



Canadian Environmental Law Association
L'Association canadienne du droit de l'environnement

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12 March 1982

Hon. John T. Curtin
Chief Judge
United States District Court
Western District of New York
United States Courthouse
Buffalo, New York 14202

Dear Judge Curtin:

RE: United States v. Hooker
Chemical and Plastics Corp. et al
(Hyde Park Landfill)
Civ. No. 79-989

Amici have reviewed, with our experts, the recent submissions of hydrogeologic and analytical testing reports from the federal government with respect to Hyde Park Landfill. The results of our review are enclosed herewith and include the following documents:

1. Hydrogeology Review - Hyde Park Landfill - prepared by E. Grant Anderson.

This report specifically evaluates the validity and usefulness of the Maslia/Johnston Report entitled 'Simulation of Ground-Water Flow in the Vicinity of Hyde Park Landfill, Niagara Falls, New York'.

2. Critique of the Analytical Testing Report of West Coast Technical Services, Inc. dated January 21, 1982 - prepared by Dr. Douglas Hallett for Environment Canada at the request of amici.
3. Comments on the adequacy of the Maslia/Johnston Model Simulation - by letter of Richard Jackson (Hydrogeologist) for Environment Canada.

After review of all data and Reports recently submitted as well as the 1981 hearing transcripts and exhibits, we conclude that these submissions constitute an attempt by the government to justify, post negotiation and post hearing, the hydrogeologic premises of its proposed agreement.

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From the inception of amici's involvement and throughout the 1981 proceedings, counsel for both the State and federal governments steadfastly maintained that inadequate data precluded determination of velocity, direction, and quantity of groundwater flow in the lower strata.

The government contended that amici experts could not properly utilize what they characterized as "limited site-specific data" or information contained in Richard Johnston's 1964 study on regional groundwater flow characteristics in the Lockport Dolomite in the Niagara Falls area to make site-specific determinations.

It is ironic that Richard Johnston, utilizing only a portion of the "limited data" publically available and regional groundwater flow information from his previous study, was able to undertake simulation of a model ostensibly designed to make site-specific determinations.

But most disturbing to amici is that throughout the 1981 hearing, while the government publicly maintained that these site-specific hydrogeologic questions could not be answered without additional data, which would only be obtained through studies to be undertaken pursuant to the proposed agreement, the government was simultaneously contracting with Richard Johnston to prepare the model. Yet neither the Court, amici, nor the public were advised that such a study was being undertaken or was even viable given the government's claim of inadequate available information.

Amici question the integrity of this undertaking which was arranged in secrecy during the hearing specifically designed to garner all facts pertinent to a determination of the adequacy of the proposed agreement.

Amici has subsequently learned that Richard Johnston, in preparing his model, was given selective testimony and data upon which to draw assumptions for the model. While amici are not privy to the specific set of facts given to Johnston for preparation of his Report, we do know that he was not given the testimony of Frank Rovers (addressing infiltration of precipitation through the clay cap), nor was he given the exhibits, charts, or calculations prepared by Grant Anderson for the Court.

The Johnston/Maslia Report

The review of the Johnston/Maslia Report by hydrogeologist, Grant Anderson, indicates that the model as prepared materially misrepresents hydrogeologic conditions in the area of Hyde Park landfill.

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Perhaps most misleading in the Johnston/Maslia Report is the conclusion that 80% of groundwater flows laterally through and discharges from the entire thickness of the Lockport Dolomite at the gorge face. Since the modellers themselves acknowledge that no attempt was made to calibrate for flow throughout the Lockport formation, any conclusion regarding groundwater flow in the Dolomite is invalid.

In addition, Johnston in his simplified explanation of the simulated model, disclaims his own modelling results, concluding an 80% flow through the Dolomite to the gorge face where he acknowledges that the computer simulation is only valid to the point where the groundwater intercepts either "open vertical joints or rubble". Given that Johnston represents in his report that increased vertical fracturing between 200-400 feet from the face of the gorge, he is in effect acknowledging that groundwater in the Dolomite formation eventually will flow down through the Shale.

It is interesting that Johnston in his report was unwilling to estimate the point away from the gorge face at which vertical fracturing may occur with enough frequency to allow groundwater flowing in the Lockport formation to move down through the Shale. During the 1981 proceedings, Johnston insisted during cross-examination that he was unable to even roughly approximate the point at which increased vertical fracturing occurs. (T.246, lines 7-11, also 254, lines 11-17)

According to Anderson's review, Johnston's ability to properly simulate groundwater flow conditions at Hyde Park landfill was in large part subverted by use of a number of incorrect factual assumptions. Johnston incorrectly inputted zero infiltration of precipitation through the clay cap, lateral flow of groundwater through the entire thickness of the Lockport Dolomite discharging at the gorge face, and zero flow through the bottom of the Rochester Shale.

Even if proper calibration of the model had occurred, no model can make an unbiased determination as to flow through the Rochester Shale when the computer is advised to permit no flow through the Rochester Shale.

Using that assumption, any conclusions regarding flow through the Rochester Shale is inherently useless.

Anderson's report specifically discusses the three major erroneous assumptions utilized by Johnston and the resultant errors which completely destroy the validity of the model.

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Analytical Testing Report (Gorge Face Samples)

Dr. Douglas Hallett, in his detailed critique of the analytical report prepared by West Coast Technical Services, Inc., found that the laboratory selected by U.S. EPA did not use accepted EPA protocols or any substitute protocols accepted in the scientific community, and that a majority of sampling results were rendered unusable because of excessive interference due to improper or inadequate protocols. He noted that the WCTS laboratory incorrectly reported many samples showing non-detectable levels of particular chemicals when, in fact, problems with recovery rate caused by gross interferences precluded any scientifically justifiable conclusion as to absence or presence of those particular materials.

Most important, Dr. Hallett determined, contrary to representations by Michael Elder in his letter of February 19, 1982, that the few valid sampling results reinforce the analytical results presented by experts for amici to the Court during the 1981 proceedings. In addition, the downstream control sample designed by EPA contained no indicator chemicals from Hyde Park landfill, while each of the sediment samples taken at the gorge face in the vicinity of Hyde Park landfill contained indicator chemicals which can be directly attributed to migration through groundwater in underlying formations to the gorge face.

We wish the Court to be aware that amici specifically requested that gorge face sampling occur at a time when amici's experts could be present in order to confirm EPA's attempt to replicate Anderson's sampling locations and split samples with EPA and Hooker in order to undertake independent confirmatory analysis. EPA was advised by amici that moderate to heavy rainfall which occurred on October 22, 1981 could interfere with sampling efforts, and that sampling should be postponed pending proper weather conditions and the participation of Dr. Hallett and Mr. Anderson. The request by amici for a brief delay of even one or two days was refused.

At the request of government attorney, Michael Elder, the Court on October 16th, 1982 ordered the record closed and thereby refused to accept two affidavits of amici's experts containing analytical results of sediment samples taken at the gorge face below the Rochester Shale in the whirlpool sandstone formation almost 300 feet below the top of the gorge. Those samples indicated the highest concentrations measured by amici for gamma lindane, stated by our experts to be a clear fingerprint chemical of Hyde Park landfill. In those affidavits the scientific basis for the conclusion that the lindane analyzed, came specifically from Hyde Park landfill, were set forth.

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It is the position of amici that the simulation model prepared by Maslia/Johnston is fundamentally defective for the reasons set forth in the hydrogeologic review by Grant Anderson, and the analytical results from samples taken at the Niagara Gorge face are in large part invalid, as explained by Dr. Hallett in his critique.

The review by amici and amici's experts of the hydrogeologic and chemical testing data recently submitted by the United States government, reinforces our original position that the agreement, as it is constituted, must be rejected by the Court since it will not prevent the continued migration of chemical leachate through the bedrock to the gorge face and into the Niagara River.

Yours truly,

JAY, KLAIF AND MORRISON

CANADIAN ENVIRONMENTAL LAW ASSOCIATION

A handwritten signature in cursive script that reads "Toby Vigod".

Barbara Morrison
Counsel

Toby Vigod
Counsel

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