

WQIB 27

GREAT LAKES WATER QUALITY BOARD



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**INTERNATIONAL
JOINT
COMMISSION**

**GREAT LAKES WATER QUALITY -
APPENDIX F
REPORT ON HAZARDOUS
WASTE DISPOSAL**

GREAT LAKES WATER QUALITY

SIXTH ANNUAL REPORT

APPENDIX F

**REPORT ON
HAZARDOUS
WASTE DISPOSAL**

**GREAT LAKES
WATER QUALITY**

JULY 1978

WINDSOR, ONTARIO

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INTRODUCTION

A special meeting of the Water Quality Board was held November 30, 1977 in Windsor, Ontario to discuss the problems associated with the transportation and disposal of hazardous liquid waste. The Water Quality Board invited hazardous waste control experts from governmental agencies, as well as representatives of the private sector engaged in the business of waste transport and disposal in the Great Lakes Basin.

This report contains summaries of the important points made at the meeting and recommendations of the Water Quality Board. Appendix A lists the applicable laws in each jurisdiction. Appendix B summarizes case histories of typical disposal system problems encountered by the jurisdictions in the Great Lakes Basin.

RECOMMENDATIONS

The Water Quality Board, in its Sixth Annual Report, presented a number of recommendations to the International Joint Commission for its consideration. The Board urged the Commission to adopt the recommendations and forward them to the Governments.

Recommendation "B" in the Board's report resulted from consideration of the discussions contained in this report.

- B. THE WATER QUALITY BOARD RECOMMENDS THAT COMPATIBLE PROGRAMS AND REGULATIONS FOR THE MANAGEMENT OF HAZARDOUS WASTES BE DEVELOPED AND ENFORCED. BECAUSE THIS ISSUE EXTENDS BEYOND THE GEOGRAPHICAL AREA OF THE GREAT LAKES BASIN, THESE PROGRAMS SHOULD BE NATIONAL IN SCOPE IN BOTH COUNTRIES AND SHOULD PERMIT INTERJURISDICTIONAL MOVEMENTS OF HAZARDOUS WASTES.

DESCRIPTION OF THE PROBLEM

A variety of liquid wastes are generated by industries throughout the Great Lakes Drainage Basin. Some of these wastes can be readily disposed of by conventional means, while others require highly specialized procedures such as incineration at very high temperatures.

The techniques already exist to destroy, store, or reclaim these wastes without undue risk to the public health or the environment. The problem, whether because of costs, public resistance to the location of disposal sites, and the need for unpopular decisions, or a combination of all three, is that the practices now being followed in managing liquid industrial waste give little recognition to waste characteristics, environmental hazards, including potential long term effects, or possible benefits from reclamation of recoverable energy components of the waste. The problems of waste management are escalating as we run out of suitable landfill sites and are compounded by the habits of our "throwaway" society with its increasing generation of industrial wastes. In addition, waste disposal sites are often not equipped to handle all varieties of wastes and difficulties are encountered in the operation of the facilities.

BACKGROUND

Government action restricting hazardous industrial discharges to municipal sewers and the banning of certain toxic chemicals has created a disposal problem for these waste materials. Large quantities of substances, such as PCBs and pesticides, must now be carefully managed, stored and disposed of, or in some cases destroyed.

Throughout the basin, there is strong public resistance to the location of any kind of hazardous waste disposal system in a local community. Disposal firms with good reputation and heavy investment in modern plant and equipment have been unable to convince local residents that the plant is not a threat to the health and safety of the community. Permits for new plants have been denied and existing plants closed, or threatened with closure, by legal action even though environmental agencies have approved the operation.

The dilemma for elected representatives and industrialists is aptly demonstrated by a quotation from a recent judicial decision covering a local municipal problem encountered in the Great Lakes area:

". . . A more difficult duty facing elected representatives of the people it would be hard to imagine. To fulfill the duty is not only onerous but bound to be unpopular with some residents. The provision of this essential service can only be loathed and detested by those who are in close proximity to the chosen site. The service must be provided and decisions with regard to it will have to be made by elected representatives with considerable courage and fortitude. No unnecessary obstacles should be placed in the way of those conscientiously and courageously attempting to carry out their difficult task. In situations such as this, it is no longer appropriate to say "you can't fight city hall" rather the question is whether city hall can find its way through the convoluted procedural labyrinth imposed upon it.

On the other hand, owners adjacent to the proposed site, with a natural love of their land, may quite properly take all steps to insure that their rights are recognized."

Some jurisdictions in the basin have been unable or unwilling to establish approved sites within their boundaries, making it necessary for waste haulers to transport their waste to other jurisdictions. In other cases, jurisdictions with adequate sites are reluctant to receive wastes from others.

Thousands of gallons of liquid industrial waste are transported daily across state, provincial, and international boundaries with the avowed goal of reaching an acceptable disposal site. At the present time, there is no way for the jurisdiction to be sure of the destination of waste generated within its borders, nor does the jurisdiction to which it is transported have adequate knowledge of the presence of the waste within its boundaries or of its ultimate safe disposal.

Since hazardous wastes are increasingly being generated throughout the basin, the problem facing regulatory agencies is to develop suitable means of assuring adequate control of these wastes from generation through transportation, and ultimate safe disposal. Equally important is the necessity for the regulatory agencies to regain the confidence of the public and convince them that properly designed and operated disposal systems are not only safe but necessary for safeguarding the environment of the community.

TECHNICAL SOLUTIONS GENERALLY AVAILABLE

The technical alternatives for properly managing liquid industrial and hazardous wastes can be summarized in general terms, but careful analysis of the composition and quantity is required to ensure application of the most appropriate technology and correctly sized facilities. The chief alternatives are as follows:

1. Incineration (including high temperature and sludge burning facilities with emission controls)
2. Recovery, reclamation, and reuse
3. Chemical, physical, and biological treatment
4. Deep well disposal
5. Landfilling (for disposal or with future recovery in mind)
6. Chemical fixation.

Burial in specially constructed landfills or destruction by incineration at very high temperatures are the only alternatives that will assure safe disposal of certain classes of highly persistent toxic wastes.

SUMMARY OF COMMENTS OF WASTE TRANSPORT AND PROCESSING INDUSTRY REPRESENTATIVES

- o The waste processing industry has the technical capability to handle the waste products generated by the complex industrialized society.
- o Waste processing requires a large investment to properly test, transport, and process the great variety of wastes that are encountered.
- o In order to attract the necessary capital investment and allow a reasonable profit, governmental regulations should be standardized among the jurisdictions.
- o There should be no restrictions on the safe transportation of waste across jurisdictional lines. Highly specialized processing equipment may be available only in certain areas.
- o The generator of the waste, the transporter, and the processor are all equally responsible for safe disposal. A manifest system is recommended in which the generator of the waste is responsible for identification of his waste product; the transporter is responsible for safely conveying it from the source to the disposal site; and the disposal site operator would be responsible for the safe disposal of the product.
- o The disposal sites should be operated by the private sector.
- o Approval of location and operation of disposal sites should be at the state or federal level, not at the local level.
- o The government should educate the public about the necessity of proper disposal and the environmental safety of the properly operated disposal sites.

SUMMARY OF COMMENTS OF AGENCY REPRESENTATIVES

- o The problem is not so much one of technology but primarily a social problem of location of disposal sites.
- o The generator of the waste should be required to identify the components of the waste and the amounts in shipment. It would not be necessary to have a completely detailed analysis of each shipment once the general characteristics of the waste sources are established.
- o Manifests should be prepared by the generator, used by the transporter and processor, and a copy returned to the generator when the waste has been placed in a recovery or destruction process.
- o A detailed analysis could be made of each waste stream and kept on file. A quick verification could be made on each shipment as a check on the identification.
- o Storage time at the disposal site should be kept to a minimum.
- o Local resistance to siting of disposal systems has prevented the location of these sites even on government-owned land. It is doubtful if the principle of eminent domain could be used in the acquiring of property for disposal sites. Social acceptability of the site in the local area is the key to the problem whether the site is government or privately owned.
- o The governmental agencies must obtain the trust and confidence of the local people as to the safety of the disposal facility to health and environment, then stress the economic advantage of additional tax base and payroll to the community.
- o Government officials and the scientific community have lost credibility with the general public on environmental issues. It will be difficult to regain public confidence in the face of continuing environmental disasters such as the recent PBB incident in Michigan.
- o The successful waste processing operation depends about 10% on equipment and 90% on the operation. If the facility is not operated properly after an agency has fought publicly for its survival, a situation is created that makes public acceptance impossible.

- o Legislative approval of site location may be necessary as a means of settling local opposition difficulties. Decisions by agencies are often disputed by local groups.
- o Some industries have on-site disposal systems but do not allow waste from other sources because of lack of control over the composition of the materials being processed.
- o If transboundary or interjurisdictional movement of waste is prohibited, each jurisdiction would be required to provide capabilities for processing all waste generated within its boundaries regardless of type or amount. Waste processors might not find enough economic incentive to invest in this kind of plant in every community.

CONCLUSIONS

CONCLUSIONS BY THE WATER QUALITY BOARD AT THE SPECIAL MEETING

The national governments in both countries have stated that the responsibilities for control of hazardous wastes rests primarily with the state or provincial level of government. The federal governments are involved with certain aspects of siting and interstate, interprovincial, and international transportation of waste materials.

The most difficult problem at the present time is the location of land-fill sites and liquid industrial waste facilities. It appears that more and more government intervention may be required in the siting and operation of both types of facilities.

The technology for waste processing is generally available, but the development and application of technology at the waste source or within manufacturing processes would be useful in reducing the problem.

There is an obvious need for a concerted program involving, primarily, federal and provincial or state levels of government to advise people in objective and analytical terms as to the character of the problem and the solutions available. They should be advised as to the necessity of developing solutions and the consequences of not developing solutions to hazardous waste disposal problems in their communities.

The Board's interest is within the geographical limits of the Great Lakes Basin which contains a significant portion of the industrial waste generated in both countries. It is evident that the scale of solutions that must be developed to solve this problem is not restricted to the Great Lakes Basin. Therefore, recommendations will have to be made to countries and different levels of government within those countries to adequately address the problem.

FURTHER CONCLUSIONS BY THE WATER QUALITY BOARD

The Water Quality Board, after reviewing the results of the November 30, 1977 meeting, including case histories involving waste disposal problems, concluded that solutions to the hazardous waste dilemma extend beyond the geographic area of the Great Lakes Basin, and control programs should be of national scope in the two countries. The following concepts should be addressed in developing programs in the United States and Canada:

1. The Great Lakes jurisdictions should adopt compatible regulations for the classification, identification, transportation, and disposal of hazardous wastes. These regulations should:
 - (a) Establish a system of manifests to ensure governmental control of waste management and the protection of public health and the environment. Manifests should originate with the waste generator and accompany each shipment from its original production through its ultimate disposal or destruction.
 - (b) Require waste generators to identify their wastes, inform agencies of their plans for disposal, and obtain approval of disposal plans.
 - (c) Require that all those engaged in generation, transportation, storage, and disposal of hazardous waste provide bonds to ensure safe disposal of the waste.
2. All jurisdictions should develop procedures for the approval of processes for safe disposal of specific categories of waste and the location of low-risk sites for waste handling facilities.
3. Jurisdictions should identify manufacturing methods that result in waste products that are difficult or impossible to dispose of and, following that, require modification of such methods to eliminate or reduce the quantities of such wastes over specified time limits.
4. Each jurisdiction should specify a state or provincial agency to approve of sites for specific waste disposal processes and to publicly identify and explain the location of approved sites for safe disposal of each category of hazardous waste.
5. Feasibility studies to investigate acquisition and/or operation of government-owned disposal sites should be initiated.
6. All Great Lakes jurisdictions should cooperate on establishing international, strategically located, properly operated disposal sites.
7. Governments should discourage the imposition of bans on the transportation of hazardous wastes across jurisdictional or international boundaries by allowing unrestricted movements when carriers meet requirements of a proper waste manifest and have proof of advance approval by the receiving jurisdiction.
8. Great Lakes jurisdictions, in addition to receiving public comment, should engage in public education programs to stress that the use of approved methods and sites ensures safe, adequate hazardous waste disposal.

APPENDIX A: List of Laws by Jurisdiction

UNITED STATES FEDERAL LEGISLATION

The Resource Recovery and Conservation Act (RRCA) - EPA is authorized to develop regulations and guidelines for identification, handling, storage, and disposal of hazardous wastes. Under the act, the states have the authority to regulate disposal of hazardous wastes, but must operate in accordance with federally approved implementation plans. Permits would be required for every facility that handles hazardous waste.

CANADIAN FEDERAL LEGISLATION

There is no comparable legislation to the U.S. RRCA in Canada, however, Constitutional Authority exists for such legislation.

Pest Control Products Act and Environmental Contaminants Act both control some aspects of the hazardous waste situation.

ONTARIO

Environmental Protection Act

Ontario Water Resources Act

Environmental Assessment Act

Approval is required to establish and operate a waste management system and disposal site. Haulers are licensed and a manifest system is used for liquid industrial waste.

MICHIGAN

Liquid Industrial Waste Haulers Act

PCB Control Act

Solid Waste Control Act

Liquid industrial waste haulers are licensed and records submitted on a monthly basis.

MINNESOTA

Regulations are being developed.

NEW YORK

Certification Program for industrial waste haulers is operational.

PENNSYLVANIA

Clean Streams Law

Solid Waste Management Act

ILLINOIS

Environmental Protection Act

Licensing of liquid waste haulers is required.

INDIANA

Permit system for liquid waste disposal is in effect.

Solid Waste Law

OHIO

Solid Waste Disposal Act

Water Pollution Control Act

WISCONSIN

Hazardous Waste Control Act

Solid Waste Management Act

Water Quality Control Act

APPENDIX B: Case Histories of Disposal of Industrial Wastes

INDIANA

LOCATION

The facility is located near Columbus, Indiana.

TYPE OF FACILITY

The facility has multi-function waste treatment capability. Oil is reclaimed by gravity separation and acid and thermal cracking. Heavy metal contaminated waste are treated to precipitate metals followed by biological treatment and landfilling of sludges.

TYPE OF WASTE

Industrial waste including oily waste, acid, caustics, and heavy metals.

PUBLIC CONCERN

People in the area complained of strong odors from the facility. Symptoms described included eye, nose, throat irritation, nausea, headaches, sore joints and muscles. The odors were described as paint-like, oily, or rotten eggs. Studies were conducted by independent consultants and the U.S. EPA. The EPA test found no organics above established standards. One of the consultants suggested that the possibility existed of carcinogenic effects of exposure to the organics from the facility. In addition, the zoning problem was brought up and is being decided in the courts.

ACTION TAKEN

The facility began procedures to reduce the odors and decided that the facility would be moved to another location as soon as possible. The new facility is under construction and will open in the spring of 1978 at which time the Columbus facility will be closed. Chemical waste landfill will continue to operate.

LOCATION

Terre Haute, Indiana

TYPE OF FACILITY

Sanitary landfill in a strip mine area

TYPE OF WASTE

Conventional municipal waste and waste from the pharmaceutical manufacturer

PUBLIC CONCERN

Persons living near the landfill stated that it was a source of odor and potential underground contamination existed. Increased truck traffic was also complained of. None of the facilities producing the waste are located in the same county as the landfill and the county did not receive tax benefits from the generators of the waste.

ACTIONS TAKEN

Series of meetings were held between the local people, the state and local health officials, the landfill operators, and the industrial representatives. As a result of these meetings, efforts were made to reduce the odor problem. Delivery schedules were arranged to stop late night delivery. Water sampling was conducted by the health officials. Indiana Stream Pollution Control Board found that mine shafts at considerable depths beneath the landfill did not constitute the potential danger to groundwater. Generator of the waste began a program to reduce the amount of waste and to look for other means of disposal. No odor complaints have been received since corrective actions have been taken and the landfill continuous to meet the requirements of its permit.

ONTARIO

LOCATION

Hamilton, Ontario

TYPE OF FACILITY

A landfill

TYPE OF WASTE

Approximately 7 million gallons per year of industrial waste. The volume has increased substantially in the spring of 1976 when thermal degradation systems were closed down for economic reasons. The inorganic fraction of the waste going to the site is processed through an experimental solid-

ification plant and operated by the Laidlaw Group. The plant operates under the temporary certificate of approval and is designated as an experimental facility with its prime purpose being to develop information on the process so that the company may be in a position to make a formal application for approval.

PUBLIC CONCERN

ACTION TAKEN

This landfill is nearly filled and will cease operating sometime in 1979. A new site is being prepared but will not be allowed to handle liquid waste. When the Ottawa Street facility closes, alternative treatment and disposal facilities for liquid industrial waste in the Region of Hamilton/Wentworth will have to be found.

LOCATION

Beare Road in Scarborough

TYPE OF FACILITY

A landfill

TYPE OF WASTE

Garbage from the City of Toronto and 5 million gallons per year of liquid industrial wastes

PUBLIC CONCERN

The Metro Council declared the site could no longer accept liquid industrial wastes after December 31, 1977 because the landfill is essentially saturated with liquids which seep into collection ditches leading to a common sump. From the sump, this liquid is sprayed back on top of the landfill site.

ACTION TAKEN

At the request of the Ministry of the Environment, the site will remain open until the end of 1978. When the site finally closes, provisions will have to be made to treat the leachate which seeps from the site. The immediate problem is to provide alternative treatment and disposal facilities when the site is closed. Officials fear that without an approved site for disposal of industrial wastes, fly-by-night operators may dump these wastes into metropolitan sewers or into fields and swamps in the area. Residents in the area supported by their Council insist that the ban be upheld to curb abnoxious odors, gases, and the risk of toxic substances eventually reaching water system.

LOCATION

Mississauga, Ontario

TYPE OF FACILITY

A cement kiln

TYPE OF WASTE

Chlorinated organic hydrocarbons

PUBLIC CONCERN

Adverse public reaction was accompanied by demands that there be full scale public hearings on the proposal before the company be allowed to resume burning PCBs.

ACTION TAKEN

Experiments have been conducted at the cement kiln under the auspices of the Ontario Ministry of the Environment and Environment Canada. Burning of chlorinated organic hydrocarbons in a cement kiln would provide a source of chlorine for low alkali cement, would offer utilization of the fuel value, and provide a means of safely destroying and disposing of potentially hazardous materials. The experiments proved successful with no detection of PCBs in the kiln emissions. The company was therefore advised it could proceed with its proposed program, however, public reaction demanded that public hearings be held.

LOCATION

Township of North Gosfield

TYPE OF FACILITY

Disposal well in the Cambrian formation

TYPE OF WASTE

PUBLIC CONCERN

A public meeting was held to apprise the public of the proposal and to obtain their views. The proposal encountered strong public opposition and the developer did not proceed with application for approval.

LOCATION

Canboro

TYPE OF FACILITY

Disposal well in the Cambrian formation

TYPE OF WASTE

PUBLIC CONCERN

Following an application for approval, public meetings were held to inform the public of the proposal. Because of severe public reaction and costly delays in the early stages of the project, the company withdrew its application.

OHIO

LOCATION

Coshocton County, Ohio

TYPE OF FACILITY

Landfill in an abandoned strip mine

TYPE OF WASTE

Industrial waste including chlorinated hydrocarbons and inert solids

PUBLIC CONCERN

Following an application for landfill, a public meeting was held by the Ohio EPA. Public and local opposition included concerns about contamination of groundwater, health effects on neighboring communities, and the local nuisance associated with transportation of waste.

ACTION TAKEN

The developers did not proceed with the project.

MINNESOTA

LOCATION

Shakopee.

TYPE OF FACILITY

Thermal destruction using rotary kilns, liquid burners, and sludge incineration.

TYPE OF WASTE

Organic chemicals

PUBLIC CONCERN

Inadequate controls resulted in odors and air emissions, and the facility constituted a fire hazard.

ACTION TAKEN

After the company failed to install adequate air pollution control equipment, a court action allowed them to continue operation. However, temporary closure followed. After resuming operation again, the company had 30,000 fifty-five gallon drums of waste in its inventory. The company and the state entered into an agreement stipulating certain action to be taken by the company which it failed to do. The company was then shut down by court action.

LOCATION

Minnesota

TYPE OF FACILITY

Landfill - U.S. EPA demonstration grant for a chemical waste landfill facility

TYPE OF WASTE

Chemical

PUBLIC CONCERN

In 1975, the grant to the Minnesota Pollution Control Agency was announced. The project was intended to evaluate site selection, land disposal techniques, and citizen acceptance and education strategies. There was

resistance from all levels of government as well as the general public involving site collection criterion. In spite of early involvement, citizens felt more time was needed to evaluate specific sites if they were located in their areas.

ACTION TAKEN

Delays caused by public concern and proposed legislation that would prohibit consideration of any site, until a state hazardous waste management plan is completed, raise doubts that the grant will be continued.

MICHIGAN

LOCATION

Muskegon, Michigan

TYPE OF FACILITY

Chemical company with seepage lagoons and storage of waste in barrels

TYPE OF WASTE

Chemicals

PUBLIC CONCERN

Contamination of groundwaters in the vicinity

ACTION TAKEN

Groundwater contamination at this facility was first discovered in 1964. The contamination resulted primarily from past discharges to seepage lagoons. Buried sludges and improperly stored and decaying barrels of wastes continue to add to the contamination. In July 1976, the Story Chemical Corporation entered into Chapter XI bankruptcy with the court supervising all transactions. The company operated on a limited basis. There was no direct discharge to surface water. Process wastewater was discharged to the Muskegon County Wastewater System.

A groundwater interception and purge system had been installed by Story's predecessors, Ott Chemical Company, and the contaminated groundwaters were purged for several years. Shortly after purchasing the facility in 1973, Story Chemical stopped operating the purge system without notifying the state. Story Chemical was adjudicated bankrupt in August 1977, leaving a massive environmental contamination problem.

The Michigan Legislature has appropriated 1.27 million dollars for site clean-up and construction of a temporary water supply system to serve affected residences.

LOCATION

Muskegon, Michigan

TYPE OF FACILITY

Seepage lagoon

TYPE OF WASTE

Chemical manufacturing of several types of compounds. Process wastewaters were discharged to seepage lagoons for approximately 13 years following the opening of this facility in 1963. Operations at this facility have included the manufacture of several types of compounds over the years: saccharin, dichlorobenzidine, detergents, and pesticides such as Thimet, Avenge, Prowl, and Cytrolane. There is no direct surface discharge from this facility. All process wastes are discharged to the Muskegon County system.

PUBLIC CONCERN

Contamination of groundwaters and the discharges through Big Black Creek.

ACTION TAKEN

During the fall of 1976, the Michigan Department of Natural Resources conducted a caged fish study in the creek. One hundred (100) percent mortality was achieved up to six miles downstream of the facility. The conditions, however, were aggravated from contaminated sludges entering the river from one of the old lagoons due to a dike failure. The company removed the contaminated sediments from the creek to one of the other lagoons. The company has been ordered to conduct an extensive groundwater study to determine the extent of contamination and to take corrective action. The study has shown that the contamination is advancing toward the creek along a front which is approximately 2,200 feet wide and extends down to an impermeable clay layer at approximately 95 feet. The contamination has in fact migrated underneath the creek and extends at least 250 feet on the opposite side of the creek. The downstream extent of the contamination has not yet been defined. However, further evaluation is proceeding by the company.

The company has designed and initiated the installation of a purge system which will consist of eight 8"-wells drilled to the clay barrier to form an interception barrier. Purged groundwaters are being discharged to the Muskegon County Wastewater Management System.

The state filed suit against this company in early 1978.

LOCATION

Michigan

TYPE OF FACILITY

A waste treatment center

TYPE OF WASTE

Sodium formate

PUBLIC CONCERN

On approximately April 15, 1977, Systech Waste Treatment Center reported approximately 500,000 gallons of sodium formate missing from storage. The sodium formate was the property of Lakeway Chemicals.

The Systech Waste Treatment Center is located at an abandoned wastewater treatment plant. The sludge digesters were not in use and the crude sodium formate was placed in them for temporary storage awaiting reclamation. Upon checking records, it was learned that approximately 500,000 gallons were missing and presumed to be in the ground. A single test well confirmed this.

ACTION TAKEN

The company has installed a groundwater purging system and is pumping groundwater to the Muskegon County Wastewater Management System.

LOCATION

Montague, Michigan

TYPE OF FACILITY

Equalization basin and a sludge lagoon on the property of Hooker Chemical Company.

TYPE OF WASTE

This facility manufactured chlorinated hydrocarbons, chlorine, and sodium hydroxide.

PUBLIC CONCERN

Hooker initiated a groundwater study in September 1976. The study has shown the groundwater to be highly contaminated with chlorides and chlorinated hydrocarbons. Groundwater migration towards White Lake is causing contaminants to discharge to the lake.

ACTION TAKEN

Problems with surface water discharges from the facility have been solved by the company's decision to terminate production. In order to correct the groundwater problem, Hooker will be required to do extensive site clean-up and groundwater purging.

LOCATION

Montcalm County

TYPE OF FACILITY

Landfill operation

TYPE OF WASTE

In August 1976, Approved Industrial Removal, a licensed liquid industrial waste hauler, placed a 10,000 gallon tank in the ground at the landfill and placed approximately 5,000 gallons of C-56 in it. Subsequently, a 5,500 gallon tank truck was buried at the landfill and 3,000 gallons of C-56 was placed in the tank.

PUBLIC CONCERN

This was done without the consent or knowledge of the MDNR. This matter came to the attention of the MDNR in April, 1977.

ACTION TAKEN

The tank contents were removed and returned to Hooker for storage and subsequent incineration. Contaminated soil was removed and placed in drums, a total of 150 drums, for disposal at a Wayne County disposal site approved by the MDNR. The tanks have been subsequently removed and hauled to an incinerator in Arkansas.

LOCATION

Richmond, Michigan

TYPE OF FACILITY

Seepage lagoons on the property of a plating manufacturer

TYPE OF WASTE

Hexavalent chromium

PUBLIC CONCERN

Groundwaters have been contaminated by discharges of improperly treated wastewaters to seepage lagoons. Several residential wells were affected.

ACTION TAKEN

The state filed a complaint in the Circuit Court for Kalamazoo County on July 6, 1977. The complaint seeks an immediate injunction requiring the company to terminate its discharges; provide potable water for those residences affected; conduct an extensive groundwater study to determine the extent of contamination; and implement a corrective action program as appropriate.

LOCATION

Gratiot County

TYPE OF FACILITY

County-owned landfill

TYPE OF WASTE

In the early part of 1977, the MDNR learned from the U.S. EPA, Region V Office that the Michigan Chemical Corporation located in St. Louis, Michigan had disposed of an estimated 269,000 lbs. of waste materials containing Firemaster BP-6 (hexabromobiphenyl) into the Gratiot County landfill during the period between 1971 and 1973. According to the Michigan Chemical Corp. (presently Velsicol) report, 269,000 lbs. of waste materials disposed in the county landfill contained 60 to 70 percent (161,400 to 188,300 lbs.) polybrominated biphenyls. Also, dredged sediments from the Pine River containing PBBs was also placed along the SW border of the landfill.

PUBLIC CONCERN

In view of the above information, the MDNR immediately began Phase I of the hydrogeological investigation of the landfill site and adjoining properties. This investigation was conducted in order to assess any damages and/or the potential for the contamination of ground and surface waters of the area and attempted to locate PBB wastes in the landfill with the help of test borings and sediment analyses. Initially, the county would not let the MDNR on the property to make test borings. This problem has since been resolved.

Phase I of the hydrogeological investigation was recently completed with the help of a consultant. The MDNR staff is presently in the process of compiling the final report. General geological and hydrological information was gathered by numerous test borings and installing groundwater observation wells at several locations.

ACTION TAKEN

Additional groundwater studies will be undertaken to better define the extent of contamination and integrity of the clay barriers. The EPA has provided the state a \$70,000 grant to conduct such studies.

Based on study results, remedial measures to abate surface discharges and groundwater contamination will be implemented by the county.

LOCATION

Detroit, Michigan

TYPE OF FACILITY

Cement kiln at Peerless Cement Company

TYPE OF WASTE

Liquid PCBs

PUBLIC CONCERN

PCBs (polychlorinated biphenyls) were recently banned nationwide by the Federal Toxic Substances Control. High temperature incineration of liquid PCBs is required by law yet only 3 or 4 incinerators are available nationwide which meet the required specifications. An inventory conducted in Michigan showed 22 million pounds of PCBs will require destruction by Michigan users yet no adequate incineration facility exists within 1000 miles. Studies at St. Lawrence Cement Company, Mississauga, Ontario, showed that cement kilns are ideal for the destruction of PCBs, far surpassing minimum requirements and actually deriving benefits from the destruction products. Upon hearing of the successful tests at Mississauga, Peerless Cement Company, located in the industrial southwest area of Detroit, Michigan, began communications with Michigan authorities toward obtaining necessary permits to burn PCBs in their large kiln. A permit application was submitted to the Wayne County Health Department Air Pollution Control Division in April, 1976 and a permit to run a test burn was issued in November, 1976. A successful test burn was completed in December and an application for full operation followed in February, 1977. Extensive negotiations occurred between the company and Wayne County Air Pollution Control Division and a public hearings was held regarding the permit conditions.

Supportive statements were made by the U.S. EPA, Michigan DNR, the American Lung Association of Southeastern Michigan, the Environmental Health Division of the Wayne County Health Department and other professionals. Yet strong opposition voiced by the local residents and the City of Windsor, Ontario have successfully blocked the project.

ACTION TAKEN

The Detroit City Council has strengthened their forces against the project by passing a city ordinance forbidding such an operation.

PENNSYLVANIA

LOCATION

Greene Township, Erie County

TYPE OF FACILITY

Industrial waste landfill

TYPE OF WASTE

The types of material involved are wood residuals, waste pulp, pulp sludge, lime mud (hazardous), fly ash (hazardous), and miscellaneous wastes. The volume is 400 tons of material per day. There is no leachate treatment.

PUBLIC CONCERN

The two main issues raised by the public were potential pollution of water supply and local zoning restrictions.

ACTION TAKEN

This case was heard before the Pennsylvania Environmental Hearing Board who sustained the Department of Environmental Resources action in issuing a permit. However, the case was taken to a county court which upheld the zoning issue. There is no final disposition of this case yet, as it is still in litigation between the protesting groups and Hammermill.

It is interesting to note that the protesting parties include five legislators and congressmen, eight citizen groups, supervisors from three different townships and three newspapers.^c It involved one hundred protest letters.

LIST OF ATTENDEES

SPECIAL MEETING ON HAZARDOUS INDUSTRIAL WASTE DISPOSAL

NOVEMBER 30, 1977

Affiliation

Water Quality Board Members:

G. R. Alexander, Jr.	U.S. EPA, Region V, Chicago (U.S. Chairman)
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