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# **NIAGARA RIVER ACTION PLAN**

**August 1987 Update**

**United States  
Environmental Protection Agency  
Region II  
in conjunction with  
New York State  
Department of Environmental Conservation**

# **NIAGARA RIVER ACTION PLAN**

Prepared By

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
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in Conjunction with

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# U.S. ENVIRONMENTAL PROTECTION AGENCY

## NIAGARA RIVER ACTION PLAN

### UPDATE

AUGUST, 1987

### INTRODUCTION

The 37-mile Niagara River, flowing northward from Lake Erie to Lake Ontario and forming the international boundary between the U.S. and Canada, is a major source of water for industry, for municipalities and for power generation. The quality of its waters has a significant impact on the quality of Lake Ontario. The Niagara Frontier is a significant center of population, industry and tourism. The Niagara area has therefore long been a focus of major concern and commitment for U.S. environmental agencies at both the state and federal levels.

This commitment is reflected first in the massive investment made by all levels of government in municipal wastewater collection and treatment. Under the Federal *Clean Water Act*, passed in 1972, EPA has provided over \$550 million to build these systems, and New York State and local governments have contributed a like amount. As a result, all the U.S. municipalities that discharge into the Niagara River have operating secondary treatment plants. These include advanced designs at Amherst, North Tonawanda and Niagara Falls to account for heavy industrial flows. The Niagara Falls plant has come back into full operation, thanks to special EPA funding of \$14 million, and is removing an additional 300 lb./day of priority pollutants from the river.

Also under the *Clean Water Act*, EPA and the New York State Department of Environmental Conservation (NYSDEC) have issued discharge permits that limit the flow of pollutants from all significant industrial and municipal point sources. The first round of these permits concentrated on "conventional" pollutants (oil and grease, solids, BOD, etc.). Over recent years the permits have all been revised in a second round to concentrate more on the reduction of chemical discharges. The permit program is backed up by an annual inspection and enforcement schedule. All six municipalities (Buffalo, Tonawanda, Amherst, North Tonawanda, Niagara County, City of Niagara Falls) along the Niagara have prepared and begun to enforce industrial pretreatment programs designed to reduce the discharge of chemicals by industries directly into municipal systems.

As a result of these point source programs, there has been a marked decline in environmental contamination in the Niagara Frontier in the last few years. Where environmental or public health standards exist or are proposed, they are being met.

However, increased sophistication in analytical techniques, coupled with problems like those at Love Canal, has produced awareness and concern over low levels of toxic chemical contamination. To respond to these concerns, EPA and NYSDEC have developed a multifaceted program directed at toxics. Point sources are addressed through the *Clean Water Act* programs described above. Nonpoint sources are addressed through the *Resource Conservation and Recovery Act* (RCRA), which regulates existing hazardous waste operations; the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA, or Superfund) as amended in October of 1986, which covers the investigation and control of abandoned sites; and the *Clean Water Act* (revised in January of 1987), which addresses nonpoint sources of water pollution.

Under RCRA, seventeen existing active hazardous waste operations on the Niagara Frontier have been brought under interim regulation. They are now all in various stages of the final permit or closure process.

Under CERCLA, EPA and NYSDEC are using a combination of federal, state and industry resources to investigate abandoned sites and carry out cleanup or control measures. All 61 sites of concern listed in the NRTC Report, have been or are being investigated, and remedial work is underway at several.

EPA has allocated approximately \$2 million to the NYSDEC for state-wide site investigations to supplement funds allocated by the state for similar purposes.

At four major sites alone in Niagara Falls (Love Canal, Hyde Park, S-Area and 102nd St.) EPA has already obligated over \$55 million from Superfund for technical studies, investigations, and remedial activities.

In addition, private party site remediations now being conducted under Federal Court Consent Agreements are expected to cost over \$50 million each at Hyde Park and S-Area.

In summary, EPA, NYSDEC and local governments have invested over \$1 billion to date in ongoing environmental programs along the Niagara Frontier. These programs constitute a comprehensive, integrated, ongoing commitment that will continue to total in the tens

of millions of dollars per year. Both EPA and NYSDEC are committed to carry on these programs until the environment, public health and international waterways are protected to the full extent required by law and international agreement.

The *Niagara River Toxics Committee Report*, issued in November, 1984, identified gaps in our knowledge of the contamination in the river, and the effectiveness of control programs. EPA developed several new initiatives to fill in these gaps, in cooperation with the NYSDEC. These initiatives were announced in May of 1985. The initiatives, coupled with the ongoing programs discussed above, constituted EPA's *Action Plan* for the Niagara River, which was published in May of 1986.

In February of 1987, EPA and the NYSDEC entered into a unique bi-national relationship with our counterpart agencies in Canada, namely Environment Canada and the Ontario Ministry of the Environment. The *Declaration of Intent* signed by the heads of the four agencies, coupled with a detailed and comprehensive workplan, constitutes the *Niagara River Toxics Management Plan*. That plan provides the framework under which all four agencies are working in a coordinated and cooperative manner on the Niagara River.

The *Niagara River Action Plan*, as updated in this August 1987 report, reflects the status of specific environmental studies and regulatory programs being undertaken on the U.S. side of the Niagara River to address pollution problems in the area.

**SECTION I**

**NIAGARA RIVER ACTION PLAN**

## THE ACTION PLAN

The *Niagara River Action Plan* consists of the several major programs the Environmental Protection Agency, in conjunction with the New York State Department of Environmental Conservation, has already ongoing under the *Clean Water Act*, the *Resource Conservation and Recovery Act*, and the *Comprehensive Environmental Response, Compensation and Liability Act*, combined with a number of special initiatives to respond to gaps identified in the report of the *Niagara River Toxics Committee* (NRTC).

NYSDEC is the lead agency for carrying out most environmental programs, both state, and also federal (under delegations from EPA), on the Niagara Frontier.

## ACTION PLAN GOALS

The EPA Action Plan is designed to:

- ensure continued progress in the identification, control, and reduction of point source discharges of toxics into the Niagara River;
- ensure continued identification, investigation and control of nonpoint discharges of toxics into the Niagara River;
- improve current and future understanding of the ambient levels of toxics in the Niagara River and its environs, and to assess accurately the risks posed by those levels;
- enhance communication and cooperation among U.S. and Canadian agencies charged with protecting the environment along the Niagara.
- combine the four preceding objectives into a coordinated plan for achieving specific reductions in toxic chemical loadings to the Niagara River within specified timetables in accordance with U.S. laws and standards for protecting public health and the environment and with U.S. obligations under the *Great Lakes Water Quality Agreement*.



## ACTION PLAN COMPONENTS

### Point Source Control

The NRTC identified nine major U.S. point source dischargers, both industrial and municipal. Their combined discharge of EPA priority pollutants, based on 1982 data reported by the NRTC, was estimated as 2488 lb/day. Based on upgradings, control programs and shutdowns, that total has been reduced considerably.

EPA/DEC actions taken to deal with point sources of pollution consist of the following:

**SPDES Permits**— NYSDEC and EPA have reviewed State Pollutant Discharge Elimination System permits for all major industrial dischargers, and DEC has reissued them with stricter controls on the discharge of toxics.

**Point Source Monitoring**— New York State DEC, under *Clean Water Act* delegation, carries on a continuing compliance monitoring program for point sources on the Niagara River. During FY 86, EPA worked with DEC to carry out enhanced compliance inspections at selected dischargers.

**Industrial Pretreatment Program** — EPA and NYSDEC have reviewed, and EPA has approved, local industrial pretreatment programs for the six U.S. municipal treatment plants on the Niagara. Developed under the *Clean Water Act*, these plans require industries to reduce toxic discharges to municipal sewerage systems. They are being enforced by the municipalities.

EPA, working with DEC, developed a contractor-supported technical assistance program for the municipalities in FY-86 to improve the administration and enforcement of these pretreatment programs.

Section II provides the status of nine major U.S. point source dischargers and implementation schedules for six municipal pretreatment programs.

### **Nonpoint Source Control**

Toxic contamination of ground and surface water from nonpoint sources such as former and existing hazardous waste landfills, is recognized as a significant problem in the Niagara Frontier. Both EPA and DEC have given high priority to the identification and mitigation of inactive sites through the federal and state superfund programs. Operating hazardous waste facilities are being controlled through the *Resource Conservation and Recovery Act* and state hazardous waste disposal regulations. In addition, traditional non-point sources of pollution such as stormwater runoff are being identified and addressed.

EPA/DEC nonpoint source control activities consist of the following:

**Site Investigation and Remedial Programs**— The NRTC report identified 61 sites as potential sources of ground or surface water contamination. These sites have been or are being investigated through a joint EPA / NYSDEC site assessment program and, where needed, they are scheduled for remedial work.

Estimates of the loadings of toxic chemicals to the Niagara River from selected sites are now being prepared for EPA and a report on these estimates will be ready in a few months.

Appendix A provides an up to date status of the 61 hazardous waste sites listed in the NRTC Report.

**Active Site Control**— There are seventeen hazardous waste management facilities in the Niagara Frontier. EPA and DEC have requested Part B permit applications from all of them under RCRA. All are now in various stages of the permit or closure process.

Appendix B provides status reports on these facilities.

**Groundwater Hydrogeology**— One problem hampering the characterization and control of hazardous waste nonpoint sources is the complex geology of the Niagara region. To help address this problem, EPA is developing site-specific and areawide groundwater models through its CERCLA contractors and through the creation of a special hydrogeology model being prepared for EPA by the U.S. Geological Survey.

Section III provides a detailed description of this project.

**Stormwater Runoff-** During FY 86-88 EPA is carrying out a project to investigate the contribution of toxics in stormwater runoff from industrial facilities. A contractor has identified potential sites, and EPA's Great Lakes National Program Office (GLNPO) is conducting a site specific demonstration program. The results of this project will help define the need for future control measures.

EPA and NYSDEC are planning additional work in FY 88 to identify any other potential non-point sources of surface and groundwater contamination.

#### **Long Term Monitoring Programs**

The NRTC identified the need for specific long-term ambient and source monitoring programs to assess trends in toxic contamination, the effectiveness of control programs, and the need for modifications or additions to those programs.

EPA is working with NYSDEC and counterpart Canadian agencies to develop mutually acceptable sampling and analytical protocols and methods for interpreting data. These efforts are forming the basis for determining, where possible, the estimated net contribution of chemicals to the Niagara River, and to measure long term differences in loadings of these chemicals to the river.

#### **Integrated Enforcement**

One of EPA's primary missions is the enforcement of national laws to control pollution in its many forms, and thereby protect public health and the environment. The Niagara Area, because of its industrial diversity and the high flow rate of the Niagara River, presents a unique set of pollution regulatory problems, particularly with respect to extremely low levels of toxic chemical contamination. EPA and NYSDEC have recognized the need to develop enhanced data management tools and integrated enforcement strategies to help deal with these problems.

**Regulatory Coordination-** EPA has put into place an internal management structure to coordinate Niagara enforcement programs across all media lines. Under this system, Region 2's Niagara Frontier Program Manager, together with representatives from each regional program and the Office of Regional Counsel, are

continually reviewing source-specific and areawide pollution control programs in the Niagara area to ensure maximum effectiveness and to address potential delays or conflicts in strategies. The region coordinates these activities with NYSDEC and with EPA Headquarters.

**Computer Tracking System**— EPA designed a special computer program to assist in the management and tracking of all significant or potential pollution problems in the Niagara Frontier, identified both through the NRTC report and other information sources, which may require EPA or State action. The data base is maintained by EPA with the assistance of NYSDEC.

### **Research and Development**

EPA's Office of Research and Development provides a variety of programs and activities which support the agencies efforts in the Niagara Frontier in both a direct and indirect manner. A considerable amount of resources are being expended on research projects to better define which pollutants may be in need of more rigorous control (and at what levels to ensure public health and protection of the environment), and to develop improved sampling and analytical methods. In addition, improved pollution control techniques and innovative remediation technologies are being tested and evaluated.

Section IV summarizes developments in national water quality criteria. These criteria present scientific data and guidance on the environmental effects of pollutants which are useful in deriving regulatory requirements based on considerations of water quality impacts. This summary has been updated to reflect Agency recommendations on acceptable limits for aquatic life and human health protection.

Section V lists research and development activities being undertaken by EPA which have a bearing on pollution control problems on the Niagara Frontier.

### **Toxic Loading Reductions**

The main purpose of EPA's *Niagara Action Plan* is to reduce the discharge of persistent organic chemicals to the river. Such reductions are not only required by U.S. environmental laws, but also by the *Great Lakes Water Quality Agreement*, and now by the U.S./Canadian *Niagara River Toxics Management Plan*.

Special reports have recently been, or are being, completed which will provide more recent detailed data on the actual loadings to the river from point sources and estimated loadings from hazardous waste sites. These reports will be available by the end of the year.

### Resource Commitment

As described in the Introduction, EPA has maintained a strong commitment of dollars and staff time in the Niagara area for a number of years, with Federal investment in pollution control programs now totalling over \$600 million. This ongoing support for routine environmental programs will continue, primarily through program support grants for NYSDEC and the New York State Department of Health (which, on a statewide basis, totalled \$20 million for Fiscal Year 1986).

In addition, EPA's regional staff will continue to devote the internal resources required to support this work. It is estimated that direct staff support for Niagara activities now totals approximately 51 workyears per year, of which 34 work years are in Region 2 and the balance split among headquarters and other field programs. This is equivalent to approximately \$2.3 million per year, not including indirect costs, such as laboratory and contractor support for the many field investigations and analytical studies which take place each year in the Niagara area.

### Communications and Management

EPA recognizes the need for integrated management of its various programs on the Niagara Frontier. The agency also recognizes the need for timely and complete exchange of information with counterpart Canadian agencies and the need to communicate fully with the public on both sides of the border.

The following mechanisms have been established to support these activities:

**Management**— EPA's Region 2 office has the lead responsibility for the agency's Niagara programs. The Regional Administrator has appointed a Niagara Frontier Program Manager (NFPM) who reports directly to him and, through him, to the EPA Administrator. The NFPM is responsible for coordinating Niagara programs within Region 2, with other EPA offices (including the Great Lakes National Program Office and the Office of Research and Development), with NYSDEC and with the Canadian agencies.

**Communication**— In 1985 EPA Region 2 established an Information Office in Niagara Falls, New York, to facilitate information exchange with the public and Canadian agencies. Public meetings and press briefings also are held from time to time in order to convey information about EPA programs, and to elicit comments on our activities.

**Progress Reports**— EPA Region 2 will continue to issue periodic status reports on the *Niagara Action Plan*.

EPA's *Niagara River Action Plan* should be regarded as a dynamic document. The Agency will continue to review and update it annually.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
SUMMARY OF RESOURCES DIRECTED TO THE NIAGARA RIVER AREA

Workyears (approximate) FY '87

Region II	34
Other EPA Components	<u>17</u>
Total Workyears of Effort	51

CERCLA (Superfund)

Estimated Funds Obligated Under Superfund (to date) for Enforcement and Remediation of Sites.	\$ 55,000,000
Estimated Private Party Clean-up Costs	\$ 100,000,000
USGS Hydrologic Model of Niagara Falls	\$ 2,000,000

Clean Water Act

Estimated Funds Obligated Under <i>Clean Water Act</i> for Construction of Wastewater Treatment Facilities (to date)	\$ 550,000,000
Special Projects in Water Pollution Assessment and Control for the Niagara Area	\$ 175,000

Research and Development

Ongoing Research and Development multi year efforts (nationwide) directly or indirectly related to problems in the Niagara River Area	\$ 112,539,100
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NYSDEC staffing, funding, and EPA program support grants for Niagara Area activities are not included in the above estimates.

**SECTION II**

**A. STATUS OF NINE MAJOR U.S. POINT  
SOURCE DISCHARGERS**

**B. IMPLEMENTATION SCHEDULE FOR SIX  
MUNICIPAL PRETREATMENT PROGRAMS**

STATUS OF NINE MAJOR U.S. POINT SOURCE DISCHARGERS

SUMMARY OF CONTROL MEASURES SINCE 1982

<u>FACILITY (Permit No.)</u>	Reduced Operations	Facility Closure	In-House Controls Instituted	Flow Reduction	New/Upgraded Treatment Facilities	Permit With Toxic Limitations
Buffalo Sewer Authority WWTP (NY0028410)				x	x	10/1/85
Niagara Falls WWTP (NY0026336)					x	11/1/82
Bethlehem Steel Corp. (NY0001368)	x		x	x	x	7/1/84
Niagara Mohawk Power (NY0001023)			x		x	7/1/82
Olin Corp. (NY0001635)			x		x	3/1/83
Spaulding Fibre Corp. (NY0002364)			x		x	5/1/84
Town of Tonawanda WWTP (NY0026395)						6/1/83
Town of Amherst WWTP* (NY0025950)						8/1/85
Donner-Hanna Coke (NY0003310)		x				_____

\* New secondary treatment plant completed prior to NRTC Report.  
Facility has been in continual compliance with permit limits.



# SUMMARY OF CONTROL MEASURES SINCE 1982

## FACILITY (Permit No.)

## Comments

Buffalo Sewer Authority WWTP  
(NY0028410)

WWTP upgraded in 1982-83 per Consent Order. Sewer repairs and infiltration study to reduce flows are ongoing, as well as, combined sewer overflow study. Facility has been in compliance with permit limits, since end of 1985 excluding short term problems.

Niagara Falls WWTP  
(NY0026336)

Carbon beds went on-line 8/1/85. Facility is now in compliance with permit limits.

Bethlehem Steel Corp.  
(NY0001368)

Basic steel and coking operations closed in 1983. In-house controls (Best Management Plans, reduced acid dumps, increase use of polymers) instituted. Water recirculation has reduced discharge to approximately 1-2 hours/week.

Niagara Mohawk Power  
(NY0001023)

New WWTP (coal pile runoff and demineralizer wastes) is in full operation. In-house controls consisted of piping and plumbing changes. Facility has, for the most part, been in compliance with final permit limits since early in 1986.

Olin Corp.  
(NY0001635)

Carbon beds were installed 7/84. In-house controls include tighter controls to prevent chemical spills/loses. Toxics organic load reduced >90%.

Spaulding Fibre Corp.  
(NY0002364)

Remedial controls initiated throughout 1983-84. In house controls included piping changes and tighter process control. Zinc concentration system was upgraded in 1984 and has shown 50% increase in efficiency. Facility in compliance with permit limits since 7/85.

Town of Tonawanda WWTP  
(NY0026395)

Facility in compliance with permit limits.

Town of Amherst WWTP  
(NY0025950)

Facility in compliance with permit limits.

Donner-Hanna Coke  
(NY0003310)

Facility shut down. No current discharge.

PRETREATMENT PROGRAM IMPLEMENTATION SCHEDULE

Program Elements

	<u>POIWs</u>					
	<u>Buffalo Sewage Authority</u>	<u>Town of Tonawanda</u>	<u>Town of Amherst</u>	<u>Niagara Co. S.D. No. 1</u>	<u>City of No. Tonawanda</u>	<u>City of Niagara Falls</u>
Program Approval Date	9/11/84	2/28/85	9/28/84	9/26/84	7/17/84	5/08/85
SPDES Permit Modified	10/1/85	6/20/85	7/23/85	Pending	8/23/85	11/1/82
Total SIUs (All Permits Issued)	173	6	3	4	4	34
Dates for Issuance of all SIU Permits	12/31/85	4/1/86	9/1/86	3/3/87	3/31/86	12/3/85
SIUs in Compliance with Fed. & Local Limits	172	6	3	4	4	34
Program Elements in Place:						
-Manpower	x	x	x	x	x	x
-Funding Mechanism	x	x	x	x	x	x
-Enforcement Procedures	x	x	x	x	x	x
-Sampling & Monitoring Procedures	x	x	x	x	x	x
-Computerized (Manual) Data System	x	x	x	x	x	x

SIU - Significant Industrial User  
(needs pretreatment permit).

**SECTION III**

**UNITED STATES GEOLOGICAL SURVEY-  
HYDROGEOLOGY STUDY OF NIAGARA FALLS, NY**

## **HYDROLOGY OF THE NIAGARA FALLS AREA**

The U.S. Geological Survey signed an interagency agreement with EPA to develop a unique areawide geohydrologic study and groundwater flow model for the Niagara Falls area of New York State. Funding for this five year project is being provided by EPA.

**Phase I**     \$ 200,000 (completed in FY 87)

**Phase II**    \$ 850,000 (ongoing through FY 89)

Estimated Total Project Cost - \$2,000,000

### **Purpose and Scope**

The purpose of this study is to determine the hydrology of the Niagara River basin in the area of Niagara Falls, New York and investigate factors that control movement of ground water to the Niagara River. The scope of the project includes the determination of natural boundaries of the ground water flow system and the development of a three-dimensional subregional ground water flow model(s) of selected portions of the project area to serve as a hydrologic framework for modeling efforts included in future site-specific studies. The subregional model(s) will be three-dimensional and cover areas of primary concern to EPA at a scale appropriate to serve as a hydrologic base for site-specific models. The models will extend to natural hydrologic boundaries where possible.

Boundaries of the subregional flow model(s) will be defined using collected hydrogeologic and water quality information, and results of conceptual models. Investigation of processes controlling ground water quality will be used to corroborate flow rates between aquifers determined by flow models. These investigations will yield information on flow directions and rates of flow, and identify the important geochemical reactions.

### **Objectives**

The primary objectives of this study are to:

1. Define the surficial geology, including the type and thickness of unconsolidated deposits.
2. Define the bedrock geology, including stratigraphy, structure, and thickness, with special emphasis on identifying fractured and massive zones.
3. Determine hydrologic properties of the bedrock, including hydraulic conductivity and thickness of water bearing units.

4. Define areas of recharge and discharge.
5. Determine direction and rate of ground water movement in the bedrock and identify deep and shallow ground water flow systems in surficial and bedrock aquifers. Special emphasis will be on determining the extent of groundwater underflow below the Niagara River along the reach between the cities of North Tonawanda and Niagara Falls, and Grand Island.
6. Develop a large scale three-dimensional ground water flow model(s) to provide boundary conditions for ground water models prepared in future site-specific studies.
7. Describe background ground water quality of the significant ground water flow system(s) and identify the major chemical reactions controlling natural ground water quality.

#### **Approach**

The project consists of four (4) phases.

**Phase I** is the collection of available hydrogeologic data such as well logs and aquifer tests. Data is used to describe the quality of the groundwater and to develop a conceptual regional groundwater flow model (12 months).

**Phase II** involves field investigations, well drilling, development of a geochemical model and a 3-dimensional groundwater flow model (24 months).

**Phase III** entails the calibration and sensitivity analyses of the groundwater model. Model results will provide estimated flow to the Niagara River, beneath the Niagara River and vertically from one bedrock aquifer to another (12 months).

**Phase IV** is the preparation of final reports. Basic reports include a description of groundwater hydrology in the aquifers, a description of the groundwater flow model and a description of water quality of aquifers and changes occurring naturally in the groundwater system (12 months).

**SECTION IV**

**WATER QUALITY CRITERIA SUMMARY**

C	A	R	C	H
P	O	L	I	
P	R	I		

[illegible]

WATER QUALITY CRITERIA SUMMARY - Continued

WATER QUALITY CRITERIA SUMMARY - Continued											
	C P R L I O R T O I A G T N E Y T N	CONCENTRATIONS IN ug/L					UNITS PER LITER				# STATES WITH AQUATIC LIFE STANDARD
		FRESH ACUTE CRITERIA	FRESH CHRONIC CRITERIA	MARINE ACUTE CRITERIA	MARINE CHRONIC CRITERIA	WATER AND FISH INGESTION	FISH CONSUMPTION ONLY	DRINKING WATER M.C.L.	DATE/ REFERENCE		
CHLORO-4 METHYL-3 PHENOL	N N	*30.							1980 FR		
CHROMIUM (HEX)	Y N	16.	11.	1,100.	50.	50.ug		0.05mq	1985 FR	24	
CHROMIUM (TRI)	N N	1,700.+	210.+	*10,300.		170.mg	3,433.mg	0.05mq	1985 FR	24	
COLOR	N N	NARRATIVE STATEMENT-SEE DOCUMENT							1976 RB		
COPPER	Y N	18.+	12.+	2.9	2.9	200.ug			1985 FR	20	
CYANIDE	Y N	22.	5.2	1.	1.	0.024ng**	0.024ng**		1985 FR	23	
DDT	Y Y	1.1	0.001	0.13	0.001				1980 FR	16	
DDT METABOLITE (DDE)	Y Y	*1,050.		*14.					1980 FR		
DDT METABOLITE (TDE)	Y Y	*0.06		*3.6					1980 FR		
DEMETON	Y N		0.1		0.1				1980 FR		
DIBUTYL PHTHALATE	Y N					35.mg	154.mg		1976 RB		
DICHLOROBENZENES	Y N	*1,120.	*763.	*1,970.		400.ug	2.6mq		1980 FR	1	
DICHLOROBENZIDINE	Y Y					0.01ug**	0.020ug**		1980 FR	1	
DICHLOROETHANE 1,2	Y Y	*118,000	*20,000.	*113,000		0.94ug**	243.ug**		1980 FR	1	
DICHLOROETHYLENES	Y Y	*11,600		*224,000		0.033ug**	1.85ug**		1980 FR	1	
DICHLOROPHENOL 2,4	N N	*2,020.	*365.			3.09mg			1980 FR	1	
DICHLOROPROPANE	Y N	*23,000.	*5,700.	*10,300	*3,040.				1980 FR	1	
DICHLOROPROPENE	Y N	*6,060.	*244.	*790.		87.ug	14.1mq		1980 FR	1	
DIELDRIN	Y Y	2.5	0.0019	0.71	.0019	0.071ng**	0.076ng**		1980 FR	16	
DIETHYL PHTHALATE	Y N					350.mg	1.8g		1980 FR		
DIMETHYL PHENOL 2,4	Y N	*2,120.							1980 FR		
DIMETHYL PHTHALATE	Y N					313.mg	2.9g		1980 FR		
DINITROTOLUENE 2,4	N Y					0.11ug**	9.1ug**		1980 FR		
DINITROPHENOLS	Y N					70.ug	14.3mq		1980 FR		
DINITROTOLUENE	N Y	*330.	*230.	*590.	*370.				1980 FR	1	
DINITRO-O-CRESOL 2,4	Y N					13.4ug	765.ug		1980 FR		
DIOXIN (2,3,7,8-TCDD)	Y Y	*<0.01	<0.00001			0.000013ng**	0.000014ng**		1984 FR	1	
DIPHENYLHYDRAZINE	Y N					42.ng**	0.56ug**		1980 FR	1	
DIPHENYLHYDRAZINE 1,2	Y N	*270.							1980 FR		
DI-2-ETHYLHEXYL PHTHALATE	Y N					15.mg	50.mg		1980 FR		
ENDOSULFAN	Y N	0.22	0.056	0.034	0.0087	74.ug	159.ug		1980 FR	10	
ENDRIN	Y N	0.18	0.0023	0.037	0.0023	1.ug		0.0002mq	1980 FR	18	



# WATER QUALITY CRITERIA SUMMARY - Continued

O U N T O I A G T N E Y T N	CONCENTRATIONS IN ug/L					UNITS PER LITER				DATE/ REFERENCE	# STATES WITH AQUATIC LIFE STANDARD	
	FRESH ACUTE CRITERIA	FRESH CHRONIC CRITERIA	MARINE ACUTE CRITERIA	MARINE CHRONIC CRITERIA	WATER AND FISH INGESTION	FISH CONSUMPTION ONLY	DRINKING WATER M.C.L.					
ETHYLBENZENE	Y N	*32,000.		*430.		1.4mg	3.28mg			1980 FR		
FLUORANTHENE	Y N	*3,980.		*40.	*16.	42.ug	54.ug			1980 FR	1	
GASES, TOTAL DISSOLVED	N N	NARRATIVE STATEMENT - SEE DOCUMENT									1976 RB	8
GUTHION	N N		0.01		0.01					1980 FR		
HALOETHERS	Y N	*360.	*122.							1980 FR		
HALOMETHANES	Y Y	*11,000.		*12,000.	*6,400.	0.19ug**	15.7ug**			1980 FR		
HEPTACHLOR	Y Y	0.52	0.0038	0.053	0.0036	0.28ng**	0.29ng**			1980 FR	12	
HEXACHLOROETHANE	N Y	*980.	*540.	*940.		1.9ug	8.74ug			1980 FR	1	
HEXACHLOROBENZENE	Y N					0.72ng**	0.74ng**			1980 FR		
HEXACHLOROBUTADIENE	Y Y	*90.	*9.3	*32.		0.45ug**	50.ug**			1980 FR	2	
HEXACHLOROCYCLOHEXANE (LINDANE)	Y Y	2.0	0.08	0.16				0.004mg		1980 FR	12	
HEXACHLOROCYCLOHEXANE - ALPHA	Y Y					9.2ng**	31.ng**			1980 FR		
HEXACHLOROCYCLOHEXANE -BETA	Y Y					16.3ng**	54.7ng**			1980 FR		
HEXACHLOROCYCLOHEXANE -GAMA	Y Y					18.6ng**	62.5ng**			1980 FR		
HEXACHLOROCYCLOHEXANE -TECHNICAL	Y Y					12.3ng**	41.4ng**			1980 FR		
HEXACHLOROCYCLOPENTA- DIENE	Y N	*7.	*5.2	*7.		206.ug				1980 FR	3	
IRON	N N									1976 RB	15	
ISOPHORONE	Y N	*117,000		*12,900.		0.3mg				1980 FR		
LEAD	Y N	82.+	3.2+	140.	5.6	50.ug	520.mg	0.05mg		1985 FR	20	
MALATHION	N N		0.01		0.01					1976 RB	7	
MANGANESE	N N					50.ug	100.ug			1976 RB	7	
MERCURY	Y N	2.4	0.012	2.1	0.025	144.ng	146.ng	0.002mg		1985 FR	17	
METHOXYCHLOR	N N		0.03		0.03	100.ug		0.1mg		1976 RB	12	
MIREX	N N		0.001		0.001					1976 RB	7	
MONOCHLOROBENZENE	Y N					488.ug				1980 FR		
NAPHTHALENE	Y N	*2,300.	*620.	*2,350.						1980 FR	1	
NICKEL	Y N	1,800.+	96.+	140.	7.1	13.4ug	100.ug			1980 FR	10	
NITRATES	N N					10.mg			10.mg	1976 RB	5	
NITROBENZENE	Y N	*27,000.	*150	*6,680.		19.8mg				1980 FR	1	
	Y N	*220	*150	*4,050						1980 FR	1	

# WATER QUALITY CRITERIA SUMMARY - Continued

P A P O R R L C I L I	O U N R T O I A G T N E Y T N	CONCENTRATIONS IN ug/L					UNITS PER LITER			# STATES WITH AQUATIC LIFE STANDARD
		FRESH ACUTE CRITERIA	FRESH CHRONIC CRITERIA	MARINE ACUTE CRITERIA	MARINE CHRONIC CRITERIA	WATER AND FISH INGESTION	FISH CONSUMPTION ONLY	DRINKING WATER M.C.L.	DATE/ REFERENCE	
ITROSODIETHYLAMINE	N	Y	Y			0.8ng**	1,240.ng**		1980 FR	
ITROSODIMETHYLAMINE	N	Y	Y			1.4ng**	16,000.ng**		1980 FR	
ITROSODIPHENYLAMINE	N	Y	Y			4,900.ng**	16,100.ng**		1980 FR	
ITROSOPYRROLIDINE	N	Y	Y			16.ng**	91,900.ng**		1980 FR	
OIL AND GREASE	N	N	N	NARRATIVE STATEMENT - SEE DOCUMENT						
OXYGEN DISSOLVED	N	N	N	WARMWATER AND COLDWATER CRITERIA MATRIX - SEE DOCUMENT						
PARATHION	N	N	N		0.04				1976 RB	56
PCB's	Y	Y	Y	2.0	0.014	10.			1986 FR	56
PENTACHLORINATED ETHANES	Y	N	N	*7,240.	*1,100.	*390.			1976 RB	8
PENTACHLOROBENZENE	Y	N	N				0.079ng**		1980 FR	16
PENTACHLOROPHENOL	Y	N	N	*55.	*3.2	*53.			1980 FR	1
PH	N	N	N	6.5-9		6.5-8.5			1980 FR	2
PHENOL	Y	N	N	*10,200.	*2,560.	*5,800.			1976 RB	56
PHOSPHORUS ELEMENTAL	N	N	N				85.ug		1980 FR	23
PHALATE ESTERS	Y	N	N	*940.	*3.	*2,944.			1976 RB	6
POLYNUCLEAR AROMATIC HYDROCARBONS	Y	Y	Y			*300.	31.1ng**		1980 FR	1
SELENIUM	Y	N	N	260.	35.	54.			1980 FR	15
SILVER	Y	N	N	4.1+	0.12	2.3		0.01mg 0.05mg	1980 FR	14
SOLIDS DISSOLVED AND SALINITY	N	N	N						1976 RB	56
SOLIDS SUSPENDED AND TURBIDITY	N	N	N	NARRATIVE STATEMENT - SEE DOCUMENT						
SULFIDE-HYDROGEN SULFIDE	N	N	N		2.	2.			1976 RB	44
TEMPERATURE	N	N	N	SPECIES DEPENDENT CRITERIA - SEE DOCUMENT						
TETRACHLORINATED ETHANES	Y	N	N	*9,320.					1976 RB	56
TETRACHLOROBENZENE	Y	N	N				48.ug		1980 FR	
1,2,4,5	Y	Y	Y						1980 FR	
TETRACHLOROETHANE	Y	Y	Y		*2,400.	*9,020.			1980 FR	1
1,1,2,2	Y	N	N				10.7ug**		1980 FR	1
TETRACHLOROETHANES	Y	N	N	*9,320.					1980 FR	1
TETRACHLOROETHYLENE	Y	Y	Y	*5,280.	*840.	*10,200.			1980 FR	1
TETRACHLOROPHENOL	Y	Y	Y				8.85ug**		1980 FR	
2,3,5,6	Y	Y	Y						1980 FR	

## WATER QUALITY CRITERIA SUMMARY - Continued

	CONCENTRATIONS IN ug/L				UNITS PER LITER			# STATES WITH AQUATIC LIFE STANDARD	
	FRESH ACUTE CRITERIA	FRESH CHRONIC CRITERIA	MARINE ACUTE CRITERIA	MARINE CHRONIC CRITERIA	WATER AND FISH INGESTION	FISH CONSUMPTION ONLY	DRINKING WATER M.C.L.		DATE/REFERENCE
THALLIUM	Y N *1,400.	*40.	*2,130.		13.ug	48.ug		1980 FR	2
TOLUENE	Y N *17,500.		*6,300.	*5,000.	14.3mg	424.mg		1980 FR	1
OXAPHENE	Y Y 1.6		0.07		0.71ng**	0.73ng**	0.005mg	1980 FR	17
TRICHLORINATED ETHANES	Y Y *18,000.							1980 FR	
TRICHLOROETHANE 1,1,1	Y N		*31,200.		18.4mg	1.03g		1980 FR	1
TRICHLOROETHANE 1,1,2	Y Y	*9,400.			0.6ug**	41.8ug**		1980 FR	1
TRICHLOROETHYLENE	Y Y *45,000.	*21,900.	*2,000.		2.7ug**	80.7ug**		1980 FR	1
TRICHLOROPHENOL 2,4,5	Y N				2,600.ug			1980 FR	
TRICHLOROPHENOL 2,4,6	N Y				1.2ug**	3.6ug**		1980 FR	
VINYL CHLORIDE	Y Y				2.ug**	525.ug**		1980 FR	
ZINC	Y N 320.+	47.	170.	58.				1980 FR	19

q - grams  
Y - Yes

mg - milligrams

ug - microgram

ng - nanograms

f - fibers

Y - Yes

**NY - NO**

+ - HARDNESS DEPENDENT CRITERIA (100mg/L used)

\* - INSUFFICIENT DATA TO DEVELOP CRITERIA.

VALUE PRESENTED IS THE L.O.E.L. -

(Lowest Observed Effect Level)

**\*\* -- HUMAN HEALTH CRITERIA FOR CARCINOGENS REPORTED**

FOR THREE RISK LEVELS. VALUE PRESENTED IS THE

**10-6 RISK LEVEL:**

FR - FEDERAL REGISTER

## RB - QUALITY CRITERIA

FOR WATER, 1976

( REDBOOK )

M.C.L. - MAXIMUM CONTAMINANT

LEVEL

**Note:** This chart is for general information; please use criteria documents or detailed summaries in "Quality Criteria for Water 1986" for regulatory purposes.

Developed by

U.S. Environmental Protection Agency  
Office of Water Regulations and Standards  
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**SECTION V**

**ONGOING RESEARCH & DEVELOPMENT RELATED  
TO THE NIAGARA FRONTIER REGION**

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## ONGOING RESEARCH RELATED TO THE NIAGARA FRONTIER REGION

### RESEARCH AREAS

- Water Quality (Fate of Toxic Substances, Ambient Monitoring, Water Quality Assessment, Ground Water)
- Hazardous Waste (Superfund, RCRA, Wastewater Technology Analytic Methodology)
- Dioxin Research
- Health Effects
- Risk Assessment
- Additional Activities

WATER QUALITY	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
To understand the fate and effects of toxics substances in freshwater ecosystems using areas of the Great Lakes case studies. Apply research to specific regulations and management need of the Great Lakes National Program Office (GLNPO), Regions, OW,OTS, & IJC.	9/1/71- 9/30/89	929.5
To determine the specific species & testing methods to assess the effects of toxic chemicals on terrestrial freshwater, & estuarine/marine species to determine when data from a surrogate species can be used for another.	10/1/81- 12/30/99	220.8
Quality control and performance evaluation samples for drinking water and quality assurance (specifically includes Love Canal Pollutants)	9/30/82- 12/31/99	491.7
Toxicity test methods for aquatic life will be developed, verified, & transferred to regions and states for predicting instream water body and biological impacts in fresh, brackish, & marine systems from complex effluents. The significance of toxicity persistence to biota will be determined and methods developed for factoring into the permitting process. Develop effluent characterization/identification methods.	10/1/83- 9/30/88	1295.0
Provide standardized biological monitoring tools for fresh and marine waters to support the inclusion of biological analyses in regulatory processes. Maintain an inhouse expertise to serve as expert witness for biological monitoring.	10/1/78- 12/31/99	864.1

# WATER QUALITY continued

	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
Develop improved national water quality criteria and field test a range of methods which can be used to establish site-specific water quality for both freshwater and marine environments. Research on the development and evaluation of protocols for deriving water quality criteria when two or more toxic compounds are present at the same time and the evaluation of the integrity of the minimum data sets will be continued. Research will be undertaken to better express the criteria relative to exposure assessments and wasteload allocations.	10/1/84- 9/30/89	1900.0
Define the adverse effects of toxic chemicals on surface water and terrestrial ecosystem processes and functions. These studies will lead to methods for defining multi-species system-level effects.	10/1/81- 12/30/99	314.4
Develop predictive methodologies for conducting exposure assessments of chemicals in freshwater, estuarine/marine water, ground water, air, terrestrial, and multi-media environments.	10/1/79- 12/30/99	339.7
Develop and validate bioassay methodologies for determining the effects of chemical pesticides on marine and freshwater animals.	8/1/82- 12/30/89	376.2
Provide methods and data for the prediction of the concentrations of contaminants, which have entered the subsurface, in ground water at the point of use at a specific time in the future.	7/1/67- 12/30/99	9222.7
Provide Office of Water with a lake restoration guidance document that incorporates all aspects of lake management and restoration including types of techniques, cost/effectiveness, regional prioritization of projects, and an assessment of efficiency of treatment technique relative to each other.	4/1/86- 12/30/87	60.0
Environmental processes characterization research will be conducted and data bases and wasteload allocation models will be developed, improved, simplified, and tested as required for implementing water quality based approach. The Center for Water Quality Modeling (CWQM) will catalogue, maintain and provide model codes, user manuals, and associated coefficients and will provide training and user assistance.	10/1/86- 12/30/99	1050.0

# WATER QUALITY continued

	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
Develop methods for conducting regional wasteload allocations in estuaries to meet specific water quality objectives.	10/1/84- 9/30/87	250.0
Ecological hazard assessment for water quality by development of data bases to support water quality standards and permits.	10/1/80- 9/30/89	410.0
Assure all ambient water quality monitoring data generated is accurate, scientifically valid and legally defensible for either regulation setting, enforcement, or compliance purposes.	7/1/72- 12/31/99	300.0
To study and understand how pesticides contaminate surface waters; what processes are involved and what remedial actions are necessary to alleviate the problem.	4/1/81- 9/30/90	789.4
Develop and evaluate surface and subsurface monitoring methods and strategies for RCRA hazardous waste sites.	10/1/82- 12/31/99	4787.5
Provide to the groundwater scientific community improved and less costly methods. To access the subsurface, detect ground water contamination, and measure subsurface parameters that influence contaminants behavior. In addition, support groundwater information transfer activities.	7/1/67- 12/30/89	795.0

## HAZARDOUS WASTE

START DATE/  
COMPLETION DATEFUNDING  
(x\$1,000)

To provide engineering support for Superfund site and situation assessments including evaluations of waste characteristics, hydrology, geology and soil characteristics.

9/1/84-  
12/31/99

429.4

Provide emergency response personnel with user-ready, cost-effective technology to prevent, assess, contain, cleanup, and dispose of hazardous releases quickly, effectively, and at least cost.

10/1/83-  
9/30/89

710.1

Quality Assurance support for CERCLA

6/30/81-  
12/31/99

2492.4

The Superfund Innovative Technology Evaluation Program (SITE) is designed to demonstrate and develop innovative technologies that can be used for the cleanup of hazardous waste sites.

10/1/86-  
/ /

20000.0

To provide response technology to support emergency actions at hazardous material release sites and remedial technology for cleanup at uncontrolled hazardous waste sites.

10/1/81-  
9/30/90

4686.5

To provide verification of remedial action design and implementation activities; to review data submitted by liable parties for specific site problems; to furnish expert witnesses when required for litigation procedures and routine and general technical support to the best extent possible, as related to or part of other areas of expertise.

10/1/81-  
12/31/99

957.6

The 1984 hazardous and solid waste amendments to RCRA have resulted in many new regulation requirements and timetables. Underground injection wells, land disposal banning, and Superfund innovative technology evaluation are three categories where information will be needed by the environmental community.

10/31/86-  
12/31/87

781.7



## HAZARDOUS WASTE continued

	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
Characterize air emissions from hazardous waste treatment, storage, and disposal facilities (TSDF's) and assess methods to control them in support of DAQPS' regulatory needs under RCRA.	10/1/82- 6/30/89	683.0
To support rulemaking under RCRA Subtitle I by providing fast-track evaluations of prevention, detection, and corrective action technologies to identify cost-effective, reliable techniques and equipment for leaking underground storage tanks (UST).	10/1/84- 9/30/89	2613.7
Determine the applicability and the cost-effectiveness of in-situ reclamation techniques to unsaturated-zone and ground water contamination resulting from leaking underground storage tanks and other hazardous waste sources.	10/1/81- 12/30/90	348.7
To provide small businesses and small quantity generators with practical effective and economical technical and management techniques to effectively and efficiently treat and/or dispose of wastes currently being released into our environment through air and water, and on land.	10/1/86- 10/31/88	121.6
Provide the Office of Solid Waste with methods and data for rapidly predicting the toxicity and bioaccumulation potential of wastes, waste streams, or leachates proposed for listing under Section 3001 of RCRA on the basis of quantitative chemical structure-activity relationships (QSAR).	10/1/81- 12/30/89	1185.2
Remote sensing RCRA sites for assessment and permitting.	10/1/82- 9/30/90	530.0
Provide information to the municipal sector to upgrade existing plant's performance potential to achieve compliance at minimal costs.	10/31/83- 10/31/88	1135.7
Develop and field verify improved designs, operation and closure procedures for landfills, surface impoundments, waste piles and underground storage facilities.	10/1/86- 1/1/91	3325.0
Develop a comprehensive technical data base on new and existing technologies for land treatment of hazardous wastes for which incineration of conventional land disposal are inappropriate, infeasible, or ineffective. Develop a "treatment demonstration" protocol for wastes proposed for land treatment.	10/1/83- 9/30/89	768.0

## HAZARDOUS WASTE continued

	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
Characterize wastes, leachates and air emissions for municipal solid waste (non-hazardous) facilities, and assess control methods to support regulatory needs being developed by the Agency.	10/1/86- 1/1/91	916.0
Develop engineering data base and guidelines on the disposal of hazardous wastes by cofiring in to high temperature industrial processes, e.g., cement kilns, industrial boilers, steel furnaces, and asphalt plants.	10/1/86- 1/1/89	620.0
To provide the technical basis for Agency policies, regulations, permits and compliance action for hazardous waste incineration process failure and to correlate metal or organic emissions during failure modes with easily monitored performance parameters.	7/31/87- 9/30/89	2113.1
Assess the capability of existing and emerging, chemical, biological and thermal processes and systems to serve as alternatives for control of hazardous waste streams.	10/1/83- 6/30/89	5935.0
Provide field-evaluated methods and data to predict the concentrations of wastes that either escape or are released into the environment from the treatment, storage, or disposal of hazardous wastes.	10/1/81- 12/30/89	2942.9
Provide the basic scientific understandings, concepts, and evaluations to develop defensible protocols for testing and/or estimating the environmental transport, transformation, degradations, and multi-media distribution of toxic chemicals.	10/1/79- 12/30/99	294.1
The CWA (Sec. 311) mandates that Spill Prevention Control and Countermeasure plans be prepared for all facilities engaged in the production, storage, processing and distribution of hazardous materials. EPA regional offices monitor to ensure compliance. The OADENQA provides remote sensing techniques for monitoring.	7/1/72- 12/31/99	224.3
Provide overall program management for a group of multi-disciplinary research, education, and policy projects that support EPA's solid and hazardous wastes management research and regulatory needs. Research will center around four areas: Health Effects, Site Assessment and Management, Waste Reduction and Treatment, and Risk Assessment and Management.	7/1/86- 7/31/89	N/A

## HAZARDOUS WASTE continued

	START DATE/ COMPLETION DATE	FUNDING (x\$1,000)
Provide technical evaluation of treatment technologies to assist ITD in the development of BCT and BAT limitations. Develop and verify a protocol for conducting industrial toxicity reduction evaluations (TRES) for use by permitting authorities in writing BPJ NPDES permits.	10/31/84- 12/31/90	753.2
Develop and evaluate a multiple bioassay screening protocol to indicate the biological hazard associated with contaminated soils, water, and sediments.	10/1/83- 12/30/86	352.6
Provide standardized analytical methods for quantification of pollutants or their metabolic products in water, wastewater, biological tissue, sediment, and sludge.	10/1/77- 12/31/99	327.7
Identify and determine distribution of unlisted chemicals in industrial wastewater. Compounds that can be identified by empirical mass spectra matching as well as those that elude identification by this technique will be included.	10/1/82- 12/30/88	472.1
Develop new methods for analyzing and monitoring organic chemicals and dioxins.	10/1/82- 11/30/88	2180.5
To assure that analytical methods presently approved by the Administrator for regulatory measurement of pollutants in industrial wastewater are reliable in all wastewater matrices.	10/1/80- 12/31/99	618.9
Fate of toxics in Wastewater	10/1/83- 10/31/90	355.0
Develop through research improved approaches for enhanced control of toxics and toxicity in municipal wastewater treatment. Develop toxicity reduction evaluation (TRE) procedures for municipal wastewater treatment plants to support the Agency's "Policy of Development of Water Quality-Based Permit Limitations."	10/31/84- 9/30/90	581.2
Develop methodologies that will integrate pollutant specific toxicity control techniques with whole effluent toxicity testing procedures and BAT limits for use in water quality permitting. Field test the coupling of site-specific criteria modification techniques with the whole effluent toxicity approach. Develop a decision framework to determine which method controls and the relative merits.	10/1/85- 9/30/88	625.0

## DIOXIN RESEARCH

START DATE-  
COMPLETION DATEFUNDING  
(x1,000)

The Office of Health Effects Assessments (OHEA) program will continue in FY'87 with completion of the soil ingestion analysis project, utilizing FY'86 R&D. TCDD vapor phase photolysis is scheduled for completion in FY'86. The kinetics and toxicity study with Rhesus monkeys will continue in FY'87, concentrating on analysis of tissue samples collected in FY'86 and on collection of additional samples for analysis of clearance kinetics, reproductive effects, and mutagenicity. Empirical determinations will be made of dioxin/furan physical-chemical properties which relate to persistence, intermedia transfer, and body burden. Photolytic rate constants will be determined for particulate-sorbed TCDD.

10/1/86-  
9/30/87

537.5

Evaluate the bioavailability of dioxins and determine the potential for uptake of dioxins by plants, fish, and large animals. The uptake data will be used in defining the potential biomagnification of dioxins in food chain systems.

10/1/84-  
9/30/99

608.4

Access mobility of dioxins and chemically-related pollutants in contaminated soils and identify and document currently available methods for making assessments that are usable by engineering personnel at Superfund sites.

10/1/83-  
9/30/89

415.6

Provide Office of Solid Waste & Emergency Response (OSWER) with techniques and necessary data to predict the rate and extent of movement and transformation of 2,3,7,8-Tetrachlorodibenzo-P-dioxin in soils and in ground water.

10/1/83-  
9/30/99

374.7

To provide improved methodologies and assessment for prediction of toxicity of the halogenated dioxins and related compounds.

10/1/85-  
9/30/90

N/A

# RISK ASSESSMENT

START DATE/  
COMPLETION DATE

FUNDING  
(x\$1,000)

Site- or chemical-specific assessments will be prepared to predict the relative health risks associated with remedial enforcement options. These assessments range from brief hazard assessment summaries for cancer and noncancer toxicity, to detailed and peer-reviewed documents for use in negotiations or litigation by the Office of Waste Program Enforcement.

10/31/84-  
9/30/89

519.3

Develop environmental risk assessment methodology for TSCA by combination of exposure and hazard assessment data utilizing modified, existing, or new fate, transport and effect models to depict risk probability. Ecosystem degradation criteria will be developed.

10/1/85-  
10/30/92

2094.1

The development of environmental risk assessment protocols and guidance for terrestrial and aquatic ecosystems focusing on endangered species and commercial fisheries. Provide scientifically sound procedures for evaluation of environmental risks associated with pesticides and toxic substances.

10/1/85-  
9/30/87

198.0

These revised/updated risk assessment methodologies will maintain assessment protocols at the state-of-the-art and will guide the development of scientific and technical information needed by OSWER.

10/1/86-  
9/30/87

360.4

The Integrated Risk Information System (IRIS) is a computer-housed, electronically communicated catalogue of Agency risk assessment and risk management information for chemical substances.

10/1/86-  
9/30/87

325.0

The goal is to ensure high technical quality and Agency-wide consistency in risk assessments by continued development of risk assessment guidelines and associated technical support documents.

1/1/84-  
9/30/89

1234.3

Conduct research on exposure monitoring methods and systems to improve estimates of human exposure to pollutants. Develop data bases and procedures needed to assess human exposure in support of OTS programs.

10/1/80-  
12/31/99

2764.9

## RISK ASSESSMENT continued

	START DATE- COMPLETION DATE	FUNDING (x\$1,000)
Reducing the uncertainties associated with risk assessment by conducting or sponsoring efforts intended to develop and/or improve approaches and methods in this area.	10/1/86- 9/30/87	508.8
	10/1/86- 9/30/87	169.8
	10/1/86- 9/30/87	120.7
	10/1/86- 9/30/87	105.0
	10/1/86- 9/30/87	49.3
Develop methods for use in improving existing and proposed extrapolation models used to develop standards for drinking water contaminants.	10/1/80- 9/1/90	N/A
In FY'87 OHEA will provide site-, situation-, and chemical-specific exposure and health effects risk assessments covering single chemicals and complex mixtures to OERR and the Regions. 30-60 Health Effects Assessments (HEAs) will be developed for OERR for use in establishing health-related goals for remedial actions. A previously established capacity to provide rapid response health assessments to emergency and remedial response coordinators will be maintained. Methods of development work will involve development of phase chemicals through fractured bedrock, and the application of a stochastic analysis to exposure assessments for one or more Superfund sites.	10/1/81- 9/30/89	10012.0

**HEALTH EFFECTS RESEARCH****START DATE-  
COMPLETION DATE****FUNDING  
(x\$1,000)**

To complete reviews of 301(g) variance requests, to prepare water quality health advisories and to prepare human health chapters of AWQCDs.

10/1/86-  
9/30/89

288.2

To evaluate toxicological and health data at all exposure durations to estimate drinking water criteria for the safety of human health.

10/1/86-  
9/30/89

489.1

Health and Environmental Effects Profiles (HEEFs) will be prepared for specific chemicals or waste streams to support the listing of hazardous wastes under Section 3001 of RCRA. During FY'87 Data Summaries (preHEEPs) for about 180 chemicals will be prepared; HEEPs for 90 chemicals will be developed, as indicated by information in the Data Summaries.

10/1/86-  
9/30/87

1345.4

OHR will provide field tested methods in a manual that discusses protocols and interprets strengths and weaknesses on health effects biomonitoring techniques. Such methods are used in evaluating and predicting genotoxicity, mutagenicity, and carcinogenicity, associated with contaminated water receiving complex chemical effluents.

10/1/83-  
9/1/88

N/A

Determine how and where epidemiologic research can contribute to an improved scientific basis for revising current drinking water maximum contaminant levels (MCL) or developing new MCL's and conduct studies where appropriate.

10/1/83-  
10/1/89

N/A

To develop short-term, cost-effective, predictive methods for detecting toxic effects. Methods and bioassays will be developed to determine adverse biochemical and physiological effects, to detect alterations in developmental and reproductive processes of animals, to screen and evaluate chemicals for immunotoxic effects and to select methods which best detect and characterize neurotoxicity.

10/1/79-  
1/1/88

N/A

**HEALTH EFFECTS RESEARCH continued****START DATE-  
COMPLETION DATE****FUNDING  
(x\$1,000)**

To provide the toxicological information needed for the Office of Drinking Water (ODW) to develop maximum contaminant level's (MCL) and health advisories (HA) for specific chemicals found in drinking water.

12/1/79-  
9/1/87

N/A

To develop and evaluate short-term in vivo and in vitro bioassays for screening wastes for designation as evaluation. Bioassays screens are being evaluated for the following health effects: general toxicity; carcinogenicity; neurotoxicity; immunotoxicity; teratogenicity; and reproductive effects.

10/1/82-

N/A



**ADDITIONAL ACTIVITIES****START DATE-  
COMPLETION DATE****FUNDING  
(x\$1,000)**

Perform liason activities with regions, states, Congress, OMB, and other federal agencies and other EPA offices.

1/1/00-  
12/31/99

363.0

Management/Implementation of exploratory research centers to improve EPA's understanding in high-priority research areas that require and multidisciplinary and/or interdisciplinary focus.

1/1/00-  
12/31/99

4796.0

To provide technical and logistical support to the interagency Task Force is chaired by the EPA Deputy Administrator.

7/1/77-  
9/1/99

N/A

To provide technical and logistical support to the interagency Task Force on environmental cancer and heart and lung disease.

7/1/77-  
9/1/99

N/A

To develop, modify and apply experimental knowledge-based expert systems for environmental assessment needs.

10/1/85-  
12/30/91

68.6

To assure quality assurance for monitoring data to support its primary data and secondary data uses--i.e., that intercomparable data are obtained; sample repository.

7/1/85-  
12/31/99

314.8

**APPENDIX A**

**STATUS OF 61 HAZARDOUS WASTE  
SITES IN THE NRTC REPORT**

# INDEX OF HAZARDOUS WASTE SITES (CERCLA)

Source Name	Site ID
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Allied Chemical - Tonawanda Plant*	18
Allied Chemical - Site 107*	15
Alltift Realty*	11
Bell Aerospace Textron*	26
Bethlehem Steel Company*	10
Buffalo Avenue Site/Buffalo Ave Landfill*	28
Buffalo Color Corp.*	16
Charles Gibson Site*	27
Colombus McKinnon Corp.*	22
DuPont, Buffalo Ave Plant*	31
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Occidental Chemical (Durez Div)*	23
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Tonawanda Coke Company*	19

\* NYSDEC Lead sites

08/31/87

102nd Street

NATS ID: 04

EPA ID: NYD980506810

STREET: 102nd Street

CITY: Niagara Falls ZIP: 14304

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 30.48 NPL: YES

DESCRIPTION:

This site is located at the eastern edge of the City of Niagara Falls. It is bounded to the north by Buffalo Avenue and to the south by the Niagara River. The site is 22.1 acres, of which 15.6 acres are owned by Occidental Chemical Corporation (formerly Hooker Chemical and Plastics Corporation) and 6.5 acres are owned by Olin Chemical Corporation. Approximately 77,000 tons of chemical wastes were disposed of at the Occidental site between 1943 and 1971, and 66,000 tons of chemical wastes at the Olin site from 1948 to 1970. Chemical Wastes include tetrachloroethene, trichloroethylene, benzene, arsenic, trichlorophenol hexachlorocyclohexane (lindane), chlorobenzenes, and organic phosphates.

On December 20, 1979 a complaint against the companies was filed in the U.S. District Court. On June 26, 1984, Judge J. Curtin, approved the Remedial Investigation workplan.

08/31/87

102nd Street

NATS ID: 04

EPA ID: NYD980506810

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents a cluster of two sites.
12/30/72	Hooker constructs a dike along the river to prevent erosion.
12/30/74	Clay cap in place.
03/31/79	Site identified by NYSDEC in 1979.
12/20/79	A complaint is filed in U.S. District Court against Occidental and Olin Chemical Companies.
09/08/83	Added to National Priority List
06/26/84	Judge J. Curtin approved remedial investigation workplan.
04/30/85	Dioxin investigation by EPA. 2,3,7,8 TCDD was found below ground in an area inaccessible to the public. The highest concentration was 680 ppb.
09/09/85	Remedial investigation field work begun by a Contractor for OCC and Olin.
10/30/86	Niagara River sediment survey, bulkhead study and offsite investigation begun.
02/28/87	Extended groundwater survey begins.

11 DATES PRINTED FOR 102nd Street.

08/31/87

ALLIED CHEMICAL - SITE 107

NATS ID: 15

EPA ID: NYD001863372

STREET: 35 Lee Street

CITY: Buffalo, NY ZIP: 14210

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

This Allied Chemical site is located in the southern part of the City of Buffalo and is adjacent to the Buffalo River at mile point 4.5. The site had a sludge lagoon in which an unknown quantity of spent vanadium pentoxide catalyst, sulfate sludges, sulfuric acid, nitric acid, salts, slag, and polymerized "sulphan" were deposited. The lagoon operated between 1930 and 1977. Since then, it has been excavated and filled with clean fill.

08/31/87

ALLIED CHEMICAL - SITE 107

NATS ID: 15

EPA ID: NYD001863372

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents 1 site.
03/31/79	Site identified by NYSDEC in 1979.
07/30/82	Monitoring wells sampled by USGS in July 1982 indicated elevated levels of lead and nickel.

SCHEDULE

09/30/87	Phase II delayed - contractor inability to acquire liability insurance. Start up planned fall 87.
03/30/88	Evaluation for NPL scheduled for winter 1988.

5 DATES PRINTED FOR ALLIED CHEMICAL - SITE 107.

08/31/87

ALLIED CHEMICAL - TONAWANDA PLANT

NATS ID: 18

EPA ID: NYD051816262

STREET: 3821 River Road

CITY: Tonawanda, NY ZIP: 14150

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Allied Chemical Corporation plant, located on River Road in Tonawanda, New York, was operated from 1920 to 1982. During its period of operation, the majority of waste material generated on-site was disposed of at various off-site disposal or reclamation facilities. However, two areas on the plant property were used as disposal sites. One site consisted of coal tar pools from spillage during transfer operations. This site was excavated in 1981. The other disposal site is approximately thirty (30) feet in diameter and 6 to 8 feet in depth. From approximately 1950-1960, this site received scrap polyethylene, chlorinated polyethylene and spent catalyst (magnesium chromate and dichromate). These wastes were generated by a small on-site research and development laboratory.

The general terrain of the plant facility is sparsely vegetated with low grasses and weeds. The actual disposal area, which was capped in 1958 with clean excavated fill, is barren. The area topography is flat and gently slopes toward the Niagara River, which is located 0.5 mile to the west. The chemical plant is completely surrounded by a six foot chain link fence with access monitored by an on-site guard.



08/31/87

ALLIED CHEMICAL - TONAWANDA PLANT

NATS ID: 18

EPA ID: NYD051816262

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents 1 site.
03/31/79	Site identified by NYSDEC in 1979.
05/30/82	Site inspected by NYSDEC in May 1982.
12/30/82	Four soil samples analyzed by USGS in 1982 showed elevated levels of chromium, lead, and nickel.
09/30/83	Phase I investigation completed in Sept. 1983.
10/30/84	Site preliminary assessed by NYSDEC in Oct. 1984.
06/17/85	Potential Responsible Party proposes remediation in lieu of Phase II investigation. Proposal accepted and development of workplan by Allied Chemical begins.

SCHEDULE

10/01/87	Remediation workplan final review and approval by NYSDEC.
----------	---

8 DATES PRINTED FOR ALLIED CHEMICAL - TONAWANDA PLANT.

08/31/87

ALLTIFT REALTY

NATS ID: 11

EPA ID: NYD000513713

STREET: Tifft Street

CITY: Buffalo, NY ZIP: 14220

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The site is approximately 25 acres in size and was a disposal site from the 1950's to the early 1970's. The site was used to dispose of bulk loads of dye, oil sludges, phenolic compounds, chrome sludge, copper sulfate, nitrobenzene, monochloroenezene, and naphtalene.

The landfill was inactive for several years until the late 1970's, when it became an active landfill for the disposal of auto demolition shredder waste, core sands, fly ash, and foundry sand. This practice continued until 1985 at a rate of 40,000 to 60,000 cubic yards (30,600 to 45,300 cubic meters) per year. The disposal area used was limited to the northern third of the site.

In 1978, seven groundwater samples from wells screened above the glaciolacustrine clay were collected. Analyses included total Kjeldahl nitrogen (TKN), phenols, total halogenated hydrocarbons, PCBs, arsenic, chromium, copper, lead, and mercury. In 1982, four wells were drilled and screened below the clay. Water samples were collected by the owner from each well and analyzed for the same parameters.

Elevated levels of kjeldahl nitrogen, organic carbon, phenols, arsenic, and mercury were observed above the clay but not below the clay. Chromium was observed at higher levels below the clay.

08/31/87

ALLTIFT REALTY

NATS ID: 11

EPA ID: NYD000513713

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
12/30/78	Groundwater testing indicates elevated Kjeldahl nitrogen, organic carbon, phenols, arsenic, mercury.
03/31/79	Site identified by NYSDEC in 1979.
08/30/82	Site assessed and inspected by EPA in August 82.
12/30/82	Wells drilled below clay indicate chemicals found in 1978 above clay, and higher chromium below clay.
12/31/82	Samples collected by DEC and analyzed for organic priority pollutants. None were detected.
03/31/83	Phase I Investigation started.
11/30/83	Phase I Investigation completed.
02/28/85	Phase II Investigation by NYSDEC starts.
01/01/86	Final phase II report under review.
09/30/86	Phase II Investigation completed. Heavy metals and organics found in both aquifers and groundwater.

11 DATES PRINTED FOR ALLTIFT REALTY.

ELL AEROSPACE TEXTRON

EPA ID: NYD002106276

NATS ID: 26

REET: 9812 Niagara Falls Boulevard

ITY: Wheatfield, Niagara ZIP: 14150

ONGRESSIONAL DISTRICT: 32

RE SCORE: 0.00 NPL: NO

DESCRIPTION:

This site is located in the town of Wheatfield about 3000 feet (914 meters) from Cayuga Creek. It consists of a neutralization pond which was used from the 1950's until 1983. Wastes were held in the pond until a pH of 6-8 was achieved and were then discharged into a sanitary sewer. The wastes generally consist of rocket fuels, nitric acid, sodium hydroxide neutralizer, and wastes from a cleaning degreasing and anodizing process line. The size of the pond was 60 x 80 feet.

Dolomite limestone bedrock is overlain by a sandy to silty glacial till. The till is overlain by clay and a layer of various fill material. The layer of mixed silts, sands and clays is conducive to the movement of groundwater. The dolomite bedrock is approximately 20 feet below the surface. Investigations conducted by Bell indicate groundwater contamination with volatile compounds.

08/31/87

BELL AEROSPACE TEXTRON

EPA ID: NYD002106276

NATS ID: 26

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
12/30/86	Investigations by Bell (December 1982 to present) indicate groundwater contamination with volatile organics.
03/30/87	Field work started in winter of 1986.

SCHEDULE

09/30/87	Field work scheduled to be completed by summer of 1987.
----------	--

5 DATES PRINTED FOR BELL AEROSPACE TEXTRON.

08/31/87

BETHLEHEM STEEL COMPANY

EPA ID: NYD002134880

NATS ID: 10

STREET: 3555 Lake Shore Road

CITY: Lackawanna, NY ZIP: 14219

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Lackawanna Plant of the Bethlehem Steel Corporation is located on the shore of Lake Erie, south of Buffalo. The plant site is approximately 2,200 acres in size, 750 acres of which consist of fill adjacent to Lake Erie. The fill is mainly slag, cinders, sand, and gravel. Within this fill area, spent pickle liquor, tar sludge, ammonia still lime sludge, and metal sludge were deposited. Data collected by Bethlehem Steel from monitoring wells along the Lake Erie shore closest to the disposal area in 1980 and 1982 indicate the presence of arsenic, cyanide, hexavalent chromium, lead naphthalene, phenols, and benzene.

08/31/87

BETHLEHEM STEEL COMPANY

NATS ID: 10

EPA ID: NYD002134880

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
12/30/79	Site preliminary assessed and inspected by EPA in December 1979.
12/30/80	Data collected in 1980 by the company from monitor wells along lake shore, close to disposal area, show arsenic, cyanide, hexavalent chromium, lead, naphthalene, phenols, and benzene in groundwater.
12/30/82	Data collected in 1982 by Bethlehem Steel indicate presence of same chemicals.
01/30/85	Closure plan submitted to NYSDEC in January 1985.
08/30/85	Submittal of revised Closure Plan.
08/30/85	EPA Consent Order signed August 1985 for closure and groundwater monitoring by RCRA unit.
08/30/86	Answers to a 3004(U) Information Request Letter sent to Bethlehem Steel received in August 1986.
09/30/86	Preliminary Assessment report from Bethlehem Steel received in September 1986.
03/27/87	Revised Closure Plan submitted.
04/01/87	Groundwater quality assessment plan submitted by Bethlehem Steel Corporation for the HWM-1 area.

PUBLIC INVOLVMENT

12/30/87	Public notice on the final Closure Plan is scheduled in the fall of 1987.
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13 DATES PRINTED FOR BETHLEHEM STEEL COMPANY.

08/31/87

BUFFALO AVENUE SITE/BUFFALO AVE LANDFILL  
EPA ID: NYD980507784

NATS ID: 28

STREET: 57th to 61st Sts, Buffalo Ave.

CITY: Niagara Falls, NY ZIP: 14303

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The site was formerly a wetland along the Niagara River which was filled by the City of Niagara Falls with noncombustibles and incinerator residue from 1930 to 1950. The site also received large quantities of shot rock from the construction of the Robert Moses Power Project between 1957 and 1960.

The 30 acre site is open, grass covered and is level to slightly sloping. Part of the land is presently the site of the Niagara Falls Water Treatment Plant. The remainder of the site is owned by the New York Power Authority. Directly adjacent to the water treatment plant is an industrial chemical facility.

The geology of the site consists of extensive areas of fill overlying clay, till and alluvium. The thickness of the unconsolidated material is 30 feet. Underlying these units is bedrock of Lockport Dolomite.



08/31/87

BUFFALO AVENUE SITE/BUFFALO AVE LANDFILL

NATS ID: 28

EPA ID: NYD980507784

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/30/83	USGS soil samples (1982-1983) from eastern NYPA portion indicated presence of organic compounds.
04/30/83	Site preliminary assessed and inspected by EPA in April 1983.
12/30/86	Workplan for Phase II investigation submitted by PRP approved in 1986. Consent order executed with NYPA by DEC.

SCHEDULE

09/30/87	Field work scheduled for summer 1987.
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5 DATES PRINTED FOR BUFFALO AVENUE SITE/BUFFALO AVE LANDFILL.

08/31/87

BUFFALO COLOR CORP.

EPA ID: NYD080335052

NATS ID: 16

STREET: 340 Elk Street

CITY: Buffalo, NY ZIP: 14204

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

Buffalo Color Corporation is an inactive site located in the southern part of the City of Buffalo and is adjacent to the Buffalo River. The area contains three listed sites: Buffalo Color- Sludge lagoons, Buffalo Color- Weathering area and Buffalo Color- Deep Well.

08/31/87

BUFFALO COLOR CORP.

NATS ID: 16

EPA ID: NYD080335052

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents a cluster of three sites.
03/31/79	Site identified by NYSDEC in 1979.
12/30/82	Two composite soil samples collected in December by owner indicated elevated levels of arsenic, lead, and mercury.
06/30/84	Field investigations completed.
11/30/85	PRP agreed to conduct RI/FS of the lagoon site, the weathering area site and the remainder of Area D.
11/30/85	Negotiations for final closure of 744 foot deep well started.

SCHEDULE

12/30/87	RI/FS starts in Fall 1987.
12/30/88	RI/FS completed.

8 DATES PRINTED FOR BUFFALO COLOR CORP..

08/31/87

CHARLES GIBSON SITE

EPA ID: NYD980528616

NATS ID: 27

STREET: Pine & Tuscarora Road

CITY: Niagara Falls ZIP: 14304

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

This site is located in a densely populated area in the eastern part of the City of Niagara Falls and is adjacent to Cayuga Creek. This 4 acre site was used from 1955 to 1957 for disposal of 403 drums of hexachlorobenzene and 101 truckloads of BHC.

08/31/87

CHARLES GIBSON SITE

NATS ID: 27

EPA ID: NYD980528616

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
12/30/80	Site identified by NYSDEC in 1980.
11/30/81	Site preliminary assessed by EPA in November 1981.
03/30/85	Agreement reached between Olin and New York State regarding remediation of the site.
05/30/85	Consent agreement signed - RI/FS started in May of 1985.
09/30/85	Soil testing began in summer of 1985.
11/30/86	Requisite Remedial Technology Plan developed and submitted in November 1986.

SCHEDULE

09/30/87	Implementation of the RRT is scheduled for Spring/Summer of 1987.
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8 DATES PRINTED FOR CHARLES GIBSON SITE.

08/31/87

COLUMBUS MCKINNON CORPORATION

NATS ID: 22

EPA ID: NYD002105534

STREET: Filmore & Fremont Street

CITY: Tonawanda, NY ZIP: 14150

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Columbus McKinnon Corporation site is a one acre site located in the City of Tonawanda. The site is adjacent to Elliot Creek, a tributary of Tonawanda Creek, which enters the Niagara River. The site was used to dispose of 27,000 gallons of water-soluble waste cutting oils in an open pit 400 feet square adjacent to Elliot Creek. The pit operated from 1930 until 1965. The area has since been covered with soil and graded.

During 1981, the company initiated an investigation of the site. Previous sampling at the site confirmed the presence of PCBs in soil samples.

08/31/87

COLUMBUS MCKINNON CORPORATION

NATS ID: 22

EPA ID: NYD002105534

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
11/30/81	Site identified and preliminary assessed in November 1981.
12/30/81	Company initiated an investigation of the site in 1981.
02/18/86	A report including analyses of samples from moni- toring wells, soils, and sediments from Elliott Creek submitted to DEC. Sampling revealed elevated levels of PCB's in on-site soils & adjacent to ck.
01/30/87	Preliminary remedial plan submitted.
06/01/87	Final remedial plan submitted.
06/30/87	Detailed work plan submitted.

8 DATES PRINTED FOR COLUMBUS MCKINNON CORPORATION.

08/31/87

DUPONT, BUFFALO AVE PLANT

EPA ID: NYD002126852

NATS ID: 31

STREET: Buffalo Avenue

CITY: Niagara Falls, NY ZIP: 14302

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: UNKNOWN NPL CODE

DESCRIPTION:

DuPont's Niagara Plant borders the Robert Moses Parkway on the south and Buffalo Avenue on the North. Gill Creek bisects the plant. There are six identified disposal areas on the plant site.



08/31/87

DUPONT, BUFFALO AVE PLANT

EPA ID: NYD002126852

NATS ID: 31

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents a cluster of six sites.
12/30/79	Site identified by NYSDEC in 1979.
12/30/81	Interim remedial measures completed at 3 sites (soil removal). Gill Creek cleanup completed.
12/30/82	USGS installed 6 wells south of plant in 1982. Samples indicated heavy volatile chlorinated organic contamination.
09/30/83	Dupont initiated investigation of groundwater contamination and movement in the summer of 1983.
11/30/84	Remedial Action Plan submitted by DuPont in November 1984.
11/30/85	Clay cap placed over the plant area known as the Westyard.
12/30/85	West yard resurfaced with asphalt to minimize rain penetration into area in 1985.

SCHEDULE

12/30/87	Implementation of remedial plan scheduled to begin in 1987.
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9 DATES PRINTED FOR DUPONT, BUFFALO AVE PLANT.

08/31/87

DUPONT, NECCO PARK

EPA ID: NYD980507347

NATS ID: 29

STREET: Niagara Falls Blvd. & 56th St.

CITY: Niagara Falls, N.Y. ZIP: 14302

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

DuPont deposited 90,000 tons of waste chemicals in the 24-acre Necco Park landfill from the mid 1930's to 1977. The site was used prior to 1930 by two other firms, the first of which began dumping in 1900. Wastes deposited include solvents, chlorinated benzenes, barium and asbestos. The site is surrounded by the CECOS hazardous waste facility.

Based upon releases of hazardous waste from the site, EPA issued a unilateral order to DuPont, pursuant to #3013 of RCRA on May 1, 1985. This order required DuPont to investigate the nature and extent of its off-site contamination. DuPont immediately challenged the #3013 Order in Federal Court. In order to proceed quickly with the investigation (and avoid the necessity of lengthy litigation), EPA and DuPont negotiated a Consent Decree which provides for the investigation of any offsite contamination and the payment of \$25,000.

08/31/87

DUPONT, NECCO PARK

NATS ID: 29

EPA ID: NYD980507347

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
06/30/86	DuPont starts interpretive investigation report
02/06/87	Comment period ends concerning the Consent Decree to the Department of Justice.
05/30/87	Existing monitoring wells evaluated to determine their capability of yielding representative groundwater samples.
07/30/87	Installation of 15 well clusters complete.

SCHEDULE

08/30/87	DuPont submits investigation plans to EPA.
08/30/87	Tentative list of indicator chemicals developed.
02/28/89	Completion of interpretive investigation report.

8 DATES PRINTED FOR DUPONT, NECCO PARK.

08/31/87

GRATWICK-RIVERSIDE PARK

EPA ID: NYD000514141

NATS ID: 24

STREET: River Road, Witmer Avenue

CITY: N. Tonawanda, NY ZIP: 14120

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

Gratwick Riverside Park is an inactive landfill, located at the riverfront edge of an urban area in the City of North Tonawanda, Niagara county, between the Niagara River on the west and River Road to the east. The site is ground level and rectangular, extending approximately one mile in a NW direction and 0.2 mile in a SW direction. The site was used for disposal of municipal and industrial wastes from 1964 to 1968. Waste materials include phenolic resins, phenolic molding compounds, oil and grease.

The area is currently used as a public park with a picnic shelter, boat docks and launch ramp.

08/31/87

GRATWICK-RIVERSIDE PARK

NATS ID: 24

EPA ID: NYD000514141

#### HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
08/30/80	Site inspected by EPA in August 1980.
12/30/81	Niagara Health Department sampled four monitoring wells on-site in 1981.
12/30/82	Niagara Mohawk had 30+ barrels containing phenolic compounds removed from along bank of Niagara River adjacent to site in 1982.
03/31/83	Phase I Investigation started.
11/30/83	Phase I Investigation completed.
12/30/83	Site sampled by EPA Technical Assistance Team in 1983.
09/30/84	Phase II field investigation started.
06/30/85	Phase II completed.
11/30/86	Niagara County Health Department undertook surface soil sampling program.

#### SCHEDULE

09/30/87	RI/FS begins in summer.
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12 DATES PRINTED FOR GRATWICK-RIVERSIDE PARK.

08/31/87

GRIFFON PARK

NATS ID: 25

EPA ID: NYD980506703

STREET: River Road

CITY: Niagara Falls, NY ZIP: 14304

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

Griffon Park is located between River Road and Niagara River 95th Street adjacent to the Hooker Chemical 102nd Street Landfill. The City of Niagara Falls used the site from the 1930's to the 1950's for mainly the disposal of leaves and forestry materials and possibly municipal and domestic wastes. Sand, abrasives, broken concrete and other construction materials may also have been deposited. No drummed wastes or hazardous materials were known to have been placed there. Groundwater samples indicate the presence of organics. Iron was found to be above groundwater standards.

08/31/87

GRIFFON PARK

NATS ID: 25

EPA ID: NYD980506703

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
09/30/83	Site preliminary assessed and inspected by EPA contractor in September 1983.
05/30/85	Baseball fields on the site closed pending further study. Area is used for fishing and other aquatic sports.

SCHEDULE

10/31/88	Final report of investigation as a part of 102nd Street RI.
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5 DATES PRINTED FOR GRIFFON PARK.

08/31/87

HUNTLEY POWER STATION/NIAGARA-MOHAWK

NATS ID: 21

EPA ID: NYD094177292

STREET: River Road (near 4000 RiverRd)

CITY: Tonawanda, NY ZIP:

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Niagara-Mohawk, "Cherry Farms", Landfill is an inactive 54 acre site. It fronts the Niagara River and is bordered on the east by River Road. Cheverolet Foundary Corporation disposed of foundary sand and slag on the site from 1966 to 1970.



08/31/87

HUNTLEY POWER STATION/NIAGARA-MOHAWK

NATS ID: 21

EPA ID: NYD094177292

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site
03/31/79	Site identified by NYSDEC in 1979.
03/30/81	Water samples collected from drainage ditches around site in March 1981.
08/30/82	Extensive subsurface soil sampling performed by USGS in August 1982.
05/30/83	Subsurface soil sampling in May 1983 indicated presence of 22 priority pollutants.
12/30/85	Site selected for Phase II investigation in December 1985.
06/30/86	PRP requested to perform RI/FS.
09/30/86	Work plan submitted.

SCHEDULE

10/30/87	Implementation of RI/FS workplan.
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9 DATES PRINTED FOR HUNTLEY POWER STATION/NIAGARA-MOHAWK.

08/31/87

HYDE PARK

NATS ID: 02

EPA ID: NYD000831644

STREET: Hyde Park Blvd.

CITY: Niagara Falls ZIP:

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 34.77 NPL: YES

DESCRIPTION:

The 15 acre Hyde Park Landfill is in the Town of Niagara, New York. The Landfill was utilized by Hooker Chemicals & Plastics Corporation (now OCC) as a dump site from 1953 to 1975. During that time, Hooker disposed of approximately 80,000 tons of hazardous materials at the site, including approximately 3,300 tons of 2,4,5-trichlorophenol (TCP) wastes. TCP wastes are known to contain significant amounts of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD).

The landfill is in a complex hydrogeological environment. Glacial overburden composed of fine clays, silts and sand overlies a carbonate and shale bedrock. Groundwater movement is both downward and horizontal through the fractures and layers of the bedrock. Aqueous and non-aqueous contaminants have migrated in the overburden and bedrock aquifers and aqueous phase liquids are seeping through the Niagara Gorge face.

In 1979, the site was capped and a soil overburden chemical leachate collection system installed. This system empties into a pair of lagoons at the southwest corner of the landfill where the aqueous phase leachate (APL) is decanted from the non-aqueous phase leachate (NAPL).

08/31/87

HYDE PARK

NATS ID: 02

EPA ID: NYD000831644

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
12/20/79	US DOJ files suit against OCC, later joined by New York State as co-plaintiff.
01/19/81	Stipulation and Judgment approving Settlement Agreement entered to Federal Court.
04/30/82	Settlement Agreement approved by Court.
06/19/82	Effective date of Settlement Agreement.
04/09/84	OCC proposes Requisite Remedial Technology (RRT) program.
09/05/84	Federal and New York State Governments respond to OCC's RRT program.
11/26/85	RRT Stipulation filed by the governments and OCC.
02/20/86	NAPL/APL Plume Redefinition Survey - design start.
02/28/86	Industrial Protection Program for four local industries - design initiated.
02/28/86	Community Monitoring Well Program design initiated.
02/28/86	Gorge Face Remediation Work - design initiated.
05/30/86	Leachate Storage and Handling Facility - design begun.
05/30/86	Lake Ontario TCDD study started.
08/11/86	RRT approved by Federal Court Judge J. Curtin
10/16/86	Trial Burns at OCC incinerator for chemical wastes and PCB's are initiated.
11/28/86	Leachate Treatment System design initiated.

08/31/87

HYDE PARK

NATS ID: 02

EPA ID: NYD000831644

11/29/86	Gorge Face Remediation work begun.
12/07/86	Industrial Protection Program for four local industries - installation begun.
12/15/86	Community Monitoring Well Program - installation of wells begins.
12/30/86	Hearing with Judge Curtin on Leachate Storage and Handling Facility.
01/30/87	Leachate Storage and Handling Facility - Plans submitted to Town of Niagara.
02/28/87	Utility Trench - design.
02/28/87	Lake Ontario TCDD Study laboratory protocols set up.
04/30/87	Observation Wells design started.
07/30/87	Lake Ontario TCDD Study Field Work begins.
08/18/87	Town to grant permit for permanent leachate storage facility or submit reasons for rejection.

SCHEDULE

08/10/87	60 day comment period ends on new Hyde Park Landfill Permanent Leachate Storage and Handling Facility.
08/30/87	NAPL/APL Plume Redefinition Survey - sampling begins.
08/30/87	Overburden Barrier Collection System - design begins.
08/30/87	Observation Wells - installation begins.
09/30/87	Utility Trench - installation.
10/07/87	Trial burn of NAPL at OCC incinerator.

08/31/87

HYDE PARK

NATS ID: 02

EPA ID: NYD000831644

10/30/87      Prototype Extraction Wells - design.

12/30/87      Overburden Barrier Collection System -  
installation begun.

06/30/88      Leachate storage facility completed.

09/30/88      NAPL Incineration permit obtained.  
Leachate treatment facility completed.

37 DATES PRINTED FOR HYDE PARK.

08/31/87

INS EQUIPMENT COMPANY

NATS ID: 20

EPA ID: NYD071470033

STREET: 411 River Road

CITY: Tonawanda, NY ZIP: 14150

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The INS Equipment site, located in the town of Tonawanda, is adjacent to the Niagara River at mile point 29.1. The 55 acre site was used to dispose of an unknown quantity of pit sludge, cutting oils, grinding waste, and foundry sand. The site has been covered, graded, and seeded. The site is bordered by River Road on the east, the Niagara River on the west, and the Niagara Mohawk Cherry Farm property to the north. Soil analysis has revealed the presence of heavy metals and organic chemicals. (The INS Equipment company facility is located on the west side of River Road across the street, and is not associated with this site).

08/31/87

INS EQUIPMENT COMPANY

NATS ID: 20

EPA ID: NYD071470033

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
08/27/83	State Hazardous Ranking Sheet completed.
08/30/83	Site assessed and inspected by EPA in August 1983.
08/30/85	Phase II investigation started in August 1985. Ten monitoring wells installed.
06/01/86	Phase II report finalized.

6 DATES PRINTED FOR INS EQUIPMENT COMPANY.

08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

STREET: Colvin Blvd.

CITY: Niagara Falls ZIP: 14304

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 52.23 NPL: YES

DESCRIPTION:

The Love Canal landfill is a rectangular 16-acre tract of land located in the southeast corner of the City of Niagara Falls. The site was excavated by William T. Love in the 1890's as part of a proposed power canal project linking the Niagara River and Lake Ontario. The canal project was abandoned and the canal was later used as a chemical and municipal waste disposal site.

Between 1942 and 1953, Hooker Chemical and Plastics Corp. (now Occidental Chemical Corporation) disposed of over 21,000 tons of liquid and solid wastes including acids, chlorinated hydrocarbon residues, toluenes, process sludges, and fly ash. The City of Niagara Falls also used the site for the disposal of municipal wastes. In 1953, Hooker sold the site (covered) with earth to the City of Niagara Falls Board of Education.

In 1954, an elementary school was built adjacent to the middle of the canal and by 1972 most homes with backyards directly abutting the landfill were completed. In the mid-late 1970's continued periods of high precipitation resulted in rising water table elevations. Water accumulated in the landfill and carried chemically contaminated leachate to the surface and into contact with basement foundations. Contaminants also migrated through sewers to two nearby creeks.



08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

# HIGHLIGHTS

01/01/01 This site is referenced in the 1984 NRTC Report. This listing represents one site.

01/02/01 These abbreviations are used in the dates below:  
HAB- Habitability study  
REM- Remediation, site clean-up  
CRC- Cost recovery

09/30/76 DEC first visits site while investigating for suspected Mirex discharges by Hooker Chemical.

10/01/76 DEC basement sump and sewer samples are collected and analyzed for Mirex and PCB's.

03/14/78 EPA releases a report by Research Triangle Institute of air analyses conducted at six homes bordering the landfill, confirming the presence of significant chemical contamination.

04/26/78 Top staff of DOH and DEC meet in Albany with EPA representatives to review test data and develop a cooperative remedial action plan.

05/15/78 HAB- EPA releases report concluding that chemical vapors in basements of canal homes suggest a serious health risk; State officials meet with residents to provide info on State's plans.

07/20/78 HAB- Governor signs legislation granting State Health Comm. additional emergency powers to deal with Love Canal problem. \$500,000 appropriated in State funds to conduct long-range health studies.

08/02/78 HAB- State Health Commissioner declares state of emergency. Issues order recommending relocation of pregnant women and children under 2 years old from 1st 2 rings of houses. Orders school closure.

08/07/78 HAB- President of United States declares an emergency. Federal aid approved. State announces it will purchase homes affected by chemicals.

08/09/78 HAB- State authorizes purchase of 239 houses including all homes on both sides of 97th and 99th Streets. Officials meet in Washington to discuss aid for Love Canal.

08/22/78 REM- State installs eight-foot high chain -link fence around the site and first two rings of houses.

08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

08/30/78 HAB- DEC creates Interagency Task Force on Hazardous Wastes to identify all chemical waste dump sites in Erie and Niagara Counties and to assess any health risks.

08/30/78 HAB- FDA approves approximately \$2 million in federal aid.

09/11/78 HAB- DOH announces plans to expand health studies to include residents living between 93rd and 103rd Streets.

09/13/78 REM- FDAA approves \$1.41 million for installation of drainage tile at southern end of canal.

09/19/78 REM- U.S. House of Representatives approves \$4 million for Love Canal clean-up.

09/27/78 REM- State Legislature authorizes \$18 million in supplemental budget for clean-up.

10/10/78 REM- Remedial construction work begins. DOH initiates daily monitoring of air quality and chemical exposure to workers.

11/30/78 REM- Trace amounts of dioxin confirmed in Love Canal leachate.

12/30/78 HAB- DOH and DEC undertake extensive air sampling of neighborhood ultimately testing basement air in approx. 700 houses. DOH sets up a field lab 10 blocks from the site.

02/08/79 HAB- Health Commissioner recommends temporary relocation of pregnant women and children under 2 years old residing between 97th and 103rd street

04/07/79 HAB- Governor grants homeowners a graduated 5 year property tax reduction, amounting to nearly 80% of assessed value of their homes in the first year.

06/04/79 HAB- Love Canal homeowners file Show Cause Order, seeking to halt remedial construction on northern and central sectors of the canal.

06/18/79 HAB- State Supreme Court Justice denies injunction sought by homeowners. Orders temporary relocation for residents who furnish physicians certificates attesting to illness due to remedial work.

08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

09/10/79 REM- Construction begins on permanent leachate treatment plant. 120 families (425 persons approx) are temporarily relocated to area hotels pending receipt of physicians statements.

12/07/79 REM- The permanent chemical treatment plant at Love Canal begins.

12/20/79 CRC- U.S. Department of Justice files suit on behalf of EPA to Force Hooker Chemical Corp. to spend over \$124 million to clean-up Love Canal and three other waste sites in Niagara Falls area.

04/29/80 CRC- State attorney general files \$635 million suit against Hooker Chemical Corp. and its parent Corporations to recover damages.

05/22/80 HAB- President Carter declares a second federal emergency. EPA announces that it will begin additional health tests within a few days.

05/23/80 HAB- Temporary relocation of residents begins for the third time with DOT coordinating effort with FEMA and EPA.

08/30/82 REM- Demolition of ring 1 and 2 homes completed.

06/30/83 REM- 99th Street School demolished.

08/30/83 HAB- Technical Review Committee established.

05/06/85 REM- ROD signed for creek and sewer cleaning, interim storage of sediments.

12/30/85 HAB- Draft habitability criteria released for public comment.

07/30/86 REM- Remedial investigation begun on 93rd Street school.

08/30/86 REM- Cleaning of 65,000 linear feet of sewer completed.

12/11/86 HAB- Revised draft habitability criteria finalized.

01/30/87 REM- Administration Building completed.

08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

02/15/87 HAB- Contractor presents draft habitability study final report.

03/28/87 HAB- Peer review of the design of the full scale habitability study sampling plan.

05/25/87 HAB- Complete dioxin field work.

06/24/87 The 3 alternatives in draft feasibility study are; 1) On-site land disposal 2) On-site thermal destruction/on-site disposal 3) On-site thermal destruction/off-site disposal.

06/24/87 REM- EPA releases a feasibility study "Alternatives for Destruction/Disposal of Love Canal Creek and Sewer Sediments."

06/29/87 HAB- EPA approves \$2.5 million to buy commercial, religious, vacant lots and remaining houses in the Emergency Declaration Area.

06/30/87 REM- Frontier Avenue sewer diversion.

07/28/87 HAB- Second round of air testing for toxic chemicals begins on 157 homes.

07/30/87 REM- Completion of interim storage facility and creek excavation.

08/10/87 REM- EPA releases a document- "Proposed Plan for Destruction/Disposal of Love Canal Creek and Sewer Sediments."

08/12/87 Thermal destruction technical workshop.

08/25/87 Public meeting with Winston Porter - 7:00 PM, Frontier Ave. Fire Hall in Wheatfield.

SCHEDULE

09/11/87 REM- Deadline for submitting public comment on documents released in June and August 1987.

09/15/87 HAB- Field sampling for full study.

04/30/88 REM- Creek clean up starts with construction of interim containment facility.

08/31/87

LOVE CANAL

NATS ID: 01

EPA ID: NYD000606947

04/30/89

REM- Sediment removal of creeks.

10/30/89

REM- Creek clean up completed.

57 DATES PRINTED FOR LOVE CANAL.

08/31/87

MOBIL OIL CORPORATION

EPA ID: NYD002107019

NATS ID: 13

STREET: 635 Elk Street

CITY: Buffalo, NY ZIP: 14204

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Mobil Oil Refinery facility is located on Elk Street in the City of Buffalo, and was operational from 1951 to 1981. A three acre swale area located on the seventy-seven acre plant facility was used for the disposal of wastes such as demolition debris, tank sediments, sewer sediments, soils containing asphalt, and general refuse. The wastes are believed to have been generated on site. The exact quantity of waste is unknown. Test borings completed in 1982 indicated that the soils are contaminated with iron, lead, cyclohexane and aliphatic hydrocarbons. Prior to Mobil's ownership of the site, the swale area, created by the redirecting of the Buffalo River, was used by the City of Buffalo for the disposal of an unknown quantity of municipal waste.

08/31/87

MOBIL OIL CORPORATION

EPA ID: NYD002107019

NATS ID: 13

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
12/30/82	Test borings completed in 1982 indicated soil contamination with iron, lead, cyclohexane and aliphatic hydrocarbons.
08/30/83	Site preliminary assessed and inspected by EPA in August 1983.
09/30/83	State Hazardous Ranking Sheet completed in September 1983.
03/30/86	Phase II investigation completed. No significant ground or surface water contamination found.
06/30/86	Phase II investigation report submitted in Spring 1986 indicated no significant problem. However, Mobil will conduct additional monitoring to confirm Phase II study results.

SCHEDULE

09/30/87	Mobil to continue monitoring for another year.
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8 DATES PRINTED FOR MOBIL OIL CORPORATION.

08/31/87

McNAUGHTON - BROOKS, INCORPORATED

NATS ID: 14

EPA ID: NYD980507016

STREET: 717 Elk Street

CITY: Buffalo, NY ZIP: 14210

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

During the period of 1960-1966, approximately 100 gallons per year of waste solvents were poured onto demolition material and a rubble pile located in the back of the plant. The site was sampled by the U.S.G.S. in 1982. Samples were analyzed for Cd, Cr, Fe, Pb and organic pollutants. Concentrations of Pb exceeded the background level. Ten of the organic priority pollutants were also detected. Six of the samples showed concentrations above 10 ppm.



08/31/87

McNAUGHTON - BROOKS, INCORPORATED

NATS ID: 14

EPA ID: NYD980507016

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
12/30/82	Site sampled by USGS in 1982. Analysis of soil samples indicated excess concentrations of lead and the presence of ten priority pollutants.
11/30/83	NYDEC Phase I investigation completed in November 1983.

SCHEDULE

09/30/87	Phase II delayed due to contractors inability to acquire professional liability insurance. Rescheduled to start in fall 1987.
03/30/88	Evaluation for NPL scheduled for winter 1988.

6 DATES PRINTED FOR McNAUGHTON - BROOKS, INCORPORATED.

08/31/87

NIAGARA COUNTY REFUSE DISPOSAL

NATS ID: 05

EPA ID: NYD000831644

STREET: Witmer Road

CITY: Town of Wheatfield ZIP: 14304

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 39.85 NPL: YES

DESCRIPTION:

This 50 acre site received thousands of tons of municipal refuse, sewage sludge and industrial wastes during its years of operation. Hazardous wastes were deposited from 1968 to 1976. The City of Niagara Falls, the City of North Tonawanda and the Niagara Sanitation Co. deposited municipal wastes. Bell Aerospace, Hooker-Durez, DuPont, Olin, Hooker Chemicals and Plastics and others deposited industrial wastes. Illegal dumping of rubbish and hard fill, as well as the erosion of the clay cap have been problems for the site in the past.

08/31/87

NIAGARA COUNTY REFUSE DISPOSAL

NATS ID: 05

EPA ID: NYD000831644

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
10/29/76	Wheatfield site officially closed.
03/30/79	NYSDEC and EPA Interagency Task Force report.
12/30/81	Surface water sediments sampled by EPA and DEC.
12/30/82	Soil and groundwater samples taken by U.S.G.S.
01/05/83	Remedial Action master plan released.
12/30/83	Bedrock wells installed. Groundwater, surface water and sediment samples taken.
02/28/85	Phase II State Superfund investigations starts.
05/30/85	DOH inspection conducted.

SCHEDULE

09/30/87	Phase II Report Completed.
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10 DATES PRINTED FOR NIAGARA COUNTY REFUSE DISPOSAL.

08/31/87

OCCIDENTAL CHEMICAL (DUREZ DIV)

NATS ID: 23

EPA ID: NYD002106938

STREET: 600-680 Walck Road

CITY: North Tonawanda, NY ZIP: 14120

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Occidental Chemical Corporation (Durez Division) plant site is located in the City of North Tonawanda and is 1.7 miles (2.7 kilometers) from the Niagara River. The plant site has 14 separate disposal sites operated by the company between 1930 and 1973. Two of the sites have been clay capped and are being monitored. Two hundred and fifty tons of phenolic tar containing chlorobenzenes, 250 tons of calcium-aluminum oxide and calcium phosphate, and 28,000 tons of phenolic materials were disposed at the site.

There is a potential for contaminants to migrate within the more permeable fill and fluvial sands and gravel. Thirty monitoring wells were installed in the unconsolidated deposits and sampled in 1980 for organic compounds by the owner. The analyses from these wells indicated a substantial amount of contamination. While site investigation activities were underway, total dioxins were detected by the owner in 1982 at a mean level of 87 picograms per gram (parts per trillion) in residues on the site. The isomer 2,3,7,8 tetrachloro-dibenzo-p-dioxin has not been detected in the groundwater.

08/31/87

OCCIDENTAL CHEMICAL (DUREZ DIV)

NATS ID: 23

EPA ID: NYD002106938

HIGHLIGHTS

01/01/01	This site is referenced in the NRTC Report. This listing represents a cluster of fourteen sites.
03/31/79	Site identified by NYSDEC in 1979.
04/30/80	Site preliminary assessed and inspected by EPA in April 1980.
07/30/84	Sampling and analyses of surface and subsurface soils, groundwater, and trench exam of underlying clay layer.
04/30/85	Soil samples at residential sites near plant analyzed.
01/30/86	Investigation of sewers.
01/30/86	RI/FS started.
12/30/86	Remedial alternative plan completed.

SCHEDULE

09/30/87	Complete remedial plan conceptual design submitted.
12/30/88	Start remedial construction in 1988.

10 DATES PRINTED FOR OCCIDENTAL CHEMICAL (DUREZ DIV).

08/31/87

OCCIDENTAL CHEMICAL CORP-BUFFALO AVE

NATS ID: 32

EPA ID: NYD980531156

STREET: Buffalo Avenue

CITY: Niagara Falls, NY ZIP: 14302

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

These sites are located on the Occidental Chemical (Buffalo Avenue Plant) site in the City of Niagara Falls, adjacent to the Robert Moses Parkway along the Niagara River at mile point 17.3. The disposal site contains mostly unknown quantities of organic chemicals, metals, chlorides, sulfides and phosphorous compounds.

Approximately 120 monitoring wells have been installed to determine the hydrogeologic system and extent of groundwater contamination at the plant.

Sometime in the past, the Niagara River flowed over part of the southern property of the site. North of this ancient shoreline, the stratigraphy consists of poorly sorted fill averaging 13 feet (4.0 meters) thick, which overlies very fine sand or a clay layer of approximately 16 feet (6.0 meters). This overlies a till which in turn overlies the Lockport Dolomite. South of the ancient shoreline, the clay is usually absent. The thickness of the very fine sand and fill is greater where the clay and till is thin or absent.

Water levels in wells installed in the unconsolidated deposits revealed a flow direction to the south toward the Niagara River.

Water levels in wells installed in the Lockport Dolomite indicate groundwater moving northwest, away from the Niagara River. At the site, groundwater in the Lockport Dolomite is recharged by the Niagara River.

08/31/87

OCCIDENTAL CHEMICAL CORP-BUFFALO AVE

NATS ID: 32

EPA ID: NYD980531156

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents a cluster of nine sites.
03/31/79	Site identified by NYSDEC.
01/30/82	Complaint filed by New York State Attorney General in January 1982 against Occidental Chemical Corp. for these sites.
08/01/84	Negotiations result in Occidental submittal of historic data base containing hydrogeologic and chemical data.
04/04/85	Occidental submits initial draft supplementary data collection plan.
03/30/86	Dioxin sampling conducted in March 1986. TCDD detected.
09/30/86	RCRA Corrective Action Plan initiated. Interim remedial measures taken in late 1986 and early 1987.

7 DATES PRINTED FOR OCCIDENTAL CHEMICAL CORP-BUFFALO AVE.

08/31/87

OLIN CORPORATION

EPA ID: NYD002123461

NATS ID: 34

STREET: Buffalo Avenue

CITY: Niagara Falls, NY ZIP: 14320

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The plant's years of operation were from 1957 to 1974. Parking Lot (932051a) - This site is located north of Buffalo Avenue, across from the Olin Plant site. It was used for the disposal of coal, ash and brine sludge. The ash and sludge were landspread to fill in low areas of the parking lot. The parking lot has been paved.

Mercury Pond & Plant Site (932038 & 932051b) - This site contains areas where mercury brine sludge was spread on the surface as fill. In addition, a pond was used for retaining wastewater from the mercury cell room. The pond was reportedly used for 3 months in 1970.

A series of monitoring wells were installed on the eastern portion of the plant site where organic chemical manufacturing occurred. Mercury and organics have been detected in these wells. Offsite migration via groundwater movement is indicated. In 1981, Olin completed a clean-up project in Gill Creek which is adjacent to the plant. Sediments contaminated with lindane were removed and disposed of in a secure landfill.



08/31/87

OLIN CORPORATION

EPA ID: NYD002123461

NATS ID: 34

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents a cluster of three sites.
03/31/79	Site identified by NYSDEC in 1979.
12/30/81	Olin removed and disposed of lindane contaminated sediments from Gill Creek in 1981.
04/30/83	Site assessed and inspected by EPA in April 1983.
11/30/83	Phase I investigation of site completed.
12/30/86	Dioxin sampling under National Dioxin Strategy conducted in fall of 1986.

6 DATES PRINTED FOR OLIN CORPORATION.

08/31/87

REICHHOLD-VARCUM CHEMICAL DIVISION

NATS ID: 30

EPA ID: NYD002103216

STREET: 5000 Packard Road

CITY: Niagara Falls, NY ZIP: 14302

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Reichhold-Varcum site is located in the eastern portion of the City of Niagara Falls. The site is about 1.8 miles (2.9 kilometers) from the Niagara River. Until 1979, a settling pond was used on site for the removal of phenolic waste sludge from plant wastewater. The pond was removed from service in 1979 and all excavated materials were placed in a secure landfill. Monitoring wells were subsequently installed on the plant site in 1981 and in 1982 to determine the impact the lagoon and phenol storage area had on the groundwater beneath the site. Samples from these wells revealed significant levels of phenols.

08/31/87

REICHHOLD-VARCUM CHEMICAL DIVISION

NATS ID: 30

EPA ID: NYD002103216

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
11/30/81	Site preliminary assessed by EPA in November 1981.
12/30/81	Monitoring wells installed by Reichhold-Varcum in 1981. Samples from wells indicated significant levels of phenols.
08/30/85	Additional bedrock monitoring wells installed in late August 1985.
04/30/86	Submittal of remedial plan prepared by PRP.
12/30/86	Contaminated soils excavated at old tank farm and new tanks installed in fall 1986.

SCHEDULE

10/30/87	Pump test conducted.
12/30/88	Remedial work scheduled in 1988.

9 DATES PRINTED FOR REICHHOLD-VARCUM CHEMICAL DIVISION.

08/31/87

S-Area (OCC Main Plant)

NATS ID: 03

EPA ID: NYD980651087

STREET: 53rd Street

CITY: Niagara Falls ZIP:

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 51.62 NPL: YES

DESCRIPTION:

The S-Area Site is an 8-acre landfill owned by Occidental Chemical Corporation where approximately 63,000 tons of organic and inorganic chemicals were disposed by the site owner from 1947 to 1961. Use of the site for debris disposal ended in 1975. Located east of the site, just across 53rd Street is the City of Niagara Falls drinking water treatment facility.

After the landfill was closed, Occidental capped the site. At the present time, two lagoons exist on site. These lagoons are for non-hazardous wastewater from plant operations and are operated under State permits. In 1969, during a routine inspection of the city water plant, small amounts of chemicals were found in the intake structures. Sampling in 1978 of the intake structures and the bedrock intake tunnels revealed chemical contamination. Soil sampling of the plant property also revealed chemical contamination. In 1983, the City of Niagara Falls Water Authority closed the contaminated bedrock intake tunnel and began utilizing the overburden intake tunnel. In December 1979, the Department of Justice filed a civil action against Occidental. The legal action began a series of negotiations, which continued until 1984. A Settlement Agreement was signed in January 1984 that allows the Federal and State Governments to establish criteria and oversee clean up activities at both the S-Area Site and the water treatment plant. The Settlement Agreement was approved on April 15, 1985. The effective date of the Agreement was June 14, 1985.

08/31/87

S-Area (OCC Main Plant)

NATS ID: 03

EPA ID: NYD980651087

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
01/10/84	Settlement Agreement signed.
04/15/85	Settlement Agreement approved.
06/14/85	Effective date of the Settlement Agreement.
11/21/86	Settlement Agreement Addendum V was entered into the U.S. District Court for the Western District of New York and signed by Judge John T. Curtin.
12/01/86	Survey work begins. OCC begins to drill survey wells and borings to determine extent of migration.
05/27/87	Northern area geologic and hydrogeologic borings completed.
06/05/87	Barrier wall/site collection system geologic borings complete.
06/09/87	Tracer monitoring well installation begins.
06/25/87	Water Treatment plant, overburden survey wells and borings completed.
07/10/87	OCC begins to install 5 bedrock monitoring wells for hydraulic gradient monitoring.
07/16/87	OCC begins drilling chemical monitoring wells to evaluate the effectiveness of containment systems.
08/07/87	Tracer monitoring well installation completed.
08/28/87	Chemical monitoring well installation completed.

SCHEDULE

08/28/87	Hydraulic gradient monitoring wells and chemical monitoring wells installation completed.
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8/31/87

S-Area (OCC Main Plant)

NATS ID: 03

EPA ID: NYD980651087

12/30/87

Confining layer discontinuity assessment completed

16 DATES PRINTED FOR S-Area (OCC Main Plant).

08/31/87

SOLVENT CHEMICAL CORP.

EPA ID: NYD000349449

NATS ID: 33

STREET: 3163 Buffalo Avenue

CITY: Niagara Falls, NY ZIP: 14303

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Solvent Chemical site on Buffalo Avenue is located on the east side of Gill Creek between the Olin and Du Pont Chemical plants in a heavily industrialized section of the City of Niagara Falls, Niagara County. The site was used for the production of chlorinated benzenes, including dichloro, trichloro, and tetrachlorobenzene between 1974 to 1978. The site is owned by the 3163 Buffalo Avenue Corporation and is currently leased by the Niagara Industrial Warehouse to store soda ash, potash, fuel oil and similar non-hazardous materials.

08/31/87

SOLVENT CHEMICAL CORP.

NATS ID: 33

EPA ID: NYD000349449

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
06/30/81	Site identified by EPA in June 1981.
03/30/83	Phase I investigation conducted in the winter of 1983.
03/30/83	Phase I investigation initiated by NYSDEC.
11/30/83	Phase I investigation released by NYSDEC.
12/09/83	Complaint filed by New York State Attorney General.
02/28/84	Phase II investigation initiated by NYSDEC.
07/31/85	Phase II report released.
09/16/85	Amended stipulation and order on consent filed with Federal Court.
03/30/86	Site preliminary assessed and inspected by NYSDEC in March 1986.
03/20/87	Principal Responsible Parties submit workplan for RI/FS.
07/01/87	Revised work plan submitted.

12 DATES PRINTED FOR SOLVENT CHEMICAL CORP..



08/31/87

SQUAW ISLAND

EPA ID: NYD980509186

NATS ID: 17

STREET: Squaw Island

CITY: Buffalo, NY ZIP: 14202

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

Squaw Island is located between the Niagara River and the Black Rock Canal, which separates the island from the mainland of the City of Buffalo. From 1954-1970, the island was used for the disposal of waste foundary sand consisting of insoluble metal compounds, trace oils and resins. During the mid 1970's, much of the fill was excavated and transferred to the Tifft site to allow for the construction of the Buffalo Sewer Authority Wastewater Treatment Plant. The natural island was enlarged by infilling with incinerator residue, construction and demolition debris and other household refuse.

There are some areas of litter and exposed refuse, but cover is generally good. Soil samples were collected by the U.S.G.S. in 1982 and 1983 and analyzed for chromium, copper and organics. The results indicated elevated levels of both chromium and copper. A number of organic priority and non-priority pollutants were also detected.

08/31/87

SQUAW ISLAND

NATS ID: 17

EPA ID: NYD980509186

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site identified by NYSDEC in 1979.
12/30/82	Soil sample analyzed by USGS in 1982 indicated elevated levels of chromium and copper. Organics also detected.
04/30/83	Site assessed and inspected by EPA in April 1983.

SCHEDULE

09/30/87	Phase II delayed due to contractors inability to acquire professional liability insurance. Rescheduled to start fall 1987.
06/30/88	Evaluation for NPL scheduled for Spring 1988.

6 DATES PRINTED FOR SQUAW ISLAND.

08/31/87

TIMES BEACH

NATS ID: 12

EPA ID: NYD980535330

STREET: Fuhrmann Blvd. (North End)

CITY: Buffalo, NY ZIP: 14203

CONGRESSIONAL DISTRICT: 33

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The Times Beach disposal site occupies 51 acres of land in an industrial area on the Buffalo Waterfront. This property, owned by the City of Buffalo, is bounded on the north by a U.S. Coast Guard Station, on the east by Fuhrmann Boulevard, and on the west and south by the Buffalo Harbor. Approximately 30 acres of the 51 acre site received contaminated material known to contain PCBs, Benzopyrene, Aniline and 2-Ethylhexyl Phtalate. During the years of active operation, 1971 to 1976, the disposal site, operated by the U.S. Army Corps of Engineers, received dredge spoils from the Buffalo River, Buffalo Harbor, and Black Rock Canal. A total of 550,000 cubic yards of dredged material was deposited on the site.

Analysis of soil samples has revealed elevated levels of organic pollutants. Surface water analysis indicates levels are within applicable EPA standards. In 1976, after the disclosure that a valuable wetland habitat had developed, Times Beach was abandoned for further dredge disposal. In 1978, the NYSDEC officially designated Times Beach as a protected wetland.

08/31/87

TIMES BEACH

NATS ID: 12

EPA ID: NYD980535330

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
04/30/80	Site initially identified by EPA in April 1980.
09/30/83	Phase I investigation completed. The report concludes that a Phase II investigation is not needed.
09/30/83	Preliminary Hazardous Ranking sheet completed in September 1983.
12/30/83	Groundwater sampling conducted by USGS in 1983 indicated elevated levels of heavy metals and several organics.
09/30/86	Preliminary results of the Army Corps of Engineers additional investigations completed.

6 DATES PRINTED FOR TIMES BEACH.

08/31/87

TONAWANDA COKE COMPANY

EPA ID: NYD088413877

NATS ID: 19

STREET: 3875 River Road

CITY: Tonawanda, NY ZIP: 14150

CONGRESSIONAL DISTRICT: 32

HRS SCORE: 0.00 NPL: NO

DESCRIPTION:

The site, a five acre industrial dump which was closed in 1978, is located adjacent to the Niagara River in the town of Tonawanda. The site was used for general landfilling of fly ash, cinders, and tar sludges disposed at the rate of 4680 tons per year during the period of 1930 to 1979. In 1982 and 1983, the U.S.G.S. collected soil, groundwater and surface water samples from this site. Upgradient groundwater sampled exceeded standards for iron and cyanide but were below 100 ppb.

08/31/87

TONAWANDA COKE COMPANY

NATS ID: 19

EPA ID: NYD088413877

HIGHLIGHTS

01/01/01	This site is referenced in the 1984 NRTC Report. This listing represents one site.
03/31/79	Site initially identified by NYSDEC in 1979.
07/14/82	U.S.G.S. collects groundwater, surface water and soil samples at the site.
05/24/83	U.S.G.S. resamples the site.
06/01/85	Phase I report completed by NYSDEC.
10/30/85	Phase II study initiated by Tonawanda Coke.
02/28/87	Phase II study completed.

SCHEDULE

05/30/88	Consent order negotiations.
07/30/88	RI-FS

9 DATES PRINTED FOR TONAWANDA COKE COMPANY.

**APPENDIX B**

**STATUS OF ACTIVE HAZARDOUS WASTE  
FACILITIES REGULATED UNDER RCRA**

INDEX OF ACTIVE HAZARDOUS WASTE FACILITIES  
REGULATED UNDER RCRA

Source Name	Site ID
Allied Corp.	10
Battery Disposal Technology	12
Bell Aerospace Textron	14
Bell Test Center	05
Bethlehem Steel Corp.	16
BTL Specialty Resins	15
Buffalo Color Corp.	08
CECOS International	01
Envirotek Ltd.	07
Frontier Chemical Waste Process Inc.	06
Love Canal Leachate Treatment Plant	11
Occidental Chemical Corp. - Hyde Park	04
Occidental Chemical Corp. - Niagara Plant	03
Olin Corp. Niagara Falls Plant	13
SCA Chemical Waste Services (Model City)	02
U.S. Airforce - 914th TAG	17
Voelker Analysis, Inc.	09



08/31/87

ALLIED CORP.

EPA ID: NYD010771202

NATS ID: 10

STREET: 20 Peabody Street

CITY: Buffalo, NY ZIP: 14210

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 09/09/82

PART B SUBMITTAL: 03/17/83

DRAFT PERMIT: 02/24/84

FINAL PERMIT ACTION: 07/30/84

DESCRIPTION:

This 100 acre site has been in operation since 1950.  
It uses distillation and neutralization to treat the wastes.  
There is no deposition of wastes on-site.

08/31/87

ALLIED CORP.

EPA ID: NYD010771202

NATS ID: 10

HIGHLIGHTS

07/30/84

Final RCRA permit issued.

1 DATES PRINTED FOR ALLIED CORP..

08/31/87

BATTERY DISPOSAL TECHNOLOGY

EPA ID: NYD000632372

NATS ID: 12

STREET: 4255 Parker Way

CITY: Clarence, NY ZIP: 14031

CONGRESSIONAL DISTRICT: 31

PART B REQUESTED: 09/09/82

PART B SUBMITTAL: 03/18/83

DRAFT PERMIT: 12/13/85

FINAL PERMIT ACTION: 03/17/86

DESCRIPTION:

This site is approximately 100 acres. Reactive, corrosive, ignitable, and EP toxic wastes are stored in 300 55-gallon drums. The tanks can treat 1300 gallons and 100 pounds per hour can be incinerated.

●8/31/87

BATTERY DISPOSAL TECHNOLOGY

EPA ID: NYD000632372

NATS ID: 12

● HIGHLIGHTS

● 05/31/84 Notice of Deficiency sent.

07/19/84 Additional information received.

● 01/16/85 Additional information received.

08/09/85 First public notice of draft permit.

● 12/13/85 Public notice for HSWA.

01/30/87 Facility inspected. No violations observed.

● 6 DATES PRINTED FOR BATTERY DISPOSAL TECHNOLOGY.

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08/31/87

BELL AEROSPACE TEXTRON

EPA ID: NYD002106276

NATS ID: 14

STREET: 2221 Niagara Falls Blvd.

CITY: Niagara Falls, NY ZIP:

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 03/29/84

PART B SUBMITTAL: 09/28/84

DRAFT PERMIT: / /

FINAL PERMIT ACTION: / /

DESCRIPTION:

This on-site facility consists of a dewatered 100' x 60' surface impoundment. Wastes consist primarily of solvents and other organics. Groundwater contamination has been detected on-site as a result of releases from the surface impoundment. The approved closure plan involves the excavation of the surface impoundment to the water table. Impacted clay is to be used as fill to reduce infiltration.

●8/31/87

BELL AEROSPACE TEXTRON

EPA ID: NYD002106276

NATS ID: 14

● HIGHLIGHTS

● 06/12/85 Closure plans submitted.

12/05/85 Status of Exposure Information report submitted.

● 10/08/86 Closure plan approved.

06/04/87 Phase I and II of Plume Definition Plan completed.  
Plume determined not to be off-site.

● SCHEDULE

10/30/87 Preliminary assessment completed.

● 5 DATES PRINTED FOR BELL AEROSPACE TEXTRON.

08/31/87

BELL TEST CENTER

EPA ID: NY4572024624

NATS ID: 05

STREET: Balmer Road

CITY: Porter, NY ZIP: 14131

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 05/13/83

PART B SUBMITTAL: / / WITHDRAWN

DRAFT PERMIT: / / UNDERGOING

FINAL PERMIT ACTION: / / CLOSURE

DESCRIPTION:

This facility is a Department of Defense site that includes an inactive incinerator, storage pad, and a surface impoundment that is not regulated. The incinerator was used for disposal of isopropyl alcohol, monomethyl hydrazine and unsymmetrical dimethyl hydrazine. The container storage area was in operation from 1950 until September 1983 and was 20 feet by 25 feet. The area managed spent solvents, freon, isopropyl alcohol, methylene chloride and hydrazine. The surface impoundment collected 18,000 gallons per day during its operation from 1950 to February 1981. It collected drainage throughout the plant which may have been potentially contaminated with corrosive hydrofluoric acid.

08/31/87

BELL TEST CENTER

EPA ID: NY4572024624

NATS ID: 05

HIGHLIGHTS

02/27/81	Surface impoundment closed.
05/13/83	Part B called in.
09/08/83	Container storage area closed.
02/28/85	Original closure plans submitted.
04/30/86	Revised closure plans submitted.
05/01/86	Closure plan given initial approval. Sampling of regulated areas completed.
07/31/87	Closure plan becomes public.

SCHEDULE

09/11/87	Public notice in Niagara Falls Gazette.
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8 DATES PRINTED FOR BELL TEST CENTER.



08/31/87

BETHLEHEM STEEL CORP.

NATS ID: 16

EPA ID: NYD002134880

STREET: 2558 Lake Shore Road

CITY: Lackawanna, NY ZIP: 14218

CONGRESSIONAL DISTRICT: 33

PART B REQUESTED: 03/30/83

PART B SUBMITTAL: / / APPL. WITHDRAWN

DRAFT PERMIT: / / UNDERGOING

FINAL PERMIT ACTION: / / CLOSURE

DESCRIPTION:

This facility consists of three inactive RCRA landfills. The Spent Pickle Liquor landfill is 0.65 acres, unlined, and is used for neutralization of acidic wastes from steel production. The Decanter Tar Sludge landfill is 0.40 acres, unlined and unbermed. It contains absorber acid tar and decanter tank tar sludge. The Ammonia Still Lime Sludge landfill is 5.35 acres, unlined, diked and built on slag fill. It contains hazardous ammonia still lime sludge. The facility stored wastes from the 1920's until 1983. In 1982 a groundwater monitoring program was implemented. In July 1984 and June 1985, the company requested delisting of this site.

●8/31/87

BETHLEHEM STEEL CORP.

EPA ID: NYD002134880

NATS ID: 16

HIGHLIGHTS

● 12/30/82 Groundwater monitoring program implemented.

12/30/83 Original closure plans submitted.

● 07/30/84 Company requests delisting.

06/30/85 Company requests delisting.

● 08/02/85 EPA consent order requiring submission of closure plans and new groundwater program.

09/04/86 Revised closure plan for 373 units submitted.

● 02/10/87 Notice of deficiency sent to Bethlehem Steel Corp. from EPA on closure plans.

04/05/87 Revised closure plans submitted.

● 8 DATES PRINTED FOR BETHLEHEM STEEL CORP..

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08/31/87

BTL SPECIALTY RESINS

NATS ID: 15

EPA ID: NYD002103216

STREET: 5000 Packard Road

CITY: Niagara Falls, NY ZIP: 14302

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 09/22/86

PART B SUBMITTAL: 04/01/87

DRAFT PERMIT: / /

FINAL PERMIT ACTION: / /

DESCRIPTION:

BTL Specialty Resins is a phenol-formaldehyde resin manufacturer which stores, treats and incinerates hazardous wastes generated on-site. This facility was the Varcum Chemical Division of Reichold Chemicals, Inc. In April 1986, BTL acquired this facility.

In the manufacture of the resins, phenol, water, formaldehyde and methanol are mixed in heated kettles. Vapors (distillate) from this process are stored in tanks. Once the resin is produced, the kettles are washed with solvents. These solvents are stored in drums, and then pumped to the incinerator. The storage facilities will be (if permitted), four tanks; one 30,000 gallon and three 12,000 gallons. Container storage consists of 112 55-gallon drums.

08/31/87

BTL SPECIALTY RESINS

EPA ID: NYD002103216

NATS ID: 15

SCHEDULE

02/28/88 Trial Burn approval.

09/30/88 Draft permit

2 DATES PRINTED FOR BTL SPECIALTY RESINS.

08/31/87

BUFFALO COLOR CORP.

EPA ID: NYD080335052

NATS ID: 08

STREET: 340 Elk Street

CITY: Buffalo, NY ZIP: 14210

CONGRESSIONAL DISTRICT: 33

PART B REQUESTED: 11/14/83

PART B SUBMITTAL: 05/24/84 Withdrawn

DRAFT PERMIT: / / Undergoing

FINAL PERMIT ACTION: / / Closure

DESCRIPTION:

This is a storage and disposal facility. There are three surface impoundments. Impoundments #1 and #2 have capacities of 1,000,000 gallons each, #3 has a capacity of 700,000 gallons. The impoundments hold corrosive waste. The facility also has a container accumulation capacity of approximately 100 drums for less than 90 days. The hazardous wastes in the drums include acids, solvents, metals and organics.

08/31/87

BUFFALO COLOR CORP.

EPA ID: NYD080335052

NATS ID: 08

HIGHLIGHTS

07/30/86 Permit application withdrawn.

08/18/86 Certification of Closure for Impoundment #3 submitted.

SCHEDULE

10/01/87 Consent agreement for inadequate Part B completed.

11/30/87 Preliminary groundwater results and evaluation for post closure program.

12/30/87 Closure of surface impoundment #2.

11/30/88 Closure of surface impoundment #1.

6 DATES PRINTED FOR BUFFALO COLOR CORP..

08/31/87

CECOS INTERNATIONAL

EPA ID: NYD080336241

NATS ID: 01

STREET: 56th St. & Pine Ave.

CITY: Niagara Falls, NY ZIP: 14302

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 02/04/83

PART B SUBMITTAL: 08/16/83

DRAFT PERMIT: 02/25/87 for SCRF #6

FINAL PERMIT ACTION: 07/01/88

DESCRIPTION:

This is a complex, commercial storage, treatment, land disposal facility accepting most classes of RCRA hazardous wastes as well as PCB's. The entire 385 acre site contains five inactive hazardous waste landfill areas, one active hazardous waste landfill, one proposed hazardous waste landfill, two leachate storage tanks and storage for approximately 1,200 drums. The Phase I wastewater treatment facility contains 3 tanks and 8 impoundments.

The proposed SCARF #6 hazardous waste landfill will cover an area of 20 acres, with a fill capacity of 1.1 million cubic yards and have a 4 year projected life.

08/31/87

CECOS INTERNATIONAL

EPA ID: NYD080336241

NATS ID: 01

HIGHLIGHTS

09/30/76	SCMF No. 1 becomes operational.
07/30/78	SCMF No. 2 becomes operational.
09/30/78	SCMF No. 1 closes.
09/30/79	SCMF No. 2 closes.
02/28/80	SCMF No. 3 becomes operational.
01/30/82	SCMF No. 4 becomes operational.
09/30/82	SCMF No. 3 closes.
09/30/84	SCMF No. 5 becomes operational.
02/22/85	EPA Orders 3013 and 3008.
10/30/85	SCMF No. 4 closes.
02/25/87	Secure Chemical Residue Facility No. 6 DP proposed
06/02/87	Public hearing
08/03/87	New York State law becomes effective requiring SCARF #6 project to be reviewed by siting board.

13 DATES PRINTED FOR CECOS INTERNATIONAL.



08/31/87

ENVIROTEK LTD.

EPA ID: NYD038641601

NATS ID: 07

STREET: 4000 River Road

CITY: Tonawanda, NY ZIP: 14150

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 09/09/82

PART B SUBMITTAL: 03/17/83

DRAFT PERMIT: 05/04/88

FINAL PERMIT ACTION: 10/04/88

DESCRIPTION:

The Envirotek facility is located within the 50 acre Roblin Industrial Park and has been in operation since March 1949. Envirotek recycles and reclaims various waste solvents and other residuals obtained from industrial sources, and subsequently sells the reclaimed products to industrial users. It primarily distills spent solvents using three stills.

08/31/87

ENVIROTEK LTD.

EPA ID: NYD038641601

NATS ID: 07

HIGHLIGHTS

03/26/49	Facility becomes operational.
11/30/85	Complaint issued by EPA for failure to submit a complete part B & other interim status violations.
01/30/86	Settlement conference held.
02/28/86	Amended complaint issued by EPA.
07/30/87	EPA & Envirotek attorneys meet to conference call w/Admin.Law Judge in Wash. DC re:ammend. complaint

5 DATES PRINTED FOR ENVIROTEK LTD..

08/31/87

FRONTIER CHEMICAL WASTE PROCESS INC.

NATS ID: 06

EPA ID: NYD043815703

STREET: 4626 Royal Ave.

CITY: Niagara Falls, NY ZIP: 14303

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 09/09/82

PART B SUBMITTAL: 03/17/83

DRAFT PERMIT: 11/30/87

FINAL PERMIT ACTION: 04/30/88

DESCRIPTION:

This is a commercial storage and treatment facility containing 60 tanks and up to 3,900 drums. The site has been in use since 1906 as a caustic-chlorine plant. It was purchased in 1975 for use as a waste treatment site. Hazardous wastes include halogenated and non-halogenated solvents, oily wastes, metals pesticides and other hydrocarbons. There is groundwater contamination.

08/31/87

FRONTIER CHEMICAL WASTE PROCESS INC.

NATS ID: 06

EPA ID: NYD043815703

HIGHLIGHTS

12/30/81	Groundwater monitoring system installed.
09/21/84	Order requiring groundwater investigation issued.
09/30/85	Revised Part B application submitted.
01/07/86	A State review of the application received and under review.
02/28/86	Complaint filed for violation of 9/21/84 order.
12/30/86	Expanded groundwater monitoring system designed to assess releases from the plants' operation.
03/30/87	Additional information received. Permit status under review.

7 DATES PRINTED FOR FRONTIER CHEMICAL WASTE PROCESS INC..

08/31/87

LOVE CANAL LEACHATE TREATMENT PLANT

NATS ID: 11

EPA ID: NYD000767657

STREET: 805 97th Street

CITY: Niagara Falls, NY ZIP: 14303

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: / / not required

PART B SUBMITTAL: / /

DRAFT PERMIT: / /

FINAL PERMIT ACTION: / /

DESCRIPTION:

The facility is operated by the DEC to clean-up the Love Canal Superfund site. Contaminated leachate is treated in an activated carbon system, with effluent discharge sent to the Niagara Falls municipal wastewater treatment plant. Hazardous waste sludge is a by-product of this treatment process. Although this superfund site is not required to have a permit, it must meet RCRA technical requirements. Plasma Arc technology is planned to destroy the contaminated sludges that are generated at the facility.

The unit is not operational as yet. Technical reviews are to be conducted by regulatory agencies prior to approval to operate.

08/31/87

LOVE CANAL LEACHATE TREATMENT PLANT

NATS ID: 11

EPA ID: NYD000767657

HIGHLIGHTS

06/15/87 Preliminary draft trial burn plan submitted by  
NYSDEC.

07/20/87 EPA completes technical review of the trial burn  
plan and found it deficient.

SCHEDULE

10/30/87 Trial burn

3 DATES PRINTED FOR LOVE CANAL LEACHATE TREATMENT PLANT.

08/31/87

OCCIDENTAL CHEM. CORP. - HYDE PARK

NATS ID: 04

EPA ID: NYD000831644

STREET: 4700 Hyde Park Blvd.

CITY: Niagara Falls, NY ZIP: 14305

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: / /

PART B SUBMITTAL: 03/04/83

DRAFT PERMIT: / / N/A

FINAL PERMIT ACTION: / / N/A

DESCRIPTION:

This is a new facility to be constructed as part of the remediation of OCC's Hyde Park Superfund site. Contaminated leachate consisting primarily of organics including PCB's and dioxin from the OCC's Hyde Park landfill, will be stored and treated at this facility. The non-aqueous phase liquid (NAPL) is to be incinerated at OCC's Niagara Plant. The facility will have tank storage and treatment with auxillary container storage.

For schedule dates, refer to Hyde Park entries in CERCLA.

08/31/87

OCCIDENTAL CHEM. CORP. - HYDE PARK

NATS ID: 04

EPA ID: NYD000831644

0 DATES PRINTED FOR OCCIDENTAL CHEM. CORP. - HYDE PARK.



08/31/87

OCCIDENTAL CHEMICAL CORP.-NIAGARA PLANT

NATS ID: 03

EPA ID: NYD000824482

STREET: 47th Street & Buffalo Ave.

CITY: Niagara Falls ZIP: 14302

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 09/09/82

PART B SUBMITTAL: 03/17/83

DRAFT PERMIT: / /

FINAL PERMIT ACTION: / /

DESCRIPTION:

This facility is applying for a RCRA permit to store and incinerate on-site generated wastes and Superfund wastes (including PCB's and dioxins) from OCC's Hyde Park Landfill.

08/31/87

OCCIDENTAL CHEMICAL CORP.-NIAGARA PLANT

NATS ID: 03

EPA ID: NYD000824482

HIGHLIGHTS

10/16/86 Trial Burn #1 RCRA plant wastes.

11/05/86 Trial Burn #2 PCB wastes from other OCC sites.

SCHEDULE

10/07/87 Trial Burn #3 Dioxin wastes from other OCC sites.

11/30/87 Draft EPA/State Permit No. 1 for plant waste incineration.

11/30/87 RCRA plant waste draft permit.

03/15/88 PBC/dioxin draft permit.

05/31/88 RCRA final plant waste permit.

10/15/88 PCB/dioxin final permit.

8 DATES PRINTED FOR OCCIDENTAL CHEMICAL CORP.-NIAGARA PLANT.

08/31/87

OLIN CORP. NIAGARA FALLS PLANT

NATS ID: 13

EPA ID: NYD002123461

STREET: 2400 Buffalo Ave.

CITY: Niagara Falls, NY ZIP: 14303

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 02/24/82

PART B SUBMITTAL: 08/31/82

DRAFT PERMIT: 04/30/84

FINAL PERMIT ACTION: 04/30/84

DESCRIPTION:

Olin's facility produces chlorine, caustic soda, sodium methyrate and sodium chlorite. Calcium hypochlorite has been produced in the past. Permits are issued for four units. The concrete treatment tank has a capacity of 11,200 gallons. Waste is treated by mixing with water which renders it non-ignitable. Water is sent to the Niagara Falls Waste Water Treatment Plant. The Brine purification mud from the chlorine manufacture uses the mercury cell process and is managed by using another concrete treatment tank and a waste pile. In the tank, brine mud is put into the waste pile prior to shipment to an approved hazardous waste disposal facility. Capacity of this second tank is 116,500 gallons. The pile is 820 cubic yards with a concrete base. The container storage area has a maximum capacity of 288 55-gallon drums. Secondary containment for the area consists of a concrete base, with curbs to contain possible spills.

08/31/87

OLIN CORP. NIAGARA FALLS PLANT

NATS ID: 13

EPA ID: NYD002123461

HIGHLIGHTS

10/03/84 Permit issued.

03/12/87 Request for permit modification.

2 DATES PRINTED FOR OLIN CORP. NIAGARA FALLS PLANT.

08/31/87

SCA CHEMICAL WASTE SERVICES (MODEL CITY)

NATS ID: 02

EPA ID: NYD049836679

STREET: 1550 Balmer Ave.

CITY: Model City, NY ZIP: 14109

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 12/01/86

PART B SUBMITTAL: 04/20/87

DRAFT PERMIT: 10/30/87

FINAL PERMIT ACTION: 10/30/88

DESCRIPTION:

SCA operates a 630 acre industrial waste management site in the towns of Lewiston and Porter, Niagara County, New York. Before 1972, the site was owned by the U.S. Department of Defense and used for the production of explosives. The site was purchased in 1972 by Chem-Trol and operated as an industrial waste management facility. In 1973, SCA Services, Inc., acquired Chem-Trol. In 1978, SCA changed the plants' name to SCA Chemical Services, Inc. Chemical Waste Management, Inc. acquired SCA Chemical Services in 1985.

The facility has been a waste treatment and disposal facility since 1972. Current operations at the facility include treatment, recovery, disposal and transfer of hazardous and industrial waste. The facility presently includes nine secure landfills for the disposal of hazardous waste. Secure landfills SLF 1 -6,7, and SLF 10 have been closed. Landfill SLF 11 is in operation. An additional landfill, SLF 12, is currently projected.

Landfill 11 has a capacity of 875,000 cubic yards. The tankage capacity is 1,134,130 gallons. Container storage is 385,000 gallons and the surface impoundments have a capacity of 184,000,000 gallons. The facility manages all types of wastes.

08/31/87

SCA CHEMICAL WASTE SERVICES (MODEL CITY)

NATS ID: 02

EPA ID: NYD049836679

HIGHLIGHTS

11/30/80	SCA files Part A application.
02/28/83	SCA applies for TSCA authorization to construct landfill No. 11 (Sections A, B, and C).
05/30/85	EPA approves the conceptual design of landfill No. 11 and operation of section A.
06/08/86	EPA approved operation in section B of landfill #11.
12/30/86	SCA applies for permit for new landfill No. 12.
06/11/87	EPA approves operation in section C of landfill #11.

6 DATES PRINTED FOR SCA CHEMICAL WASTE SERVICES (MODEL CITY).

08/31/87

U.S. AIRFORCE - 914th TAG

NATS ID: 17

EPA ID:

STREET: Nia.Falls Intern'l Airport

CITY: Niagara Falls, NY ZIP: 14304

CONGRESSIONAL DISTRICT: 32

PART B REQUESTED: 12/20/83

PART B SUBMITTAL: 06/22/84

DRAFT PERMIT: 12/12/86

FINAL PERMIT ACTION: 02/12/87

DESCRIPTION:

This Federal facility is 468 acres. It has a container storage capacity of 128 55-gallon drums to hold spent solvents, oils and lubricants.

08/31/87

U.S. AIRFORCE - 914th TAG

NATS ID: 17

EPA ID:

HIGHLIGHTS

02/28/87

New York State 373 permit issued.

SCHEDULE

12/31/87

EPA HSWA permit issued at time of Remedial investigation

2 DATES PRINTED FOR U.S. AIRFORCE - 914th TAG.



08/31/87

VOELKER ANALYSIS, INC.

EPA ID: NYD991291782

NATS ID: 09

STREET: 766 Babcock Street

CITY: Buffalo, NY ZIP: 14206

CONGRESSIONAL DISTRICT: 0

PART B REQUESTED: 11/22/82 Part B

PART B SUBMITTAL: 05/20/83 submitted

DRAFT PERMIT: 09/01/88 incomplete

FINAL PERMIT ACTION: 02/01/89

DESCRIPTION:

This is a commercial storage and treatment facility which accepts waste solvents and nonhalogenated solvents. Wastes are recycled through two stills, one accepting 60 gallons, the other 400 gallons. The unrecoverable still bottoms are sent off-site. This site has not accepted any material since October 1986.

08/31/87

VOELKER ANALYSIS, INC.

EPA ID: NYD991291782

NATS ID: 09

HIGHLIGHTS

09/28/84 EPA takes enforcement action for inadequate  
Part B.

12/30/85 Complaint resolved.

08/30/87 Consent order executed with new owners of facility  
imposing penalty & schedule for correction of def.

3 DATES PRINTED FOR VOELKER ANALYSIS, INC..

1. 1000 copies of the 1998 Yearbook of the International Law Commission were distributed to the Members of the Commission and the Observers of the Commission.