

VII. The Fact-Finding Hearing

A. Note on Procedure

The fact-finding hearing into the premises of the settlement agreement took place during eight days in September and October, 1981, with final argument by the parties, amici, and proposed intervenors, taking place on October 16, 1981.

At the outset of the hearing, Judge Curtin laid out a number of ground rules for the conduct of this precedent-setting fact-finding hearing. Judge Curtin stated that he did not look at this as an "adversarial" hearing and that there would not be extensive cross-examination. He noted that the proceedings were not a 'trial' but were 'educational' in nature.⁸¹ The Judge also ruled that only one counsel represented the amici and the proposed intervenors would be allowed to examine each witness.⁸² Counsel for amici and the proposed intervenors raised this matter with Judge Curtin during the initial stages at the hearing, arguing that their clients had very different interests.⁸³ *unsuccessfully*

B. The Governmental Witnesses

On September 4, 1981, governmental parties filed a "Joint Response to the Court's Order and Prehearing Statement". This statement dealt with many of the definitional questions set out in the Judge's order and also outlined the areas the witnesses would address on the stand.⁸⁴ This section will summarize the testimony and cross-examination of those governmental witnesses that dealt with ^{the} matters most in contention.⁸⁵ ~~with amici.~~

Dr. Lemar Miller

The United States first witness was Dr. Lemar Miller, an organic chemist and Technical Director, EPA Waste Programs Enforcement. Dr. Miller briefly described the functions of his office since 1979 in identifying over 9700 potential hazardous waste sites and initiating 61 lawsuits. He noted that the Hyde Park landfill was one of the highest priorities and had the unusual allocation of a full-time technical person and a full-time attorney assigned to the case.⁸⁶

Dr. Miller stated that he reviewed and approved all the technical decisions as they were made during the course of the negotiations. Miller also noted that, in this case, the defendant, Hooker, was being asked to do the investigation under the terms of the agreement before establishing remedial solutions. Dr. Miller also described the differences in migration patterns between aqueous phase chemicals (those that are dissolved in water) and non-aqueous phase chemicals (those that are organic as opposed to water ^{soluble} solvent). He also testified as to the rationale for the choice of indicator chemicals to identify the extent of the migration of chemicals in the soil and groundwater.

Mr. Sugarman,⁸⁷ co-counsel for the Niagara County Citizens' Alliance and the College Heights Property Owners' Association, cross-examined Dr. Miller. He established that, while indicator chemicals may be useful in determining the presence of chemicals, they could not determine the concentration of chemicals in the ground water. Mr. Sugarman also questioned Dr. Miller about the ^{use of} indicator chemicals ~~use~~ as action levels; e.g. the level for determining when various remedial technologies (e.g. purge wells) may be turned off. Mr. Sugarman also asked Dr. Miller why indicator chemicals were chosen if testing equipment could routinely analyze for all chemicals in the landfill leachate.⁸⁸ Dr. Miller's answer was that there were time and

money constraints on testing for all chemicals in the leachate. He later stated that the analysis for dioxin is very time-consuming and that there are only three or four laboratories with the competence to do dioxin testing in the concentration ranges required. ⁸⁹

As Dr. Hallett later testified for amici, it is entirely possible to screen for TCDD quite routinely and quite inexpensively with modern technology and that, due to the fact that TCDD is the most toxic organic ever created, it should be analyzed for separately.

Charles Morgan

The second witness called by the United States was Mr. Charles Morgan. Mr. Morgan, with a M.S. in veterinary bacteriology, is employed by the office of Waste Programs Enforcement Division of EPA. Mr. Morgan is the technical coordinator for the federal government litigation team in all the Hooker cases. Mr. Morgan testified regarding the establishment of a six man technical assistance team for the Hooker suits. ⁹⁰ Mr. Morgan testified briefly as to the geographical location of the site and the extent of chemical migration.

Ms. Morrison conducted cross-examination on behalf of the amici. She questioned Mr. Morgan regarding the extent of any sampling done by EPA at the Gorge face. Mr. Morgan testified that there were a number of samples taken where Bloody Run empties into the Niagara River, but not up and down the Gorge face. He testified that he saw some water seepage in the spring of 1981, but did not take any samples or attempt to repeat the examination during a dry period. He also noted that his staff had taken another observation journey to the Gorge in 1979 and that neither trip showed any chemical contamination or ^{extensive} ~~very many~~ seeps ^{age} of ground water coming out of the bedding plains.

Ms. Morrison questioned Morgan about the extent of the Gorge area clean up specified in the settlement agreement, which she noted would only be limited to the area on the Gorge face from where Bloody Run emerges to the point where Bloody Run flows into the Niagara River. ⁹¹

Mr. Morgan also testified that "Dr." Twedell was the U.S. hydrogeologist on his six man technical assistance team and that "his expertise was used to advise us on water flow and the type of technologies that could be used to interrupt that water flow and collect the contaminant ground water for treatment". ⁹²

Richard Johnston

The next witness was Richard Johnston, a hydrogeologist with the United States Geological Survey and author of a 1964 report entitled "Ground Water in the Niagara Falls Area, New York". It is important to note that ^MDr. Johnston was not involved in the Hyde Park case prior to his testimony in Court and was not consulted nor did he make recommendations about the proposed settlement agreement prior to the time it was lodged with the Court. ⁹³

^MDr. Johnston described the geological strata in the Niagara Falls area. He described the types of fractures in the Lockport Dolomite, noted that the upper part of the Dolomite was more permeable than the lower Dolomite and stated that his observation that vertical joints were closed below the upper fifteen feet of the Dolomite did not include the area along the Gorge. ⁹⁴

Mr. Johnston also indicated that the Rochester Shale had a low permeability ^{as demonstrated by} due to the fact that wells would not produce water for domestic purposes. ⁹⁵ It is amici's position, as testified to

by Mr. Anderson, that the Rochester Shale does transmit water, and that no assumption of impermeability can be made solely on the inability to pump water from domestic wells. ⁹⁶

X Under cross-examination by Ms. Morrison for amici, Mr. Johnston stated that vertical permeability is higher near the Gorge, but that he did not know how far east of the Gorge that condition occurred. ⁹⁷ Mr. Johnston also ~~did~~ ^{agreed} that there were not more seeps of ~~spring~~ ^{because} springs showing above the Rochester Shale, ~~as~~ ^{because} water could be moving downward vertically as it approached the Gorge, into the Rochester Shale and below. ⁹⁸

Kernan Davis

X Kernan Davis, geologist with the New York Department of Environmental Conservation, was the next governmental witness. Mr. Davis testified about the direction of ground water flow from the landfill which he stated was generally northwesterly through the bedrock. ⁹⁹ He also testified about the vertical joints and horizontal bedding plains in the bedrock and stated that he had no information as to how far back from the Gorge the rock became more or less permeable. He also stated that he could not make any estimates as to the relative volume or speed of water moving horizontally as opposed to vertically in the bedrock. ¹⁰⁰ Mr. Davis stated that the settlement agreement would be the vehicle to obtain such data to make these calculations. This was a ^{constant} ~~current~~ theme throughout the testimony of the governmental witnesses' ^{in testimony} testimony; that the data they had amassed to date was not sufficient for making determinations about various characteristics of ground water (and hence contaminant) flow beneath the Hyde Park landfill. It is therefore ironic that, in the U.S. government's post-hearing report by Mr. Johnston, ¹⁰¹ these type of calculations were made.

In cross-examination, Ms. Morrison for amici questioned Mr. Davis on the nature of the data he had reviewed and why he had never made velocity calculations. Ms. Morrison questioned the fact that Mr. Davis did not estimate the quantity and velocity of ground water flow even though he had access to data on the permeability, gradient, and area the water is flowing through. ~~Mr. David~~^{S. Davis} did agree that there could be situations where the ground water can move through the bedrock and continue flowing down through the more permeable and fractured area of the Rochester Shale near the Gorge. ¹⁰²

David Twedell

The government's next witness was "Dr." David Twedell, a "hydrogeologist" by profession with a PhD in Geology. As discussed below, in November, 1981 it was revealed that ¹⁰³ Dr. Twedell had falsified his credentials and only had a B.A. in Physical Science. However, it is important to note that Mr. Twedell was the sole hydrogeologist for the United States and one of the "six man technical assistance team" assembled by Charles Morgan.

In cross-examination, Ms. Morrison questioned Mr. Twedell's ability to interpret hydrogeologic data commonly used in the field to ascertain the direction of ground water flow. ¹⁰⁴ Twedell also testified that, if the bedrock barrier collection system did not collect at least 90% of the contaminants, then additional RRT would be triggered. ¹⁰⁵ However, as Ms. Morrison noted, and as Twedell agreed, if the studies and surveys to be conducted prior to remedial construction were not accurate, contaminants could move through the bedrock or other strata unintercepted. ¹⁰⁶

Paul Counterman

Mr. Counterman, engineer, with the New York State Department of Environment Conservation, Division of Solid Waste, testified very briefly with regard to how the tile drain and purge well systems would operate. He also dealt with the lagoons on the Hooker site and the carbon filtration system that could be used to treat aqueous phase liquids. Mr. Counterman was cross-examined by Mr. Steele, ^W who questioned him on ^X the effectiveness of the tile drain system and the proposed clean up options for Bloody Run Creek. The Court suspended the cross-examination at one point when it became obvious that

Mr. Counterman was "quessing" in response to some of Mr. Steele's questions.¹⁰⁷

what's quessing?

Donald Oberacker

Mr. Oberacker, mechanical engineer with the Incineration Research Branch at EPA's Research Laboratory in Cincinnati, Ohio, testified about the feasibility of incineration. Mr. Oberacker's testimony was limited by the fact that he had not been involved in the negotiations on the Hyde Park agreement nor was he familiar with its terms. He did testify that it was possible to incinerate most or all of the chemicals found at Hyde Park and that it would also be possible to incinerate rock and soil.¹⁰⁸ He further noted that the "state of the art" incinerators can handle about 25,000 gallons of liquids per day and a ton and a half per day in terms of solids.¹⁰⁹ Mr. Oberacker further testified that, on the basis of a figure of 10 million tons of material given to him by Dr. Mason (EPA consultant), it would take 760 years for one incinerator to completely destroy that amount of material.¹¹⁰

Under cross-examination, Mr. Oberacker agreed that, if a figure of 100,000 tons were used (i.e. the approximately 80,000 tons of wastes presently buried at Hyde Park and 20,000 tons of contaminated soil) it would only take 6-7 ^{vs} years to incinerate that quantity of material.

The author also questioned Mr. Oberacker about new portable units currently being tested by EPA which would have the capability of incinerating the ^{type of} ~~Hyde Park~~ chemicals ^{buried at Hyde Park.}

Dr. Benjamin Mason

Dr. Mason, soil scientist and consultant to EPA, testified about the migration of the chemicals through the soil, the

use of indicator chemicals, and also testified about the possibility of excavation of the landfill. He noted that the solubility of a chemical, its absorption co-efficient, the amount of clay in the soil, and the organic matter in the soil are factors that determine how fast a chemical will move through the soil.¹¹² Dr. Mason also entered a chart into evidence ^{showing} of the relative solubility of various Hyde Park chemicals.

Dr. Mason stated that excavation was considered by the governmental parties but that they concluded it would not be practical. Dr. Mason stated that the estimates range between 500,000 to 1,000,000 cubic yards of materials in the landfill area above the original surface¹¹³ and that he estimated 4,780,000 cubic yards of landfill wastes, contaminated overburden, and contaminated rock would have to be excavated. Dr. Mason, in his calculations of how much rock would have to be removed, included the entire area where contaminants had been found migrating off-site.¹¹⁴ Dr. Mason also testified that excavation would create adverse health effects.

Under cross-examination, Dr. Mason admitted to the author that he was not familiar with other sites where excavations had taken place, that he did not review the literature on excavation on other sites, and he had not contacted any other consulting firms who specialize in excavation.¹¹⁵ Dr. Mason was also not familiar with the excavation of a Hooker landfill site at Montague, Michigan which is being excavated. ^{undertaken by Hooker}¹¹⁶

Dr. Mason also agreed that, if the primary source of contamination were evacuated (i.e. the actual landfill wastes), what would be left to be done would be to clean up ^{only} the chemicals that have migrated off-site ^{He also agreed} but that there would not be a continuing source of leachate migrating into the bedrock.

↓ would need to be cleaned up.

Finally, Dr. Mason, after testifying that any secure landfill where the wastes would be taken would have to be monitored "in perpetuity", admitted that Hyde Park (a non-secure landfill) would also have to be monitored and maintained in perpetuity. 117

Ms. Morrison questioned Dr. Mason on the migration of chemicals moving through the soil and water and whether chemicals (such as TCDD) could be present in some quantity where the indicator chemicals were below plume detection units. *units* 118

Dr. Mason ~~did~~ agree that the chemicals had already migrated vertically at least fifty feet through the bedrock and that the Dolomite was more permeable than the overburden. 119

*more
in other
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