

David Estrin

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Please reply to: Toronto

April 8, 1987

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Attention: Thomas R. Lederer, Esq.

Re: Region of Halton
Environmental Assessment
- Information Request No. 2

Dear Mr. Lederer:

We enclose herewith Information Request No. 2 on behalf of
the Town of Milton.

Yours sincerely,

DAVID ESTRIN

DE:sbr
encl.

cc:

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2.

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91 Gibson Avenue
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April 8, 1987

REGION OF HALTON
ENVIRONMENTAL ASSESSMENT

INFORMATION REQUEST NO. 2
ON BEHALF OF THE TOWN OF MILTON

RE: TROW HYDROLOGY CONSULTANTS LIMITED
HYDROGEOLOGIC REPORT - SITE D
MILTON, VOLUMES 1 & 2

April 8, 1987

REGION OF HALTON
ENVIRONMENTAL ASSESSMENT

INFORMATION REQUEST NO. 2
ON BEHALF OF THE TOWN OF MILTON

RE: TROW HYDROLOGY CONSULTANTS LIMITED
HYDROGEOLOGIC REPORT - SITE D
MILTON, VOLUMES 1 & 2

Page

- i 2.1 What is an "adequate domestic water supply" within HCL's definition?
- ii 2.2 What is HCL's definition of a "major aquifer capable of providing municipal supplies"?
- 2.3 Second full paragraph: What is HCL's definition of "unacceptable chemical impacts" with reference to those that could occur at the property boundaries in time?
- 2.4 What is HCL's definition of "in time"?
- iii 2.5 What is HCL's definition of "long-term maintenance"?
- vi 2.6 With regard to the statement "About 62% of residents within a one kilometer radius of the site use the bedrock as their primary source of water supply", please identify those specific wells which are taken into account in deriving this percentage as well as those wells which would fall into the remaining 38%.
- 2.7 Confirm whether or not the numbering used on drawing No. 2, "Location of Exploratory Boreholes

and Water Supply Wells" referencing water wells, is meant to correspond to the numbering used in the "Water Well Inventory" made Appendix 9. If these numbers do not correspond, please provide a concordance.

- 2.8 Please supply a copy of all field notes made at the time of the field check or inventory used in putting together Drawing No. 2.
- 2.9 Please supply a copy of all well record information obtained from OWMC referred to in the water well inventory.
- xiv 2.10 If not made part of the witness statement, please provide curriculum vitae for the hydrogeologist and study coordinator (Beechinor), the senior landfill design engineer (Hiraishi), the landfill design engineer (Ovcjak), the hydrochemist (Feemstra), the engineering geologist (Lohse), the groundwater geologist (Macfabe) as well as the field hydrogeologists and geologists. Also supply C/V for senior hydrogeologist (Sobanski) and project manager (Cryslar).
- 10-
11 2.11 Provide copies of memos, correspondence or minutes of meetings between HCL and the Ministry of Environment and the Region of Halton and their advisers with respect to hydrogeologic work to be conducted in 1985 and 1986.
- 11 2.12 With reference to the second full paragraph, what are the other "important concerns" acted upon not shown in Table 1?
- 13 2.13 Please provide a good Xerox copy of field notes referred to in respect of the field work initiated in September 1985.
- 14 2.14 Please provide a good copy of the original field notes taken in connection with the June 1984 drilling program on Site D.

- 17 2.15 Please provide a good copy of the original field notes made in connection with Phase 2 field investigations commencing in February 1986.
- 15 2.16 The second paragraph with respect to Appendix 12, provide a copy of field notes and memos and calculations for the data shown in Appendix 12 "Summary of Hydraulic Conductivities"
- 22 2.17 With respect to the "Walk and Talk survey" in September 1985, provide original results of the interviews (names could be deleted if necessary as long as location is identified) and the other water use information collected from the Ministry of Environment and the Ontario Waste Management Corporation.
- 38-
39 2.18 Well yields are given in L/s (litres per second) but do not appear to be consistent with water-well data; Is the conversion used correct, or are they expressed in the wrong unit (probably should be L/min)?
- 2.19 The first full paragraph says "Drawing 2 shows the location of representative water supply wells from the study area". Provide any information available with respect to other water supply wells not shown on drawing 2.
- 39 2.20 In the second full paragraph it is stated that "the measured chloride concentration in well water at Location 30 (see Drawing 2) was 560 mg/L. Where does this chloride concentration datum come from? Reference to Appendix 11 provides detailed chemistry for groundwater only in respect of HCL observation wells. To the extent the proponent has chemistry or other data in respect of other groundwater, as apparently it does as indicated on page 39, please provide all such data, the date such data was taken and drawings indicating from what location such data was obtained.
- 47 2.21 Please clarify whether the reference in the first full paragraph to "Dusseault, 1985" is missing from the reference list or is it meant to refer to Dusseault & Vorareur, 1986?

- 2.22 Re the discussion under Section 6.3.1, please clarify whether the determination of static water level elevations was based on MOE well log elevations or are revised elevations derived from HCL and/or Gartner, Lee work?
- 2.23 Please supply a copy of the documents referred to in this last paragraph on page 47 "Hydrology Consultants (1985)" and "Gartner Lee Associates Limited (1985)" containing, apparently, water well information from the inventory of well users. Please supply the information used in the "static water level elevations".
- 48 2.24 With reference to section 6.3.2, please provide any further groundwater level data collected in April, 1986 and any further potentiometric contour mapping even if in draft form, in respect of such data.
- 53 2.25 With reference to Appendix 11, please indicate the depth at which the various "observation wells" within each of these drilling sites were located and how much water was collected from each level and over what period of time the water was collected.
- 54 2.26 Where does the number 4.7 mg/L in HC5-84 appear in Appendix 11 in respect of chlorides?
- 59-
63 2.27 Provide any geological logs of the pump test wells, with pump installation details. Also provide a plan location of pump test and observation wells. Provide the same information for HCT installation(s).
- 70 2.28 With regard to equation 4, provide the missing term for dynamic dispersibility.
88. 2.29 Re Table 10, with respect to the items under the heading "Leachate Collection System in Operation" what assumption was made with respect to the leachate head in calculating leachate collection groundwater velocities?

90/

91 2.30 Re subsection 8.4.4 "Absorption" Please detail the technique used, including sample treatment, for the determination of cation exchange capacity for each unit tested.

2.31 In respect of the cation exchange capacity values given in Appendix 3, provide the following information:

- the borehole from which the sample was extracted;
- the elevation where the sample was taken from;
- the vertical length of the sample used, whether any mechanical analysis was done on the same or adjoining sample and, if so, where such results are found;
- provide a copy of any notes or memoranda made in conjunction or associated with cation exchange capacity testing;
- if modelling was used, provide details on assumptions and input and references to literature on such modelling.

120 2.32 Please clarify which "hydrogeologic analysis" of the various pathways has shown that the units described are "not major aquifers" If the analysis is contained in this document, please indicate the pages relied on. If there is further analysis or references used in making that determination, please provide a copy or indicate the methodology and assumptions.

121 2.33 With respect to subsection 9.3 "Leachate Control" please provide the reference to, and if possible a copy of, the MOE document which "sets chemical quality criteria for property boundaries"

2.34 In what instances has "the conservative ion chloride" been often used to set boundary criteria?

- 2.35 In what instances "has the allowable increase been one-half of the difference between the background chloride concentration in the groundwater and 250 mg/L?
- 122 2.36 Please provide the specific reference to the MOE "reasonable use criteria" and if possible a copy thereof.
- 2.37 Please provide instances where the MOE's "reasonable use criteria" has been applied by the Ministry or the Environmental Assessment Board in the approval of landfills.
- 123 2.38 Please provide examples of where the "hydraulic trap" or hydraulic containment system similar to that proposed at Site D has:
- (a) been approved by the Director of Approvals and/or the Environmental Assessment Board; and
 - (b) where such systems have been in use for 5 years, 10 years or longer.
- 125 2.39 With regard to the "hydraulic conductivity of waste", please provide the reference or basis for the hydraulic conductivity used in this calculation.
- 126 2.40 What is the volume of leachate to be collected and transported off site?
- 2.41 What is the head of leachate available for pumping at any one time and what is the maximum or minimum? (Is this information given elsewhere?)
- 141-
144 2.42 Please provide references to the following which are missing:
- Dusseault (1985)
 - Sudicky and Frend (1982)
 - Tang et al (1981)

- 2.43 Please supply any letters, writings, memoranda or notes with respect to personal communications listed at pages 143-144 from or to the following persons: Farvolden, Cartwright, Karrow, Ostlund, Grube and Palowski.

Volume 2:

- 2 2.44 It is stated that as a result of the 1985 Hydrology Consultants study, 25% of the wells in the study area "get their supplies from sand and gravel layers found from 6.5 to 23 metres below ground surface". Please provide the elevation below ground surface at which each non-bedrock well obtains its supply in the study area and identify the well by reference to a drawing.
- 2.45 Re Hydrology Consultants Borehole 6-84: Please provide the surface elevation.