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ENVIRONMENTAL ASSESSMENT BOARD

IN THE MATTER OF Sections 32 and 33 of the Environmental Protection Act (R.S.O. 1980, c. 141) as amended,

- and -

IN THE MATTER OF an application by the Regional Municipality of Halton for a Certificate of Approval for an extension to the area allowed for landfilling and a revision to the maximum height of their presently operating landfill site located on Parts of Lots 3 and 4, Concessions I and II and more particularly designated as Parts 1 to 9 inclusive, on Registered Plan of Survey 20R4648, City of Burlington.

BEFORE:

R.B. Eisen, Q.C.	-	Chairman
M.I. Jeffery, Q.C.	-	Member

VOLUME NO.: 16

DATE: June 12, 1984

PLACE: Burlington, Ontario

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Nethercut & Co. Ltd.

Toronto, Ontario

I N D E X

1	Argument by Mr. Hodgson	3002
2	Argument by Mr. Brown	3059
3	Argument by Mr. Tidball	3073
4	Argument by Mr. Timberg	3115
5	Argument in reply by Mr. Hodgson	3177
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
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18		
19		
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21		
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23		
24		
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BEFORE:

R. B. Eisen, Q.C. - Chairman

M. I. Jeffery, Q.C. - Member

Sitting in the Polish Community Centre,
2316 Fairview Street, Burlington, Ontario
on Tuesday, June 12, 1984

Volume No. 16

APPEARANCES:

D. Hodgson - for the Regional
Municipality of Halton

D. C. Brown - for the Corporation of
the City of Burlington



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APPEARANCES (Cont'd):

R. Timberg - for the West Burlington
Citizens Group

J. Tidball - for the Director, Central Region,
Ministry of the Environment

J. Hall - for Halton Region
Conservation Authority

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



1 ---Upon commencing at 9:30 a.m.

2 THE CHAIRMAN: Mr. Hodgson.

3 ARGUMENT BY MR. HODGSON:

4 Thank you, Mr. Chairman. Now we
5 have got the lecturn back from the witnesses we can
6 now give evidence from the floor. There are two short
7 items of unfinished business and first is when he was
8 in the witness box, Mr. Constantine was asked questions
9 about the analyses of leachate et cetera that he was
10 opining upon and whether or not this was all in his
11 report. Mr. Constantine has looked to the matter and
12 discovered what we suspected when he was in the witness
13 box, namely, that all the analyses in fact were in Section
14 O of the report and all the analyses that exist are
15 in Mr. Leech's report and there are no further analyses
16 to put before the Board and I have a letter from
17 Mr. Constantine to that effect, but I don't think
18 it is necessary to file it.

19
20 The other matter is that you will
21 recall two weeks ago Mr. Hall from the Halton Region
22 Conservation Authority gave evidence on behalf of that
23 Authority. Mr. Hall indicated at the time that the
24 full Authority had not had an opportunity to meet
25 to consider this matter and we have now received a



1 letter from Mr. Hall indicating that the full Authority
2 did meet on the 31st of May, 1984 and the Authority
3 approved the letter, approved the undertakings and
4 agreements reached between the Authority and the
5 Region of Halton and those undertakings and agreements
6 were filed in evidence by Mr. Hall when he was here.
7 I have a copy of the letter from Mr. Hall and I
8 showed it to Mr. Timberg but not to my other friends.
9 I am not sure it is necessary to file it as it does
10 not change anything before this Board.

11 I have this morning received
12 Mr. Timberg's-- he kindly showed me a page of his notes
13 on which he had written out the conditions that his
14 client proposed to address and Mr. Brown and
15 Mr. Tidball have each given me copies of the conditions
16 that their respective clients propose to put to this
17 Board, and I have not really had a chance to read the
18 ones from Mr. Tidball so I will make my argument
19 without reference to what other counsel may ask for
20 in the way of conditions and then respond at the
21 appropriate time.

22 Now, Mr. Chairman, I propose to make
23 my argument as brief as possible. I don't think that
24 it would be useful to go through and summarize all
25 the evidence you have heard over a period of I think it



1 is five weeks now. I propose to refer to the
2 evidence where there are differences of opinion and make
3 submissions in that regard.

4 First I want to submit to you on
5 behalf of the Region of Halton, that this Panel should
6 recommend to the Environmental Assessment Board and
7 the Environmental Assessment Board should recommend
8 to the Director that continued landfilling at the
9 Burlington landfill site in Phases A, B, C and D in
10 that order should be approved and that, of course,
11 will be subject to the condition which was imposed
12 by the Minister in the exemption granted under
13 Section 29 of the Environmental Assessment Act,
14 whereby landfilling at this site will be discontinued
15 at that point in time, at the time at which the
16 Region has alternative means to dispose of its solid
17 waste as a result of the environmental assessment
18 currently being conducted in the Region.

19 Now, in support of that submission,
20 I would like to make a few other submissions. First,
21 with regard to the question of need, you have seen
22 from Exhibits 66 and 107, which were updates of waste
23 going into this site, first -- and you also heard
24 from the evidence of Mr. Perlin and Mr. Woodburn --
25 this is the only site operating in the Region of



1 Halton and it is the only site currently available
2 to receive solid waste generated in the Region of
3 Halton and the need for the site is very evident and
4 it is clear from Exhibits 66 and 107 that, (a),
5 substantial quantities of waste are going into this site
6 and, (b), substantial quantities of waste are being
7 generated in this Region and need to be disposed of.

8 Referring briefly to the evidence,
9 more or less in the order we heard it, with regard
10 to the environmental impact from an ecological point
11 of view you heard the evidence of Mr. Stevens on
12 behalf of the Region of Halton and Dr. Dorney on behalf
13 of the City of Burlington. Mr. Stevens has given
14 his opinion that this site, or that landfilling
15 can be carried on at this site without significant
16 adverse impact on the topography and soils, vegetation,
17 wildlife or without significant impact on the
18 most significant feature in the area, the Sassafras
19 Woods ESA.

20 You have also heard Mr. Stevens'
21 opinion that it would be most unfortunate if the
22 contingency plan, or contingency feature designed
23 for the Falcon Creek basin was in fact built and I
24 wish merely to submit to you that while indeed the
25 Region agrees with its own witness that it would be



1 most unfortunate and it agrees also with Mr. Leech
2 that is very unlikely that that feature would ever
3 have to be built, if it did have to built we are
4 dealing here with a matter of trade-off and while
5 it is true that one small portion of the Sassafras
6 Woods ESA might be adversely impacted, the impact would be
7 for the purpose of preventing the pollution of Falcon
8 Creek which is also a significant environmental
9 feature.

10 THE CHAIRMAN: Mr. Hodgson,
11 Mr. Stevens I think talked of the contingency plan
12 being down in the valley.

13 MR. HODGSON: Yes.

14 THE CHAIRMAN: If I am correct,
15 Dr. Dorney felt it should be within the 20-metre
16 set-back. Where did it go after that?

17 MR. HODGSON: Where I think it
18 went after that is that Mr. Ridley in his evidence
19 suggested that the toe drain in areas B and D could
20 be built to a depth which would intercept leachate
21 migrating through the bottom of B and D and towards
22 Falcon Creek. I think the conclusion from hearing --
23 first, Mr. Ridley made that suggestion but then agreed
24 during his evidence that he was not qualified to
25 give an opinion as to whether or not what he was



1 suggesting was feasible. Both Mr. Leech and
2 Mr. Wells indicated that in their opinion it was
3 not feasible to build a toe drain in that way.

4 So, it is not possible, and the
5 evidence seems to be that it is not possible to
6 build a contingency leachate interceptor in the 20-
7 metre set-back and if a contingency interceptor is
8 ever needed it will have to be built down in the
9 Falcon Creek area and I think also the weight of the
10 evidence is that it will never be necessary.

11 Then, it was the evidence of Dr. Dorney
12 also that this continued landfilling can be done
13 without significant damage to the biophysical
14 environment. Dr. Dorney did, however, address a
15 number of matters, one or two of which have certainly been
16 taken care of. First, Dr. Dorney wanted a biophysical
17 inventory of the existing site. It was the evidence
18 of Mr. Stevens that that was not a necessary or
19 useful thing to do. However, because the City of
20 Burlington requested this, the Region of Halton has
21 agreed to do this and in fact it will be done and
22 I understand that Mr. Perlin is currently making
23 arrangements to have that done. Secondly, Dr. Dorney
24 was concerned about erosion in the Falcon Creek basin
25 itself and the evidence of Dr. Dorney was that from



1 air photos taken 30 years ago that erosion was already
2 there. It was clearly not erosion caused by the land-
3 fill. However, you have also heard evidence from
4 Mr. Stevens that determined efforts had already been
5 taken to deal with that erosion and determined
6 efforts will continue to be made by the Region of
7 Halton to deal with erosion in the creek area.

8 Third, Dr. Dorney wanted a 20-metre
9 set-back and that has been agreed to and an exhibit
10 was filed with you on Friday, and I don't have a
11 quick reference to the number, but an exhibit was
12 filed indicating that the parties have surveyed
13 the north end of the site and have agreed upon the
14 line at which the 20-metre set-back will be placed.

15 Fourth, Dr. Dorney thought that it
16 was necessary to have three metres of cover in order
17 to give revegetation an adequate chance and that
18 has been agreed to and that will be done and
19 Mr. Wells has given evidence that there is sufficient
20 cover material on-site to provide for three feet of
21 cover.

22 Finally, Dr. Dorney ...

23 THE CHAIRMAN: Is that three feet?

24 MR. HODGSON: Three feet. Dr. Dorney
25 has asked for three feet and three feet has been agreed



1 upon to and Mr. Wells has indicated that cover
2 material is available on-site to provide for three
3 feet of cover.

4 Finally, Dr. Dorney had some comments
5 about after-use which I propose to deal with in a
6 moment under another heading.

7 Now, before I leave this subject of
8 impact on the ecology of the area, I want to raise one
9 issue which came before the Board and that is that the
10 citizens in the area have some concern about the use
11 of dirt bikes on the National Sewer Pipe property
12 and on the Region's property. The Region of course
13 can do nothing about the use put by anyone to National
14 Sewer Pipe's property, that is a matter for National
15 Sewer Pipe to deal with and if a nuisance is created
16 that is a matter to be regulated by the law of nuisance
17 and, I suppose, also by by-laws of the City of Burlington.

18 However, the Region proposes to
19 attempt at least additional measures to deal with
20 security and the use of its property by dirt bikes
21 and in this regard I direct your attention to Exhibit
22 111, a recent resolution of Council. Council has
23 resolved on the first page of Exhibit 111 that the
24 operational improvements at the Burlington landfill
25 site set out in Public Works report 111/84 be approved



1 and implemented and then, at page 5 of that report
2 it has been recommended:

3 "We would therefore recommend..."

4 This is page 5, the first full paragraph beginning
5 about 40 per cent of the way down the page at the
6 right-hand side commencing with:

7 "We would therefore recommend..."

8 And it says:

9 "...that a security system be establ-
10 ished for the Burlington landfill
11 site for the hours between the close
12 of the site operations and dusk
13 Monday through Saturday and from
14 8:00 a.m. until dusk on Saturday to
15 ensure that these vehicles do not
16 enter the site."

17 And then it goes on to point out there is a telephone
18 in the gatehouse and the police can be called if
19 trespassers are found on the site, and some comments
20 here about the availability in the budget of funds
21 to employ a security person for this purpose.

22 Whether or not that experiment will be successful
23 remains to be seen, but the Region proposes to attempt
24 to control the use of dirt bikes and not only because
25 the local citizens are concerned about the noise but



1 because the evidence from Dr. Dorney and from
2 Mr. Stevens is that the dirt bikes more than anything
3 else are degrading the environment around the site
4 and interfering with the attempts by the Region to
5 revegetate the site. In fact, the dirt bikes them-
6 selves are creating an erosion problem.

7 Now, with regard to the after-use
8 of the site, you heard the evidence of Mr. Stevens
9 for the Region, Dr. Rice from the Royal Botanical
10 Gardens for the Region, Mr. Wright, the landscape
11 architect retained by the Region, Dr. Dorney retained
12 by the City of Burlington and Mr. Elstone, a resident
13 living to the north of the site.

14 The recommendation of Messrs. Stevens,
15 Rice, Wright and Dorney appears to be that the property
16 be used for passive recreational uses in the future and
17 that a determined effort be made to revegetate the site
18 in a manner which will restore the site to the kind
19 of vegetative cover that it would have had prior to
20 its use by predecessors to the Region of Halton for
21 other purposes. Agriculture is one because we heard
22 from Mr. Stevens there was an old field system to the
23 north and I assume there was once a field in agri-
24 cultural use to the north of the property and we
25 have also had some indication that there was some



1 quarrying done on the site, although I am not sure
2 that that evidence is very substantial.

3 In any case, the properties to the
4 west of the site are properties which have on them
5 the Sassafras ESA and an attempt will be made to
6 revegetate the site or it is proposed that the site
7 be revegetated so that in effect the ESA would
8 continue across the Burlington landfill.

9 Now, with regard to the actual plans,
10 the plans presented by the witnesses for the Region
11 were conceptual only and Dr. Dorney commented on them
12 as though they were conceptual only. In my submission
13 they should remain conceptual at this time. The
14 Region has passed a resolution found at page U-99
15 of volume 3 of Exhibit 7 to the effect that the
16 Burlington Landfill Advisory Committee will be
17 established if the Director sees fit to approve
18 continued use of this site and the Burlington Landfill
19 Advisory Committee has as one of its mandates, as it
20 were, discussion and proposals for after-use. The
21 Landfill Committee will have representatives from the
22 Region, from the City, from the local ratepayers and
23 concerned citizens and it is very clear from the very
24 structure of that committee that anyone who has an
25 interest in the after-use will have an opportunity to



1 make submissions. I think in fairness it should
2 be that committee which considers and deals with
3 the issue of after-use.

4 The Director, should approval be
5 given, will no doubt impose upon it as a condition
6 that an after-use plan be submitted for his approval
7 at a later date and, of course, the Region will comply
8 with any such condition, but before that kind of
9 submission is made to the Director, the Burlington
10 Landfill Advisory Committee will be given a full
11 opportunity to make its wishes known to the Region.

12 Of all the witnesses, Mr. Elstone
13 was the only person who opposed any public use of
14 this property after its closure, and indeed
15 Mr. Elstone went so far as to suggest to the Region
16 that the Region deal with its land such that it not
17 be attractive and that it not attract members of the
18 public. In that regard he fairly
19 stated that it does not attract
20 members of the public at
21 this time except for the dirt bikes operators.
22 However, Mr. Elstone will also have an opportunity
23 to make his wishes known to the Burlington Landfill
24 Advisory Committee.

25 With regard to after-use, notwith-



1 standing that final use and final design for re-
2 vegetation et cetera of the site in my submission should be
3 left to be dealt with by the committee and the Region
4 and the Director at a later date, the Region has
5 proposed and indeed has already commenced, (a), efforts
6 to revegetate those areas of the site not currently
7 used for landfill and, (b), it has also proposed that
8 Dr. Rice and Mr. Stevens and others commence some
9 experimental plantings on areas of the site not
10 currently used for landfilling.

11 In my submission, it would be
12 appropriate that such experiments be conducted at
13 this time so that knowledge can be gained before
14 1987 as to what kinds of revegetative efforts will
15 reward those who make them.

16 Now, our next submission is with
17 regard to the subject of noise. You heard first the
18 evidence of Dr. Lightstone for the Region of Halton
19 that the Ministry of the Environment has established
20 a criterion that the receptor of sound -- sounds
21 generated by a landfill should not receive sounds
22 originating from the landfill in excess of 55 dBA.
23 This is a guideline of the Ministry and this is not
24 a matter of law. However, Dr. Lightstone used this
25 guideline in analyzing the impact of sounds generated



1 by the site at the residences of concerned neighbours
2 and, indeed, Dr. Lightstone's evidence was tailored
3 to the concerns of those who are the closest neighbours
4 and most likely to be impacted by sounds generated
5 at the site. It was Dr. Lightstone's evidence that
6 the amount of noise generated by Hwy. 403 is such
7 that there is no impact of noise generated at the site
8 to the south of the site. With regard to the concerned
9 citizens and in particular Mr. Johnson who gave
10 evidence and Mr. Aitkin who gave evidence here,
11 Dr. Walker who gave evidence here and Mr. Elstone
12 who gave evidence here, it was the evidence of
13 Dr. Lightstone that the Ministry of the Environment
14 criterion would not be exceeded at any residence but
15 that of Mr. Elstone, and it could only be exceeded
16 at the residence of Mr. Elstone for periods of
17 time when work, particularly excavation work, was
18 occurring at those portions of the landfill closest
19 to the Elstone residence, namely, at the north end
20 of the site and even then,
21 although the sound levels
22 received from the landfill at the Elstone residence
23 would be in excess of 55 dBA, they would only very
24 slightly in excess of that criterion.

25 You have also heard evidence on this



1 subject that Mr. Johnson, Mr. Aitken, Dr. Walker and
2 Mr. Elstone are concerned and fairly concerned about
3 the noise that is generated at this site and received
4 by them. While the Region regrets the necessity,
5 however, there is a necessity and it is unfortunate but
6 there is an impact on concerned neighbours and in
7 my submission the impact is now such that this site
8 cannot be operated in this particular setting.

9 Now, with regard to traffic, which
10 was dealt with by the evidence of Mr. Hill called on
11 behalf of the Region, the evidence is that the volumes
12 of traffic reaching the landfill are insignificant
13 in relation to the volumes of traffic carried on the
14 North Service Road and on Hwy. 403. It was his
15 evidence that the intersections most closely connected
16 with the site were not adversely impacted by the
17 volumes of traffic reaching the site and it was also
18 his evidence based upon projections of waste
19 quantity growth in the region that the volumes of
20 traffic over the next three years would not signifi-
21 cantly impact the road system in the area.

22 However, Mr. Hill has recommended
23 and the Region has agreed to construct a right turning
24 lane on the North Service Road to minimize the impact
25 on traffic following vehicles turning into this site,



1 vehicles travelling in a westerly direction and turn-
2 ing into this site.

3 The Region has also -- excuse me, but
4 Mr. Hill has also recommended to the Region that
5 the speed limit on the North Service Road be 60
6 kilometres per hour rather than the current 80 kilo-
7 metres per hour. In this regard, the Region has once
8 again in Exhibit 111, by Resolution dated 6 June, 1984
9 requested that the City of Burlington reconsider the
10 speed limit on this particular stretch of road and
11 reduce it to 60 kilometres per hour. That matter
12 is really a matter that is in the hands of the City
13 of Burlington and the Region is not in a position to
14 do anything more about it.

15 Now, with regard to the evidence of
16 Mr. Wright, Mr. Robert Wright, a landscape architect
17 on the visual assessment of this site, it was
18 Mr. Wright's evidence that while the escarpment is a
19 landform feature which has its primary orientation
20 in this setting east-west, the smaller landforms in the
21 area run generally in a north-south direction, I guess
22 as a result of surface runoff from the escarpment, and
23 certainly you have heard evidence on many different
24 occasions from many different witnesses that the two
25 creek systems in the area, the Falcon Creek and the



1 Indian Creek, both run off the face of the escarpment,
2 generally in a southerly direction. The landfill site
3 then is a landform oriented in a north-south direction
4 as are other landforms in the area.

5 There is a concern the landfill is
6 changes the topography of the immediate area and it
7 is going in a vertical direction. However, the evidence
8 is that the landfill will only reach a height of
9 approximately 190 metres above sea level and the
10 escarpment, and it was Mr. Wright's evidence, that the
11 escarpment behind Mr. Elstone's property is at 230
12 metres and that is the height considered without the
13 trees on top of the escarpment.

14 So, there is a difference between
15 the height of the landfill when completed but un-
16 vegetated and the height of the escarpment as it now
17 exists and unvegetated of 40 metres which I multiplied
18 out to be approximately 133 feet. It is, therefore,
19 I submit, the case that the landfill will not, as
20 was suggested by one or two witnesses, or at least
21 suggested in cross-examination to Mr. Wright, the
22 landfill will not obscure the view which the citizens
23 of the City of Burlington have of the escarpment.

24 It will, however, interrupt the
25 view of the escarpment from Hwy. 403 and, indeed,



1 I had occasion to drive past the landfill on Hwy. 403
2 yesterday and without continued landfilling the view
3 of the escarpment is interfered with slightly at this
4 time by the southern portion of the landfill, that
5 portion of the landfill which will not be affected
6 by continued landfilling.

7 Just on this subject, in order to
8 prevent this landform from becoming even more vertically
9 extended than it now is, it has been a recommendation
10 of both Mr. Stevens and Dr. Dorney, and indeed
11 Mr. Wright, that the revegetative cover, while it is
12 to include trees, the trees are not to be inplanted
13 on top of the landform and for two reasons; (1), to
14 keep the maximum height down and, (2), because trees on
15 top would be impacted, and this was Dr. Dorney's
16 evidence, by the full extent of the wind and there-
17 fore it would not be appropriate to put them right
18 on top.

19 In my submission then while the
20 impact on the visual environment as it were -- there
21 will be an impact on the visual environment, but it
22 will not be an impact that can't be ameliorated and
23 indeed it was the evidence of Mr. Wright that when
24 completed and revegetated, the site will be visually
25 well integrated -- this was his evidence -- into the



1 surrounding environment.

2 Now, the next topic is leachate
3 treatment. Very briefly it is the evidence of
4 Mr. Constantine an engineer qualified to give
5 opinion evidence in this area, that the effluent
6 generated by the Burlington landfill, the leachate,
7 can be treated in an acceptable manner by the treatment
8 facility or the Skyway treatment facility already
9 owned by the Region of Halton and indeed unlike
10 many applications for landfilling where one of the
11 issues becomes the accessibility of a sewage treat-
12 ment facility for the treatment of leachate, this
13 particular site is already connected to a sewage
14 treatment facility.

15 It was Mr. Constantine's evidence
16 that the effluent, once treated, emerging into
17 Burlington Bay is satisfactory by the standards of
18 the Ministry of the Environment. Some issue was
19 raised as to whether or not the Region of Halton was
20 violating its own by-law in that the leachate reaching
21 the Region's sewage treatment facility exceeds the
22 criteria set out in the Region's by-law in two
23 parameters and I believe they were phenols and BOD₅,
24 but it was the evidence of Mr. Perlin, however, that
25 that particular by-law exists to regulate the effluents



1 generated by persons other than the Region of Halton.
2 The Region is not in a position to decide and to
3 control what is contained in the leachate that is
4 generated at its site, other than to control it as it
5 does by the waste that goes into the site, but the
6 leachate generated by the site is one more kind of
7 waste which the Region under the regional act is
8 required to deal with. While it may be appropriate
9 for the Region to have some control over the wastes
10 generated by its industrial citizens and to be able
11 to require those citizens to spend their own money
12 rather than Region's money on treating effluents which
13 exceed certain criteria laid out by the Region's
14 by-law, the Region itself simply has to treat the
15 leachate generated from this site and does treat the
16 leachate generated from this site and in the evidence
17 of Mr. Constantine it treats it effectively.

18 I therefore submit that this is
19 really not a concern that needs to be addressed
20 further by this Board.

21 Now, with regard to water quality
22 impacts, and this is an area of evidence that perhaps
23 is unusual at a hearing such as this, but there is a
24 concern, and in fact the evidence of four hydrogeolo-
25 gists is that a leachate plume is migrating in a south-



1 easterly direction from this site.

2 It is also the evidence of all four
3 hydrogeologists that no one is too sure at this time
4 where that plume is to be located. Dr. Johnston,
5 a chemist qualified to give evidence with regard to
6 this matter, attempted to assess the impact of that
7 leachate plume on a hypothetical community lying in
8 its path by making the assumption that that hypothetical
9 community was consuming directly and during their
10 entire lifetime. all of the leachate that this site
11 was capable of generating.

12 As a hypothetical exercise it is
13 totally unreal. It was Dr. Johnston's evidence to
14 get a risk, and I have put Exhibit 54 on the board,
15 an exhibit prepared by Dr. Johnston, but in order
16 to assess the risk of those in the path of the
17 leachate plume we need to have two elements, we need
18 to have a hazard and so we need chemicals that could
19 cause a risk to human health and then we have to have
20 an opportunity for exposure.

21 The evidence was that we had some
22 element of hazard but not a significant element of
23 hazard and assuming exposure and it is the evidence
24 of the hydrogeologists thus far that there is no
25 exposure whatsoever. Indeed, just to go back, it was



1 Dr. Johnston's evidence that the hazard, even assuming
2 that all of the leachate was being consumed during
3 the entire lifetime of the community, the hazard was
4 very, very small.

5 Given that at this time there is no
6 evidence whatsoever of any exposure of anyone to the
7 leachate generated from this site, there is no, in
8 my submission, risk to any persons hypothetically in
9 the path of the leachate plume.

10 With regard to leachate plume, I think
11 it is appropriate to go to the hydrogeological
12 evidence. You have heard the evidence of four
13 persons which this Board has agreed were qualified
14 to give opinion evidence on hydrogeology and they
15 were Mr. Leech on behalf of the Region of Halton,
16 Mr. Crutcher on behalf of the City of Burlington,
17 Ms. Pawlowski on behalf of the Ministry of the
18 Environment and Mr. Ridley who was retained by this
19 Board and whose evidence was lead by Mr. Timberg on
20 behalf of residents in the area concerned about this
21 plume.

22 I just want to indicate that Mr. Leech--
23 it was apparent from the curriculum vitae and the
24 evidence given by Messrs. Leech, Crutcher and
25 Ms. Pawlowski that each of the former were more



1 experienced in matters relating to contaminant
2 hydrogeology than Mr. Ridley and I want to submit
3 that where there is a difference in the evidence
4 between Mr. Leach, Mr. Crutcher and Ms. Pawlowski on
5 the one hand and Mr. Ridley on the other, that this
6 Board give more weight to the evidence of those who
7 were apparently--who were obviously more experienced
8 in dealing with hydrogeology as it relates to landfills
9 than Mr. Ridley.

10 Now, I don't want to spend a great
11 deal of time dealing with the hydrogeological issues
12 where the four qualified experts agree or where their
13 disagreements are not of any great significance to
14 the considerations before this Board. I would,
15 however, like to address the areas where there is
16 some disagreement and make some submissions thereon.

17 In this regard I want to turn or to
18 return to page 45 of Mr. Ridley's report and refer
19 to Section 14.20 and to go through the various points
20 made by Mr. Ridley here because these are the areas
21 in which Mr. Ridley indicates some disagreement and
22 some concerns which, in his submission, this Board
23 should address in its report.

24 First is 14.20.1A where Mr. Ridley
25 suggests that it be a pre-condition to approval that



1 there be an accurate determination of the leachate
2 chemistry. I have spoken, or rather Mr. Timberg has
3 discussed this matter with me this morning and I
4 believe it is his submission, and am I correct in this,
5 that each of the four general conditions under 14.20.1
6 should not be considered pre-conditions. Is that
7 correct?

8 MR. TIMBERG: Yes, Mr. Chairman, that
9 was Mr. Ridley's evidence in cross-examination from
10 Mr. Tidball that those four conditions could be worked
11 on simultaneous with landfilling so they are not
12 conditions precedent.

13 MR. HODGSON: With respect to the
14 accurate determination of the leachate chemistry,
15 while not a pre-condition, it has been agreed
16 by everyone involved that that will be done through the
17 future monitoring program.

18 With regard to the vertical profile concen-
19 tration of background groundwater chemistry at least 30 metres into
20 the shale, it has been agreed that that will be done,
21 that a background monitoring well will be placed at
22 the north end of the site.

23 With regard to a new on-site
24 monitoring program, you have heard evidence from all
25 the hydrogeologists of a meeting whereupon a new on-



1 site monitoring program has been agreed to and that
2 will be done. I am confident that that will be made
3 a condition of any Certificate granted by the
4 Director, should one be granted, and certainly it is
5 appropriate for this Board to recommend to the
6 Director, if this Board recommends that continued
7 landfilling occur, it is appropriate that a condition
8 be put into the Certificate that this on-site
9 monitoring program be carried forward.

10 With regard to the delineation of
11 the plume, the purpose of the on-site monitoring
12 program is to delineate that plume and to the extent
13 their scientific endeavours will be successful that
14 will be done. Certainly the intention of the on-site
15 monitoring program is to precisely delineate that
16 plume.

17 14.20.2 with regard to Mr. Ridley's
18 submissions on Phases A and C, Mr. Ridley wishes to
19 have the retrofitted toe drain extended in a north-
20 westerly direction -- excuse me. I am not sure I
21 am reading him right. I understand he wants the
22 retrofitted toe drain to be extended along the
23 eastern boundary of the site north from where it now
24 stops and to connect up to the toe drain that will
25 be built, assuming approval is given -- excuse me --



1 to connect up to the toe drain that already exists
2 around what is now called Phase II and Mr. Wells has
3 also made that recommendation and the Region has
4 accepted that recommendation and that toe drain will
5 be constructed.

6 THE CHAIRMAN: That is a connection
7 with the underdrain, isn't it, not the toe drain?

8 MR. HODGSON: Well, it is both. The
9 underdrain in Phase II connects to the toe drains at
10 the side and the toe drain at the side will be
11 connected all the way down the eastern perimeter
12 of the landfill.

13 Then, 14.20.2B, and Mr. Ridley here asks
14 that Mr. Wells' proposal to leave the final cover on
15 Phase A be investigated. I believe we heard in his
16 evidence on Friday that Mr. Ridley puts this a little
17 higher than "investigate" and in fact does not
18 recommend that landfilling continue in the area known
19 as Phase A unless that final cover is left in place.

20 It was Mr. Wells' evidence on Friday
21 that the final cover should be left on Phase A, save
22 for at four places. First, there are two areas on the
23 southern part of Phase A which are delineated by
24 green lines on Exhibit 52 where the area to be land-
25 filled and known as Phase A in fact slopes to the



1 south rather than to the north. All other areas of
2 Phase A, in the middle part of Phase A, slope to the
3 north into a trough that goes across the middle of
4 Phase A and the southern portions on the east and west
5 in fact slope away from that trough and Mr. Wells is
6 concerned that if a hydraulic connection is not made
7 between the refuse beneath and the refuse above the
8 final cover, that the problem of perched wells.--
9 excuse me-- perched leachate springs or leachate
10 springs will be made worse rather than better in this
11 area.

12 Therefore, it is proposed that the
13 final cover be punched in those two areas and it also
14 proposed that the final cover be punched and backfilled
15 with granular material and hydraulic connection be
16 made at the easterly and westerly sides of the trough
17 areas of Phase A so there will be good hydraulic
18 connection to the toe drain system.

19 Indeed, it was the evidence of
20 Mr. Leech, that unless Mr. Wells was confident that
21 from an engineering point of view that kind of
22 hydraulic connection could be made, that it would not
23 be appropriate to leave the final cover on Phase A.
24 It is therefore the submission, my submission, the
25 submission of the Region of Halton, that the Region



1 wishes you to approve Phase A and the issue of leaving
2 the final cover on Phase A should be a recommendation
3 of this Board for the Director to consider because
4 the Director has available to him persons qualified
5 in the engineering of sanitary landfills.

6 We have not heard any evidence from
7 any person at the Ministry of the Environment in this
8 regard, and indded the only person qualified to give
9 evidence as to the appropriateness -- as to the
10 feasibility is Mr. Wells and while the Region is happy
11 to have Mr. Wells make this kind of recommendation
12 and adopts the recommendation, I submit that the
13 Director, the Director may well not want to have his
14 hands tied by Mr. Wells' recommendation and may
15 want to reconsider that issue again on his
16 own.

17 However, if the Region wants Phase A
18 approved then certainly we will do with regard to
19 Phase A whatever this Board and the Director requires
20 of it.

21 I also want to submit, just very
22 briefly, that it was Mr. Leech's evidence and supported
23 by Mr. Crutcher and Ms. Pawlowski, that the primary
24 concern of the hydrogeologists at this site is not
25 with the groundwater but with the contamination of



1 surface water. It is the evidence of Mr. Leech that
2 the underdrain system or the purpose of the under-
3 drain system and the toe drain system in Phase II
4 and in proposed Phases B and D was to protect the
5 surface water features of the area and that the
6 groundwater of this area, and the evidence appears
7 to support the conclusion that the groundwater of
8 the area is, (a), not of potable quality and, (b), not
9 used in any case; that leachate entering the ground-
10 water system, except for the very small portion of
11 Phase D, is migrating more or less in a southeasterly
12 direction and the evidence is -- especially from
13 Ms. Pawlowski -- that the leachate will remain in the
14 shale, in the Queenston Shale Formation which extends
15 all the way to the lake and it was the evidence of
16 all of the hydrogeologists, including Mr. Ridley,
17 that between the landfill and the lake sufficient
18 renovation would take place and there was no environ-
19 mental concern with regard to that migration of
20 leachate through the Queenston Shale.

21 I say that and don't wish to overlook
22 the caveat of Mr. Ridley that he wants to be
23 satisfied that there is no area where that leachate
24 could resurface between the landfill and the
25 lake, but assuming the leachate remains underground all



1 the hydrogeologists agree there will be no significant
2 impact on this environment. It is, therefore, my
3 submission that it would be appropriate to landfill
4 over Phase A and the so-called unengineered portion
5 of Phase C, even if the proposal of Mr. Wells
6 discussed by Mr. Ridley with regard to Phase A cannot
7 be implemented or if the Director decides or if this
8 Board decides not to recommend and the Director
9 decides not to adopt the recommendation of Mr. Wells
10 with regard to Phase A, that landfilling can be
11 safely carried out over the unengineered portions
12 of this site because there will be no significant
13 impact on the groundwater regime in the area.

14 With regard to the unengineered
15 portions, and by "unengineered" I mean those portions
16 of the landfill without an underdrain system, you have
17 heard evidence that there is a retrofitted toe drain system
18 and that that retrofitted toe drain system is acting
19 in such a manner as to protect the quality of the
20 surface water quality features in the area.

1-B 21 With regard to Mr. Ridley's submissions
22 in 14.20.3, Phases B, D and C over the engineered
23 site, firstly Mr. Ridley has raised before this
24 Board the question as to the impact on the till over-
25 burden of a leachate environment.



1 In my submission it is not necessary
2 for -- it is not appropriate for this Board to
3 recommend or for the Director to impose as a condition
4 of approved landfilling at this site that there be
5 experiments conducted to determine the impact on the
6 hydraulic conductivity of the till on this site of
7 leachate. It is my submission that the weight of
8 the evidence is that those kinds of experiments are
9 unnecessary.

10 In his report, Exhibit 101, and in his
11 evidence, Mr. Ridley referred this Board to studies
12 conducted where the substances which had an adverse
13 impact on the hydraulic conductivity of tills were
14 studies in which the substances used for the studies
15 were in concentrations which were several orders of
16 magnitude greater than the concentrations found in
17 the leachate at this particular site.

18 One study used, I think it was
19 xylene which was 99 per cent pure and another used
20 acetone which was 99 per cent pure and in Mr. Ridley's
21 own work on the containment -- I think this is how
22 he put it -- on the containment or on the design
23 of a physical body that was capable of containing
24 brine solutions, the brine solutions he was concerned
25 about were solutions of chlorides where the



1 concentrations were 300,000 parts per million and,
2 in my submission, the weight of the evidence is that
3 leachate generated at this site and leachate generated
4 at sanitary landfills has chlorides that range from
5 below 1,000 parts per million to something in the
6 area of 3,000 parts per million and 3,000 parts per
7 million is 100 times less than 300,000 parts per
8 million.

9 Mr. Ridley agreed under cross-examina-
10 tion, and Mr. Leech confirmed in his reply evidence,
11 that studies have been conducted using leachate to
12 study the impact on till environments and that at
13 this time the weight of the evidence is that leachate
14 in fact improves the hydraulic conductivity of the
15 till.

16 Now, it is true that under cross-
17 examination Mr. Leech agreed with Mr. Timberg that
18 in one of the studies at least, the Illinois study,
19 the till used had a slightly different chemical
20 composition than the till at this particular site.
21 However, it was also the evidence that a more recent
22 study referred to by Mr. Leech had till from the
23 Sarnia area which was much more comparable to the till
24 at this site.

25 I don't know why Mr. Ridley chose not



1 to put -- let me just correct that -- of the two
2 studies referred to by Mr. Leech, one was a study which
3 came to his attention last Thursday and obviously was
4 not a study available to Mr. Ridley when he did his
5 work.

6 However, the other study was a study
7 conducted in Illinois and Mr. Ridley did indicate
8 during his evidence-in-chief that he was aware of that
9 study. I don't know why Mr. Ridley decided not to
10 discuss that study before this Board in his evidence-
11 in-chief, but I submit on the weight of the evidence
12 that this Board should not impose as a pre-condition
13 to continued landfilling that experiments be conducted
14 on the impact on the till of the leachate and that
15 that would not be necessary.

16 I also, perhaps just as an aside,
17 wonder if this isn't an area that does indeed over
18 the future require some more attention by hydro-
19 geologists. The weight of the evidence before **this**
20 **Board is that it is not** necessary but, as a layman,
21 it strikes me that rather than conduct experiments
22 perhaps one could do some drilling and discover the
23 actual impact by looking at the till underneath
24 existing landfill sites. Landfilling has been
25 conducted on till environments for some period of time



1 now. I don't know whether the Ministry of the
2 Environment proposes to conduct those kinds of studies
3 or not.

4 The next recommendation of Mr. Ridley
5 14.20.3C, rigorous analysis of the effectiveness
6 of the expansion toe drain; I have already discussed
7 this very briefly. This refers to Mr. Ridley's
8 recommendation that the toe drain in Phases B and D
9 be extended to some depth in the shale to interrupt
10 or to intercept leachate flowing through the bottom
11 of the site and it was Mr. Leech's evidence that it
12 would have to be very, very deep indeed to accomplish
13 this because the gradients beneath the site were all
14 downward and it was Mr. Leech's evidence, and confirmed
15 by Mr. Wells, that while not impossible it was im-
16 practical to the point that it should not be
17 attempted.

18 On page 46 of Mr. Ridley's report,
19 14.20.3D, Mr. Ridley asks that this Board recommend
20 as a pre-condition that the Region agree to install
21 monitors in the upper reach of Falcon Creek northwest
22 of the groundate divide and in Indian Creek east of the
23 northeast ditch. The Region prefers not to be
24 required to do this. Obviously if this Board
25 recommends and the Director approves this recommendation,



1 this could be done but the reason the Region is
2 wishing to avoid this particular condition is, firstly,
3 that it is Mr. Leech's evidence that if the purpose
4 of such a monitor is to monitor the groundwater
5 quality and therefore the impact on the groundwater
6 quality of any leachate migrating from Phase D through
7 toward Falcon Creek, that that can be accomplished
8 by putting a monitor in the 20 metre set-back area
9 and there would be no impact, no adverse impact on the
10 ecological environment of constructing it in the 20-
11 metre set-back area, but that if it is necessary to
12 drill in the Falcon Creek area, the Board is already
13 aware that to do the drilling down there would
14 require the removal of trees and some impact on Falcon
15 Creek. Clearly it would not be anything like the magnitude
16 of the impact of building the contingency system, but
17 if the monitoring can be done, and the Region
18 certainly proposes that it be done in the set-back,
19 and if done successfully, there is no need to inter-
20 fere with the Sassafras ESA where that can be
21 avoided at no cost.

22 The next is 14.20.4 and Mr. Ridley's
23 recommendations with regard to the original landfill
24 site. He first sets as a pre-condition that the Region
25 evaluate the effectiveness of the retrofitted toe



1 drain for the collection of leachate.

2 Mr. Leach has given evidence that
3 the reason why he was not able to tell this Board what
4 the efficiency of that toe drain is is because the
5 monitor that is installed in the manhole south of
6 the site, the monitor which is supposed to register
7 the levels of leachate flow through the manhole, that
8 monitor has only operated from time to time and it
9 has not operated through sufficient time to make it
10 possible for Mr. Leach, and obviously also for
11 Mr. Ridley and for other hydrogeologists, to do a
12 water balance calculation that would provide some
13 reasonable ballpark estimate of the amount of leachate
14 reaching the retrofitted toe drain in the southern
15 portion of the site.

16 The real purpose of the toe drain,
17 as you have heard in evidence, is to prevent adverse
18 impacts on groundwater quality and it is there and
19 the evidence appears to be in fact it is doing what
20 it was intended to do, that it has reduced the
21 leachate springs at the toe of the landfill site, and
22 while it would be useful and appropriate and, in fact, --
23 while the calculation of its effectiveness and
24 efficiency will be done, it is not necessary that
25 it be done as a condition of continued landfilling.



1 14.20.4B that the Region should
2 investigate the use of horizontal drains in
3 direct hydraulic contact with the toe drain. If the
4 recommendation is merely that it investigate, the
5 Region -- Mr. Wells has indicated he is doing that
6 and it may well be the case that when a final design
7 for Phase A is presented to the Director, should the
8 Director ask for one, there will be horizontal drains
9 in the valley area of Phase A and so the Region accepts
10 Mr. Ridley's recommendation that it investigate this
11 matter and the Region has looked into it.

12 14.20.5, off-site monitoring and
13 reconnaissance and first ground and surface water
14 monitoring off-site. Mr. Lammers from the Ministry
15 of the Environment has given evidence that there are
16 too many sources of surface water contamination south
17 of the site, too many potential sources of surface
18 water contamination south of the site to make it
19 efficacious to attempt surface water monitoring south
20 of the site.

21 In addition, just to indicate the kind
22 of problem that this is, if I could just take a
23 moment, at page 0-48 of volume 2, Exhibit 7,
24 Mr. Leech indicates that sampling has been conducted
25 in the Falcon Creek at the very north end of the site



1 in an area which cannot, at this time at least, have been
2 impacted in any way by the landfill and that sampling
3 indicated a whole suite of materials indicated on this
4 page, chloroform, benzene, toluene, ethylbenzene
5 m-xylene and there are at least 15 of them listed on
6 pages 48 and 49 and the evidence is that there is
7 already contamination of Falcon Creek before Falcon
8 Creek reaches the landfill and certainly it would be
9 helpful to know what the state of Falcon Creek was
10 before it got near the landfill and to know what the
11 state of Falcon Creek was when it got past the land-
12 fill; but given the sources of contamination from
13 Hwy. 403, the railway and industries to the south of the
14 site, it was the evidence of Mr. Lammers, and supported
15 by Mr. Leech, that surface water monitoring to the
16 south of this site would not provide data that would
17 assist anyone in understanding the performance of this
18 landfill.

19 With regard to groundwater monitoring
20 off-site, Mr. Leech's evidence was that that would be
21 appropriate if it was determined through the monitor-
22 ing program that has been proposed and agreed to by
23 all parties that leachate had in fact moved off-
24 site. It would then be appropriate to begin a moni-
25 toring program off-site to determine that impact.



1 So, the Region's lands extend now
2 down to the North Service Road and it would be appropriate
3 at that time and if it is determined that leachate
4 has reached the North Service Road and since all
5 hydrogeologists agree it is moving in a southeasterly
6 direction, clearly it would be appropriate to move the moni-
7 toring in a southeasterly direction and to track
8 that plume and to track the contamination in that
9 plume as it goes.

10 So, agreement to monitor the ground-
11 water off-site should not be a condition, but it is
12 certainly understood that it would be done where it
13 is necessary to be done.

14 14.20.5B, field reconnaissance to
15 determine areas of bedrock outcrop or areas of
16 groundwater discharge. Again that may be -- those
17 two activities may be appropriate activities in the
18 future should the monitoring program determine that
19 a plume is moving off-site and that that plume contains
20 contaminants which may be of some potential-- may
21 have some potential adverse impact to the health of
22 any person coming into contact with that, with those
23 materials.

24 If it was determined, for example,
25 that the plume had in fact reached the North Service



1 Road but that the plume did not contain chemicals at
2 levels that would seriously affect anyone, then
3 clearly the proposals of Mr. Ridley would not be
4 necessary. However, you have heard from Mr. Ridley
5 that if in the future this kind of field reconnaissance
6 of bedrock is necessary it could be done by a
7 qualified geologist with about two days of work but,
8 however, it would also be necessary, if one wished
9 to know the potential threat to public health,
10 it would also be necessary to know whether an outcrop
11 of bedrock was a groundwater discharge area and those
12 studies would also be needed at some time in the
13 future.

14 I submit that at this time, from
15 the evidence of the hydrogeologists -- excuse me,
16 the evidence of Mr. Leech at least -- it was
17 Mr. Leech's strong belief and it was his evidence
18 that the plume had not reached the North Service
19 Road. However, it was also agreed that no one knows
20 for sure where it is.

21 Now, I don't propose to deal at this
22 time with any other areas of hydrogeology.
23 Mr. Ridley has made an admirable effort to master and
24 explain the data generated with regard to the hydro-
25 geology of this area. He has raised in his report



1 some issues which he has summarized in his conclusions
2 and which Mr. Leech addressed in discussing
3 Mr. Ridley's conclusions, but not all of those
4 conclusions are conclusions which this Board needs
5 to consider in addressing or in considering its
6 recommendations and therefore I don't propose to deal
7 with it further.

8 Now, site operations. With regard
9 to site operations, you heard the evidence of
10 Mr. Wells about past, present and future operations
11 of the site and you have heard the evidence of
12 Mr. Woodburn whose responsibility at the Region is
13 the operation of this landfill discuss its operation
14 and you also heard Mr. Perlin who also addressed
15 some aspects of the operation. Mr. Wells' evidence
16 which is unchallenged is that this site can be
17 engineered to provide a suitable environment to
18 receive waste in four Phases, A, B, C and D, and
19 I don't think it is necessary to discuss that,
20 Mr. Well's evidence about Phases A through D really
21 any further.

22 The site has complied and will comply
23 with the Ministry of the Environment regulations as
24 to operation and vector control and dust control and
25 daily cover and all those other concerns and those are



1 concerns which are set out in the regulation of the
2 Ministry of the Environment and it is the intention
3 of this Region to comply with the law in that regard.

4 Now, during the evidence of Mr. Perlin
5 and Mr. Woodburn and also Mrs. Wells, some concerns
6 were raised about the existing operation and the future
7 operation and some problems were raised, for example,
8 with the kind of record keeping that is done at this
9 site.

10 If I could I would like to refer you
11 to Exhibit 111 at page 2, keeping in mind that the
12 recommendations in this report by the Director of
13 Public Works were adopted by Council in the resolution
14 which is on the face of Exhibit 111. On page 2 under
15 "Log Requirements" the Region has now committed itself,
16 and this is reading from the end of the third line
17 under the title of "Log Requirements":

18 "...to establish reference documenta-
19 tion with respect to occurrences at
20 the sites relating to such
21 matters as inclement weather..."

22 and sites is used because this Resolution refers to
23 this landfill and any future landfills operated by
24 the Region:

25 "...to establish reference documenta-



tion with respect to occurrences at the site relating to such items as inclement weather, access restrictions to the site, unacceptable and therefore rejected waste arriving at this site and any site operational difficulties."

And taking those one at a time, the reason for the information on inclement weather is that it was Mr. Wells' evidence that it is always not possible for one reason or another to provide daily cover and if the weather is an excuse, a reasonable excuse, then a log will assist us in knowing whether the weather was in fact bad on a particular day or series of days or whether or not the operator failed to carry out his contractual and legal responsibilities to provide daily cover.

With regard to access restrictions to the site I will have more to say about that in a moment because they say more about it later, but unacceptable and rejected waste will also be commented on further and site operational difficulties refers back to the problem of inclement weather and whether or not the operator can in fact provide daily cover.

The second item in this report, out of Region garbage. A concern was expressed that the



1 Certificate of Approval only approves receipt of
2 garbage generated in the Region of Halton. You have
3 heard enough evidence now to note the Region of Halton
4 is so concerned about capacity that the last thing it
5 wishes to do is provide capacity for some other region
6 and create more of a problem for itself than it
7 already has and therefore it is proposed that measures
8 be taken to control out of region garbage if indeed
9 any is reaching this site.... In that regard I
10 believe the scale operators are now required to ask,
11 the last line of page 2, "Ask each and every vehicle
12 passing through the weigh scale whether the waste
13 they are bringing is Halton's waste."

14 Now, with regard to exposed refuse,
15 the recommendation adopted by Regional Council in the
16 middle of paragraph 3 on page 3 says:

17 "The Region proposes to extend the
18 landfill inspection system which will
19 provide for Regional personnel being
20 present at the landfill site at the
21 end of the day's operation to ensure
22 that the cover material has been
23 placed in accordance with the contract
24 and engineering specifications."

25 In other words, the Region is committing itself to



1 closer supervision of its contract operator.

2 The next item is unacceptable waste,
3 and here a recommendation from -- well, from the
4 Director of Public Works has been made and adopted
5 that there be spot checks on trucks entering the
6 landfill site, in the middle of page 4:

7 "...this would be done on a random
8 basis with direction being given by
9 either Regional staff or the contractor
10 for such spot check to take place.
11 We have discussed this matter with
12 our landfill contractor who is willing
13 to provide the equipment necessary to
14 accomplish random spot checks at no
15 additional cost to the Region."

16 The proposal here, I understand this is being done
17 in another landfill in the vicinity, but the proposal
18 is to simply on a spot check basis take trucks aside and
19 require them to empty their garbage and go through the
20 garbage to make sure that what is in the garbage
21 should be going into this particular landfill.

22 The assumption is that if it is done on a spot check
23 basis then anyone proposing to landfill inappropriate
24 wastes will know if this procedure is carried out
25 that he or she runs a risk of -- a greater risk of



Toronto, Ontario

1 detection.

2 Secondly, there is a proposal that
3 there be two-way radio communication between the scale
4 house, the spotter and equipment operators and
5 where trucks not known to the scale house operators,
6 for example, are entering this site, that the spotter
7 and so on can be alerted and increased vigilance
8 will take place.

9 Finally, there is to be improved
10 record keeping and in particular that the log system
11 will record those loads or portions of loads which
12 were not accepted for landfill and which were returned.

13 Now, I have dealt with the issue of
14 security at the site and the other matters in this
15 resolution and the report in my submission. Just
16 one or two comments on the evidence of the public.

17 You have heard the evidence from
18 the members of the public that they don't want
19 continued landfilling at the Burlington landfill site.
20 That makes it unanimous. The Region doesn't want
21 to continue landfilling at the Burlington landfill
22 site and neither do the local citizens. The Region,
23 however, has a statutory obligation to provide
24 landfill and if the Region wanted to go anywhere,
25 if it wanted to go anywhere else and did not want to



1 continue landfilling here the Region would require
2 an environmental assessment before it could get
3 approval for another site in the Region. The Region
4 is conducting an environmental assessment and it is
5 conducting it at great expense. It has put its
6 environmental assessment consultants, and there is
7 a whole panel of them, under great pressure to get the
8 environmental assessment done as quickly as possible.

9 However, that environmental assess-
10 ment necessarily takes time. I don't know how environ-
11 mental assessments are conducted in other Regions, but
12 in this Region everyone who wants to be consulted
13 on the environmental assessment is consulted and has
14 an opportunity to speak on the matter and hence the
15 process can't be made to go as expeditiously as it
16 could if the public and their concerns were simply
17 ignored. You heard the evidence of Mr. Perlin that
18 something like 1,200 persons are on the mailing list
19 and that means every time there is a report or an
20 interim report or work program it is mailed out to
21 that many persons and, in fact, after each draft
22 report is sent out a summary and a response to the
23 concerns of those who respond to the draft report
24 is in fact itself published and again sent out. The
25 process has taken time and the Region hopes that there



1 won't be any untoward delays and that it will have
2 approval for another site by about 1986.

3 There was evidence -- the evening
4 at which the public were here to express their
5 concerns about the site there was evidence from
6 three or four persons who have special credentials,
7 perhaps that is the way to put it, to comment on the
8 proposal and, in particular Mr. Kreplin and
9 Professor Bunting. I don't have any submissions to
10 make with regard to either the evidence of
11 Mr. Kreplin or the evidence of Professor Bunting.

12 With regard to the evidence of
13 Professor Bunting, I did not understand his evidence,
14 I accept the comment of the Board's witness,
15 Mr. Ridley, that, and I am being colloquial here
16 where Mr. Ridley was not, Mr. Ridley indicated that
17 he did not know what it was but he knew what it ain't
18 and what it ain't, it ain't hydrogeology and I accept
19 that Mr. Bunting was not qualified to give opinion
20 evidence in the area of hydrogeology.

21 The one other comment that
22 Mr. Bunting made, or the one comment he did make in
23 his evidence, however, that I do want to make a
24 submission on is that Professor Bunting indicated
25 to this Board that it was his view that the Region's



1 application or the Region's evidence was "a snow
2 job." I did not use my opportunity to cross-
3 examine and to ask Mr. Bunting what he meant by "a
4 snow job" because I was not especially interested
5 in knowing the answer, but I do want to submit to this
6 Board that the evidence, it is true, the evidence in
7 this hearing has been tailored to fit the kind of
8 hearing it is.

9 The evidence, and it must be
10 abundantly clear to all concerned, the evidence was
11 tailored to address the concerns addressed to the
12 Region in advance of the hearing. The noise evidence
13 was tailored to meet the concerns of the people who
14 are impacted by the noise and other evidence was
15 tailored to meet other concerns addressed to the
16 Board and even where concerns weren't addressed and
17 we anticipated them, we called evidence to answer those
18 concerns and to allay fears wherever the Region could,
19 and I am now referring to the expert evidence, and
20 finally with regard to the lay evidence called by
21 the Region, both members of the Board are familiar
22 enough with civil litigation to know that the best
23 way to prevent an issue from becoming an issue in a
24 litigation is to keep a witness out of the witness
25 box.



1 It was not the intention of this
2 Region to prevent this Board from hearing any evidence
3 that it wished to hear, and indeed, I deliberately
4 put Mr. Perlin and Mr. Woodburn into the witness box
5 precisely so that they could hear the concerns address-
6 ed to them in cross-examination and they could answer
7 the concerns of this Board.

8 The Region has done its best to put
9 all the evidence before this Board and the last thing
10 we wish to do was to do "a snow job" or to appear to
11 do "a snow job." I hope that the Region, and it is
12 not a secret now that the Region at one time shall
13 we say was not eager to have this hearing occur as
14 hearings are lengthy, they are expensive and sometimes
15 they are painful. However, the Region accepted
16 gracefully that a hearing would take place and has
17 tried to make it a public hearing and has tried to
18 meet the concerns of the public and, I hope, not-
19 withstanding the off-the-cuff comment of Dr. Bunting,
20 that no one will leave this hearing believing that the
21 Region has even attempted, much less carried off
22 "a snow job."

23 With regard to the evidence of
24 Mr. Kreplin, I thought Mr. Kreplin who clearly is more
25 literate in matters scientific than I, and I suspect
most of the lawyers in this room, it was also the



1 evidence of Mr. Ridley that Mr. Kreplin, while
2 literate in scientific matters and while he certainly
3 had made a determined effort to master and interpret
4 the data presented, it was the evidence of Mr. Ridley
5 that this determined effort was not an effort which
6 resulted in conclusions that he, Mr. Ridley as a
7 hydrogeologist, could consider to be particularly
8 helpful to this Board in reaching its conclusions.

9 However, it certainly is my
10 submission that the Region welcomes, and the Region
11 is grateful for the effort made, but I submit that the
12 results are really not results that can be particularly
13 helpful to this Board in reaching its conclusions.

14 Finally, with regard to the basis
15 for approval, the Region through Mr. Wells at Tab T in
16 volume 3 of Exhibit 7 has set out some proposals for
17 the basis for approval and many of these are repeats
18 of conditions in the existing Certificate and almost all
19 of them are, to use a phrase but not negatively, boiler-
20 plate in that they are all appropriate conditions
21 to be put into this Certificate. I don't want to
22 address them in detail, but simply refer to them very,
23 very briefly.

24 The first at page T-2 sets out the
25 kinds of waste that can be landfilled at this site.



1 There is no change here. The kind of wastes proposed
2 for the future are the kinds of wastes received now
3 and they are mainly household and some industrial non-
4 hazardous, non-toxic solid wastes.

5 Secondly, the Region will carry out a
6 predictive monitoring program. We have heard evidence
7 that that monitoring program has been upgraded.

8 Third, that it will produce regular
9 reports. We have indicated or I have indicated and
10 put in to evidence a resolution of Council whereby the
11 monitoring reports will themselves be improved and
12 the information of the kind requested in the cross-
13 examination of Mr. Perlin will be incorporated.

14 Four, details of the surface drainage
15 and sediment control measures. You have heard the
16 evidence of Mr. Mitchell, a qualified hydrogeologist
17 who has addressed these matters and final engineering
18 drawings of course will be submitted to the Director
19 at that point at which the Director requests them.

20 Five, the final engineering drawings,
21 should they be necessary if approval is granted will
22 be submitted to the Director. There is an agreement
23 that final engineering drawings will be submitted to
24 the City of Burlington for the comments of its
25 experts and also the Burlington Landfill Advisory



1 Committee will have an opportunity to comment thereon
2 and we already know from the evidence of Mr. Kreplin
3 that the local citizens will have an opportunity to
4 have an member on the committee, have persons who
5 are qualified in matters of this sort to express
6 concerns and to comment, and I hope that that will
7 occur.

8 Number six, the boreholes that exist
9 in those areas to be landfilled will be sealed, and
10 this is a standard matter.

11 Number seven, certification of site
12 preparation.

13 Eight, a closure plan. I have already
14 addressed the issue of closure and I think it is
15 appropriate that it now be left to be dealt with at
16 a later time.

17 Number nine again has to do with
18 closure and is a standard matter on a Certificate.

19 Number ten, that the Region will
20 remain the owner of the landfill during and after
21 landfilling and not be permitted to alienate the
22 land without the approval of the Director.

23 Then, 11, no operation shall be
24 carried out at the site after 120 days from the
25 conditions becoming enforceable unless a Certificate



1 including the reasons for these conditions has been
2 registered on title.

3 Finally on T-5 there is a series of
4 issues that perhaps are not appropriate as conditions
5 on a Certificate, but in effect they are undertakings
6 and expressions of the will of the Region of Halton
7 and some of them a bit more formal than that.

8 First, that the Region will terminate
9 landfill operations at this site consistent with the
10 plans developed at the hearing and once the new
11 Regional waste disposal site is ready to accept refuse.
12 That is a matter of law under our regulations recently
13 passed by the provincial government.

14 Secondly, to carry out the preparation
15 of excavations, installation of leachate control
16 systems, operational development, cover material,
17 application and surface drainage control, all in
18 accordance with the recommendations set out herein.

19 Those are really the final engineering
20 matters.

21 Third, maintain adequate on-site
22 drainage while ensuring erosion does not occur in
23 off-site drainage courses as a result of the landfill.
24 Erosion protection measures will be implemented as
25 required. Maintaining the various site facilities



1 and site works in an acceptable state.

2 I am sorry, just to comment on that,
3 the Region has under retainer Mr. Mitchell qualified
4 in this whole area of surface drainage and erosion
5 and it also has the help of Mr. Stevens in dealing
6 with erosion matters and it has the advice of Dr. Dorney
7 who perhaps will continue to be made available for
8 consultation in these areas should the City of
9 Burlington wish to do so and if they do his advice
10 will certainly be considered at every step.

11 Next is maintain the various site
12 facilities and site works in an acceptable state
13 consistent with this report's recommendations.
14 Continued litter and dust control programs. Require ad-
15 equately muffled construction and operating equipment
16 to be used on site.

17 To continue the monitoring program
18 and that was really in the conditions but construct
19 the right-turn lane and that will be done; progress-
20 ively rehabilitate the site areas and that is being
21 done, and in fact it has been done on most portions
22 of the site not currently landfilled which are already
23 hydroseeded and grass is well established.

24 Continue to rehabilitate the eroded
25 Falcon Creek slopes and you have heard evidence that



1 that has been done or is continuing to be done.

2 Employ the leachate contingency
3 plan should the monitoring program establish
4 continuing contamination problems at Falcon Creek
5 and that is an area which is rather sensitive in that
6 no one wants that contingency plan implemented, but
7 obviously if it is necessary and if it is the
8 recommendation of this Board that it remain the
9 contingency plan, that will be done.

10 Continue to inform and involve the
11 public in decisions affecting management of this
12 site. That is a reference to the Burlington Landfill
13 Advisory Committee.

14 I hope, Mr. Chairman, and Mr. Jeffery
15 that I have addressed the concerns of this Board and
16 I hope that you will see fit to recommend to your
17 Board and that your Board will see fit to recommend
18 to the Director that continued landfilling take
19 place subject to the conditions, terms and recommenda-
20 tions that I have submitted here. Thank you.

21 THE CHAIRMAN: At this point we will
22 have a 10-minute break.

23 ---Recess

24 THE CHAIRMAN: Mr. Brown.

25



1 ARGUMENT BY MR. BROWN:

2 I will be quite brief, Mr. Chairman,
3 I don't see any need for me to deal with a great
4 deal of the evidence as Mr. Hodgson has already done
5 that. I just want to commence by reiterating the
6 position of the City of Burlington and that is
7 support of the application subject to certain
8 conditions and I will deal with those conditions very
9 shortly. I just want to point out that originally
10 Burlington took an adverse position to this applica-
11 tion and you heard that evidence from Mr. Boggs the
12 chief administrative officer who was called, but
13 subsequent to the adverse position being taken the
14 Region asked Burlington to reconsider its position
15 and at about the same time Burlington was receiving
16 technical advice from some of the people who appeared
17 here as expert witnesses, namely, Mr. Crutcher
18 and Dr. Dorney and having
19 received their advice,
20 Burlington did reconsider its position and arrived
21 at the position that has been put before this Board.

22 You have heard a good deal of
23 evidence about Gartner Lee's chemistry; the difficulty
24 in delineating the plume or establishing where the
25 plume is located and the difficulty in determining



1 whether the quality of the background groundwater,
2 although I think from the evidence we have heard it
3 is likely that the background water is very poor, but
4 notwithstanding the difficulties with the chemistry
5 I think the bottom line, and I know Mr. Hodgson doesn't
6 like that term, but the bottom line is because of the
7 engineering of the site it is a pretty good site.

8 The site -- a good portion of the
9 site is underdrained and it is all to have toe drains
10 around it, the leachate is to be collected and
11 processed through the Burlington Sewage Treatment
12 Plant. The engineered portion of the site is to have
13 a till liner and the till liner, according to the
14 evidence of Mr. Wells which was it is really quite
15 thick and the minimum thickness of the till liner
16 I believe is 1.5 metres, but much of it is much thicker
17 than that as I understand it.

18 So, based on the evidence you have
19 heard, I think there really is no reason to prevent
20 you from approving the portion of the proposed site
21 that lies over the engineered -- that is engineered,
22 and that is the portion that is underdrained and
23 over the till liner.

24 With respect to the portion of the
25 proposed site which is over the unengineered part of



1 the existing landfill, I think it is pretty clear
2 from the hydrogeological evidence that the production
3 of leachate per unit time is not going to increase.
4 The total time over which leachate is produced will
5 increase, but at any given period of time the leachate
6 produced will remain unchanged.

7 I think there is probably no doubt
8 there is a plume somewhere although the experts seem
9 to have difficulty in delineating just where it is.
10 In any event, the experts have agreed, the consultants
11 have agreed and the Region has agreed on a program
12 to delineate the plume to evaluate its significance
13 and then to determine what, if anything, has to be
14 done about it.

15 So, given that on the unengineered
16 portion of the site the leachate production per unit
17 time is unchanged and there is an agreed-upon program
18 for analysing the plume and coming up with some
19 solution to the plume, if the plume is significant,
20 I think also you can safely recommend approval of
21 that portion of the site that lies over the un-
22 engineered part of the Burlington landfill.

23 Now, with respect to the sequence of
24 the Phases, I believe, Mr. Chairman, on the last
25 day you asked we provide you with some position in



1 argument with respect to sequence. I think Burlington's
2 position is that or our position is that all four
3 Phases may be approved or should be approved. The
4 only thing I have to say about sequence is that
5 whatever sequence is selected, it should not fore-
6 close the possibility of establishing a long narrow
7 cell along the western boundary of Phase C and then
8 working behind it to give protection from noise
9 generated by the site to Mr. Elstone and Mr. Aitken
10 and to the two or three other landowners who are
11 living fairly close to the site.

12 Having said that, sir, I would now
13 like to just deal briefly with the conditions that
14 Burlington has requested. I have generated a more
15 precise statement of the conditions that we would
16 request you include in your recommendation and other
17 counsel have them.

18 Very briefly these are essentially
19 the same as the conditions contained in Exhibit 67
20 which was the Council Resolution I submitted in
21 evidence earlier, Mr. Chairman. The first condition
22 is that the proposed expansion be redesigned to
23 provide 20-metre set-backs from the top of the creek
24 banks. That is agreed upon and that the proposed collectio
25 contingency plan for leachate be reconsidered with a



1 view to developing a contingency plan less likely to
2 be detrimental to the creek valleys. All I am
3 submitting is that the Region reconsider its plan
4 and look at whether there is a possibility of
5 formulating a plan which not be quite as harmful to the
6 ecological environment as the plan which involves
7 digging a trench in Falcon Creek.

8 THE CHAIRMAN: Do you still maintain
9 Dr. Dorney's plan is feasible?

10 MR. BROWN: I think that it should
11 be considered. I don't know that there is any
12 evidence before you which establishes clearly one way
13 or the other if it feasible or unfeasible, but I
14 think it could be looked at by the Region. That is
15 all we are asking.

16 Number two, the after-use planning
17 proposal, Burlington's request is that the after-use
18 planning proposal be redesigned in consultation with
19 the City of Burlington and with the objective of
20 enhancing the quality, range, size, et cetera of
21 the plantings, and in particular that the final cover
22 include a minimum cover of three feet consisting of
23 at least two feet of native soil and one foot of loose
24 soil for vegetative purposes and the provision of
25 soil supplements and water supplements as necessary.



1 Number three is that the Region
2 prepare a biophysical survey and that is also agreed
3 and the Region has agreed to undertake this work at
4 an upset limit of \$8,000 expenditure by the Region
5 and so I think it is reasonable to request that be
6 included as well.

7 Number four, the City of Burlington
8 be consulted on the detailed engineering of the
9 proposed site, and I understand that that is agreed.

10 Number five, that the Region
11 undertake the following four phase program with respect
12 to the delineation of the existing plume, and Phase
13 I is to define the plume and evaluate its significance,
14 develop a program for remedial action if required and
15 implement the program if required. It is my under-
16 standing that that has been agreed upon as well.

17 It is also agreed that the hydrogeological consultants
18 develop the plan with the participation of the City's
19 consultants and the Ministry of the Environment
20 hydrogeologist.

21 Number six is noise attenuation,
22 and the condition requested is that the Region address
23 in greater detail the impact and attenuation of noise
24 resulting from the proposed expansion and, in particular,
25 the possibility of designing Phase C so that a long cell



1 is constructed early on adjacent to the westerly
2 boundary of the site. It is my understanding that
3 it is Mr. Wells' evidence that that will be considered
4 and Dr. Lightstone, the acoustics witness called
5 by the Region, has supplied the City with a letter
6 which indicates some possibilities for other noise
7 attenuation features.

8 Turning to page 2, Mr. Chairman, it
9 is Burlington's concern that the leachate plume being
10 produced by Bayview Park, the former landfill site,
11 could also be a problem in this same area as the plume
12 being generated by the subject application, the subject
13 site, and Burlington would like you to recommend to the
14 Region that it consider providing assistance to the
15 City in remedying the possible leachate problems at
16 Bayview Park, in conjunction with the design and
17 implementation of the final engineering for the site.

18 MR. JEFFERY: Have you any legal
19 basis you can provide us as to how we could address
20 that, that as a condition of this application if
21 that application is not before us?

22 MR. BROWN: Mr. Jeffery, Section 33
23 of the Environmental Protection Act, subsection (5)
24 deals with hearings and hearings of the Environmental
25 Assessment Board, and subparagraph (e) requires the



1 Board's report to contain "...a summary of the informa-
2 tion presented and the views expressed at the hearing
3 and its recommendations in respect of the subject-matter
4 of the hearing, together with its reasons therefor."

5 MR. JEFFERY: What page is this again?

6 MR. BROWN: I have an extract from
7 the revised statutes.

8 MR. HODGSON: Page 17 in the
9 consolidated version.

10 MR. BROWN: The second last subsection
11 of Section 33.

12 MR. TIMBERG: It is page 17 of the
13 consolidation.

14 MR. JEFFERY: This is August 1978 but
15 I think it is the same thing. I must get rid of this
16 when I carry it home from this hearing.

17 MR. BROWN: "Hearings. Where a
18 hearing is required to be held under
19 subsection (1) by the Environmental
20 Assessment Board..."

21 and then there are several sub-paragraphs designated
22 alphabetically and in my copy I come down to sub-
23 section (e).

24 MR. JEFFERY: "the report of the Board
25 shall contain a summary..."



1 MR. BROWN: Yes. My submission simply is
2 that reference could be made to the concern of the
3 City of Burlington in your summary.

4 MR. JEFFERY: "With respect to the
5 subject-matter of the hearing," and how do you get past
6 that?

7 MR. BROWN: Well, I think that it
8 says:

9 "...and its recommendations with
10 respect to the subject-matter of the
11 hearing."

12 And I think those two obligations on the Board can
13 be distinguished and the report is to contain a
14 summary of the information presented and the views
15 expressed at the hearing and its recommendations with
16 respect to the subject matter of the hearing.

17 MR. JEFFERY: You are asking ...

18 MR. BROWN: The subject matter of
19 the hearing would be the concern among other things with
20 the remedial action required or the engineering
21 required to make this site operate satisfactorily and
22 all we are asking is that this Board request that the
23 Region consider assisting the City.

24 MR. JEFFERY: Aren't you saying in
25 your suggestion on your written submission that the



1 Board in its decision recommend that Halton consider
2 providing assistance to Burlington. If we are to
3 make a recommendation in our report, does it not have
4 to be with respect to the subject matter of this
5 hearing which, in my view, does not deal with the
6 Bayview site.

7 MR. BROWN: I think I am distinguish-
8 ing, Mr. Jeffery, between your recommendation to the
9 Director, or I guess your recommendation initially is
10 a recommendation to your Board and then from the Board
11 to the Director, and perhaps a more general suggestion
12 or recommendation to the Region, one of the parties
13 herein, that the Region consider rendering us assistance
14 because it may well make sense that they deal -- that
15 remedial action directed at Bayview be done in
16 conjunction with the application.

17 MR. JEFFERY: I am not saying it does
18 not make practical sense but I am saying I fear we
19 maybe don't have the jurisdiction under that section
20 to make the kind of recommendation with respect to
21 this matter that you are suggesting. That is all I am
22 saying.

23 THE CHAIRMAN: Mr. Brown, wasn't
24 there some sort of hint about this by one or more of
25 the witnesses who said that this site should not be



1 looked at separately but when people talk about the
2 site in this area they are talking about this site,
3 NSP and Bayview? It seems to me at that time we said
4 we would confine really our attention to this site,
5 that is the Region's property.

6 MR. BROWN: There is in the minds of
7 many persons -- the site is certainly a much larger site
8 than the continued use application and there possibly are
9 three or four properties in very close proximity which
10 at one time or another have all been referred to as Site
11 A, Mr. Chairman.

12 THE CHAIRMAN: If we accept what you
13 are asking, would we be expected to comment on the
14 NSP property as much as we can comment? Where does
15 it stop?

16 MR. BROWN: Sir, I am not suggesting
17 you comment on the NSP property.

18 THE CHAIRMAN: But you are asking us
19 to comment on one that is further away from this
20 site. Anyway ...

21 MR. BROWN: I won't pursue that matter
22 any further, but my instructions are to request that
23 condition.

24 THE CHAIRMAN: Mr. Brown, all the
25 conditions on the first page are more or less agreed



1 to aren't they by the Region as far as I can see
2 except perhaps the last one and not in that much
3 great detail, but it appears to me that all of the
4 five or six conditions have pretty well been accepted
5 by the Region.

6 MR. BROWN: I think that that is
7 correct, Mr. Chairman. It is always a question of
8 how do you document any obligations and conditions
9 arising out of a hearing of this nature? It has been
10 my experience, not with this Board but before other
11 tribunals, that it is very useful to have the basis
12 of the agreement documented in the decision or in the
13 report, if that is the function of the Board.

14 So, Burlington would appreciate having
15 these conditions in your report if you feel disposed
16 to do so.

17 THE CHAIRMAN: How would we deal with
18 that matter that was raised by Mr. Hodgson about the
19 right-hand lane for turns into the landfill? That
20 is something that will be done by the City and not
21 by the Region. I assume that is an undertaking you
22 are giving on behalf of the City?

23 MR. BROWN: With respect to the right-
24 hand turning lane, that was not a request by the City
25 but I believe it was an offer by the Region. The



1 right-hand turn lane is not at issue but there is an
2 issue as to the speed limit.

3 THE CHAIRMAN: I understand that.
4 This is not a condition, if we do recommend that this
5 proposal be accepted, that is not a condition that
6 we can impose upon the Region, this is a City matter.
7 What I am asking is this; if the Board does grant the
8 application, can we take it as a given that the City
9 is undertaking to construct a right-hand turn lane?

10 MR. BROWN: No. It is my understand-
11 ing that the Region would be providing the funds for
12 constructing the right-hand turning lane.

13 THE CHAIRMAN: Is that correct,
14 Mr. Hodgson?

15 MR. HODGSON: Yes, the Region will.

16 MR. BROWN: With respect to the speed
17 limit, Mr. Chairman, there is a difference in expert
18 opinion on this matter and the City's experts feel
19 the 80 kilometre speed limit presently in force is the
20 appropriate one and the Region has asked us to review
21 that and I can certainly give you the undertaking that
22 we will have staff review the opinion they have granted
23 on the speed limit. I don't see the speed limit as
24 being a major issue in this area.

25 I just have one matter I would like



1 to address out of Mr. Hodgson's argument and that is
2 I understood him to say that all of the hydrogeologists
3 agree that if the leachate goes down into the ground
4 and stays there that there will be no impact as long
5 as the leachate remains underground. I am not sure
6 all of the hydrogeologists took that position. I
7 wasn't here for the evidence of Ms. Pawlowski so I
8 can't comment on what she said, but I don't recall
9 Mr. Crutcher commenting on leachate going into the
10 ground and staying there. I did not ask him any
11 questions on that and I don't think he was asked that
12 in cross-examination. I did cross-examine Mr. Ridley --
13 pardon me -- Mr. Leech on this issue, and I believe
14 Mr. Leech's evidence was that landfilling directly on
15 shale was inappropriate because there were too many
16 unknowns as to what happens to the leachate when it
17 goes into the shale.

18 It is my understanding that Mr. Wells
19 who was not here as a hydrogeologist and he is not
20 a hydrogeologist, but he confirmed that he thought it
21 was inappropriate to landfill on shale. I don't think
22 all of the hydrogeologists nor all the witnesses
23 agree there is no impact simply because the leachate
24 goes into the ground and may stay there, although I
25 believe that was Mr. Ridley's evidence, if it went



1 into the ground and stayed in the shale it would have
2 very little impact.

3 Those are my submissions, Mr. Chairman,
4 and I would respectfully request that you recommend
5 the proposal of the Region be approved subject to the
6 conditions requested by the City.

7 THE CHAIRMAN: Thank you, Mr. Brown.
8 Mr. Tidball.

9 ARGUMENT BY MR. TIDBALL:

10 Mr. Chairman, I intend to be relatively
11 brief. Let me start off by saying that the position
12 of the Regional Director on this application is one
13 of support. My overall submission is that the Board
14 ought to recommend to the Director of Approvals that
15 the application be approved and that a Certificate
16 of Approval be issued.

17 The only caveat to that is that in
18 the Regional Director's opinion certain conditions
19 should attach to any Board recommendation. Perhaps
20 I could start with those and give them to the Board.
21 I intend to address this later in my final submissions
22 and I will give them to you now.

23 As I said I will go through those
24 in the last part of my argument.

25 The basic reason for the support that the



1 Regional Director has chosen to give to this applica-
2 tion is that in my submission it is a technically
3 sound application and the information is set out in
4 the three volumes submitted by the Region of Halton
5 and which is filed as Exhibit 7, it provides a good
6 basis on which to make a decision and in my submission
7 the continued use of this landfill site can be carried
8 out in an environmentally safe manner.

9 To start off the question that we
10 all deal with in these kind of hearings first off
11 has to do with the quantity of information and the
12 question is is there sufficient information for the
13 Board to make a recommendation and therefore for the
14 Director to make a decision?

15 In my submission, there is sufficient
16 information here and it is only Mr. Ridley who in some
17 way, and I am not sure how far he went with it in
18 the long run , but it's only Mr. Ridley that has
19 suggested that additional information may be required
20 before landfilling.

21 I understand this morning from
22 Mr. Timberg's suggestion during Mr. Hodgson's argument
23 that in fact Mr. Ridley is not even suggesting certain
24 things be pre-conditions anymore. If in fact there
25 is anything left it would be my submission there are



1 sort of three areas raised by Mr. Ridley that may be
2 considered somehow pre-conditions and Mr. Hodgson
3 has considered these in some detail and I will only
4 mention them briefly.

5 The first one is the background ground-
6 water quality in the Queenstone Shale. My submission
7 on that is that it appears it is only Mr. Ridley who
8 thinks the background water quality is not known in
9 sufficient enough detail to make a decision. It would
10 appear to me that Mr. Ridley has discounted a great
11 deal of on-site data which admittedly does not go
12 into the deeper aquifer, but there is still a
13 considerable amount of information and he apparently
14 has discounted or did not take into consideration
15 information in the Morrison Beatty reports on the NSP
16 property. Those reports have not been submitted in
17 evidence and I think it is probably proper they may
18 not be before the Board, but the information was there
19 and I think it was before the Board that there was
20 a significant amount of information in those reports.

21 The hydrogeologist for the Ministry,
22 Mrs. Pawlowski, did take them into consideration
23 as Mr. Ridley said he did and Mr. Leech I believe in
24 evidence said he had taken them into consideration too.

25 In my submission, the weight of the



1 evidence is that the background water quality in the
2 Queenston Shale is naturally poor and if it is necessary
3 to know exactly what the quality is it is really only
4 necessary for plume delineation which is something
5 which will be taken care of by agreement some time
6 later.

7 The second matter where it might be
8 suggested that more information is needed on is in
9 the area of leachate chemistry. In my submission there
10 is an abundance of data on leachate chemistry and
11 Mr. Ridley's major concern seems to be with dilution
12 and I really don't know where the evidence stands
13 after the discovery of an error in a certain figure
14 which was brought to the Board's attention last week.
15 In any event, I think again this is a matter which
16 is really important in terms of the plume delineation
17 and it can be dealt with afterwards and it need not
18 go to the approvability of this application.

19 The third area that might be considered
20 to be lacking in information has to do with an area
21 raised by Mr. Ridley on the conductivity of the till
22 and combined with that is this leachate and till
23 compatability issue. I believe in evidence Mr. Ridley
24 stated that the idea of long-term integrity testing
25 may in fact not even be feasible. It is my submission,



1 and I would agree with Mr. Hodgson on this point, it
2 seems to be a matter more in the sphere of research
3 than anything else and I think everyone here can
4 agree that it sounds like an area that needs more
5 research but I am not sure it has anything to do with
6 the approvability of this site.

7 If I might then address what in my
8 submission are the major issues before this Board,
9 I will spend most of my submissions dealing with
10 groundwater and surface water, but before I do that
11 I would like to touch very briefly on two other
12 issues which in my submission are important to a
13 relatively small number of people but they are still
14 significant, Mr. Elstone, Mr. Johnson, Mr. Aitken
15 and Dr. Walker and having to do with noise and visual
16 impact.

17 First of all, on the matter of noise,
18 I agree with Mr. Hodgson's submissions this morning
19 and it was the evidence of Dr. Lightstone that the
20 majority of the time the Ministry guideline is being
21 met at this site. Noise is a short-term phenomenon
22 and we are talking about a three-year life remaining
23 in this site. In my submission it is more properly
24 dealt with by mitigation measures and I think the
25 submissions of Mr. Brown this morning, specifically



1 his condition 6, make a great deal of sense and
2 probably should be considered by the Board. I am
3 not sure at this point whether it ought to be a
4 condition of approval but it is certainly a proposal
5 which has some merit and in fact the Region has stated
6 in its evidence that there are various things which
7 we are considering and I think it is worthwhile to
8 put that in some kind of concrete form.

9 The other small area is visual impact
10 and again that is primarily important to the immediate
11 residents at the site. My only submission on that
12 is there is very little we do as a society which has
13 no visual impact and in this particular case it would
14 appear, and in a way the evidence certainly is that
15 the impact here will be transitory and in fact once
16 the site is revegetated and perhaps it will be many
17 years down the line but nevertheless there will come
18 a point when you won't be able to distinguish this
19 site from the background.

20 THE CHAIRMAN: Weren't they talking about
21 50 or 100 years?

22 MR. TIDBALL: I believe that was the
23 evidence regarding the sort of long term -- I don't
24 want to put words in people's mouth -- but the sort
25 of long-term effort to make it so that you would



1 never notice it. I believe the evidence was that in a
2 few years it would be revegetated sufficiently to
3 mask it quite well.

4 The major issue in my submission at
5 this hearing has been the groundwater and the effects
6 of leachate on groundwater and various other sub-
7 issues connected with that. Starting from the bottom
8 line of hydrogeology, it seems to me that we have a
9 different situation in this hearing than certainly
10 any other hearing I have been involved in.

11 The situation we have is that everyone
12 seems to agree basically on the geology and the hydro-
13 geology. There is no issue here of sand seams
14 radically altering the hydrogeology, there is no issue
15 of what in fact the geology is underlying the site
16 and all the hydrogeologists, and that includes Mr. Leech,
17 Mr. Crutcher, Mrs. Pawlowski and Mr. Ridley, agree with
18 the geologic interpretation of the site represented
19 by Mr. Leech in Exhibit 7.

20 All are in basic agreement with the
21 definition and flow direction of the groundwater.
22 The major point there is that the major direction
23 of groundwater flow is in a southeasterly direction.

24 Now, Mr. Ridley, in Exhibit 101,
25 puts some emphasis on the fact that there are flow



1 components to the east and west which he thinks are
2 more significant, but in my submission it appears to
3 me that that is purely a matter of interpretation
4 and it is not really a significant difference of
5 opinion, especially with regard to approving this
6 application. In fact Mr. Ridley makes the statement
7 but never really makes any recommendations or suggests
8 any conditions regarding that information. In my
9 submission there is really not a lot of weight that
10 can be attached to it in the sense of how important
11 it is for your decision.

12 The one area that it would appear
13 there is a major difference of opinion between
14 Mr. Ridley and the other hydrogeologists has to do
15 with the lateral flow velocity in the shale. Mr. Leech
16 has used a figure of 15 metres per annum and
17 Mrs. Pawlowski in her evidence agreed that that was a
18 reasonable figure to use. I am not sure if Mr. Crutcher
19 even addressed that point. Mr. Ridley speculated on
20 a much faster movement of groundwater in the shale and
21 put two figures forward in the order of 75 metres per
22 year and approximately 750 metres per year.

23 Now, I believe Mr. Ridley in cross-
24 examination agreed that those really weren't reasonable
25 numbers and he was just sort of putting them out as --



1 I don't know -- I don't want to put words in his
2 mouth and this is my expression, but more or less
3 as trial balloons to sort of speculate on what a
4 different interpretation of this site might be.

5 I would make two submissions on that.
6 The first one is that in my opinion the weight of the
7 evidence, especially from Mr. Leech and Mrs. Pawlowski
8 is that the figure Mr. Leech has used is a reasonable
9 figure and if this is a major point of difference
10 the Board ought to accept those two hydrogeologists'
11 opinion over that of Mr Ridley, if in fact Mr. Ridley
12 was saying anything definite about the velocity of
13 groundwater movement in the shale.

14 The second submission is simply that
15 this matter really goes to the leachate plume which
16 I intend to deal with next.

17 As to the leachate plume, I think
18 there is really only one -- two things that everyone
19 agrees on, that all hydrogeologists agree on and
20 the first is that it exists and the second is that
21 they don't know where it is. I think that that is
22 about all the Board can find regarding the leachate
23 plume. Some people have speculated that it is south
24 of 403, and I think you heard a great deal of evidence
25 here on the public evening and the concern of the



1 residents that it had migrated south of 403.

2 Mr. Leech is of the opinion that it has only migrated
3 somewhere in the order of 100 metres or perhaps 180
4 metres. Mr. Ridley I think was of the opinion that
5 it had migrated as far as 403 but I could stand to
6 be corrected on that.

7 Mrs. Pawlowski's evidence was that
8 she really couldn't say where it was and she would
9 accept Mr. Leech's evidence that it was reasonable
10 to say that it had gone 100 metres.

11 THE CHAIRMAN: Mr. Tidball, wouldn't
12 you think that the applicant coming before this Board
13 on this application would have tried to determine
14 the plume before making its presentation? Wouldn't
15 that be a sort of reasonable expectation?

16 MR. TIDBALL: Well, I think the
17 evidence, the evidence of Mr. Leech is in fact they
18 have been attempting to define this plume for the
19 last three years and it is only in 1983 that they
20 attempted to use organic parameters to try to define it and
21 I believe the evidence is fairly clearly before you
22 that they did not have much luck and the evidence
23 of Mr. Rees, who I called, was that he really couldn't
24 say anything on the organic data to date. Organic
25 monitoring is something which takes a great deal of



1 time and it could take in the order of three or
2 four months just to get results back.

3 In my submission, it is not really
4 necessary in this case because the fact of the matter
5 is that this plume, wherever it is, it exists and
6 the evidence of all hydrogeologists is that continued
7 use of the site really won't have much impact on the
8 plume, but it may result in a longer generation of
9 leachate and so you have leachate coming out of the
10 site for a longer period of time. I don't know
11 if anyone gave evidence on this but it may in fact
12 be common knowledge that we are dealing with hundreds
13 of years and in that respect it is not a matter of
14 say between 10 and 20 years. So, there is really
15 not -- I wonder really if the Region even really had
16 to bring this matter before the Board. I have wondered
17 that throughout this hearing. I think it was proper
18 of them to do so because it is a matter intimately
19 connected with the site, but the fact of the matter
20 is that it is something that will happen anyway and
21 it will not be greatly affected by any continued use
22 of this site. They are going to have to address it
23 and they have attempted to address it over the past
24 three years and they will continue to do so.

25 There has been an agreement between



1 all parties on the basic parameters of the type of
2 monitoring program they might institute this year
3 and in answer to your question I don't really think
4 it was incumbent upon the applicant to come before
5 you with some kind of definite plume delineation.

6 THE CHAIRMAN: In other words, even
7 if the Director were to decide that this site has
8 to be closed up now, there would still be the problem
9 of the plume and the same sort of attention that has
10 to be paid to it, it would be the same whether it is
11 closed up now or in three year's time.

12 MR. TIDBALL: That in fact is the
13 case. I guess the advantage of bringing it before
14 the Board is that it focuses that attention in a
15 public forum and allows the various parties to have
16 input into it and therefore in that respect it was
17 a very valuable thing that it came before this Board.

18 I would point out and would like to
19 mention briefly the evidence of Mrs. Pawlowski. There
20 is a concern and the Board heard the concern here a
21 couple of weeks ago and I think it was two weeks ago
22 today from various members of the Aldershot community
23 about leachate flowing underground and somehow
24 discharging in their community.

25 The reason, the basic reason for



1 Mrs. Pawlowski's evidence was to address that
2 concern. I have already stated that I don't think
3 it goes to approvability and you will have to address
4 it anyway, but in my submission it is legitimate to try to
5 address those kinds of public concern. Mrs. Pawlow-
6 ski's evidence, and I submit she has a great deal of
7 experience on contaminant hydrogeology and in fact
8 on the movement of plumes, but here evidence is that
9 she really doesn't think it is going to have any
10 effect. She thinks that there are issues of attenua-
11 tion which have not really been taken into account
12 by anybody, there is the fact that a plume appears
13 to be migrating in the shale which is overlain by
14 at least nine metres of overburden in the Aldershot
15 area. Admittedly we don't have very much information
16 on shale outcrops in the Aldershot area but she did
17 in preparing Exhibit 78 look at as much information
18 as was available and it doesn't appear to her based
19 on that information that there would be any shale
20 outcrops.

21 I would agree with Mr. Hodgson's
22 submission that if in fact down the road it is
23 discovered that the plume is in fact migrating towards
24 the Aldershot community, that is something that could
25 be addressed somewhere down the road, maybe this year,



1 or maybe in ten years but it is something that will
2 have to be looked at later. I guess the bottom line
3 is in fact in Aldershot no one is using the water
4 that flows through the shale.

5 Mr. Chumley's evidence was that there
6 was a series of wells, and I believe his evidence
7 was that in fact there was an elderly couple still
8 using it for domestic purposes, but that information
9 was not available to Mrs. Pawlowski, it was not made
10 available before she gave her evidence, but I don't
11 think it is inconsistent with her evidence and it
12 appears fairly clear that any shallow wells in the
13 Aldershot area are quite shallow and are into the
14 overburden and I submit the evidence is entirely
15 consistent.

16 Finally, on the matter of the leachate
17 plume, and I have already addressed this in a small
18 way, but everyone is in agreement that there should
19 be a continued monitoring program and there is an
20 agreement as to the parameters which are set out in
21 Mr. Brown's suggested conditions as condition 5.
22 I have also included a condition, I believe it is
23 suggested condition 3 which I will address in a
24 few minutes.

25 The last issue I would like to touch



1 on briefly is that of surface water. There was some
2 concern expressed at the hearing, particularly by
3 Mr. Lammers that leachate is gaining access from
4 leachate outbreaks into these intermittent streams
5 that flow down the front of the site and he went
6 through that fairly thoroughly in his evidence and
7 that concern was confirmed by the sampling undertaken
8 by the Ministry this spring and in fact there is more
9 data still to come in and I am informed, or at least
10 we have not been informed it is available yet, but
11 in my submission that concern, it is a seasonal
12 concern which only appears to happen in the spring
13 and it can be addressed by a new monitoring program
14 and when I get to my suggested conditions I have
15 attempted to address it specifically in the monitor-
16 ing program condition.

17 Finally, Mr. Lammers' evidence is that
18 there are remedial actions which can be undertaken.
19 Mr. Wells gave extensive evidence on how they addressed
20 these leachate outbreaks and that is obviously the
21 first thing they ought to do and Mr. Lammers gave
22 some evidence as to the possible range of things
23 they might consider should it be proved that that
24 is not working.

25 Finally, I would like to touch on the



1 approvability of this application with regard to the
2 four phases. First of all is Phase A. You have
3 heard a great deal of evidence about Phase A and I
4 believe there was a certain change in the tone of
5 how everyone felt about Phase A when Mr. Wells made
6 his suggestion.

7 The evidence of Mrs. Pawlowski was
8 that she found that a worthwhile suggestion and in
9 fact it was her opinion that would probably improve
10 things at the site by preventing downward infiltration.
11 I believe Mr. Ridley in the end result accepted that
12 it was a good idea and I believe his evidence is that
13 as long as it was done properly he could support
14 landfilling in Phase A.

15 I would accept Mr. Hodgson's
16 submission this morning on the matter of whether
17 Mr. Wells' suggestion goes to approvability and I
18 accept his submission that it is a very good idea
19 but it doesn't necessary go to approvability but I
20 think this Board can approve Phase A without having
21 a condition that specifically that suggestion be
22 implemented because I think the weight of the evidence
23 that you have heard in this hearing is that there
24 is going to be a relatively minimal impact from
25 Phase A even with the cover stripped and continued



1 infiltration.

2 I think all parties are in agreement
3 that it is a good idea and it ought to be attached
4 as a condition and I will come to that in a few
5 minutes when I come to the conditions, but in a way
6 such that the Region is required to address it and
7 it is probably an appropriate area for the Approvals
8 Director to receive additional information on, and I
9 agree with Mr. Hodgson, he does have very extensive
10 technical staff and he would be in a good position
11 in my submission to review that kind of information
12 and decide whether it ought or ought not to be done.

13 As to Phase B, there doesn't appear
14 to be any disagreement at all on Phase B. It will
15 be entirely underdrained and the leachate will be
16 collected to the order of approximately 90 per cent
17 and, as Mr. Brown pointed out, it would appear that
18 the till liner, if we can call it that, underneath
19 will be something far in excess of 1.5 metres.

20 On Phase C again everyone seems to
21 agree on its suitability and it is entirely over an
22 underdrained area and I guess the only concern expressed
23 was that by Mr. Aitken who was concerned about the
24 total height, particularly in the front end.

25 In my submission that is a valid



1 thing for the Board to consider and I will make no
2 submissions on the total height as that is a matter
3 that obviously directly impacts one or two residents.

4 Finally, Phase D. Mrs. Pawlowski
5 addressed much of her evidence to that particular
6 phase in the sense that it is her opinion that there
7 is not going to be very much leachate generated by
8 that phase and in my submission even the fact that
9 it is over the groundwater divide which seems to have
10 been probably more a major issue at the last hearing
11 than this one, and even the fact it is over the
12 groundwater divide doesn't really make much difference.
13 The amount of leachate that will infiltrate past the
14 underdrain system isn't going to be significant
15 enough that any hydrogeologist that gave evidence
16 here is of the opinion that it is going to have much
17 impact.

18 The important point that flows
19 from Phase D, I guess, is the necessity of a
20 contingency plan in the north end of Falcon Creek.
21 Certainly the weight of the evidence here is that no
22 one wants to do it and that is a given and I believe
23 the weight of the evidence is that nobody ever thinks
24 you will ever have to do it and I guess it really
25 comes down to a matter of do you have it specifically



1 there so it is sort of staring you in the face and
2 giving you some concern for years to come. I have
3 attempted to address that in the conditions, and I
4 forget the number of the condition and we will get
5 to it in a minute and perhaps I could leave my
6 comments for that point because the way we have
7 attempted to address it I think is the appropriate way.

8 Overall I don't think there is
9 anything that stops the Board for approving any
10 phase of this site and I think as to sequence, it
11 could go in any particular way. I really make no
12 submissions on the order that the phases could be
13 implemented in.

14 One second. One thing, Mr. Chairman.
15 Am I correct in understanding that we will deal with
16 the issue of an emergency Certificate and the role of
17 the Board at a later point today?

18 THE CHAIRMAN: I don't know. I
19 don't know what Mr. Timberg is going to say, but if
20 it is his submission that -- if there is approval,
21 if approval is given and if all phases are acceptable
22 and there is no real concern about the order then I
23 don't know if that matter must be addressed at all.

24 MR. TIMBERG: In my argument I will
25 be dealing with the question of phasing, in other



1 words, staging and I have some submissions to make
2 on that. I don't -- I will not necessarily be giving the
3 blanket approval that Mr. Tidball is giving.

4 MR. TIDBALL: If I could move on to
5 the conditions and I have already given the Board I
6 think about five pages and they are not numbered,
7 but there are some 19 conditions and let's start
8 off with explaining what we have attempted to do
9 here.

10 What we have attempted to do is
11 re-write the current Certificate of Approval so
12 you will see a number of conditions here that
13 Mr. Hodgson has referred to as boilerplate. I think
14 it is appropriate for these to be before the Board
15 because these have been issues arising out of the
16 hearing that touch on many of them and I think it is
17 appropriate that it comes out in this forum.

18 We might go through them one at a
19 time and I won't necessarily read them all. The
20 first two conditions are exactly the same as conditions
21 1 and 2 in the existing Certificate of Approval and
22 1 has to do with an access road not being constructed
23 in the north and I would gather that that was an
24 issue that was more important in the 1980 hearing.
25 In any event, I think it is an appropriate condition



1 to leave.

2 No. 2 is just the things that
3 are prohibited at the site. You will notice on the
4 right it says "Similar to existing Certificate of
5 Approval, condition #2." and it has been changed in
6 a minor way to accord with the new Ministry definitions
7 of certain kinds of waste.

8 The third one is the monitoring
9 condition. Now, I have got "new" written beside it
10 and in fact there was a monitoring condition on the
11 old Certificate of Approval but it was phrased in a
12 way that is not really appropriate for this hearing
13 and it was No. 3 on the old Certificate. What I
14 have written here is:

15 "On or before December 31, 1984..."
16 The end of this year:..

17 "...the Regional Municipality of
18 Halton shall submit for approval to
19 the Director of the Environmental
20 Approvals and Project Engineering
21 Branch of the Ministry of the Environ-
22 ment, a site groundwater and surface
23 water monitoring program."

24 The intention of that is simply that there appears that
25 there will be some revisions in the monitoring program



1 and in fact there may be a whole different program
2 flowing out of the meeting which took place between
3 hydrogeologists and I think it is appropriate there
4 be a submission of a new formal program. The
5 condition goes farther to state:

6 "This program shall include adequate
7 surface water monitoring stations to
8 measure any environmental impact on
9 Falcon and Indian Creeks, ..."

10 It should say there probably "originating from the
11 landfill site" although it doesn't and perhaps you
12 could make a note of that but that just covers off
13 the point of whether there is an environmental impact
14 originating from any other source. The point of
15 that is to address the concerns expressed by
16 Mr. Lammers that the full impact on Falcon Creek
17 was not being monitored and I think it is appropriate
18 to make special reference to that in the conditions:

19 "...a special program for the
20 identification, delineation and
21 characterization of any movement of
22 contaminated groundwater ..."

23 That is the program essentially referred to in
24 Mr. Brown's condition No. 5 and in my submission it is not
25 necessary that it be formally set out in that form and



1 in fact I suppose there is the possibility that the
2 actual format in terms of what is Phase I through IV
3 could change at some point when the experts sit
4 down again. I think it is probably sufficiently
5 left in this state of condition so there is a special
6 program submitted and it covers the plume. The last
7 point is:

8 "...and a predictive component to assist
9 in determining if and when contingency
10 measures shall be implemented."

11 That is more or less standard in this kind of a
12 condition and it really is forgetting for the moment
13 about the plume we already know exists, it is a
14 standard condition and in fact it is the *raison d'être*
15 for monitoring because you are trying to figure out
16 whether what you suppose will happen has in fact actually
17 happened. The last sentence is simply:

18 "The monitoring program shall be
19 re-evaluated on an annual basis."

20 I think that that is a sensible condition and
21 Mr. Leech has testified he does that anyway.

22 The fourth condition is also
23 connected to monitoring and it simply states:

24 "The Regional Municipality of Halton
25 shall carry out the monitoring program



1 as approved and with any amendments
2 as required from time to time by the
3 Director of the Central Region of the
4 Ministry of the Environment."

5 That is a condition which requires them to carry
6 out what they have submitted:

7 "The results of all analyses shall
8 be submitted to the Director of the
9 Central Region of the Ministry of
10 the Environment within one month of
11 each analysis being completed."

12 I think that is relatively new, that second sentence,
13 and in my submission it is a worthwhile thing from
14 the Ministry's point of view in terms of compiling
15 a data base. There hasn't been significant evidence
16 heard by the Board on the particular matter, but it is
17 a sensible condition and it allows the Ministry to
18 have this information at a much earlier point than
19 would otherwise -- than would otherwise occur by
20 annual submission of reports.

21 The fifth condition is a new
22 condition and it arises out of a recommendation of
23 Mr. Stevens who was the Region's ecologist and it
24 is his last recommendation on page G-51 of his report
25 and he recommends that an environmental inspector



1 be appointed to ensure the environmental protection
2 measures specified are implemented and that environ-
3 mental concerns are identified and corrected where
4 needed as soon as possible to reduce environmental
5 impact to a minimum. That recommendation is fairly
6 loose in the sense of defining what in fact an
7 environmental inspector has to do and Regional staff
8 are of the opinion that there are a great many things
9 an environmental inspector can do and I think
10 Mr. Stevens mentioned some of them in evidence and,
11 in my submission, it would be appropriate or an
12 appropriate condition first of all that there be an
13 environmental inspector and it would be appropriate
14 to have the Region submit to the Director of the
15 Central Region, as set out in condition 5, that the
16 submission of a job description which outlines what
17 he is supposed to do, what his responsibilities are
18 and what qualifications he is to have.

19 MR. JEFFERY: What about the
20 independence issue?

21 MR. TIDBALL: That is a matter we
22 have addressed in other circumstances. I don't know
23 there is that big an issue here about independence
24 and I am not sure how we would address it any other
25 way. This isn't a special sort of thing as in the



1 Manville hearing where there is the potential for
2 a significant impact over a very short period of
3 time and you have a bunch, in the case of Manville,
4 a bunch of residents very, very much concerned about
5 the ability of the company to monitor themselves.

6 I think from our point of view there
7 is a check on it, there is a check on this in two
8 different ways. One is what we foresee here is that
9 the environmental inspector would in fact be employed
10 by the Region and so in fact the Region would be
11 policing their contractor because they in fact contract
12 out the operation of the site.

13 The other thing will come in the
14 next condition which has to do with the annual report
15 being submitted to the Minister. I have included
16 a provision for a summary report from the environmental
17 inspector per year and that would be one way for the
18 Ministry staff to cross-check what the inspector
19 has been doing and the other way of course is that
20 the Ministry makes routine inspections at the site.

21 MR. JEFFERY: Then, at least in your
22 submission on behalf of the Director, the fact that
23 this environmental inspector should be somebody
24 independent of Regional staff at the moment.

25 MR. TIDBALL: No, that is not my



1 submission. My submission is that it should be
2 somebody independant of the staff employed by the
3 contractor.

4 MR. JEFFERY: You are saying it can
5 be somebody presently on Regional staff?

6 MR. TIDBALL: It could be someone on
7 Regional staff or they could hire a new person. I
8 have no particular difficulty with this person being
9 employed by the Region.

10 MR. JEFFERY: Okay.

11 MR. TIDBALL: The sixth condition
12 is the annual report condition and it is a revision
13 of condition No. 9 in the existing Certificate of
14 Approval and it is similar to Mr. Hodgson's
15 condition No. 3 that he suggests in -- that the
16 Region suggest in section T, and it states:

17 "The Regional Municipality of Halton
18 shall submit an annual report to the
19 Director of the Central Region ...
20 by December 31st, 1984 and on
21 December 31st of each year thereafter."

22 That is very standard and is really no change from
23 the old condition on that matter. What has changed
24 is some of the things the annual report shall
25 include.



2-B

1 Subparagraph (a):

2 "...the results of an interpretative
3 analysis of all monitoring programs;"

4 That is standard and a repeat of the old condition as
5 is (b) but there is an addition there and it says:

6 "...a yearly summary of volumes and
7 weights by type of all wastes received
8 at the site including a list of all
9 vehicles refused entry to the site,
10 together with reasons for any
11 refusal;"

12 We heard some evidence on that matter throughout the
13 hearing and Mr. Hodgson stated this morning that
14 Regional Council in their resolution appears to
15 addressed that concern anyway:

16 "(c) all environmental and operational
17 problems encountered during the
18 operation of the site and any
19 mitigative actions taken;"

20 That speaks for itself and is a repeat, but (d) is new:

21 "a copy of a log to be kept at the
22 site identifying the time, location
23 and magnitude of all leachate break-
24 outs, the date and type of any corrective
25 measures taken and including a map



1 showing the location of all leachate
2 break-outs:"

3 You heard evidence from Mr. Lammers and I believe in the
4 cross-examination of Mr. Leech he stated that in his
5 submission it was a good idea and I believe this issue
6 was also addressed in Exhibit 111 which is the latest
7 resolutions of Regional Council. I am not sure it
8 is addressed specifically in terms of the log on
9 leachate break-outs but they address a log overall
10 on operational problems. I believe that (e) is new:

11 "a description of the quality and
12 quantity of all leachate collected
13 and discharged to the sanitary sewer
14 system;"

15 That condition implies that they get the problems
16 sorted out with the flowmeter and you have heard
17 evidence it has not been performing very well over
18 the years. In fact, it has been pointed out to me
19 that in fact that particular clause is in condition
20 9 of the old Certificate. Now, (f) is a repeat:

21 "an assessment of the operation and
22 performance of all leachate collection
23 facilities and any gas control
24 facilities;"

25 and the reason it is phrased like that is because at



1 the present time the Region doesn't propose any gas
2 control facilities and their evidence was that the
3 methane gas would migrate naturally out through the
4 till but that is simply included in there in the
5 event that at some point in the future they have to
6 implement some kind of gas control. (g) is new:

7 "the results of all routine
8 inspections of the leachate collection
9 facilities;"

10 In my submission it is a relatively important matter
11 if only in the sense that a very major part of this
12 application hinges on a 90 per cent collection effec-
13 iency of the underdrains and in my submission it is
14 important that those underdrains be inspected on a
15 regular basis so that if anything goes wrong with
16 them they can be addressed fairly quickly. The final
17 one is:

18 "(h) a summary report of the
19 observations and recommendations of the
20 environmental inspector."

21 I think that natural flows from having that condition.
22 If I might suggest one additional point that might
23 be addressed in the annual report, it would be that
24 there would be some sort of report on compliance with
25 all of these conditions of approval and in the same



1 respect, and I forget what tab it is in Volume 1 of
2 the report, it is Section F, that the Region goes
3 through each condition and says that this is what
4 they have done and this is where they are in
5 compliance and, in my submission, that would be a
6 valuable addition as well.

7 Condition 7. It says new to the
8 right and in fact it is a different way of approaching
9 the idea of a contingency plan and it reads:

10 "On or before December 31, 1984,
11 the Regional Municipality of Halton
12 shall submit a list ..."

13 I have omitted who it should be to, but it is the
14 Approvals Director:

15 "...a list of proposed contingency
16 measures to be implemented, if
17 necessary, to protect surface and
18 groundwaters."

19 In my submission that is in accord with the evidence
20 of Mr. Wells which was that in fact there isn't one
21 contingency plan, there are a number of contingent
22 actions that can be taken in the event there are
23 problems and in my submission it would be a valuable
24 thing for the Region to set out, steps 1, 2, 3, 4, 5,
25 6 or however many there are and exactly what they



1 would propose do and probably in what sequence they
2 would propose to do them. In that submission to
3 the Director, I would suppose the Region would address
4 this whole issue of this contingency drain in the
5 Falcon Creek valley. In my submission, the weight of
6 the evidence here is that it is not necessary and I
7 suppose what this condition is meant to get at is that
8 it would actually set out for everyone to see what
9 in fact the actions would be and in fact if that drain
10 should be there it would probably be the last one
11 and I think that that is the evidence of all the
12 parties.

13 Condition 8 is a revision of the
14 current condition No. 5 and it is what we might call
15 boilerplate, it is simply that the Region submit final
16 details on drainage works and sediment control measures.

17 Condition 9 is standard except for
18 one particular matter and it states:

19 "No landfilling shall take place in
20 Phases A, B and D until final plan
21 specifications and an engineer's report
22 on the leachate collector systems
23 have been submitted to and approved
24 by the Director ..."

25 That could very well have said Phases B and D only in



1 the sense that it is only those phases which have
2 a formal underdrain system. In my submission it
3 is appropriate to add Phase A and for the reason that
4 in my submission that will get at Mr. Wells' suggestion
5 and the reasoning behind this is that the Region
6 would address this in its submission to the Director
7 on underdraining because it is a form of underdraining.
8 The Region would address the whole issue of Mr. Wells'
9 suggestion through this condition.

10 Condition 10 is a revision of
11 condition 4 and it is the standard one and I think it
12 is the same condition as the Region's proposed
13 condition 6, simply that they plug all holes in the
14 bottom of the landfilling area.

15 Condition 11 is again fairly
16 standard, it is the site preparation report and it
17 is a revision of condition No. 8 on the old Certificate.
18 Again, Phase A is included in there because in my
19 submission there is a fair amount of site preparation
20 which may in fact go into that particular phase.

21 No. 12 is new and accords with the
22 agreement of all parties regarding the 20-metre
23 set-back and in my submission it is appropriate to
24 have it as a condition of the approval and if only
25 for the reason that when we come down to the end the



1 last condition is in fact a standard condition on
2 all Certificates of Approval which is that the
3 operation be undertaken in accordance with certain
4 plans and specifications and in this case it would
5 be these three volumes but if you went to the three
6 volumes you wouldn't see anywhere where there is a 20-
7 metre set-back so I think it is appropriate that it
8 be specifically set out here as an exception to that.

9 No. 13 is the site registration
10 condition and again standard and the same as on the
11 old Certificate -- again standard and the same as
12 on the old Certificate and I believe it is the same
13 as the Region's proposed condition 11.

14 No. 14 is again the same as the old
15 condition No. 10 and the same as condition -- the same
16 as the old condition 13 and the same as condition 10
17 proposed by the Region.

18 No. 15 is significantly different than
19 the old closure plan condition. The first thing I
20 would like to emphasize is that there is a specific
21 date given. The old condition stated within four
22 months prior to the closure of the site certain things
23 shall be submitted, closure plans, et cetera.

24 In my submission it would be better
25 all around for there to be a specific date and I would



1 hope that Mr. Hodgson in reply might address what
2 might be an appropriate date. There is no magic to
3 the December 31, 1985 date, but the rationale behind
4 is that it would appear that at the earliest the Region
5 could have a new site available would be mid-1986,
6 assuming they got some kind of approval in late 1985
7 and started in the spring of 1986 and in that case
8 we are talking a four or five month period, so it is
9 really the same and I think it is appropriate that
10 there be a date for everyone to work to. That is the
11 reason we suggested December 31.

12 Now, we have changed what it is
13 called because we are calling it a complete plan for
14 the closure, long-term maintenance, long-term
15 monitoring and after-use of the property. In my
16 submission that is a kind of complete package about
17 what happens to this site after it is closed and
18 underneath in sub-clauses (a) to (f) we have tried
19 to address some of the things that it should include
20 and the list of course is by no means exhaustive and
21 the first is:

22 "plans for fencing and access control." I
23 think that accords with something that Mr. Hodgson
24 had in one of the conditions under Tab T and (b) is:

25 "details of final cover which, at a



1 minimum, shall have a thickness of one
2 metre, of which the top 30 centimetres
3 shall be soil that will support
4 vegetative growth,"

5 That accords I think fairly closely with the conditions
6 suggested in No. 2 by Mr. Brown, the difference being
7 that it is metric and we have to work in metric these
8 days.

9 Mr. Hodgson points out that it is
10 a little deeper, 1 metres is a bit deeper than 3 feet.
11 Then (c):

12 "details of the vegetative cover
13 to be established,"

14 Again this is covering one of Mr. Brown's conditions,
15 having to do with an after-use proposal. Then (d):

16 "plans for use of the site after
17 closure,"

18 In my submission that would be the appropriate time
19 for the Region to attempt to address in an after-use plan
20 what the final use is going to be. Then (e):

21 "plans for continued monitoring
22 of surface and groundwaters after
23 closure,"

24 In my submission this is important, very important,
25 a very important segment of this particular condition



1 and it accords quite closely with the monitoring
2 condition and they kind of work together so that down
3 the road we would have some kind of a long-term
4 plan for monitoring:

5 "(f) plans and schedules for
6 routine inspection and maintenance of
7 the site after closure..."

8 For the sake of completeness we have concluded three
9 things which I think are important but again by no
10 means exhaustive and (i):

11 "actions to be taken to immediately
12 control leachate out-breaks,
13 (ii) examination of the
14 effectiveness of leachate collection
15 systems and surface drainage works,
16 (iii) identification and mitigation
17 of any on-site erosion."

18 Proposed condition 16 is almost a repeat of the
19 condition that attaches to the Minister's exemption
20 order.

21 In my submission it can go on the
22 Certificate and there is no magic attached to it.
23 Mr. Hodgson pointed out this morning that in fact
24 it is the law in the sense that it is a condition of
25 the Minister's exemption that the site be closed at a



1 certain point in time and that is on a date when there
2 is sufficient alternative capacity in the Region
3 and appropriate contours for the final closure have
4 been achieved. It might be a valuable thing to have
5 in the Certificate only in the sense that it seems
6 to put an end point on the Certificate itself.

7 No. 17 is new and it is not a major
8 issue at all but it simply states that the Region
9 shall notify the Director of the formal closure of
10 the landfill site and schedule for implementation
11 of the plan referred to, and as referred to in
12 condition 15 which is the after-use and closure plan,
13 and the Region is to do that within 14 days from the
14 date of the final receipt of waste. In my submission
15 that is a minor condition but fairly important in the
16 sense that it puts some certainty on the end of this
17 site and some point where it is definitely closed
18 and the Ministry is informed definitely it is closed
19 and everybody has some kind of idea about when they
20 will start doing certain kinds of things and when
21 they will implement their after-use inspections and
22 when they will implement their after-use plan and
23 revegetation, et cetera.

24 No. 18 is very close to the old
25 condition No. 11 and it simply provides for the



1 submission of as-built drawings, if you will, so the
2 Ministry has for its records if nothing else, but
3 records of exactly what is at the site.

4 Condition 19 is a standard condition
5 and new, new in the sense that all new Certificates
6 of Approval have it, but the site is to be operated
7 in accordance with the application and with the
8 supporting documentation which is in fact the three
9 volumes submitted to this Board as Exhibit 7.

10 MR. JEFFERY: Mr. Tidball, how about
11 the Citizens Advisory Committee or the advisory
12 committee, whatever they call it as a condition?

13 MR. TIDBALL: It could be there,
14 Mr. Jeffery and we did not include it but it could
15 be there. There are such committees provided for
16 in other Certificates of Approval but, in my submission,
17 it appears fairly certain that the Region is going
18 to do it and we have a Council resolution to that
19 effect and Mr. Hodgson has stated more than once
20 that they are going to do it if and when they get
21 approval of this site and I would have no problem
22 with having a condition like that on a Certificate,
23 but I don't think it is absolutely necessary.

24 In any event, those are all the
25 conditions suggested on behalf of the Regional



1 Director. In conclusion I would like to state that
2 in my submission this Board ought to recommend
3 approval of this application to the Director of
4 Approvals with the conditions that I have outlined
5 attached to any such approval. Thank you very much.

6 THE CHAIRMAN: Thank you, Mr. Tidball.
7 I assume your submission will take some while,
8 Mr. Timberg?

9 MR. TIMBERG: I would anticipate I
10 could probably get through it in perhaps 45 minutes.

11 THE CHAIRMAN: In that case I think
12 we will adjourn now until 10 to 2:00. Thank you.

13 ---Luncheon Adjournment at 12:40 p.m.

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

15 ARGUMENT BY MR. TIMBERG:

16 Thank you, Mr. Chairman. I would
17 like to begin by referring briefly to Exhibit 16
18 and I believe 19 on the right simply to outline
19 the boundaries of the West Burlington Citizens
20 Group. It has already been given in evidence that
21 the West Burlington Citizens Group is a citizens
22 group in the west end of Burlington and at the
23 public session on May 29 Mr. Luxon, the President
24 of the citizens group, gave in evidence the geographic
25 boundaries of the West Burlington Group. He indicated



1 the West Burlington Citizens Group covers the area
2 bounded by Lake Ontario, specifically Hamilton Harbour
3 on the south, the City limits on the west and the
4 north which are also the limits of the Region of
5 Halton, and on the east he referred to a road called
6 Francis Road and Francis Road is immediately west of
7 the Queen Elizabeth Way and runs generally north-south.
8 That area is the geographic boundary of the West
9 Burlington Citizens Group.

10 Mr. Luxon also stated in evidence that
11 the West Burlington Citizens Group consists of
12 approximately 40 to 50 active members and he also
13 indicated that approximately another 111 residents
14 of the West Burlington area have asked the group to
15 keep them informed of the progress of this hearing
16 and also of plans that others might have for disposing
17 of waste in the West Burlington area.

18 The majority of the residents in West
19 Burlington, and indeed the majority of the members of
20 the West Burlington Citizens Group, reside in the old
21 community of Aldershot and on Exhibit 14 to the
22 right the old community of Aldershot is located
23 generally below the site and in fact below the
24 Canadian National Railways line. Plains Road bisects
25 the northern part of the community of Aldershot and



1 it is approximately 2 to 2-½ kilometres from the landfill
2 site to Lake Ontario and a little over a kilometre
3 from the landfill site to Plains Road and that should
4 give you, Mr. Chairman and Mr. Jeffery, an indication
5 of what the West Burlington community is, it is
6 primarily the community of Aldershot.

7 Before dealing with the evidence
8 given at the hearing and the specific concerns of the
9 West Burlington Citizens Group with respect to this
10 application, I think it is worthwhile to review just
11 very generally some of the evidence given at the
12 public session on May 29.

13 The public session is in my opinion
14 very important because it allows residents, whether
15 members of the citizens group or not, to express their
16 concerns in their own words and without coaching
17 and generally without interference from legal counsel.
18 Statements made at the public session provide the
19 setting within which this application should be
20 considered. I submit, Mr. Chairman and Mr. Jeffery,
21 that there are four main points that can be drawn
22 from the submissions given at the public meeting and
23 the first three of these submissions are at the heart
24 of the decision taken by the West Burlington Citizens
25 Group some time ago to oppose further landfilling in



1 the West Burlington area. The first point I suggest that
2 can be drawn from that evidence is that the residents
3 of West Burlington can feel that they have done
4 their bit.

5 It is quite clear from the submissions
6 that were given, that landfill sites have operated in
7 this area for many, many years. Mrs. Anderson in
8 Exhibit 91 referred to 75 years of dumping.
9 Mr. Coome in Exhibit 90 referred to 68 years of
10 dumping. Mrs. Pocock in her Exhibit 84 referred
11 to 40 years or longer of dumping and whichever
12 number is correct the fact is that garbage has been
13 dumped in the West Burlington area for a considerable
14 number of years.

15 The results of this dumping are
16 still apparent and problems with the now completed Bayview
17 landfill site which is situated a short distance
18 to the east of the existing site, have been alluded
19 to during this hearing and apparently are of sufficient
20 concern to the City of Burlington that they have
21 referred to the Bayview park in one of their
22 conditions. I am specifically referring to their
23 Exhibit 67 which was filed, condition No. 5.

24 In the original portion of the
25 Burlington site, which is the subject of this



1 application and before this Board, is located directly
2 on fractured shale and this is hardly a suitable
3 environment for a landfill site and it has a leachate plume
4 of unknown magnitude. Reference has also been made
5 in this hearing to proposals by National Sewer Pipe
6 to landfill to the east of the existing site, between
7 the existing site and the abandoned Bayview Park site.

8 In my submission, Mr. Chairman, it
9 is hardly surprising therefore that the residents
10 of West Burlington are against further landfilling
11 in their area.

12 A second point that can be drawn
13 from the statements given at the public meeting, and
14 I draw this specifically from the submission of
15 Mrs. Pocock in Exhibit 84, is the concern of the
16 residents that this hearing should have been held
17 under the Environmental Assessment Act rather than
18 under the Environmental Protection Act.

19 An Environmental Assessment Act
20 hearing would have allowed the residents to lead
21 evidence on a wide variety of matters including
22 alternative means of disposing of the Region's garbage,
23 and some of these means and particularly the export
24 option have been referred to from time to time
25 during this hearing. The fact that there was no



1 Environmental Assessment Act hearing, I would like
2 to make it perfectly clear to the Board that the
3 residents in the West Burlington Citizens Group
4 certainly understand that this Board has no control
5 over the type of hearing that is directed, but the
6 fact that there was no Environmental Assessment Act
7 hearing and the fact, as has been indicated in evidence,
8 the Region wished to avoid even this Environmental
9 Protection Act hearing was, as was apparent at the
10 public session, disconcerting to a number of the
11 residents.

12 The third point I submit that comes
13 out of the public meeting is that the residents
14 questioned the hydrogeological work that has been
15 carried out to date on behalf of the Region and I
16 will have more to say about the hydrogeological
17 evidence shortly when I deal with the specific
18 concerns of the citizens group and the other hydro-
19 geological evidence.

20 The fourth and final point that
21 arises out of that public session is that the West
22 Burlington residents are changing their approach
23 to solid waste issue from what I believe Mrs. Pocock
24 referred to, a low-key approach to a more aggressive
25 approach. They have seen the results that have been



1 gained by residents in Milton and to which reference
2 has been made and it appears that they are changing
3 their approach.

4 Those general comments, except for the
5 third point dealing with the hydrogeology, are meant
6 only as general background and, in my submission, are
7 just a brief summary of the comments given at the
8 public session.

9 Now, if we could turn specifically
10 to deal with this application; as has been apparent
11 from the evidence, the main concern of the West
12 Burlington Citizens Group is with the impact of the
13 proposed expansion on ground and surface water. That
14 is the main concern of the group.

15 The citizens group formally called
16 one witness to provide expert evidence in these areas
17 and that one expert was Mr. Kevin Ridley, a hydro-
18 geologist with Monenco. Although some residents
19 certainly spoke on hydrogeological issues at the
20 public session, they were, as Mr. Ridley indicated,
21 not hydrogeologists and where there is any conflict
22 between their statements and their submissions and
23 those of Mr. Ridley, the evidence of Mr. Ridley is
24 to be accepted for the purposes of this hearing as
25 the evidence of the West Burlington Citizens Group.



1 This is not to say, Mr. Chairman,
2 that the opinions of these non-hydrogeologists
3 such as Mr. Kreplin are definitely wrong. In fact,
4 given the uncertainties and the unknowns in the
5 hydrogeological data, the opinions and conclusions
6 of some of these non-hydrogeologists may eventually
7 turn out to be correct.

8 However, the fact is that Mr. Ridley
9 was called as the expert on hydrogeological matters
10 on behalf of the West Burlington Citizens Group and
11 his evidence is the evidence of the group on ground
12 and surface water issues.

13 Now, briefly, Mr. Ridley was asked
14 by the West Burlington Citizens Group early in April
15 to provide an opinion on whether any of the proposed
16 four phases to the expansion would have an adverse
17 impact on the environment. He was asked, in other
18 words, to provide an impartial opinion as to the
19 hydrogeological issues which would eventually come
20 before this Board.

21 Subsequently, when he was retained
22 by the Board early in May as its witness, he
23 was asked to provide an independent opinion on
24 whether or not the expansion could be carried out
25 without creating unreasonable environmental risks.



1 He prepared a report and that report was completed
2 at the end of May and everyone, including the West
3 Burlington Citizens Group and including its counsel,
4 saw that report for the first time on May 30 and
5 no one on the West Burlington Citizens Group or its
6 counsel had any opportunity to look at any draft
7 reports.

8 Mr. Ridley's report and his opinion
9 was, in every sense of the word, truly an independent
10 opinion prepared after considering all the evidence,
11 reviewing a number of reports and talking to various
12 citizens to obtain their concerns and their thoughts.

13 Now, that brings us directly to
14 what is Mr. Ridley's opinion. To put it very simply,
15 Mr. Ridley's opinion is that a large portion, and
16 I will be returning to "large portion" and the meaning
17 of that in a second, but that a large portion of
18 the interim expansion can be carried out provided that
19 certain conditions are fully addressed. Since
20 Mr. Ridley was called as an expert witness on behalf
21 of the West Burlington Citizens Group, his conclusion
22 is accepted as the position of the group in this hearing.

23 I might add, Mr. Chairman, that the
24 position of the West Burlington Citizens Group as a
25 result of Mr. Ridley's opinion should not be taken



1 by others, whether it is National Sewer Pipe or the
2 Region or the City or anyone else, that the citizens
3 group approves of landfilling in the West Burlington
4 area.

5 By all means they are still against
6 landfilling and their position still is, in the words
7 of Mrs. Pocock, "No more dumping in Aldershot."
8 That is still their general position.

9 So, we have it that Mr. Ridley is
10 indicating that this expansion can go ahead subject
11 to conditions. Before I deal with those conditions
12 that have been suggested by Mr. Ridley, I think it is
13 worthwhile to deal with the question of staging and
14 this is a matter that the Board asked me on Friday
15 to direct in my final submissions.

16 Mr. Ridley's evidence on this
17 question of staging is somewhat difficult to follow.
18 The Region has proposed that the expansion be carried
19 out in the order A, B, C and D as indicated in their
20 report. However, Mr. Wells in his evidence did
21 indicate that there was some possibility of varying
22 this order. Initially, Mr. Ridley seemed to imply
23 in his report that, subject to operational constraints,
24 it would be preferably from a hydrogeologic point of
25 view to commence landfilling over an engineered



1 portion of the site. That would mean commencing
2 landfilling over either Phase B or Phase D or the
3 engineered portion of Phase C. That appeared to be
4 his initial opinion.

5 However, in his oral evidence he
6 reversed that position, at least initially, and he
7 indicated that it would be possible to start land-
8 filling in the Phase A area. So, we have a reversal
9 of his position. Initially he said go over the
10 engineered portion of the site and then he reversed
11 that and said it's all right to start in the Phase
12 A area.

13 I have no explanation for this
14 change and, in fact, in response to a question from
15 the Board, Mr. Ridley did not give any direct
16 explanation and so I have no explanation as to why
17 he reversed his opinion.

18 MR. JEFFERY: Was it not as a result
19 of Wells' suggestion to leave the cover on?

20 MR. TIMBERG: I was going to speculate
21 that that had to be the reason, although in response
22 to a question from the Chairman he did not answer that
23 directly but he certainly left -- at least he left
24 me with the impression that that had to be the
25 reason, but he did not deal with it directly.



1 THE CHAIRMAN: I thought he did. I
2 thought he read in a sentence in his report that had
3 not been printed which seemed to indicate that he
4 was relying upon Mr. Wells' suggestion.

5 MR. TIMBERG: That may well be and
6 I may have missed that but I was left with the
7 impression that -- I didn't get a clear answer as
8 to why he reversed his opinion.

9 However, subsequently at the very
10 end of the hearing he reversed his position somewhat
11 again and this was upon learning from Mr. Wells that
12 only a portion of Phase A would be left with its
13 final cover intact. Upon learning of that fact, he
14 indicated in his evidence that in his opinion it
15 was not possible to begin landfilling in the Phase A
16 area, at least not on that portion of Phase A where
17 the final cover was to be punctured. He intimated
18 it would be possible to landfill in the Phase A area,
19 in that portion of Phase A where the final cover
20 was left intact and provided there was hydraulic
21 connection to the retrofitted toe drain on either
22 side of the landfill site.

23 Mr. Ridley's evidence leaves two
24 possibilities open. The first possibility is, subject
25 to their being no operational constraints, and subject



1 to complying with conditions which he has outlined
2 in paragraph 20 of Section 14 of his report, and
3 these are conditions dealing with the engineered
4 portion of the site, Mr. Ridley indicates that land-
5 filling can commence over an engineered portion of
6 the site and that would be Phase B, D or the engineered
7 portion of Phase C.

8 He has also left a second possibility
9 open and that possibility is that landfilling can
10 commence over the portion of the Phase A area where
11 the final cover is to be left intact. However, under
12 no circumstances, Mr. Ridley indicated, was land-
13 filling at any time to take place over an un-
14 engineered portion of the site if it was necessary
15 to puncture the final cover.

16 I submit that Mr. Ridley made that
17 abundantly clear. Although we have two possibilities...

18 TEH CHAIRMAN: Explain those two
19 possibilities. It seems to me he said that A was
20 all right as long as the cover was left.

21 MR. TIMBERG: Yes.

22 THE CHAIRMAN: Isn't that the same
23 for the both of those possibilities?

24 MR. TIMBERG: I don't believe,
25 Mr. Chairman, that Mr. Ridley gave a definitive



1 opinion as to where the initial landfilling should
2 take place. In my submission he left it open and
3 left two possibilities; either go to the engineered
4 portion of the site and landfill somewhere in the Phase
5 B, C or D area, commence landfilling in that area
6 and leave the Phase A area to the end of the land-
7 filling scheme, or commence in the Phase A area but
8 commence and only landfill in the Phase A area in
9 an area where the final cover is left intact.

10 In my submission, Mr. Chairman and
11 Mr. Jeffery, Mr. Ridley did not advocate one or the
12 other but left them open.

13 THE CHAIRMAN: That first choice
14 is the same as his written submission.

15 MR. TIMBERG: That is the same as
16 his written submission, yes. In my submission,
17 Mr. Chairman, although Mr. Ridley definitely leaves
18 both possibilities open and does not from my
19 recollection advocate one or the other, it makes
20 better sense to go with Mr. Ridley's first possibility
21 and that would be to landfill over an engineered
22 portion of the site which would be Phases B, D or the
23 engineered portion of C. This would mean staying
24 away from the unengineered portion of the site and
25 returning to Phase A to landfill only if that land-



1 filling is required towards the end of the life of
2 the site.

3 In any event, no landfilling should
4 ever take place over an area where the final cover
5 is to be punctured. I submit, Mr. Chairman and
6 Mr. Jeffery, that there are valid reasons for this.
7 There are too many unknowns to landfilling over the
8 existing site, particularly in the Phase A area.
9 No one is certain as to what the leachate chemistry
10 is. No one is certain as to the chemistry of the
11 deep groundwater. There has been no conclusion to
12 date as to the effectiveness of the toe drain around
13 the existing landfill site.

14 THE CHAIRMAN: Isn't there even a
15 better reason; both Mr. Hodgson and Mr. Tidball
16 aren't sure whether that final cover should be left.

17 MR. TIMBERG: There is that reason
18 as well, yes.

19 THE CHAIRMAN: They want the Director
20 to look into that further and that might take some
21 time.

22 MR. TIMBERG: That may take some
23 time, Mr. Chairman. When I get into Mr. Ridley's
24 specific conditions on pages 45 and 46 of his report
25 and when he deals with the Phase A and C areas I will



1 deal with that and it will be my submission that it
2 should be a recommendation of this Board, on the
3 evidence that has been presented by Mr. Wells and
4 the comments by Mr. Ridley and Mrs. Pawlowski, that
5 a condition of approval for landfilling in the Phase A
6 area should be that the final cover should be left
7 intact, at least for the portion under the Bell
8 Canada line and in any area where it will be necessary
9 to puncture the final cover, that there be no land-
10 filling permitted whatsoever.

11 I agree, Mr. Chairman, that is
12 another reason for not landfilling in that area.

13 THE CHAIRMAN: How about the un-
14 engineered part of C?

15 MR. TIMBERG: The unengineered part
16 of C is subject to the same criticism. If no land-
17 filling is to be permitted in Phase A over a portion
18 of the site where the final cover is to be
19 punctured, then the arguments I make apply equally
20 to the unengineered portion of Phase C and likewise
21 there should be no landfilling over that area as
22 well. There is one final reason, Mr. Chairman, for
23 not permitting landfilling over the unengineered
24 portion of the site, particularly if the final cover
25 is going to be punctured and for staying away as much



1 as possible from the Phase A area, and that is the
2 submission of a number of people, and Mr. Ridley
3 indicated this as well, that that landfill site
4 should not have been there in the first place, at
5 least in its unengineered condition.

6 What we would be doing if we, and
7 by "we" I mean all of us, if all of us permitted
8 landfilling in the Phase A area we would be adding
9 more garbage to an existing landfill site which
10 should never have been put in that place in the first
11 place under unengineered conditions.

12 THE CHAIRMAN: Didn't Mr. Ridley
13 agree to landfilling on A if there were no outcroppings
14 of shale south of the CNR?

15 MR. TIMBERG: Mr. Ridley's evidence
16 on that point is ambiguous and I think it is subject
17 to two interpretations. One interpretation definitely
18 is that if there are no outcrops anywhere in the
19 Aldershot community and if the groundwater is highly
20 saline so it masks the leachate, then it is
21 Mr. Ridley's submission and it is his opinion that
22 there would be no possibility of any harmful
23 environmental risk occurring to landowners below the
24 site.

25 However, I read his evidence to be



1 that when he was making those submissions he was
2 making those submissions in the context of the
3 engineered portion of the site where 90 per cent or
4 slightly more of the leachate was being collected.
5 I don't believe he was referring to the unengineered
6 portion of the site where no one has any idea of
7 how much leachate is being collected. It is subject
8 to wide interpretation as to how much leachate is
9 actually exfiltrating the bottom of the site into
10 the shale bedrock and moving off to the southeast.

11 I submit that the reason that
12 Mr. Ridley indicated that it was possible to permit
13 landfilling in the Phase A area was only because the
14 final cover was going to be left intact. If the
15 final cover was going to be left intact he indicated
16 that that would definitely improve the situation
17 because then the leachate would run off towards
18 both sides of the landfill site and be collected in
19 the toe drain.

20 I submit that that is the better
21 interpretation of his evidence, particularly when he
22 made his comment on Friday after hearing from
23 Mr. Wells as -- paraphrasing his words -- as to not
24 being in favour of landfilling in the Phase A area
25 if the final cover was to be punctured.



1 If Mr. Ridley was concerned only
2 with the possibility of shale outcrops in the Alder-
3 shot community, then I would assume, and Mr. Ridley
4 is very careful and very clear on what he says, but
5 I assume he would have indicated subject to shale
6 outcrops. I read his evidence to be and I interpreted
7 what he said to be that the only reason he was -- the
8 only reason he was agreeing to Phase A was that the
9 final cover was going to left on so the bulk of the
10 leachate that would be produced from this Phase A
11 expansion would be collected in the toe drains and
12 sent off to the sewage treatment plant for treatment.

13 THE CHAIRMAN: I take it then that
14 your opinion and Mr. Ridley's opinion is that if the
15 final cover is left on Phase A except for the four
16 small areas that were designated by Mr. Wells, you
17 and Mr. Ridley would not be opposed to starting on
18 Phase A, on those areas where the cover is left.

19 MR. TIMBERG: Mr. Ridley would
20 certainly not be opposed to starting in that area
21 but my instructions from my client, the West
22 Burlington Citizens Group, is that subject to opera-
23 tional constraints and subject to complying with the
24 conditions in subsection 3 of paragraph 20 of
25 Section 14, that landfilling commence in either



1 the Phase B or D or the engineered portion of the
2 site.

3 Mr. Ridley I admit left both
4 possibilities open, but my instructions are if at
5 all possible landfilling should commence in the
6 other areas and Phase A should be left to the very
7 end.

8 Mr. Chairman and Mr. Jeffery, that
9 deals with my comments on the question of staging and
10 I would like to turn now to the various conditions
11 that have been advocated by Mr. Ridley and these
12 conditions are set out on pages 45 and 46 of his
13 report in conclusion 20 of Section 14.

14 After hearing from Mr. Leech in
15 reply on Friday, there appears to be substantial
16 agreement between him and Mr. Ridley on many conditions.
17 There are, however, some areas on which there is
18 substantial disagreement. It is my submission that
19 where there are areas of disagreement, and I will be
20 getting into these areas of disagreement very shortly,
21 Mr. Chairman; but where there are areas of disagreement
22 it is my submission that the evidence of Mr. Ridley
23 is to be preferred to the evidence of Mr. Leech which
24 has been supported by Mr. Crutcher and Mrs. Pawlowski.

25 Mr. Ridley in his approach and in his



1 report adopted what I might call a very studious,
2 very careful approach to the entire problem. He
3 bent over backwards to consider numerous interpreta-
4 tions to the existing data. He did not hesitate to
5 say that the data was incomplete. For example, the
6 water quality data with respect to the deep shale
7 or data with respect to the chemistry of the leachate
8 directly from the heart of the landfill site, and
9 he even said in certain instances that data was
10 missing and that he would prefer to have it, and
11 some of the data that was missing would be the hydraulic
12 conductivity data dealing with or involving the
13 testing of the leachate on the clay till.

14 Although I grant that Mr. Ridley
15 does not have the experience of either Mr. Leech
16 or Mr. Crutcher or Mrs. Pawlowski and, as Mr. Ridley
17 admitted himself, experience is a very important
18 factor to be taken into account in determining
19 hydrogeological opinions.

20 I submit that Mr. Ridley more than
21 made up for -- I guess I can say his lack of substantial
22 experience with his educational background and his
23 academic training which has been sprinkled over the
24 years with a fair amount of practical experience and granted
25 not all that practical experience has been in the



1 field of landfill contamination but, as Mr. Ridley
2 himself indicated, hydrogeology is hydrogeology and
3 it doesn't really matter whether the hydrogeological
4 analysis is done on a landfill site or an open pit mine,
5 the hydrogeological principles are the same in either
6 case.

7 Hydrogeology is an evolving science.
8 As Mr. Hodgson tended to indicate this morning he
9 referred to the so-called experiments proposed by
10 Mr. Ridley on hydraulic conductivity. If hydro-
11 geology is an evolving science, and I grant it is,
12 perhaps then that academic training is an extremely
13 important factor for all hydrogeologists and perhaps
14 more important than has been previously considered
15 for expert testimony in this area. If academic
16 training and background is looked at, then certainly
17 Mr. Ridley is head and shoulders above the other
18 hydrogeologists.

19 Now, I say that Mr. Ridley adapted
20 a very studious, very careful approach, and he
21 indicated in his evidence that there were certain
22 factors or certain portions of the hydrogeological
23 evidence that he felt were missing or incomplete and
24 should have been put in their report. Although he
25 indicated that it was a professional disagreement



1 between himself and the other hydrogeologists,
2 particularly Mr. Leech, Mr. Ridley did indicate that
3 there were some items that he would have thought a
4 thorough hydrogeologist would have put in their
5 report and here are just two examples, but one
6 example is information dealing with borehole 17.
7 Borehole 17 is a very crucial borehole. It is at
8 the bottom end of the site adjacent to the North
9 Service Road and there has been substantial discussion
10 about borehole 17 and the meaning of the data in that
11 borehole and whether that data does or does not
12 indicate the presence of a leachate plume.

13 As Mr. Leech indicated in his
14 evidence and as Mr. Ridley dealt with in his report,
15 there is crucial data about that borehole that was
16 not in the report but which was necessary to come
17 up with a proper interpretation and that crucial
18 data was the fact that the borehole was damaged
19 during construction and also that the borehole was
20 improperly constructed using drilling fluid,
21 water, which substantially can affect the results.

22 Mr. Ridley indicated that a very
23 thorough analysis and a thorough report would have
24 required that those factors, and he lists a couple
25 more in his report, but those factors be indicated



3-A

1 in the report so other hydrogeologists can come up
2 with a full and proper opinion.

3 He also indicated that he would have
4 expected the other hydrogeologists to review all data
5 from previous reports, and here I am specifically
6 referring to the data from borehole 8 which in a
7 previous report submitted in the fall of 1979 to the
8 first expansion hearing indicated a chloride content
9 from borehole 8 in the heart of the landfill site
10 of 13,000 milligrams per litre and, as we learned,
11 that figure should be 1,300 milligrams per litre.

12 Apparently no one in five years had
13 looked at that data and one would have expected that
14 if hydrogeologists were doing a very thorough analysis,
15 someone would have looked at the data in the last
16 five years but obviously that did not happen and the
17 upshot of my submission on this matter, Mr. Chairman,
18 is that Mr. Ridley has done a very thorough analysis.
19 He has looked at data that other hydrogeologists
20 apparently did not look at and did not even know about.

21 MR. JEFFERY: How about him not looking
22 at the Morrison Beatty reports. How do you explain
23 that?

24 MR. TIMBERG: The only explanation I
25 have for that, Mr. Chairman and Mr. Jeffery, is



1 that he ran out of time on that. He did borrow, as
2 he indicated, the reports from Mr. Hodgson and he did
3 look at them over the weekend and he reviewed as many
4 of them as he could. Unfortunately, the review of
5 those reports took place at the very end, I think it
6 was almost at about the time he was to give his
7 evidence-in-chief and if he had had sufficient time
8 he should have reviewed those reports and I admit that,
9 and I think Mr. Ridley would admit that himself.
10 He made every attempt to review those reports and
11 had he reviewed those reports then his report and
12 his evidence would have been much more thorough than
13 it actually was.

14 If we look now at the conditions
15 suggested by Mr. Ridley, and looking specifically at
16 page 45, Mr. Ridley at page 45 sets out four general
17 conditions and this is 14.20.1. At one time in his
18 evidence Mr. Ridley seem to imply that these four
19 conditions were conditions precedent to continued
20 landfilling anywhere on the site. However, in response
21 to questions by Mr. Tidball in cross-examination, he
22 did indicate that those conditions could be worked on
23 simultaneously in the Phases A and C areas and he
24 referred to the Phases A and C areas because he had
25 just indicated to Mr. Tidball that it would be



1 permissible to commence landfilling in those areas
2 subject to Mr. Wells' condition being satisfied and
3 the final cover being left on.

4 He also indicated in his evidence that
5 it would be possible to deal with or address these
6 general conditions in three of the four cases in a
7 matter of months. The one case that would take
8 more time to address and deal with would be the
9 condition dealing with the delineation of the plume,
10 but the other conditions he felt could be dealt with
11 or addressed in a relatively short period of time.

12 In my submission, looking at
13 Mr. Ridley's evidence as a whole and considering what
14 he said in examination-in-chief and under cross-
15 examination, the proper interpretation of his
16 evidence is that it is his opinion that the general
17 conditions, those four general conditions he has outlined,
18 can be worked on simultaneously with continued land-
19 filling.

20 If you look first of all at the first
21 general condition, the first general condition which
22 Mr. Ridley outlined is that the leachate chemistry
23 be accurately determined. The evidence to date has
24 been that everyone agrees that the leachate sampled
25 from the manhole in the toe drain below the site is



1 dilute, but there the agreement ends. There is a
2 vast difference of opinion as to how dilute that
3 leachate is. On the one hand we have Mr. Ridley
4 suggesting that possibly, and I don't think it is
5 any higher than that, but possibly the leachate could
6 be quite concentrated, although his opinion, his
7 feeling on that has been weakened somewhat since he
8 learned of the fact that the chloride measurements
9 from borehole 8 was 1,300 milligrams per litre
10 instead of 13,000.

11 So, his opinion has been weakened
12 somewhat, but there is still a difference in opinion
13 between Mr. Ridley on the one hand who feels that
14 the leachate chemistry, specifically the chloride
15 measurements, may be higher than the readings than
16 have been presently obtained from the site and no
17 matter who is correct, whether it is Mr. Ridley or
18 the other hydrogeologists, Mr. Leech or Mrs. Pawlowski,
19 this is a relatively simple matter to determine and
20 a relatively simple matter to determine quickly as
21 Mr. Ridley indicated.

22 Mr. Ridley indicated that the
23 question of the leachate chemistry should be addressed
24 promptly and as soon as possible and he has suggested
25 that the leachate be sampled directly from the landfill



Toronto, Ontario

1 site and from a borehole in the vicinity of his
2 existing borehole 8-A which is in the vicinity of
3 borehole 8 which was destroyed when landfilling
4 continued.

5 Now, I would submit, Mr. Chairman,
6 dealing with the monitoring program in detail in a
7 few moments, but I would submit that this requirement
8 that the leachate chemistry be accurately determined
9 be a condition of the monitoring program and it be a
10 condition of the monitoring program that in addition
11 to monitoring the leachate from the manhole, from the
12 toe drain of the manhole, that the leachate also be
13 sampled directly from within the refuse, from
14 directly within the refuse in the vicinity of -- I
15 believe it was Mr. Ridley's evidence -- borehole 8-A.

16 Now, Gartner Lee proposes in their
17 report, volume 2 that the toe drain be sampled
18 four times annually. If the toe drain is to be sampled
19 four times annually, in my submission Mr. Chairman and
20 Mr. Jeffery, it makes sense to also sample the leachate
21 directly from the refuse four times annually as well.

22 The second general condition dealt with
23 by Mr. Ridley is the condition that the background
24 chemistry of the deep groundwater be determined.
25 Now, again we have some disagreement between the



1 hydrogeologists. All the hydrogeologists agree that
2 the water is not potable at depth. All hydrogeologists
3 agree that as one descends into the bedrock, the
4 water becomes increasing more saline, but there I
5 think or I sense there is a possible difference of
6 opinion between what Mr. Ridley has said and what
7 Mr. Leech has said.

8 It is Mr. Leech's opinion that based
9 on the data from the shallow groundwater wells which
10 indicate an increasing chloride trend, that as one
11 goes deeper into the shale, much deeper into the shale,
12 the chloride count is going to increase substantially.

13 Mr. Ridley says "I don't have any
14 evidence on that. I don't know whether that's going
15 to happen or not. If it does happen, I don't know
16 how much the groundwater will increase in salinity."
17 The question really is is the groundwater or is it
18 not highly saline? The answer to this question, as
19 a matter of interest, could help, among other things,
20 to determine whether the enhancement theory, if I can
21 call it that, of Mr. Kreplin is correct.

22 You will recall Mr. Kreplin proposed
23 that as the plume travelled through the shale it
24 would become -- it would pick up chlorides and become
25 more enhanced and to know whether or not that was



1 correct or not one would have to know what is the
2 chemistry of the deep groundwater.

3 Now, Mr. Ridley indicated that an
4 answer to that could be obtained, I believe he said
5 in a matter of months to construct a well and to allow
6 the well to reach equilibrium and it was subsequently
7 indicated by Mr. Leech in his reply evidence that it
8 would be possible to construct a well in the buffer
9 zone to the north of the site and above the Phase D
10 area and above the slope of Falcon Creek.

11 He indicated that that well could be
12 used to determine the background water chemistry. It
13 is my submission, Mr. Chairman and Mr. Jeffery,
14 that that should be done promptly, as part of a new
15 monitoring program and before any landfilling proceeds
16 into the Phase D area where leachate could impinge
17 on that well. It is very important to have background
18 water chemistry and if the background water chemistry
19 is to be obtained, common sense indicates that it
20 should be obtained before there is any possibility
21 whatsoever of leachate affecting the results because

22 the whole purpose of determining the background
23 water chemistry of course to learn of the chemistry
24 before it is impacted by leachate.

25 Now, Mr. Ridley had a third concern,



1 a new on-site monitoring program and to some extent
2 this concern has been addressed and evidence has been
3 led by the various parties that the technical experts
4 have had a meeting at which they have agreed, at least
5 in a preliminary fashion, on a new on-site monitoring
6 program.

7 Mr. Leech led evidence on this in
8 which he indicated the monitoring program would
9 include a well up-gradient of the site and somewhere
10 in the buffer zone in the Phase D area and a well
11 down-gradient on the site at a point where everyone
12 could agree that the leachate plume had not yet reached.

13 Mr. Crutcher referred to it briefly
14 and Mr. Ridley deals with it in his report and this
15 new monitoring program would augment the program
16 proposed by Gartner Lee in their report at pages 67
17 and 69. Although in some of the draft conditions
18 presented this morning, particularly the one from
19 Mr. Tidball, there was reference to a monitoring
20 program and reference to a monitoring program to be
21 decided upon by the Director, it is my submission,
22 Mr. Chairman, that it should be a recommendation of
23 this Board as to what the minimum requirements of
24 that monitoring program should be. There has been
25 evidence as to monitoring presented by most of the



1 hydrogeologists and I think it would be perfectly in
2 order for this Board to make a recommendation as to
3 the minimum requirements of that monitoring program
4 and those minimum standards I would submit would be
5 the monitoring program set out by Gartner Lee on
6 pages 67 and 69 of their report combined with the
7 evidence that has been put in as to the new on-site
8 monitoring program proposed by the various technical
9 people and this was dealt with by Mr. Leech in his
10 evidence and Mr. Ridley covers it in a portion of
11 his report.

12 I would submit that this Board should
13 recommend that at a minimum that monitoring program
14 or whatever monitoring program is decided upon by the
15 Director include the various items that have already
16 been proposed by Gartner Lee and the various items
17 that have been agreed to by the various technical
18 people.

19 Now, that gets me into, Mr. Chairman
20 and Mr. Jeffery, Mr. Ridley's fourth general condition
21 and this is the delineation of the plume, a matter
22 of substantial controversy, a matter that is of
23 substantial concern to the residents of West Burlington.
24 Everyone agrees that there is a plume somewhere
25 below the site, but that generally is where the agree-



Toronto, Ontario

1 | ment ends.

2 | There is speculation as to exactly
3 | where it is. As was indicated in argument this
4 | morning, Mr. Leech can positively conclude that it
5 | has not reached borehole 17. Mr. Ridley on the
6 | evidence, and I believe that this is his opinion
7 | which is shared by Mrs. Pawlowski, doesn't have the
8 | same opinion. They know the plume is there somewhere
9 | and it is below the site, it is moving in a south-
10 | easterly direction, but as for exactly where it is
11 | and at what speed it is moving, no one knows.

12 | However, Mr. Ridley did indicate that
13 | this work delineating the plume, as I have indicated,
14 | is not a condition precedent and can be carried on
15 | while landfilling is continuing. That is
16 | Mr. Ridley's opinion and I accept that opinion.

17 | A four-phased program has been proposed
18 | to locate that plume and to determine its possible
19 | affects upon the environment. It would be my
20 | submission, Mr. Chairman, that as a minimum this Board
21 | should recommend to the Board as a whole and the
22 | recommendation should be to the Director, that at a
23 | minimum that four-phased program be a condition of
24 | approval and that four-phased program should be laid
25 | out as a recommendation to go into the Certificate of



1 Approval requiring the Region, the City, the
2 Ministry and the other parties involved in this
3 matter to determine where that plume is and what
4 possible effect it could have on the environment.

5 THE CHAIRMAN: What are those
6 four phases under this section?

7 MR. TIMBERG: The four ...

8 THE CHAIRMAN: What Mr. Brown has
9 on his?

10 MR. TIMBERG: What was proposed by
11 Mr. Brown and Mr. Brown was simply referring to what
12 had already been entered into evidence by the hydro-
13 geologists, and I can't recall if it was Mr. Crutcher
14 or Mr. Leech, but one or the other of the hydrologists
15 put it into evidence.

16 THE CHAIRMAN: You are suggesting
17 it be spelled out that way in the Certificate?

18 MR. TIMBERG: That would be as a
19 minimum. In the conditions proposed by Mr. Tidball,
20 he has indicated that plans be drawn up or a program
21 be decided upon to determine, and this would be his pro-
22 posed condition three, he indicated there would be
23 a program for the identification, delineation and
24 characterization of any movement of contaminated
25 groundwater.



1 I would submit, Mr. Chairman, that
2 that is a good condition, but as a minimum, this
3 Board should recommend that at the very least, what-
4 ever plan is decided upon, that plan should incorporate
5 the four phases which have been previously put into
6 evidence.

7 Next, Mr. Chairman and Mr. Jeffery,
8 Mr. Ridley has conditions dealing with Phase A and C over
9 the original landfill site and I can deal with these
10 very briefly at this time because I already have dealt
11 with them when dealing with the question of phasing.
12 However, briefly if I can summarize what Mr. Ridley's opinion
13 and evidence has been, it is that landfilling is
14 possible in the Phase A area so long as the retrofitted
15 toe drain is extended along the east ditch and I
16 understand it will be extended so there is no dis-
17 agreement there, and also landfilling may continue
18 or may be carried out if the final cover has been
19 left intact and those are Mr. Ridley's conditions for
20 landfilling in those areas.

21 If we move on next to Mr. Ridley's
22 conditions for landfilling in the Phase B area, the
23 Phase D area and the Phase C area over the engineered
24 site, this is at the bottom of page 45 through to the
25 top of page 46. I will deal first of all with the



1 first two conditions in that section, the conditions
2 that Mr. Hodgson had labelled last week as A and B and
3 which Mr. Hodgson himself dealt with together this
4 morning in his argument.

5 Mr. Ridley has recommended that before
6 landfilling takes place in these areas, that the
7 hydraulic conductivity of the clay till be determined
8 using leachate since it is leachate that will be
9 interacting with the till and, secondly, that the
10 long-term integrity of the till to leachate be
11 determined. It was Mr. Ridley's opinion that those
12 conditions are conditions precedent to landfilling
13 in that area.

14 It was quite clear on the evidence
15 that Mr. Leech disagrees with Mr. Ridley's opinion
16 and Mr. Hodgson did indicate in his argument this
17 morning some of the reasons why Mr. Leech disagreed.
18 However, until the work is done, no one can conclusively
19 say what the hydraulic conductivity is or whether
20 the integrity of the till will be maintained. As
21 Mr. Ridley indicated in his evidence, he couldn't
22 say what would happen. There could either be a
23 positive effect on the clay till or there could be
24 an adverse effect. If there is a positive effect,
25 then it works to the benefit of the Region and in



1 fact to all the citizens in West Burlington because
2 then the landfill site would be much safer than it
3 now appears to be.

4 If there is an adverse effect or
5 there will be an adverse effect, then it would be
6 worthwhile finding out as soon as possible before
7 landfilling and then consideration could be given
8 to some of the alternative methods proposed by
9 Mr. Ridley such as the double liner et cetera.

10 However, to know certainly whether
11 or not those will be needed you will have to know
12 how does the clay till react with the leachate.

13 Now, Mr. Leech stated in his
14 reply evidence under cross-examination, and my notes
15 indicate that Mr. Ridley was the expert, he is expert
16 on clays, and Mr. Ridley feels it should be done
17 and if Mr. Ridley is the expert on clays then
18 Mr. Ridley's opinion is the only true expert opinion
19 on that point.

20 Reference has also been made by
21 Mr. Hodgson in argument this morning to two papers
22 presented by Mr. Leech in his reply evidence and
23 one he said -- my notes indicate he referred to a
24 Sarnia study, a study by Professor Quigley from
25 Western Ontario which he indicated was similar to



Toronto, Ontario

1 this situation, but it is my submission that it is
2 not similar and as Mr. Leech acknowledged in cross-
3 examination under reply, the clay till investigated
4 by Quigley in the Sarnia study had a clay mineral
5 called smectite in it which is not present in this
6 site and since smectite as was put to Mr. Leech in
7 cross-examination has a property of increasing in
8 volume, increasing in size under impact from fluids
9 such as water, and when that was put to Mr. Leech
10 he said he didn't have an opinion on that but if
11 Mr. Ridley was the expert and Mr. Ridley said that,
12 that was fine. So, we have a different situation
13 with the paper from the Sarnia study.

14 Mr. Leech also referred to an
15 Illinois study of a Dr. Cartwright and his colleagues
16 and there the indication was that the leachate had
17 a positive impact on the till. The point was made
18 by Mr. Hodgson in argument that no mention was made
19 by Mr. Ridley in his examination-in-chief of this,
20 or in his report of this study, but the evidence of
21 Mr. Ridley all along has been that the effect of the
22 leachate on the till can either be positive or negative.
23 It could either improve it or it could adversely
24 affect it.

25 So, there is really no need to



1 specifically refer to the Illinois study and I suppose
2 Mr. Hodgson might be referring to the fact that one
3 report was attached to Mr. Ridley's report and that
4 was the Quigley report and if the Quigley report --
5 that was the first Quigley report -- if that report
6 was attached then I suppose the argument might go
7 why wasn't the Cartwright report attached. If you
8 look at the date of the Quigley report, you will see it
9 was presented at a conference very early -- not
10 "early", but shortly after the Labour Day weekend in
11 May and it was presented in the report I would
12 assume so it would be available to all parties and
13 since it was a recent report that many hydrogeologists
14 would not know about.

15 The upshot of my argument on these
16 conditions, Mr. Chairman and Mr. Jeffery, is that
17 before any landfilling takes place in Phases B, D and
18 A on the engineered...

19 MR. JEFFERY: How long do you submit
20 those tests should take?

21 MR. TIMBERG: Mr. Ridley, if I
22 recall his evidence, indicated, or my notes indicate
23 a matter of months.

24 MR. JEFFERY: Well, would you then
25 be left with A and the unengineered portion of C if



1 you had to landfill prior to getting those tests done.

2 MR. TIMBERG: My instructions on
3 this point from the West Burlington Citizens Group
4 are quite specific and it is ...

5 MR. JEFFERY: You can't have it both
6 ways.

7 MR. TIMBERG: There is another
8 alternative and it may not receive favour...

9 THE CHAIRMAN: The alternative is
10 no landfilling?

11 MR. TIMBERG: No landfilling if there
12 is a portion of time or a small portion of time
13 which is required to complete the testing. However,
14 I admit on looking at it logically and taking into
15 account what I have said, if that testing does take
16 longer than is expected and there is no way of
17 really knowing until the testing is carried out,
18 but if it does take longer than expected then,
19 on Mr. Ridley's evidence itself, Mr. Ridley did
20 indicate it would be possible to start landfilling
21 in the Phase A area.

22 So on Mr. Ridley's own evidence, that
23 possibility is open.

24 MR. JEFFERY: That would be the
25 preferable route to go. Is that what you are saying,



1 is the position of your clients if you must choose
2 between those two?

3 MR. TIMBERG: If a choice had to be
4 made ...

5 MR. JEFFERY: I know there is the
6 choice of no landfilling at all, but if the choice
7 is landfilling what is the position of your client?

8 MR. TIMBERG: If the choice is land-
9 filling, then the position would be that the land-
10 filling would begin in the Phase A area on the portion
11 of that Phase A area where the final cover is left
12 intact and then that would be their position only if
13 this testing that has been advocated by Mr. Ridley
14 is not completed in sufficient time to allow landfilling
15 to proceed in the Phase B and D areas.

16 MR. JEFFERY: Without trying to
17 interrupt your argument, here is where we get into the
18 area that if there is an emergency certificate and
19 the Director is asked to issue an emergency certificate
20 and sets out a specific phasing, whatever phasing
21 he chooses in his discretion, it could theoretically
22 be different if we were to approve this application
23 from the phasing this Board would recommend?

24 MR. TIMBERG: There is that
25 possibility, Mr. Jeffery, and that is causing me some



1 concern that we don't we get ourselves into that
2 difficulty. The hearing process is very important...

3 MR. JEFFERY: It is a practical
4 consideration as well because if this Board were
5 to approve the application with some type of phasing
6 and the Director on an emergency certificate went
7 ahead with a different phasing, it is very difficult
8 to reconcile the two in the sense that it would seem
9 to be that whatever the Director recommended on the
10 emergency certificate would probably be carried
11 through to its conclusion, at least of whatever phase
12 he chose as the first one to landfill, because you
13 won't stop in the middle and say having started at
14 D and then go on to A if we should recommend approval
15 with a start at A.

16 MR. TIMBERG: I certainly recognize
17 those concerns. There is another possibility that
18 has not been addressed and I don't know how feasible
19 it is, but I simply toss it out at this time and that
20 possibility is that the landfilling is now being
21 completed in what is called the Phase II area, the
22 Phase II referring to the extension granted in 1980.
23 The landfilling is now being carried out in that
24 area. It appears from the cross-examination that
25 Mr. Brown had on Mr. Wells on Friday that it may not



1 be necessary to have much of an emergency extension
2 if at all, but if it is necessary to have an emergency
3 extension or emergency certificate granted, perhaps
4 consideration should be given to landfilling in that
5 Phase II area above the existing contours that are
6 presently there now and if landfilling simply
7 continued in the Phase II area we would not really be
8 in the difficulty of trying to reconcile a decision
9 of this Board with a decision that the Director might
10 take on an emergency certificate.

11 MR. JEFFERY: I think it boils down,
12 Mr. Timberg, to whether or not all of you counsel on
13 behalf on your respective clients and parties can
14 agree. Can you all agree on what area you would
15 like to see landfilled on an emergency basis if such
16 an application were made and if the Director were
17 predisposed towards granting it?

18 THE CHAIRMAN: Since this matter
19 has been brought up I think I would like to make a
20 comment or two. Number one, if there is an emergency
21 certificate and landfilling takes place pursuant to
22 that certificate and if this Board were to recommend
23 there be no landfilling, in other words, the applica-
24 tion is rejected, that would be in the same sense a
25 frustration of the Board's decision. I have some



1 difficulty with this whole question of the emergency
2 certificate and I don't know if our Board should take
3 any position without being asked by the Director.
4 The Director is free to make his decisions and he
5 is free to consult I assume with various people and
6 if the Board is invited to give an opinion, or this
7 panel is, as I think I have indicated, we would have to
8 get permission from the full Board and I have indicated
9 to this hearing that the full Board is sitting next week,
10 and I can't remember if it is the 20th or the 21st
11 and so there it is.

12 MR. TIMBERG: I take it, Mr. Chairman,
13 that I need not make any more comments about the
14 emergency certificate and I can just carry on with
15 my submissions?

16 THE CHAIRMAN: Mr. Hodgson.

17 MR. HODGSON: Can I just interrupt?
18 I am not sure I understood what you were saying,
19 Mr. Chairman. What do you want us to take from what
20 you are saying?

21 THE CHAIRMAN: I think the initiative,
22 and I would really like to consult with my colleague,
23 but it seems to me that the initiative with regard
24 to the emergency certificate, as far as this panel
25 and the Board are concerned, has to come from the



1 Director and not from this panel. I think we have
2 voiced our concerns and it is a legitimate concern
3 that the Director may be doing something that will
4 frustrate the recommendation of the Board at a later
5 time. That, I assume, that message has been conveyed
6 or is being conveyed to the Director and it seems to
7 me that it is at that stage that the Director must
8 take the initiative to see what he wants to do and
9 whether he wants to consult with this panel and if
10 he wants to consult with the panel or with the full
11 Board -- with this panel -- I am saying that this
12 panel can only give some sort of indication after it
13 has gotten approval from the Board and the only time
14 we can do that is next week, next Thursday.

15 MR. HODGSON: I think Mr. Tidball
16 should address some of your concerns in that regard,
17 but I do want to tell you that the Region is aware
18 of the awkwardness of the situation you are in and
19 that is the reason. I appreciate we have raised it,
20 (a), because it would have looked like we were trying
21 to avoid the problem had we not raised it and, (b),
22 also in fairness to the Board and also in fairness
23 to the other parties and also out of our awareness
24 that it is an awkward position, if this Board
25 hypothetically -- suppose this Board decided to approve



1 B but not A and the Director issued an emergency
2 certificate in respect of A, that would be awkward.

3 My first reason for wanting to raise
4 this matter with the Board was to indicate to the
5 Board the severe time constraint and not to pressure
6 you but to help you to understand that the time
7 constraint existed and it puts up all in a very awkward
8 position.

9 THE CHAIRMAN: We appreciate what
10 you have done and we think you have acted quite
11 properly and you have told us and we reacted to it and
12 I would be interested in hearing from you, Mr. Tidball.
13 Mr. Timberg, do you want to finish or should we stop
14 at this point or go on for a few moments at this
15 point?

16 MR. TIMBERG: I am in your hands. If it
17 will be much longer I am content to hear from
18 Mr. Tidball. I have perhaps another 15 minutes left to do
19 but if Mr. Tidball wants to deal with it now...

20 MR. JEFFERY: If you don't mind we
21 brought it up and we might as well get it in context
22 so at least it appears in the transcript in context.

23 MR. TIDBALL: Mr. Chairman, I don't
24 act at this hearing for the Approvals Director and
25 I do have the advantage of having spoken to staff, but



1 the Director's staff has exactly the concerns that
2 you have and in fact we spoke to the regional people
3 very early on on this matter as soon as they told us
4 and expressed that very opinion that the Approvals
5 Director feels funny and is in a funny position to
6 have to issue any kind of an emergency certificate.

7 I raised the matter with them of the
8 possibility of seeking this panel's advice and I have
9 looked at the matter which Mr. Jeffery raised last
10 week of having the Board issue some sort of a
11 preliminary report and I really don't see the juris-
12 diction in Section 33. I think it really probably goes
13 outside the Board's jurisdiction.

14 The matter I raised with the Approvals
15 staff was to simply have the Approvals Director,
16 whenever and if, because it is not a definite thing yet,
17 but if he receives an application for an emergency
18 certificate, I raised the possibility of the Director
19 simply writing a letter to this panel of the Board and
20 more out of a point of courtesy and simply phrasing
21 it in the sense of he knows you have been sitting
22 through a hearing for the last five weeks and would hate
23 to do anything that would prejudice any recommenda-
24 tions you might make.

25 The staff who work for the Director



1 are even concerned about that suggestion and are
2 concerned that that may be outside his jurisdiction.
3 I think we all agree there is nothing in Section 33
4 or anywhere else in the Act that would allow him to
5 do that and my suggestion was strictly based on an
6 almost extra statutory concept in the sense that the
7 Director can seek advice from anybody presumably and
8 he would simply seek the advice of the two members
9 of this Board, on the basis that they are in a good
10 a position or a better position than almost anyone
11 to give him advice.

12 I think in the long run it would have
13 to be left to the Approvals Director on that matter.
14 I haven't given him any advice and he would have to
15 decide, but I don't really know. As to the timing I
16 don't know what Halton's timing is in terms of
17 submitting an application if in fact they do and I
18 would suspect Mr. Hodgson would have to speak to this
19 but I think they would be hard pressed to have some-
20 thing in next week only because anything they do
21 would have to meet the approval of Regional Council
22 and I have no idea of when they meet but I think there
23 would be a problem in terms of timing.

24 When the Director, or the Director's
25 staff I should say, indicated that they were a little



1 uncomfortable with the suggestion of seeking the
2 Board's advice, that is when we raised the possibility
3 of trying to get all parties to agree to something
4 and it may very well be the case we can all agree
5 upon something. I don't know how various counsel's
6 instructions--their instructions probably vary, so
7 there may be a bit of a timing problem on that.

8 MR. JEFFERY: Would you be suggesting
9 that if you do reach any such agreement that you
10 would be communicating that somehow to this panel?

11 MR. TIDBALL: I would like to receive
12 your advice on that because I don't know, does this
13 panel, is it concerned about that sort of thing?

14 MR. BROWN: It strikes me that it is
15 backwards and the important information is the
16 sequence this panel thinks they might approve of the
17 phasing if in fact they approve the site.

18 THE CHAIRMAN: We can't do that
19 except in the context of a full recommendation. Are
20 you suggesting we do that for the interim or for the
21 emergency certificate?

22 MR. BROWN: I was just following
23 the suggestion that perhaps the Director consult you
24 which seemed like a different one.

25 THE CHAIRMAN: There were some



1 reservations about that and there is even the thought
2 that crosses my mind that giving any sort of an
3 opinion constitutes a prejudgment on the part of
4 this panel with regard to the ultimate recommendation.

5 I don't know if that is what you
6 had in mind, Mr. Tidball?

7 MR. TIDBALL: In fact, Mr. Chairman, it is
8 probably easier to talk about this in real terms and
9 in fact there are only two possibilities if we really
10 think about it. Mr. Wells' evidence has been, and I
11 am not sure what he said, there was at least a month
12 or more preparation time to do this underdrain so
13 it seems to me that obviously B and D are out and
14 it can't be one of those if they want to start
15 possibly in July so you are either talking Phase A,
16 assuming they can identify what they need to do in
17 terms of underdraining, or part of Phase C and if it
18 is part of Phase C it is probably appropriate to
19 consider the suggestion Mr. Timberg made that in
20 fact it is part of Phase C in the sense that it is
21 another lift on Phase II and over the underdrained
22 portion and there are really only two possibilities,
23 but I am in the Board's hands.

24 THE CHAIRMAN: Do you think you would
25 like to take a few moments after Mr. Timberg has



1 completed his submission and you might want to discuss
2 that. Would that help?

3 MR. TIDBALL: I think that would
4 be quite suitable.

5 THE CHAIRMAN: Mr. Hodgson.

6 MR. HODGSON: I actually want to hear
7 what everyone else has to say and take that to my
8 client because my client is waiting for me to come
9 back and say what are the views of the other parties
10 and participants. What do you people want? I am
11 waiting to hear them and Mr. Wells, I made this
12 announcement before Mr. Wells went into the witness
13 box so that questions could be addressed to him, and
14 Mr. Wells indicated with regard to A, and we talked
15 about another lift on Phase II or making it a Phase
16 III in his evidence-in-chief but he talked in terms
17 of A and there is a substantial portion of Phase A
18 where it appears that landfilling can take place
19 on top of the existing cover without even beginning
20 to get into those areas that caused Mr. Timberg's
21 client concern.

22 THE CHAIRMAN: Mr. Timberg,
23 said that if it came down to the wire and if he had
24 to choose it would be A provided it is on the cover.
25 Isn't that so, Mr. Timberg?



1 MR. TIMBERG: Yes, Mr. Chairman, that
2 comment was made in the context ... yes. But, as
3 Mr. Tidball has indicated, it may be appropriate
4 after we finish our arguments for counsel to take a
5 few minutes to talk about it because I agree with
6 Mr. Tidball that there would appear to be only two
7 areas where landfilling could take place under an
8 emergency certificate, either Phase A or another lift
9 in the old Phase II soon to be the Phase C area and
10 it might be that if counsel got together and talked
11 about it we might be able to work something out and
12 we could give it to Mr. Hodgson to take back to his
13 client.

14 THE CHAIRMAN: That could be done
15 I suppose after the hearing is completed. I don't
16 know at this stage, or even at a later stage—certainly
17 at this stage we don't intend to be a party to that
18 at all.

19 MR. TIDBALL: Could I raise one final
20 matter as I am sure I will be asked about this? If
21 in fact the Approvals Director decides he wants to
22 seek the Board's advice, I take it from what you have
23 said today that you are going to want the full Board
24 to consider the matter and if he is going to do it
25 he will have to do it before next Thursday.



1 THE CHAIRMAN: Yes.

2 MR. TIMBERG: Mr. Chairman, I was
3 dealing on page 45 with Mr. Ridley's conditions for Phases
4 B, D and the engineered portion of C and I am now
5 dealing with the very last condition at the bottom
6 of page 45, Mr. Ridley's condition that there be a
7 rigorous analysis of the effectiveness of the expansion
8 toe drain. In the evidence Mr. Ridley indicated
9 that he just didn't have the data, the analysis or
10 even I guess a diagram or anything available to
11 allow him to do an analysis as to the effectiveness
12 of that toe drain. It would be my submission that
13 as part of the eventual design of the landfill site
14 that the design details would be given to the Director
15 and that that detail would be taken care of.

16 So, it is my submission that there
17 is no need to make that specifically a condition of
18 approval because as part of the conditions proposed
19 by Mr. Tidball, it will be dealt with by the Director.

20 The fourth condition for that area is
21 at the top of page 46 and it deals with Mr. Ridley's
22 requirement that monitors be installed in the Falcon
23 Creek and in the Indian Creek, and subsequently we
24 heard from Mr. Ridley and Mr. Leech as well that it
25 would be possible to install a monitor in the buffer



Toronto, Ontario

1 zone above the site which, if it extended deep enough,
2 would serve the purpose of installing a monitor in
3 Falcon Creek, and that makes good sense because it
4 will do the same thing as a monitor in Falcon Creek
5 and it could also serve a dual function of monitoring
6 for any leachate that may escape from Phase D as well
7 as determining the background groundwater chemistry.

8 So, I would submit that Mr. Ridley's
9 requirements that there be a monitor in the Falcon
10 Creek can be taken care of by putting the monitor
11 in the buffer zone and at the same time using that
12 monitor to determine the deep groundwater chemistry.

13 Mr. Ridley also indicated that a
14 monitor should be placed in Indian Creek, in the
15 Indian Creek valley. As he indicated in his opinion
16 there was a component of groundwater flow in that
17 direction. If there is a component of groundwater
18 flow in that direction, and Mr. Leech tends to indicate
19 that there is, that there is such a component, then
20 it would make good sense to have a monitor in that
21 area and just for nothing else as a check and as a
22 monitor for any plume that might, and I use the word
23 "might" and use nothing stronger than that, that
24 might move in that direction and that monitor in
25 Indian Creek should be a part of any monitoring



1 program that is approved.

2 Mr. Chairman and Mr. Jeffery, I
3 will move on to the next area of concern of
4 Mr. Ridley and this is page 46 and he has entitled
5 this "Original Landfill Site" and he has two concerns
6 and these concerns would relate primarily to Phase
7 A and the unengineered portion of Phase C.

8 The first concern dealing with an
9 evaluation of the effectiveness of the toe drain for
10 the collection of leachate; the evidence has
11 subsequently been that that is being done. Mr. Leech
12 is working on that and this involves the preparation
13 of a water balance. So, this condition is being
14 attended to and since it is being attended to and it
15 will I assume be part of the ongoing monitoring
16 program to prepare the water balance, there is no
17 need to specifically refer to this condition in
18 any recommendation.

19 Now, the second condition is to
20 investigate the use of horizontal drains for the
21 Phase A and Phase C areas. Mr. Ridley indicated that
22 he was not an expert in this area and it was a
23 suggestion that he made as possibly something that
24 should be looked at to improve the leachate collection
25 from the Phase A and Phase C areas. He simply



1 indicated it should be investigated and if it proved
2 feasible it should be used and Mr. Hodgson indicated
3 in his argument this morning that in fact it is being
4 investigated and looked at.

5 I would submit that there should be
6 a recommendation in the Board's report that as part
7 of the consideration of the design of the Phase A and
8 C areas that consideration be given to the use of
9 these horizontal drains. I can't put it any stronger
10 than that because Mr. Ridley was not an expert in that
11 area and it was just a suggestion that he made.

12 Mr. Chairman and Mr. Jeffery, there
13 are two final conditions proposed by Mr. Ridley and
14 these conditions deal with off-site monitoring and
15 reconnaissance. I will deal first with the first
16 condition, dealing with Mr. Ridley's requirement that
17 there be monitoring of ground and surface water off-
18 site and deal first of all with the question of
19 surface water.

20 The Ministry of the Environment,
21 Mr. Lammers has proposed a scheme for monitoring
22 essentially all surface water that is leaving the
23 site and which will eventually enter into Falcon Creek
24 and he has proposed in his evidence that there be
25 a number of surface water monitoring stations located



1 at various locations along the south end of the site,
2 and those locations, if installed, will have the
3 effect of monitoring all surface water leaving the
4 site and entering Falcon Creek. If that is done and
5 if those surface water stations are put into effect
6 and properly monitored then, in my submission, there is
7 really no reason except for one which I will come to
8 shortly, but there is really no reason for putting a
9 monitoring station below the 403 because everyone
10 agrees and all the hydrogeologists agree that a surface
11 water monitoring station below 403 will be impacted by
12 run-off from 403 from the CNR railway lines and who
13 knows what else.

14 The purpose of a monitoring station
15 below 403 would be simply to monitor what is in
16 Falcon Creek coming from the landfill site. That
17 can be achieved, as Mr. Lammers of the Ministry of
18 the Environment proposed, by installing monitoring stations
19 at various locations along the bottom end of the property
20 where surface water enters the various ditches and cul-
21 verts and which eventually run into Falcon Creek. So
22 we can achieve the same effect by having monitoring
23 stations along the boundary line of the property and
24 it would be by my submission that this Board should
25 recommend that at a minimum whatever surface monitoring



1 program is decided upon that the proposals made
2 by Mr. Lammers in his report and as given in evidence
3 to this Board be incorporated in the surface water
4 monitoring program.

5 Mr. Tidball in his draft conditions
6 has indicated a suitable surface and groundwater
7 monitoring program will be decided upon by the Director
8 by a certain date and it would be my submission
9 that it would be preferable for this Board to
10 recommend what at a minimum it feels is an acceptable
11 surface water monitoring program.

12 Now, there is one situation where, in
13 my submission, it would be preferable to install a
14 surface water monitoring station below Hwy. 403 and
15 that would be if one of the monitoring stations
16 proposed by Mr. Lammers picked up something significant
17 in the surface water. If a surface water monitoring
18 station along the lower end of the site picked up
19 something significant, then it would be clear that
20 that which was picked up, it would eventually make
21 its way into Falcon Creek and go downstream. It
22 would also be my submission that if something
23 significant is picked up by one of those monitoring
24 stations along the boundary of the site, that
25 consideration should be given to in fact putting a



1 monitoring station further south along Falcon Creek
2 to determine if anything can be made from readings
3 that are further south, but I would submit that it
4 would only be necessary to do that if one of the
5 surface water stations along the boundary picked up
6 something unusual happening, otherwise by having these
7 stations along the south boundary of the site it
8 would have the same effect and in actual fact it would
9 be better than having a station below 403 because a
10 station below 403 would be influenced by all kinds
11 of extraneous factors.

12 Now, that takes me to the groundwater
13 monitoring off-site. Mr. Ridley's condition and
14 requirement for groundwater monitoring off-site
15 is complicated by the fact that he has indicated that
16 the delineation of the leachate plume may on go on
17 simultaneously with landfilling and until the leachate
18 plume is delineated, it is really very difficult
19 to determine where a groundwater station should be
20 located off-site.

21 If the plume is in fact still within
22 the four corners of the property and has not left
23 the site, then of course it makes little sense to put
24 a monitoring station off-site. It would be my
25 submission on this point, with respect to the ground-



1 water monitoring off-site, that this be part of a
2 program to delineate the plume as in fact it will be
3 because as Mr. Leech indicated in his evidence if
4 the plume delineation program establishes that the
5 plume has left the boundary of the site then it makes
6 sense to put a monitor off-site and track where the
7 plume is.

8 It would be my submission that based
9 on the evidence and the comments of Mr. Ridley, until
10 that plume is delineated, which hopefully will be in
11 the near future, there is no need for this Board to
12 make a specific recommendation as to monitoring off-
13 site.

14 The final point raised by Mr. Ridley
15 is the field program to determine the areas of bedrock
16 outcrop and/or areas of groundwater discharge.
17 Similarly as was indicated in the evidence by the
18 hydrogeologists, until one knows exactly where the
19 plume is one does not know whether bedrock areas
20 off-site or areas of groundwater discharge are or
21 are not significant. However, this question of shale
22 outcrops is a matter of concern to the residents and
23 as indicated by Mr. Hodgson in cross-examination of
24 Mr. Ridley is a matter that can be taken care of
25 quite quickly. Mr. Hodgson indicated and Mr. Ridley



1 agreed that perhaps two days for a qualified hydro-
2 geologist. It is a simple matter than can be taken
3 care of.

4 I would suggest, Mr. Chairman, since
5 it is a simple matter and not complicated by any means
6 and it probably would not be very expensive and it
7 would not take long to put the minds of the residents
8 at ease, if nothing else, it should be carried out in
9 the very near future.

10 That, Mr. Chairman, deals with the
11 conditions suggested by Mr. Ridley and I have approx-
12 imately three other matters which I can deal with
13 very quickly and these are possible conditions for
14 dealing with non-hydrogeologic issues.

15 The evidence of Mr. Perlin in the
16 panel with Mr. Woodburn has been that after Phase A, B, C
17 and D are completed, the site will be engineered to
18 capacity. His words were and my notes indicate that
19 that's it.

20 The evidence also is, arising out
21 of the public meeting, that this area has been subject
22 to landfilling for many, many years now. Therefore,
23 my submission is that this Board should recommend
24 that a condition of approval be that upon completion
25 of the second interim expansion, however many phases



1 are used in the second interim expansion, no further
2 landfilling be permitted on this particular site.

3 Mr. Perlin also indicated in his
4 evidence that no contingency plan has been prepared
5 to dispose of the Region's waste should this application
6 be rejected. The evidence also was that the Region
7 a few years ago delayed by approximately 12 months
8 before commencing the environmental assessment process
9 and the evidence was that they were awaiting to see
10 if funding was available from the Ontario government.
11 There is a possibility, and it may be a very good
12 possibility, that a new Regional site will not be
13 available to the Region by 1987, the date that
14 this expansion is presenting slated to end.

15 It would be my submission that it
16 should therefore be a condition of any approval that
17 the Region should start working on a contingency
18 plan for the disposal of waste in the event that a
19 new Regional site is not available once this expansion
20 is completed, and that contingency plan could look
21 at such matters as recycling, energy from waste, et
22 cetera.

23 The question which I think naturally
24 arises I think is whether or not the Board would have
25 the jurisdiction to impose such a condition in an



Toronto, Ontario

1 Environmental Protection Act hearing dealing with
2 this one particular site. Although I know of no
3 situation where such a condition has ever been imposed,
4 it is my submission that an argument can be made that
5 the Board does have jurisdiction to impose this
6 condition and the argument is--it goes along these
7 lines; the Board certainly has jurisdiction to
8 impose a condition that there would be no landfilling
9 at this site after a particular date and that was
10 the essence of the previous condition I indicated to
11 the Board in my submission should be imposed, a
12 condition that once a second interim expansion is
13 completed that there be no further landfilling.

14 Now, for that condition to really be
15 effective, the Region must ensure that once the second
16 interim expansion is completed it has somewhere to
17 dispose of its garbage. If it doesn't have somewhere
18 to dispose of its garbage then the fact that that
19 condition is in the Certificate of Approval means
20 virtually nothing because the Region can come back,
21 either ask for an emergency certificate or apply to
22 the Director and go through the hearing process to
23 continue landfilling past the cut-off date.

24 In my submission the Board does
25 have jurisdiction to make its conditions effective



1 and one of the ways of making that particular condition
2 that there be no landfilling after the second interim
3 expansion is completed, the way to make that condition
4 effective is to ensure that the Region now continues
5 or begins working on a contingency plan. If the
6 Board disagrees with that submission or feels that
7 the Board does not have jurisdiction, then of course
8 that condition cannot be imposed.

9 THE CHAIRMAN: Wouldn't those
10 contingency plans fall into one of two categories;
11 it would either be alternatives that would be
12 addressed in an environmental assessment, and you
13 yourself have mentioned energy from waste, or wouldn't
14 the other thing be, say, export the waste out of the
15 Region? Does it not have to be one of those two
16 things?

17 MR. TIMBERG: It would have to be
18 one of those two and it could also be recycling.
19 There are a number of possibilities, but they all
20 fall within the general category of alternatives.
21 It could, possibly, arrangements could be explored
22 for disposing in adjacent areas but they all fall
23 under the general category, under an environmental
24 assessment process which would be considered as
25 alternatives.



1 THE CHAIRMAN: That is what the
2 Region would be doing when it applies for a new
3 site if and when it applies for a new site. It
4 would be under the Environmental Assessment Act and
5 they would have to list alternatives.

6 MR. TIMBERG: They would, they would
7 have to list alternatives, but we still have the
8 problem or the potential problem that once a second
9 interim expansion is completed and notwithstanding
10 if my submission is accepted that there may be a
11 condition in the Certificate of Approval that there
12 be no landfilling after the second interim expansion is
13 completed, there would be nothing to stop the Region
14 from coming back and seeking approval to continue
15 landfilling on this site.

16 THE CHAIRMAN: Correct me if I am
17 wrong, but if it is an alternative that is to take
18 place within the Region it will be under the
19 Environmental Assessment Act and it will have to get
20 some sort of approval and the only way they could
21 do it expeditiously is by exporting the waste out
22 of the Region?

23 MR. TIMBERG: That is correct.

24 THE CHAIRMAN: That is the only way
25 it doesn't have to come before a long hearing or a



1 hearing of some sort?

2 MR. TIMBERG: That is correct,
3 Mr. Chairman, yes.

4 Mr. Chairman, the final condition
5 I was going to address, -- it was brought up by
6 Mr. Jeffery in a question to Mr. Tidball --
7 was the question of the monitoring or the advisory
8 committee which has been referred to and it has been
9 referred to by a variety of names. In my submission
10 that is an excellent idea. It has been incorporated,
11 as Mr. Tidball has indicated, in a number of other
12 Certificates of Approval for other landfill sites
13 and in my submission it should be a condition of
14 approval for this particular site.

15 THE CHAIRMAN: For after-use only?

16 MR. TIMBERG: No, not strictly for
17 after-use, although it has been discussed for after-use
18 but I believe it was Mr. Perlin who indicated that
19 the committee would be involved in management matters
20 and generally overseeing problems that may develop
21 at the site, overseeing monitoring and that is the
22 role that I see for this advisory committee and not
23 simply a committee to deal solely with after-use.

24 Certainly there is a lot of concern
25 with after-use, but there are other equally important



1 concerns that a committee could deal with and I
2 believe that as it was Mr. Jeffery in a question
3 to Mr. Leech in discussing the technical committee,
4 he asked Mr. Leech whether it is possible or whether
5 he saw any merit in a Burlington Citizens Group member
6 being on that technical committee and Mr. Leech
7 indicated he didn't because it was more for technical
8 people but, in my submission, there is a lot of merit
9 in having a member of the community on these committees
10 and sometimes a member of the community can be a
11 substantial help to the technical people.

12 On this application the West Burlington
13 Citizens Group, based on the opinion of Mr. Ridley and
14 his report and his evidence and this hearing is saying
15 that yes we agree with Mr. Ridley that the site can
16 go ahead subject to conditions which have been spelled
17 and I think my submission is that I think they should
18 be permitted to be a part of the advisory committee
19 and the advisory committee should be something more
20 than just an after-use committee.

21 Those, Mr. Chairman and Mr. Jeffery,
22 are my submissions, thank you.

23 THE CHAIRMAN: I assume you have
24 reply, Mr. Hodgson?

25 MR. HODGSON: Yes, Mr. Chairman.



1 THE CHAIRMAN: I think we will take
2 a five-minute break.

3 ---Recess

4 ARGUMENT IN REPLY BY MR. HODGSON:

5 Thank you, Mr. Chairman. I won't
6 be very long, I hope. First of all in response to
7 submissions by my friend Mr. Brown on behalf of the
8 City of Burlington, looking at No. 6 of his conditions,
9 that the City has in fact, it has been agreed to by the
10 Region of Halton and there is no issue with respect
11 thereof, but with respect to the condition on page 2
12 regarding the Bayview site, it is my submission that
13 this Board has no jurisdiction to deal with that
14 issue and it has heard evidence on the issue from
15 two witnesses only, Mr. Boggs a qualified chartered
16 accountant who gave evidence that there was some
17 connection between the sites, between that site and the
18 Burlington landfill site, and I believe a member of
19 the Board asked one of the experts, I think it was
20 Ms. Pawlowski, as to whether or not there was a
21 connection and in her opinion there was not.

22 So, I submit that that condition on
23 page 2 of the Burlington document should simply be
24 ignored by this Board.

25 Now, with respect to the statements



1 by Mr. Tidball or the submissions of Mr. Tidball,
2 I am just going through my notes, but during
3 Mr. Tidball's submissions, Mr. Chairman you asked
4 Mr. Tidball whether or not it was his submission that
5 it was a reasonable expectation that the applicant
6 would determine the nature and extent of the plume
7 before making this application and I wanted an
8 opportunity repond to that question, notwithstanding
9 thatthe question was not put to me.

10 The monitoring program grew out of
11 the hearing in 1980 and the monitoring began in 1980
12 and monitoring reports have been prepared on an
13 annual basis by Gartner Lee directly for the Region
14 of Halton and submitted to the Region of Halton, to
15 the Waste Management Committee and to Council, and
16 they have also been submitted to the Ministry of the
17 Environment.

18 The monitoring program has had as its
19 purpose the delineation of this plume and over the
20 four years, I believe the evidence of Mr. Leech is, that
21 some progress has been made in understanding the
22 difficulties involved in delineating the plume, but
23 the problem is in the beginning it was assumed that
24 phenols whichare often used at other landfills to
25 delineate plumes could be used at this site and phenols



1 were used to delineate this plume and you may recall
2 that although the first monitoring program was not
3 put into evidence, questions were put to witnesses
4 and several people have stated that Gartner Lee once
5 had an opinion as to where this plume was and had a
6 definite idea and in fact that was from this first
7 monitoring report but Gartner Lee as a result of
8 further research have revised their conclusions and
9 have changed their conclusions as they have gone along.

10 You have heard Mr. Leech's statement
11 that we are now into the state of the art and the
12 usual parameters for delineating the plume have turned
13 out not to be useful and that Gartner Lee have been
14 following the work of Dr. Cherry on the Bayview site
15 and have been attempting to use trace organics to
16 delineate the plume and of course when they began using
17 trace organics then they discovered the problem that
18 they had trace organics in the boreholes downstream
19 as it were from the site that were not in the leachate.
20 It was when they realized that that they understood
21 that in order to do a proper job of delineating the
22 plume using trace organics they would have to create
23 new boreholes and using techniques that would prevent
24 any organic contamination of the boreholes when they
25 were being created.



1 My friend Mr. Timberg implied that there
2 was some sloppiness or carelessness on the part of
3 Gartner Lee in the preparation of the existing bore-
4 holes, particularly borehole 17, and I think in
5 fairness that that kind of statement should have been
6 put to Mr. Leech in cross-examination and Mr. Leech
7 given an opportunity to respond, but I think the
8 response is that borehole 17 was drilled prior to the
9 hearing in 1980 and it was done using the standard
10 techniques for drilling at that time and no one at
11 that time believed they were going to have to use
12 sophisticated trace organics in order to delineate
13 the plume.

14 Just a comment by Mr. Tidball to the
15 effect that it was his view in talking about the
16 hydrogeology evidence that attenuation had not
17 really been taken into account by anyone in their
18 evidence. In fact, Mr. Leech has a portion of his
19 report where he discusses attenuation of the leachate
20 as it reaches boreholes 13 and 14 and in fact we spent
21 some time in Mr. Leech's evidence on that page of his
22 report where that evidence is presented. The
23 Ministry of the Environment have shown concern in the
24 evidence they presented about the contamination of
25 surface water as a result of breakout of leachate



1 springs on the site and I simply wanted to comment
2 in response to Mr. Tidball's submissions about the
3 surface water monitoring program and any leachate
4 contamination of the surface water. You have
5 heard evidence of perched springs and that evidence
6 was brought to you by the Region of Halton and it
7 is my submission that those perched springs are more
8 likely to be addressed if the site is continued and
9 if you approve continued use of that site and continued
10 use is in effect approved by the Director, it will
11 mean there are personnel there on a daily basis to
12 discern the existence of those leachate springs and
13 there is equipment available immediately to treat them.

14 It was the evidence of Mr. Wells that
15 at the time that problem should be reduced with
16 careful treatment of the leachate springs.

17 Now, with regard to Phase A and
18 Mr. Tidball's submissions about Phase A, I simply
19 wanted to remind the Board that in Mr. Wells'
20 evidence at page S-6, Mr. Wells indicated the amount
21 of capacity that could exist in each of the phases
22 and I wish to remind the Board that in Phase A there
23 would be capacity for all of the Region's refuse for
24 a period of only 6.1 months and to indicate that
25 when you consider Phase A and when you consider all



Toronto, Ontario

1 of the evidence in regard to Phase A, that you also
2 keep in mind that underneath Phase A we have the
3 old Burlington landfill site that was used for eight
4 years, from 1972 to 1980, and the amount of refuse
5 going into Phase A, while we don't have in evidence
6 an indication of the amount of refuse in relation to
7 the total amount in the old landfill, simply by looking
8 at Exhibit 52 and seeing where Phase A is and the
9 depths of Phase A in relation to the surrounding
10 area, the amount of refuse in Phase A in relation to
11 the total amount of refuse over the shale is a
12 relatively small amount. Therefore even if it
13 does contribute over time to the leachate that
14 migrates in the groundwater system from this site,
15 and the evidence is that it will, in relation to
16 the amount of refuse that is there and the amount
17 of leachate generating refuse that is there, it is
18 a very small amount.

19 THE CHAIRMAN: Are you going to
20 deal with the cover on Phase A or is that your total
21 submission? How are we, according to you, how is
22 this Board to deal with cover? You are not against
23 Mr. Wells' suggestion but you feel that it is some-
24 thing that should be left to the Director and if it
25 is left to the Director then how should that affect



1 the phasing?

2 MR. HODGSON: I didn't want--as
3 Mr. Jeffery indicated to my friend Mr. Timberg he
4 couldn't have it both ways, I am trying here to
5 have it both ways. I don't want the Director to
6 decide that he should not approve landfilling in Phase
7 A because he has received a recommendation from you
8 that Phase A shouldn't be approved unless there is
9 final cover on Phase A. I would hope, and it was
10 my submission this morning, although I hoped you would
11 leave that issue to the Director, but if you can't
12 see fit to leave it to the Director entirely then
13 I hope you would simply say that it is your recommenda-
14 tion that he further consider the appropriateness and
15 if possible approve Phase A with a cover in place,
16 but I didn't want you to tie the hands of the Director
17 because while it is true we have the evidence of
18 Mr. Wells on this point and I am confident and I am
19 prepared to rely upon the evidence of Mr. Wells, the
20 Director does have engineers available to him.

21 THE CHAIRMAN: That is not exactly
22 the point I am making. What I am saying is this;
23 whether the Board considers cover important or whether
24 the Director considers cover important, how does that
25 affect the phasing, especially if the Director after



Toronto, Ontario

1 looking into the matter thinks that it is important.
2 Does he hold off?

3 MR. HODGSON: In my submission,
4 Mr. Chairman, I don't think there will be a problem
5 with the phasing. If you are asking me will considera-
6 tion of that particular issue hold up landfilling on
7 Phase A, it is my submission that it will not and I
8 am confident that while the Director will want to
9 look at the issue, he will be able to look at it
10 very quickly and it is a matter of a week or two
11 weeks for his engineers to discuss the matter with
12 Mr. Wells and for them to sit down on their own and
13 for them to reach their conclusions about the
14 inappropriateness. I don't think it will matter.

15 With regard to the conditions that
16 Mr. Tidball has set out in his document before you,
17 I only want to comment on a few and where I do not
18 comment it is because the Region agrees to the conditions
19 as proposed.

20 Firstly is condition 5. It is true
21 that Mr. Stevens has recommended that an environmental
22 inspector be used on this site; however, in reviewing
23 Mr. Stevens' evidence he was not suggesting the
24 environmental inspector be there every day and I am
25 not sure what it is an environmental inspector would



1 do if he was there every day. It was my understanding
2 from Mr. Stevens' evidence that an environmental
3 inspector would look for environmental impacts,
4 impacts on the ecology of the area and would look
5 for burns in the grass to indicate the existence
6 of leachate springs or gas impacts on the flora in
7 the area or indeed for that matter leachate impacts
8 on the fauna of the area, if he finds dead animals or
9 find trees that are beginning to die. I don't think
10 it would be useful for an environmental inspector
11 on that task to be there on a daily basis.

12 We don't have Mr. Stevens indicating
13 to us how frequently he thought that that was
14 appropriate but I would have thought three or four
15 times a year would be sufficient. If the environmental
16 inspector is also supposed to double and perform
17 other tasks, it may not be a reasonable condition
18 because an environmental inspector should be someone
19 with some sophistication in biological and zoological
20 matters and someone with at least some of the
21 sophistication of Mr. Stevens or Dr. Dorney and some-
22 one with that kind of knowledge who is not going to
23 be wanting to be at the Burlington landfill on a
24 daily basis nor is the Region going to want to pay
25 his salary on a daily basis nor would it be of much



Toronto, Ontario

1 use on a daily basis. There are other tasks to be performed
2 by persons qualified in other areas and so I accept
3 that an environmental inspector could be a condition
4 of the Certificate, but only on the basis that there
5 be a reasonable frequency of attendance.

6 With regard to condition 7, it says:

7 "On or before December 31, 1984, the
8 Regional Municipality of Halton shall
9 submit a list of proposed contingency
10 measures to be implemented, if
11 necessary, to protect surface and
12 groundwaters."

13 To some extent in deciding this application the
14 witnesses before you have sort of hypothesized on
15 things that could go wrong and have suggested
16 remedial or mitigative measures. I don't understand
17 how the kind of intellectual exercise proposed in
18 condition 7 would be of any use and I am not sure,
19 are the Region's consultants supposed to freely
20 associate about what could go wrong and then propose
21 measures to deal with what could go wrong? I just
22 don't think that as a condition it is a very useful
23 condition.

24 THE CHAIRMAN: He has the words here
25 "if necessary" and I assume if something happened,



1 that makes it necessary .

2 MR. HODGSON: It says "On or before
3 December 31, 1984, the Regional Municipality of Halton
4 shall submit a list of proposed contingency measures
5 to be implemented..." and then it says that they
6 would be implemented and then if necessary but I
7 think it is more appropriate to wait for something
8 to go wrong and then deal with it.

9 MR. JEFFERY: But it might be too late.
10 It depends upon what goes wrong.

11 MR. HODGSON: I agree, Mr. Jeffery,
12 it does depend on what goes wrong but we have
13 discussed a great deal of what can go wrong at this hear-
14 ing and it is clear that the appropriate people have
15 thought about what can be done about it already and
16 I just don't see the purpose of a continued intellec-
17 tual exercise.

18 MR. JEFFERY: Would you not agree
19 that the major contingency or one of the major
20 contingencies is the environmental impact on Falcon
21 Creek and perhaps plans with respect to that particular
22 contingency drain and whether it should be, for example,
23 at the bottom of the valley or up in the buffer zone
24 and actual preliminary engineering drawings as
25 to how it would be constructed if necessary and perhaps



1 taking into account what damage would be caused to the
2 flora of the valley. Since that is probably the only
3 major contingency that would occur, don't you feel
4 that that type of plan could at least in a rudimentary
5 form be submitted.

6 MR. HODGSON: Yes, and it has been as
7 a condition of the last Certificate of Approval and
8 that contingency plan is already a plan which is
9 already before the Director. So, yes, I agree with
10 that particular one, but I can't think of any others.

11 MR. JEFFERY: Perhaps the method of
12 dealing with the breakout of leachate springs and
13 which is occurring?

14 MR. HODGSON: That kind of knowledge
15 is already available to the operation engineer and
16 a particular problem can be addressed and a solution
17 proposed, but to sort of free associate upon things
18 that could possibly go wrong and in all the different
19 ways they could go wrong and in all the ways one could
20 deal with it, I don't think that is a very useful
21 exercise and I think to the extent it is a useful
22 exercise it has been engaged in at this hearing and
23 it doesn't need to be carried on further.

24 Now, condition No. 15. The only
25 part I wanted to comment on was (b), the agreement



1 with the City of Burlington which is that the cover
2 should be three feet and now our friends at the
3 Ministry of the Environment on the last day of the
4 hearing have proposed that it can be one metre and
5 is that 10 per cent more cover?

6 THE CHAIRMAN: I think if I got
7 it correctly, Mr. Tidball would agree to the three
8 feet and he wanted to convert it to metric.

9 MR. TIDBALL: Yes, just to convert it
10 to metric.

11 THE CHAIRMAN: If it made you feel
12 better...

13 MR. HODGSON: My only reason for
14 raising it is that at page S-6 Mr. Wells has addressed
15 the issue of cover material and the conclusion at
16 S-6 is assuming all four phases were approved and
17 went ahead as proposed in the applicant's evidence
18 that at the end there would be 15,000 cubic metres
19 of cover left and I assume that that is enough to
20 carry the extra 10 per cent but I don't know and it is
21 a matter that should have been dealt with at the time
22 and it is rather Johnny-come-lately to deal with it
23 now.

24 THE CHAIRMAN: How about the date that
25 Mr. Tidball mentioned, December 31st, 1985. Is that



1 that conclusion as its own conclusion that, (1),
2 there is no need for you to adopt that conclusion
3 and, (2), it may well be that this Board, not necessarily
4 the persons on this panel but this Board, will one
5 day, or it is possible that this Board will someday
6 sit and judge an application for a landfill site
7 next door and directly on shale and the issues that
8 need to be addressed before you reach a definitive
9 conclusion with regard to the appropriateness or
10 inappropriateness of doing so have not been fully
11 canvassed before this Board and there is no need for
12 you to conclude in that regard and I submit that you
13 should avoid deciding that issue and all the more
14 so because the only evidence you have is from
15 Mr. Ridley who I submit is without the experience
16 to give you a definitive conclusion in that area.

17 Just a brief comment. Mr. Timberg
18 submitted to you with regard to Mr. Ridley's condition
19 14.20.1A an accurate determination of the leachate
20 chemistry and he submitted to you "It is a simple
21 matter to determine the leachate chemistry" and I
22 just want to submit that if it was a simple matter
23 it would already have been done. It turns out to be
24 a fairly complex matter. The Region has submitted
25 to you an analysis of leachate taken from borehole 8-A



1 satisfactory? It seems to be a halfway mark or
2 something.

3 MR. HODGSON: In 15?

4 THE CHAIRMAN: Yes.

5 MR. HODGSON: Because I received this
6 document just before I stood up this morning I have
7 no instructions but I cannot see why there would be
8 a problem with that date. Everyone knows it will
9 close in the next three years and there is no reason
10 to delay putting the issues of closure to everyone's
11 attention and coming to some early agreement.

12 Now, Mr. Timberg discussed again the
13 issue of landfilling on Phase A and I think I have
14 made my submissions in that regard this morning and
15 I don't propose to repeat them.

16 One thing that I feel just a little
17 uncomfortable about. Mr. Ridley in his evidence
18 concluded at page 44, 14.19, that the original landfill
19 site in its present form should never have been
20 selected for the landfilling of refuse.

21 THE CHAIRMAN: I think he corrected
22 that as I recall his oral evidence and he meant the
23 shale part and he certainly does not refer ...

24 MR. HODGSON: Yes. However, I just
25 want to caution the Board that before the Board adopts



Toronto, Ontario

1 and an analysis of leachate taken from the manhole.
2 The problem with leachate taken from borehole 8-A or
3 any borehole is that it gives a point source analysis
4 of leachate and it is possible that borehole 8-A
5 was drilled down through a bag of ordinary rock salt
6 used to dissolve ice in front of one's home and would
7 therefore give a very high chloride reading. In
8 fact when I first saw the 13,000 level I wondered if
9 that was precisely what had happened in borehole 8.
10 So, it is not that simple to develop an analysis
11 of leachate chemistry from a borehole and there is
12 a problem, not a particularly acute problem, but
13 there is a problem in the manhole in that there is some
14 evidence that there is some dilution taking place,
15 although I submit to you the weight of the evidence
16 is that the dilution is relatively minor and in fact
17 you already have in the analyses presented to you
18 in regard to the manhole a fairly accurate indication
19 of what the leachate chemistry is, with one exception,
20 and that is that among the trace organics are volatile
21 organics and it was Dr. Johnston's evidence that
22 while the volatile organics may in fact exist in
23 leachate that migrates into the shale and leaves off-
24 site, in fact the volatile organics would flash off
25 in the toe drain system and in the manhole and



Toronto, Ontario

1 therefore they would not be detected. So
2 volatile organics could well exist in the leachate
3 leaving the site and not exist in the leachate going
4 to the sewer system.

5 It is, I submit, not a simple matter.
6 Further, Mr. Timberg submitted to you that you should
7 make it a condition of approval that the monitoring
8 program include samples of leachate taken directly
9 from the refuse and that those samples should be taken
10 four times annually.

11 I simply submit that the evidence is
12 that while you get a point source indication of what
13 leachate is available at a particular borehole, a
14 better indication of the leachate chemistry will come
15 from the manhole itself because of the mixing that
16 will occur of leachate arriving at the manhole from
17 different portions of the site.

18 With regard to Mr. Timberg's
19 submission that the minimum requirements of a monitor-
20 ing program set out in the Gartner Lee report and
21 the evidence of Mr. Leech should be made a condition
22 of approval, I have no difficulty with that submission.
23 They are going to be done whether or not they are a
24 condition and that can be a condition.

25 With regard to the plume and the so-



Toronto, Ontario

1 called four-phased program, Phase 3, and you can see
2 this on the Burlington submission under paragraph 5
3 which is to develop a program for remedial action
4 if required and Phase 4 is to implement a program for
5 remedial action if required; but I just want to
6 submit that Regulation 309 of the Revised Regulations
7 of Ontario pursuant to the Environmental Protection
8 Act, Section 8, subsection (7) reads:

9 "Where there is the possibility of
10 water pollution resulting from the
11 operation of a landfilling site,
12 samples shall be taken and tests made
13 by the owner of the site to measure
14 the extent of egress of
15 contaminants and if necessary measures
16 shall be taken for the collection
17 and treatment of contaminants and
18 for the prevention of water pollution."

19 So, the so-called Phases C and D are a matter -- or
20 Phases 3 and 4 are a matter of law of this province
21 at this time and I submit to you that those phases
22 should not be made a condition of approval for the
23 reason that it is offensive to the Region of Halton
24 or to any other person to have it as a condition of
25 an operation of a landfill site that they obey the law.



1 Of course they will obey the law, and there are lots
2 and lots of means available to see that the Region
3 of Halton obeys the laws and, in any case, it has
4 been the intention of the Region from the beginning to
5 do so and I submit it should not be reminded of its
6 obligations in a condition.

7 Now, very briefly, I don't want to
8 repeat my argument in respect of the 14.20.3 A and B
9 pre-conditions proposed by Mr. Ridley regarding
10 determination of the long-term integrity and hydraulic
11 conductivity of the till, but I do want to suggest
12 to the Board in response to Mr. Timberg's submissions
13 that if Mr. Ridley is an expert on the impact of
14 clay environments of particular chemicals, then it
15 would have been appropriate for him in his evidence
16 to have reviewed for this Board and it would have been
17 most useful for him in his evidence to have reviewed
18 for this Board all the available evidence in regard
19 to the matter, advise the Board as to where the
20 most relevant appropriate evidence was to be found
21 and as an expert evaluate that evidence for you and
22 made his recommendations and thereby -- then submit
23 himself to cross-examination in respect thereof.

24 For reasons which I do not comprehend,
25 Mr. Ridley decided to present a very small and not



Toronto, Ontario

1 particularly relevant portion of the evidence to you and t
2 be cross-examined on that and not to put to you the
3 very studies that Mr. Leech had in fact relied upon
4 and it was left for Mr. Leech to bring those to your
5 attention and then to be cross-examined by Mr. Timberg
6 with Mr. Ridley sitting by him giving him, and I am
7 not criticizing him for this, giving him advice on
8 how to go about the cross-examination. That just
9 struck me as a backward way of going at the problem
10 and, in fact, and with great respect to this Board
11 and to Mr. Timberg and Mr. Ridley, if Mr. Ridley is
12 the expert on clay then I wish he had presented his
13 evidence differently and that this Board had had an
14 opportunity to explore those issues more fully, but
15 I submit that that opportunity has been lost.

16 In any case, I just reiterate my
17 submission this morning which is that the impact of
18 the evidence is that the clay liner is adequate.

19 With regard to Mr. Timberg's submission
20 about a monitor in the Indian Creek area, the Indian
21 Creek area to the south of the site is in fact
22 National Sewer Pipe's lands and National Sewer Pipe's
23 lands you have already heard from the cross-examination
24 of Mr. Ridley are themselves riddled with monitors.
25 The monitors are already in place and the monitoring



Toronto, Ontario

1 program has gone on in the past and presumably it
2 will go on in the future and certainly, while it
3 should not be a condition of the approval that the
4 Region sink a monitor in that area because the Region
5 obviously would be trespassing, I see no problem with
6 a recommendation that there be ongoing consultation
7 between the Region's consultants and the consultants
8 for the National Sewer Pipe company so that information
9 generated by them could be available and just be
10 available as part of the monitoring.

11 Mr. Timberg submitted to you that the
12 work in investigating the possibility of bedrock
13 outcrops, that work should be done in the very near
14 future. While it is true that the work could be
15 done very quickly, if it was really all that useful
16 it probably would have been done by one or the other
17 parties already but just looking again at
18 Dr. Johnston's Exhibit 54, in order to assess a risk
19 you have to have a hazard and an opportunity for
20 exposure to the hazard.

21 Now, knowledge of the bedrock outcrops,
22 I suppose since this is Tuesday, we could have it back
23 by Thursday evening if it is only two day's work,
24 but in and of itself would tell us nothing and once
25 we had knowledge of the bedrock outcrops then we would



1 need to know whether or not they were groundwater
2 discharge or groundwater recharge zones. That
3 knowledge would not be useful either unless we had
4 some idea of the leachate chemistry reaching the bed-
5 rock outcrop and we are not going to have that.
6 So, it would be just so much wheel spinning to do
7 that work at this time and I submit that it simply
8 be a recommendation of this Board that if the time
9 comes when it should be done that it be done as I
10 am sure it would be.

4-A 11 Now, I want to say something about
12 Mr. Timberg's reference to Mr. Perlin's evidence.
13 Mr. Perlin indicated to you that the site had been
14 engineered to capacity and that there would be no
15 further landfilling at this site. In fact, it was
16 the Region's instructions to its consultant Dillon
17 to engineer the site to capacity and to provide as
18 much additional capacity as could be reasonably
19 provided at this site and so that there would be
20 capacity to carry the Region over a period during
21 which it was attempting to get its environmental
22 assessments completed. It is assumed by the Region
23 that the consultant did what it was instructed to do
24 and while Mr. Perlin said the site had been engineered
25 to capacity, Mr. Perlin was not in a position to



1 opine on that subject. He is not a waste management
2 engineer. That question was not put to Mr. Wells and
3 if I may I would propose to put into evidence some
4 hearsay which can be admitted under the well known
5 exception to the hearsay rule which is an admission
6 against interest, but Mr. Wells in fact would have
7 answered had been asked did you engineer to capacity
8 and his answer would be yes.

9 So, there is no possibility of coming
10 back to this Board at least with Mr. Wells and
11 suggesting that there is somewhere else on this
12 particular piece of real estate...

13 MR. JEFFERY: How about going higher?
14 How about going higher?

15 MR. HODGSON: Here I would have to
16 give evidence and without qualifications. I believe
17 the problem is the slopes would become too great and
18 then there is the problem of erosion which becomes
19 a more serious problem than it already is. You heard
20 from Mr. Mitchell that fairly sophisticated measures
21 are already proposed to prevent an erosion problem
22 at this site.

23 Now, one last -- perhaps it is not
24 the last. With regard to the advisory committee, if
25 I could just ask the Board and everyone else to go



Toronto, Ontario

1 to page U-99. This is a Resolution of Regional Council
2 dated 8 February, 1984 and this is not a proposal,
3 this is if the Burlington landfill is approved and
4 it says that the committee will be established.

5 So, Mr. Chairman,
6 it does not have to go back to Council, it will
7 simply happen. The mandate is, reading from the
8 fourth line:

9 "...to be established to oversee and
10 report to Planning and Public Works
11 Committee on the establishment and
12 day-to-day operation of the continua-
13 tion program and to oversee and report
14 to the Planning and Public Works
15 Committee on the termination, closure,
16 after-use and post-closure care of
17 the site."

18 Then, the resolution sets out the proposal for
19 persons who will be invited to participate on the
20 advisory committee.

21 It is my submission that it is not
22 necessary to make this a condition of the approval, it
23 demonstrates a want of confidence in the Region
24 that the Region would somehow rely on this and other
25 parts of its evidence to obtain this approval and then



1 turn around and repeal its own resolution. I feel
2 confident in submitting to this Board that from
3 everything you have seen already of this Region
4 you can't believe that the Region would engage in
5 conduct of that sort.

6 Now, finally, Mr. Timberg has
7 submitted to you that the Region-- as a condition of
8 approval, the Region should start working on a
9 contingency plan to dispose of waste should the
10 environmental assessment not be completed. The fact
11 is that there is nothing the Region can do with
12 respect to waste disposal that is not regulated in
13 some way or other by the Environmental Assessment
14 Act. To take the extreme example should the Region
15 decide it wanted to export refuse to Niagara Falls,
16 New York, the first thing that would be needed would
17 be a transfer station and in order to get a transfer
18 station approval would be required under the
19 Environmental Assessment Act and it is possible that
20 the Minister might if requested make an exemption
21 order and merely require a hearing proceed under the
22 Environmental Protection Act, but in the first
23 instance the Region would be subject to the require-
24 ments of the Environmental Assessment Act which
25 would require a consideration of all of the alternative



Toronto, Ontario

1 methods of carrying out the undertaking and all the
2 alternatives to the undertaking. That would also
3 apply to Mr. Timberg's suggestion of recycling and
4 in order to go anywhere else and deal with this
5 problem the Region must comply with the requirements
6 of the Environmental Assessment Act and the evidence
7 is that the Region is now complying with the require-
8 ments of the Environmental Assessment Act and is
9 doing the very best it can to get proposals in place.
10 It is a long and expensive and difficult process and
11 I am confident that whatever is finally proposed
12 by the consultants will come to a hearing in the
13 next year and on behalf of the Region you are all
14 invited.

15 MR. JEFFERY: We will probably be
16 there.

17 MR. HODGSON: I am confident some
18 of you will be there and possibly members of this
19 panel.

20 Finally, Mr. Chairman and Mr. Jeffery,
21 I want to thank you for your consideration and for your
22 care and the concern you have expressed during this
23 entire hearing. We appreciate it, the Region of
24 Halton appreciates it we the Counsel, and I am sure
25 I can speak on behalf of all counsel, appreciate the



Toronto, Ontario

1 indulgences you have granted us from time to time.
2 It has been a pleasant hearing and thank you very
3 much.

4 THE CHAIRMAN: Thank you, Mr. Hodgson.

5 I think in response Mr. Jeffery and myself can say
6 that counsel have presented their cases well to the
7 point of really zeroing in on the issues and thereby
8 have saved everyone a lot of time and that is proved
9 by the little amount of direction and interference,
10 let us say, from this panel. I think not only counsel
11 should be commended but also all the individuals who
12 participated, and I don't wish to name them but I
13 think I would like to say they have done good work.
14 I know they are personally interested, but I know they
15 are also publicly minded individuals who have given
16 of their time and energies and we are really thankful
17 for the contribution made by those individuals.
18 Just speaking of the public, that is the whole purpose
19 of this hearing. Our recommendations will presumably
20 and hopefully be in the public interest and in that
21 sense there really is no winner or loser. I know
22 these hearings have two characteristics and one is
23 the adversary approach where we have a proponent
24 and supporters and those who are against the proposal
25 and the other aspect of it is that we try to reach



1 what is in the public interest and, in that sense,
2 there really isn't a winner and loser. All I can
3 say is that we hope, Mr. Jeffery and myself, that we
4 can advise our Board correctly and that a proper
5 recommendation will be forthcoming in the not too
6 distant future.

7 I think I said we hoped to have this,
8 to issue our recommendation some time in July,
9 probably after the middle or towards the end of
10 July, and I think Mr. Wells has intimated that he
11 would be delivering all the exhibits to our office
12 and I would appreciate it if he would do that.

13 MR. HODGSON: Well, Mr. Wells had
14 an assistant here who was to do it and he seems to
15 have fled but I'll collar him.

16 THE CHAIRMAN: I don't know if it
17 will be done today, but certainly in the very near
18 future.

19 MR. HODGSON: It will be done in the
20 very near future.

21 MR. JEFFERY: We will put all these
22 exhibits up here in this box if you wouldn't mind
23 having those taken as well with the larger ones,
24 we would appreciate it.

25 MR. HODGSON: That would be fine,



1 Mr. Jeffrey.

2 THE CHAIRMAN: Do you think this
3 could be done tomorrow, Mr. Hodgson, do you know?

4 MR. HODGSON: I am sure it will be
5 done tomorrow.

6 THE CHAIRMAN: All right. Thank you
7 very much.

8
9 ---Adjournment at 4:35 p.m.

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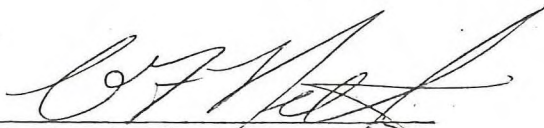
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13 Certified Correct

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C. F. Nethercut, C.V.R.

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