THE WITNESS: Okay? Those are the two



1 monitoring sites. We looked at the traffic noise and
2 you will see the contours on our site, on Figure 1, the
3 contours that were predicted on either side, and we have
4 also done predictions of the traffic noise right down
5 into this area. The model was otherwise the same and
6 two monitoring points were selected for their proximity
7 and the fact that they represented the areas they were
8 in fairly well.

9 Q. Before you give the results of
10 those two monitors, and you have given them in part but
11 I would like them in more detail, but, first of all, des-
12 cribe for the Board if you would the sound environment
13 or noise environment at existing Site F and what goes on
14 in and around that generates noise.

15 A. Site F has Highway 403 immediately
16 to the south of it.

17 Q. What are the sound levels at
18 Highway 403 measured some short distance from it?

19 A. Say 100 feet back from the edge
20 of the right-of-way we would have numbers in the mid
21 to low-seventies, 72 or 75 dB during the day from that
22 roadway because there is lots of truck traffic headed
23 to Brantford and the City of Hamilton and I believe the
24 55 dB contour runs somewhere through about here
25 (indicating).



1 Now, there is a lot of sound is generated
2 in there.

3 Q. From the point of view of the
4 Ministry of the Environment criteria of 55 dB Leq, that
5 is already exceeded for the southern third of Site F?

6 A. Yes, and also down to the south
7 of the site similarly, plus we have a railway line running
8 through to the south and I believe this is Plains Road,
9 but I could be corrected on that. Yes, Plains Road
10 running through here which is a major arterial road, so
11 we have a whole neighbourhood in here and as we get back
12 from the areas where the sound level is 50 dB in the
13 area back yards now during the daytime and then we have
14 this area in here which has no local traffic ...

15 Q. You have to identify that. The
16 area you have talked about is the community of houses
17 to the north of Plains Road in between Plains Road and
18 the CNR tracks and to the west of King Road?

19 A. It is a sort of urban portion or
20 northern part of the urban portion of Burlington.

21 Q. You were going to describe the
22 area to the north of the site on King Road.

23 A. This is on King Road and where
24 the road turns, and this is ...

25 Q. There is a nest of three houses?



1 A. There is a nest of four houses
2 in here, four residences in here, and then a couple more
3 sitting in here and then the next nearest residence is
4 here and a residence here. We have an existing land-
5 fill operating right now which figures in the measure-
6 ments right here and then other residences towards
7 Waterdown Road in this area and the local noise genera-
8 tion up in this area is very low.

9 Q. You are now pointing to the north
10 of the site?

11 A. To the north of the site. It is
12 very low, but the sound is carrying up very well from 403
13 because of the relatively rugged topography here. We
14 are missing some of the normal attenuation we would get
15 if that were flat ground, and so the sound levels up here
16 were found to be significantly higher than we would
17 predict from the normal noise model .

18 Q. Can you hear Highway 403 from
19 those houses to the north of the site?

20 A. From here you can hear 403 and
21 equally at the moment a contribution from the existing
22 landfill site. From this area, which is partially
23 shielded from the 403 ...

24 Q. You are now pointing to the
25 community of houses to the east?



4A

1 A. Yes, and I think I can give you
2 an address. It's 1860 Four Seasons Drive. Its shielding
3 has brought it into what we would have expected at that
4 distance, about 50 decibels up here because of the
5 shielding, and the area or the radius of concern to us
6 as far as impact from the site was this general area
7 which is about 500 metres where the 55 dB contour comes or
8 actually closer to 400.

9 Q. Can you go to Table 1 and Table 2
10 and describe the results and also Table 3, but describe
11 the results of the measurements you took of the existing
12 sound levels at points somewhat adjacent to Site F?

13 A. Table 1 comes after page 5 of
14 the Site F report and what it shows, and this is the
15 King Road site up here, and what it shows is that one
16 day the sound levels are steadily in the 55 dB Leq
17 range and we have reports from the gentleman who was
18 installing the monitor that he could hear the 403, he
19 could hear the site, the current landfill site at that
20 location, and from watching the sound level on the
21 monitor as they came in. We took the contribution to
22 be roughly equal on the two sites, and if you took the
23 two sites individually this would give you about 52
24 decibels and this would give you approximately 52 decibels.
25 This will fluctuate a little bit with the wind at that



1 distance.

2 Q. How do you add up 52 decibels
3 from the landfill site and 52 decibels from Highway 403?

4 A. Carefully. Every time you double
5 the energy in the sound field it adds three decibels
6 and so if you have two sources that each produce 50 you
7 get 53. If you have four sources that produce 50 you
8 will get a doubling twice or 56. So, as you add energy
9 it doesn't add in the normal arithmetic progression and
10 in fact there is some sense to it but it is difficult
11 to explain in a short time what is going on. If you
12 want to increase the sound level by ten dB you must
13 increase the total amount of synergy by a factor of ten
14 to one.

15 Q. Ten times?

16 A. That's right.

17 Q. What were the results at 1870
18 King Road, Burlington?

19 A. 1870, as I was saying, is around
20 55 dB through much of the day and in some time periods
21 it drops down to 51 and we notice how steady it is in
22 Leq as it goes over to Table 2 and it is quite steady
23 and it is susceptible to wind direction because the way
24 the sound will carry over such a large distance will
25 depend to some extent on wind and also on some local



1 affects, local inversions near the ground, so we would
2 expect a fluctuation. However, it looks like it is in
3 the order of 50 to 55 right now up there from the 403.

4 Q. Table 2 says 1860 Four Seasons
5 Drive.

6 A. I'm sorry, I jumped ahead.

7 Q. Table 1 is the site on King Road;
8 is that correct?

9 A. Correct.

10 Q. And Tables 2 and 3 are the single
11 site at 1860 Four Seasons Drive?

12 A. Yes.

13 Q. What are the results like there?

14 A. The results on Four Seasons Drive
15 are steadily in the low 50 dB range and it's almost
16 virtually 100 per cent coming from the 403 and the Q.E.
17 exchange to the south, and it's not very vulnerable to
18 weather, it's pretty well locked in there day and night
19 and it shows that there is a lot of heavy trucks through
20 the night to hold that level up steadily through both
21 the day and the night.

22 Q. Did you use your model to predict
23 the sound level impacts generated by the operation of a
24 landfill at Site F during the 20-year life of the proposed
25 site?



1 A. Yes. We took the model calibrated
2 with the specific vehicles in use at the current site
3 and projected out. In this case our report refers to a
4 situation in which they are filling up to the final elevation
5 here and the area impacted the most are these houses
6 which are the closest to landfilling on King Road north
7 of the site, and as we get to the very northerly point
8 on the site the levels are just coming to 55 dB at those
9 houses and without mitigation the nearest residences
10 were just coming to 55 decibels Leq.

11 The area we talked about on Stage 2C,
12 the Bayview Park and the horse ring over here
13 we looked at in a lot more detail because of the
14 difficulty for the people if that site was moved and
15 you asked us to review that carefully and we did. Now
16 looking at when the filling would be close to this area
17 and what was the activity in the horse rings, what was
18 its time versus the time of the week that this was
19 operating, and we found from fairly careful discussions
20 on the traffic and the operational people that they
21 were expecting about a third of the traffic up on to
22 the site in this area on Saturdays that they were through
23 the week and the logarithmic arithmetic would indicate
24 that the sound level instead of being 60 as it would be
25 during the week would drop by five decibels due to that



1 -- the one-third of the activity. That would put the
2 sound level in the horse ring area, and this is a parking
3 lot, but right about at 55 decibels on Saturdays which
4 corresponds to most of the professional or organized
5 activity in that ring and when there is a group of
6 people out here trying to make discussion and the sound
7 levels in here would be 55 decibels. So, we took,
8 although we don't have specific guidance from the
9 Ministry of the Environment but if the residential area
10 was permitted to be 55 then we thought an active public
11 park, 55 decibels was a reasonable criterion.

12 In checking with the horse ring they
13 indicated that there are about eight Fridays of the year
14 when there would be similar activity, say a Saturday
15 activity which would be too much and they would have to
16 do some work in there on Friday afternoon, and that
17 meant we had about eight Fridays a year where we could
18 impact up to 60 dB and we have looked at the number of
19 years that would happen and going over it with the site
20 design engineer, we are expecting about two years in which
21 on Fridays for about eight Fridays of the year we would
22 have sound levels in the order of 60dB and thereafter
23 dropping well below that.

24 So, we have an impact as the current
25 sites is designed for 16 Fridays out of the 20-year life



1 on that horse ring and we felt that was a very low number
2 and it wouldn't stop the operation of the ring. It might
3 be annoying to a few people, but we did not recommend
4 mitigation to cut down that small an impact.

5 Q. Now, Mr. Coulter, have you been
6 made aware of a subsequent proposed design alteration
7 or refinement for Site F?

8 A. Yes, and I think I have it with
9 me here among the gathering. Site F as we originally
10 saw it just filled to the north boundary without the
11 area that is covered in yellow or coloured in yellow or
12 the berm immediately to the south of it. My understand-
13 ing is that there is a lot of material that has to be
14 stored because of changes in the marketability of
15 materials being taken out of the ground and it can't be
16 sold so therefore it will be stored and re-used as cover
17 material.

18 Q. Can I interrupt you? I would
19 like to mark this before you continue with it. This
20 will be Exhibit H-42-8, but before we write on the number
21 42 let me just check if it's the number for the Site F
22 design and operations report. H-42B-8 as a reference
23 to drawing 8R for Exhibit H-42B.

24 --- EXHIBIT NO. H-42B-8: Revised drawing from Exhibit
25 H-42B

THE CHAIRMAN: That is what?



1 MR. HODGSON: That is a revised drawing
2 from the refined design and operations report showing
3 the landfill site at the end of year three, landfill
4 Site F at the end of year three.

5 Q. I'm sorry, could you continue,
6 Mr. Coulter? What change have you been made aware of
7 with respect to Site F and what impact, if any, will it
8 have in terms of noise?

9 A. Site F was originally to have been
10 started in this area and I understand the material was
11 to have been taken off site or some of it was sold, the
12 shale that was there, but that apparently is not
13 probable so there has been a proposal to put the material
14 up in this area.

15 Q. "This area" is referring to an
16 inverted L-shaped berm at the north end of the site?

17 A. Right, and another one we have
18 not coloured immediately to the south of it, a second
19 berm immediately to the south of the north access road.

20 Q. Where is that berm in relation
21 to the horse ring?

22 A. The horse ring is sitting down
23 here and King Road turns at this point and comes down
24 here and the horse ring is sitting in here (indicating).

25 Q. So the horse ring ...



1 A. Is not affected by that berm.
2 The effect of that berm, and perhaps I could jump as
3 there is an error in one of the figures and it was to
4 have been Figure 5 and it got put in this report from
5 Site D. In fact it's called Figure 4 and I can show
6 you the picture. That is a similar time history for
7 this site for the one we saw for Site D except this is
8 the actual one from Site D. In the comparison that
9 we did between Sites D and F, and that ...

10 Q. The comparison report is H-14
11 and your appendix is Appendix H.

12 A. Appendix H and we show Site D and
13 Site F and a proper map for Site F is the bottom one
14 which I would like to put up.

15 DR. KINGHAM: Do we have that figure
16 in another exhibit?

17 MR. HODGSON: Q. I believe that figure
18 appears in Exhibit H-14 in Appendix H at roughly page 4,
19 but I think it is more properly associated with this
20 report, H-36, and it's supposed to have been Figure 4
21 in H-36.

22 A. Figure 5, actually.

23 MR. HODGSON: I wonder if it could be
24 marked as Exhibit H-36-5.

25 --- EXHIBIT NO. H-36-5: Figure 5 from Exhibit H-36



1 MR. HODGSON: We will have that properly
2 mounted.

3 THE WITNESS: This site starts out ...

4 MR. HODGSON: Q. "This site" is Site F?

5 A. Right. It starts out with the
6 activity starting in this area here and the sound levels
7 to the north, the most impacted points, they start out
8 at about 50 decibels Leq and they rise towards what we
9 projected to be the Leq of the traffic noise up there
10 until about the year ten and then they poke out towards
11 55. In year 11 the activity of the site at the north
12 end drops right down and they start working in this area
13 and so the sound levels drop well below the traffic
14 noise up there for this period. Now, this is the
15 original projection before this was built.

16 Q. You are now referring to the
17 inverted L?

18 A. Yes, this area of berm which is
19 now predicted to be built.

20 DR. KINGHAM: That is the projection for
21 which listening point?

22 THE WITNESS: This is a projection for
23 the four-house cluster on King Road just where the road
24 swiggles and I think the address up there -- was it
25 1867 or 1870? This was King Road where we monitored.



1 MR. HODGSON: Q. 1870 King Road.

2 A. 1870 King Road. This is the area
3 most impacted by the site and it starts out fairly low
4 and then for a couple of years sticks out over the
5 background noise and then drops way down. The effect
6 of this we worked out just recently, the effect of
7 putting this material in here, and it is relatively small.
8 We are assuming there are 12 scraper events, that is
9 the scrapers will take the material from here and run
10 up onto this berm and drop it and then come back down in
11 an hour and it will take approximately a year to build
12 that berm. At that rate it modifies this contour very
13 little and it would just take this to the first year a
14 bit and raise it about a dB and the actual operation
15 itself without anything else going on and just looking
16 at the erection of that berm to the north is about 45
17 or 46 decibels at the nearest houses. So, this has not
18 made much of a change to the sound levels. It will
19 provide a little bit of shielding for time, but it will
20 be used as cover material as they come north and so by
21 the time we get to the closest area this won't be here
22 and so this will still be the case when we get up to
23 the northern end.

24 Q. Will the sound levels at the
25 nearest receptor at Site F exceed the Ministry of the



1 Environment criteria through the life of the site?

2 A. We are expecting to come just to
3 the criteria at 55 for about a year at the peak point.

4 Q. Did you also look at the impacts
5 of traffic on Site F?

6 A. We looked at the traffic at Site
7 F but it has the same comments as applied to Stage 2C.
8 On the North Service Road the traffic or the main access
9 would remain using the current access to the current
10 landfill site and this traffic, the main flow being
11 along this part of the North Service Road, is a small
12 contribution, very small contribution relative to all
13 the traffic in this area from the 403.

14 Q. Did you subsequent to your work
15 in preparing Exhibits H-35 and H-36, did you have
16 occasion to compare and consider again your ranking of
17 Sites D and F?

18 A. Yes. We looked at Sites D and F
19 again on the basis that D now had new mitigation in it
20 and there was a potential change in the ranking and if
21 I can find D, at Site D we still have a fairly long
22 period of time in which the seven or eight houses down
23 in this area are going to be at or above the noise,
24 the ambient noise, the traffic noise. At Site F we
25 have four houses and to a lesser extent these homes in



1 this area.

2 Q. "This area" being to the northwest
3 of the site?

4 A. Yes, these homes up in here.

5 Q. Mr. Aitkins' home and
6 Mr. Ellstone's home?

7 A. I would have to look that up, but
8 they are currently receiving noise from this landfill
9 site. They will have this two-year time period where
10 the existing sound levels if you took the landfill
11 operations out of there, where they would exceed those
12 background levels, and so with a smaller number of homes
13 and for a shorter period of time on Site F being impacted
14 and for the Bayview Park problem essentially being
15 handled by the fact that when this park is under the kind
16 of use we were concerned about there is much lower
17 activity in the landfill area, relative to more houses
18 exposed for a longer period of time, we would still rate
19 Site F over Site D and by as much as we had in the
20 Stage 2C. It is a fairly -- I don't think it takes all
21 the acoustics and dB's and decibels and things to see
22 there is a substantial buffer all the way around Site F
23 and Site D backs on to the houses right here and it
24 doesn't take a lot of mathematics to realize there will
25 be more of a noise problem at Site D than there would be



at site F.

1 Q. One other question but going back
2 to Site F and to Bayview Park. Are there any other
3 activities taking place on that closed landfill that
4 contribute to sound levels in the general environment of
5 Site F?

6 A. Apparently there have been a
7 number -- not just the park, but you can see the area is
8 criss-crossed with trails and that they have been trying
9 to control but the main bulk of Site F ...

10 Q. I'm referring to Bayview, the
11 closed landfill.

12 A. There is a lot of trail bike
13 activity existent here and apparently they are trying to
14 control it, but in this area there is an indoor gun club
15 and I don't think anyone is too concerned about the
16 noise outdoors in that area. Down in this area they fly
17 model airplanes and, depending upon how busy they are with
18 their model airplanes, they can usually compete with the
19 landfill in terms of the noise.

20 Q. When you say "compete", on a
21 Saturday on which the landfill is operating at Saturday
22 levels if they are flying model airplanes what will be
23 the impact at the horse ring?

24 A. Depending on just where the model
25 airplanes are flying, if they are operating in this area they are more



1 -- perhaps I should say annoying because there is a
2 characteristic to the model airplane engine, the buzz
3 which makes it stick out so it's more annoyance than
4 it measures if you go out with a meter. If they were
5 operating model airplanes in this area they would annoy
6 the horse ring activity more than the landfill on a
7 Saturday. We don't have a lot of data as to just how
8 often and what all is going on, but we understand that
9 is one of the uses, the model airplane flying club in
10 that area. There is a quarry across the road and there
11 is various levels of activities at other times, but there
12 is already activity in the area in the industrial
13 sense.

14 MR. HODGSON: Thank you, Mr. Chairman,
15 and those are all my questions. I apologize for keeping
16 you for so long but I did want to complete the examina-
17 tion in chief today if that was at all possible.

18 THE CHAIRMAN: Fine. We will stand
19 adjourned until 9:30 tomorrow morning.

20 --- Adjournment (5:03 p.m.)

21 CERTIFIED CORRECT

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23

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25


C. F. Nethercut, C.V.R.