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WASTE DISPOSAL SITE SURVEY

REPORT

together with

ADDITIONAL AND SEPARATE VIEWS

BY THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

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LETTER OF TRANSMITTAL

October 15, 1979

Honorable Harley O. Staggers
Chairman
Committee on Interstate and Foreign
Commerce
Washington, D.C. 20515

Dear Mr. Chairman:

The attached report of the Subcommittee on Oversight and Investigations sets forth the results, findings, conclusions and recommendations relating to the Subcommittee's survey of process waste disposal practices of the 53 largest domestic chemical companies. This survey was conducted in conjunction with the Subcommittee's year-long investigation of disposal problems, the results of which are contained in the Subcommittee's recently released report entitled, "Hazardous Waste Disposal".

During the course of the Subcommittee's investigation, it became clear that millions of tons of toxic wastes are disposed in an environmentally unsound manner, resulting in "ticking time bombs" which pose hazards to public health and the environment. Facing a paucity of information on the location and content of sites containing hazardous wastes, the Subcommittee conducted its own limited survey--the first national study of waste disposal sites--to begin to determine in a systematic manner, the number, nature and location of all waste disposal sites across the country. The largest chemical manufacturers were selected for the survey, not to single that industry out, but rather, because the chemical industry as a whole produces some of the most toxic wastes, even though by volume it is not the single largest generator of hazardous wastes each year.

The survey reveals that since 1950 the 53 companies, operating 1605 facilities, dumped wastes at 3,383 sites. Although only 34 percent of the sites were owned by the companies, 94 percent of the wastes were dumped in on-site facilities. During this thirty year period, the 53 generators produced 762 million tons of chemical process wastes of which 100 million tons went to sites which are now closed. In 1978 alone, 66 million tons were generated. The survey does not reveal what percentage of these wastes is hazardous.

A directory of waste disposal sites identified in the survey, including descriptive data on each site, appears in the Appendix. It is noted these sites represent only those locations used for disposal of chemical process wastes by the 1,605 plant facilities of the 53 participating companies. The directory does not include waste disposal sites in the United States which have been used over the years by other chemical companies and other, far larger waste-generating industrial groups.

While the directory sets forth the amount (by weight) of reported waste dumped in each company-owned site (94% of reported waste), such data is not being included for the off-site disposal facilities which are privately and municipally owned (67% of reported sites), since those sites could very well include waste produced by other generators. In this connection, it should be noted that the relatively small amount of waste reported in the survey going to these private or municipal sites, utilized over 2,200 sites or approximately two-thirds of those identified in the survey.

I should further emphasize that these are waste disposal sites, not necessarily hazardous waste disposal sites. Not all reported waste would necessarily produce a hazardous site. Moreover, neither the exact quantity of any particular chemical component in the waste disposed nor the condition of the site itself is known. Thus, these sites do not necessarily pose threats to public health or the environment.

The survey results clearly demonstrate the need for a national accounting of on-and off-site as well as of active and inactive waste disposal sites. Since the Environmental Protection Agency has not conducted such a survey, the Subcommittee includes in its recommendations, that the Agency undertake, in conjunction with the states, a comprehensive national inventory of disposal sites utilized by principal waste-producing industry groups.

In closing, I wish to express special appreciation to Dr. Anne Harris Cohn, who as a Congressional Science Fellow in the office of Subcommittee Member Albert Gore, Jr., played the key role in designing and executing the survey. I would also like to thank Hillel Sukenik and Frank Kopel, and their staff at House Information Systems, for their enormous effort in computerizing the survey information; and, Geraldine M. Carr, Congressional Research Service, for her technical assistance; and, the Subcommittee staff for the long hours involved in processing the information. Last, but certainly not least, the cooperation of the 53 participating companies and their 1,605 plant facilities, as well as the assistance of the Chemical Manufacturers Association, Inc., is very much appreciated.

Sincerely,

Bob Eckhardt
Chairman
Subcommittee on
Oversight and Investigations

PREFACE

Waste is a by-product of most chemical production. Some wastes are hazardous. Others are not. All must be disposed of. The methods of disposal dictate which hazardous wastes may pose threats to the public health or the environment. This report is an initial step in the assessment of potential dangers that may exist because of past or present hazardous waste disposal practices. The data contained in this report are summarized from responses provided voluntarily by the 53 largest domestic chemical companies to a request by the Subcommittee on Oversight and Investigations of the Interstate and Foreign Commerce Committee. It is intended to serve as a basis for subsequent surveys and investigations to determine more precisely the extent and nature of public health and environmental hazards that have been or are being created by the improper disposal of hazardous wastes.

WASTE DISPOSAL SITE SURVEY

I. Introduction

A. Overview

The hazardous waste disposal problem may well be the single most significant environmental health issue of this decade. Millions of tons of toxic wastes are disposed of each year in an environmentally unsound manner resulting in what have been aptly labeled "ticking time bombs" which pose imminent and untold hazards to man and the environment.

In October of 1978, the Subcommittee on Oversight and Investigations of the Interstate and Foreign Commerce Committee, prompted by increasing hazardous waste disposal problems including events at Love Canal in Niagara Falls, New York, began an extensive investigation into the matter. The Subcommittee was interested in the magnitude of the problem and the adequacy of existing legislation to cope with it. In addition, the Subcommittee wanted to assess the U.S. Environmental Protection Agency's (EPA) progress in implementing a 1976 Congressional law—the Resource Conservation and Recovery Act (RCRA)[1]—which provided EPA with the authority to regulate hazardous waste disposal, and to determine if RCRA would (1) allow for appropriate public response to situations like Love Canal and (2) preclude the possibilities for such situations in the future.

The Subcommittee's inquiries disclosed that despite enactment of hazardous waste legislation in 1976, little was known about the true magnitude of the problem. No one knew how many millions of tons of hazardous waste were generated each year. And more importantly, while it was believed that hundreds of "ticking time bombs" existed across the country, no one knew exactly how many, where they were located, or who was responsible for them.

Believing that it was most important to secure such information, and since EPA was not acting with dispatch to collect it, the Subcommittee decided to conduct its own survey—the first national study of waste disposal sites—to begin to determine the magnitude of the problem.

The purpose of the survey was to initiate a systematic effort to identify the number, nature, and location of all waste disposal sites across the country, whether they currently pose health or environmental hazards or not. As a first step, the Subcommittee requested the participation of the 53 largest domestic chemical companies. This was not to suggest that the disposal practices of the chemical industry are particularly bad or that the chemical industry is primarily responsible for hazardous sites. But the very nature of the chemical industry is such that large quantities of potentially dangerous wastes are generated, and the national survey had to begin somewhere. The results are only a sampling of the situation. All of the companies cooperated voluntarily. They provided information about the waste disposal practices of the 1,605 chemical plant facilities that they own or operate including data on 3,383 disposal sites used by these facilities since

[1] Pub. L. 94-580, Oct. 21, 1976.

1950. This report describes the intent, conduct, and findings of that survey.

The methodology for selecting the companies participating in the survey, their identity, the Subcommittee's letter of invitation, and the standardized questionnaire and related instructions which were furnished to the companies are set forth in Appendices A, B, C and D, respectively.

Each of the 1,605 facilities was asked to provide information on every site or location used since 1950 (or earlier if records or employees' memories permitted) for the disposal of wastes from the plant's chemical processes. Information requested included: amount and content of waste disposed at a particular site, kinds of disposal methods used at the site, current status of the site (open or closed), ownership of the site, and the site's name and location. For any waste hauled from the plant and taken to a location unknown to the plant operators, information was requested on the name of the hauler and the amount and content of the waste hauled. Facilities were also asked to report the amount of process waste generated at their plants during 1978 that was not directly reprocessed or recycled at the plant or covered by a National Pollutant Discharge Elimination System (NPDES) permit, and the methods by which these wastes were disposed.

B. FINDINGS AND CONCLUSIONS

1. The survey disclosed that approximately 66 million tons of chemical process wastes were generated in 1978 by the 1,605 chemical plants of the 53 largest domestic chemical companies. It is not known what percent of all chemical wastes this amount represents, nor is it known, in the absence of final federal definitions of what constitutes "hazardous" waste, what percent of the 66 million tons of chemical process waste would be classified as hazardous. It is noted EPA estimates that about 379 million tons of *industrial* wastes were generated in 1977 (by *all* industry), of which EPA estimates approximately 39 million tons were *hazardous*.[2] Thus, the 66 million tons of chemical process wastes generated in 1978 by the 1,605 facilities participating in the survey relates to about 17 percent of the 379 million tons of industrial wastes which EPA estimates were generated in 1977.

Because the actual amount of hazardous waste generated annually will profoundly affect the size and scope of federal and state waste regulation programs, the Subcommittee concludes that it is of paramount importance to obtain better estimates of proportions of all chemical and industrial wastes—including the 66 million tons identified in the Subcommittee's survey—that will need to be regulated, once federal definitions of hazardous waste are finalized.

2. The survey revealed that approximately 762 million tons of chemical wastes generated by the participating companies since 1950, or earlier, have been disposed in 3,383 locations known to the companies. These sites do not necessarily pose threats to the public health or the environment. Of those 762 million tons, 94 percent were disposed of on the immediate property of the chemical plants; 6 percent were sent off-site for disposal.

[2] 43 Fed. Reg. 58947 (12/18/78) and Feb. 1979 issue of *EPA Journal* (p. 12) (EPA estimates are given in *metric* tons which have been equated to tons for purposes of uniformity in this report.) It is noted that EPA expects the quantities of hazardous waste to increase by 3 percent annually.

Many of the current on-site disposal facilities will not qualify for permitted disposal under EPA's proposed hazardous waste regulations suggesting that, once the RCRA regulations are promulgated, the chemical industry may find it necessary, for financial reasons, to substantially reduce the amount of on-site disposal. Unfortunately, there is also a paucity of off-site disposal locations across the country that will qualify for permitted disposal under EPA's proposed rules. Consequently, the Subcommittee is concerned about the large amounts of wastes, including some previously disposed of on-site, which will be in search of final resting grounds.

3. Of the 3,383 sites used by the participating companies for disposal of their wastes since 1950, the survey disclosed that 1,099 (32 percent) are known to be closed, and an additional 319 (9 percent) may be closed. Over 100 million tons of waste were sent to the 1,099 sites now known to be closed. Of those 1,099 sites, 37 percent are on private lands, not owned by any of the participating companies. Many of these closed sites contain wastes with chemical components known to pose potentially serious hazards to the public health and the environment. Disposal methods used at many of these closed sites, given the chemical components of the waste, also suggest the possibility of imminent hazard. Unfortunately, these closed sites will not come under the purview of EPA's hazardous waste program because RCRA calls for regulation of existing and future sites only.

Since it is unlikely that these closed sites are currently being monitored for imminent hazards, the Subcommittee concludes it is of utmost importance that further data be collected on these sites. Further, should any of these closed sites, particularly those on private lands, pose imminent hazards, they may well require financial coverage under a central clean up fund, such as that proposed by the "super fund" legislation.

4. The survey also revealed that approximately 4.8 million tons of chemical process wastes generated by the 53 participating companies since 1950 were transported off-site for disposal by some 960 haulers to locations unknown to the facility operators. Those wastes contain a variety of chemical components known to be toxic or otherwise hazardous to the public health and the environment.

The Subcommittee concludes that it is essential to determine where and how those wastes were disposed.

C. RECOMMENDATIONS

The Subcommittee is making available to EPA its survey findings including information on all disposal locations and haulers identified in the study. The Subcommittee recommends that EPA:

1. undertake, in conjunction with the states, a comprehensive national inventory of disposal sites utilized by principal waste-producing industry groups;

2. conduct appropriate investigation with respect to all haulers identified in the survey who transported wastes to locations unknown to the waste generators to determine where such wastes were taken and the manner in which they were disposed;

3. conduct, where warranted, a follow-up study of the disposal sites identified in the survey, particularly those known to be closed

and on private lands, to determine whether there is reason to suspect that any of those sites pose threats to the public health or the environment;

4. utilize the survey findings as a basis for better determining the size and scope of a clean up fund for hazardous waste disposal problems;

5. analyze the implications of the survey findings and reassess the scope and magnitude of the hazardous waste disposal problem relative to the implementation and management of both federal and state hazardous waste programs; and

6. reexamine, in conjunction with the chemical and other waste-producing industry groups, alternative disposal methods including reprocessing and recycling, incineration, and other technology to determine the most practical and safest means of disposal of those wastes judged to be hazardous under RCRA definitions, once EPA's regulations are promulgated.

II. Background

When the Subcommittee initiated its investigation into hazardous waste disposal problems in the fall of 1978, the only information available concerning the volume of hazardous waste generated annually in the United States was EPA's estimate of 39 million tons. EPA further estimated that as much as 90 percent of this hazardous waste was being disposed of in a manner not in accordance with EPA's proposed regulations implementing the provisions of RCRA.[3]

The Subcommittee was concerned that EPA would be unable to propose a rational hazardous waste regulatory program without solid figures on the amount of hazardous waste generated annually. Moreover, the Subcommittee considered it essential that EPA know the location of sites posing imminent hazards.

When questioned by Congressman Albert Gore, Jr., at the Subcommittee's October 1978 hearing, EPA officials could not provide the number of hazardous waste disposal sites across the country nor the number or location of sites posing threats to public health or the environment. They informed the Subcommittee that EPA was in the process of collecting such information from its regional offices and the states.

In November 1978, EPA released a list of 103 potentially dangerous sites and estimated that 838 sites across the country contain significant amounts of hazardous waste and could pose threats to health and the environment. After a review of the methodology used to develop the list and the estimated number of sites, the Subcommittee concluded that the estimate was both inadequate and misleading.[4] Accordingly,

[3] *Id.*

[4] Acting upon a request by Congressman Gore to analyze EPA's site survey, the General Accounting Office arrived at the same conclusion. In testimony before the Subcommittee on June 4, 1979, GAO stated:

"We concluded that the 838 disposal site figure is not an accurate or complete estimate and does not correctly identify those sites that are most in need of corrective action. We found that EPA's regional offices developed the estimates on the basis of existing or easily obtainable information using various assumptions . . . Overall, we concluded that at the present time information available at the Federal and State level is inadequate to determine (1) the number of hazardous waste sites, (2) the number of sites posing a threat to public health or the environment, and (3) the costs that may be involved in correcting the problems."

the Subcommittee believes that a national survey to determine the location of hazardous waste sites and to identify those sites in need of careful monitoring or immediate clean up is essential to an effective hazardous waste management program on the part of EPA and the states.

Facing a paucity of information on hazardous waste sites throughout the country, the Subcommittee decided to conduct its own preliminary survey. The primary purpose of the survey was to begin the systematic effort to identify the number, location, and content of open and closed hazardous waste disposal sites in the United States. At the same time, the survey provided an opportunity to compile reliable statistics on the amount of chemical process waste generated annually and industry's overall waste disposal practices. The Subcommittee looked forward to using such information in its oversight assessment of the adequacy of the RCRA program. The Subcommittee also perceived that such information would be essential to Congress as it begins to debate legislative solutions to problems posed by inactive and "orphaned" waste disposal sites.

III. Limitations

This is the first national survey of waste disposal sites and, as such, provides initial statistics on the magnitude and dimensions of waste disposal problems in the country. This preliminary study is not, however, without limitations which must be considered in interpreting and using the findings.

First, the study is limited to the 53 largest domestic chemical companies. Although their 1,605 facilities participating in the survey represent approximately 14 percent of all chemical plants in the country, their practices and experiences—because they are the largest—may not be truly representative of the chemical industry as a whole. It can be expected, for example, that many of their plants are larger than those of smaller chemical companies and that many more of them have access to the most modern disposal techniques than do those of smaller companies.

Second, because chemical waste disposal has only become a public and corporate concern in recent years, most companies do not have detailed records dating back to 1950 on their disposal practices. While companies used what records they do have (which, on average, date back to 1968) in completing the survey, they were asked also to utilize employee knowledge in providing the desired information. (Facilities, on the average, used employee recall dating back to 1960, with 28 percent of the facilities using employees' memory of disposal practices prior to 1950.) Thus, much of the information collected is not based on actual corporate records, but on employees' recollection, and may be incomplete. The tight time schedule for the study—60 days for gathering responses—also may have contributed to incompleteness.

Third, while standardized instructions on data collection were provided to all companies, some variability in interpretation of questions on the survey forms could be expected. For example, while wastes reprocessed on-site were to be excluded from the survey, in some instances they may have been included. Based on discussions with different com-

pany representatives, however, the Subcommittee believes that variability in interpretation of questions, while present, is minimal.

And finally, while the central purpose of the survey is to begin the compilation of an inventory of waste disposal sites across the country, it was beyond the scope of this study to collect information which would clearly differentiate waste disposal sites that pose serious, or potentially serious, hazards to public health and the environment from those which do not. For example, the Subcommittee did not seek information on the relative amounts of chemical components in the companies' wastes, nor the specific methods of disposal used for each waste, nor the types of monitoring utilized at sites to safeguard against hazards. In this way, the Subcommittee was successful in avoiding delays in data collection that may have resulted from company resistance in answering questions calling for confidential or proprietary information. *Therefore, the information gathered is insufficient to determine which, if any, sites present imminent hazards.*

The Subcommittee's survey does provide valuable descriptive information about waste disposal practices of the giants in the chemical industry and about the types of waste disposal sites across the country. It also provides the basis for further in-depth investigations of specific sites to determine whether they pose health or environmental hazards.

IV. Survey Results

Any interpretation or use of the data contained in this survey should take into account the following factors:

First, waste disposal practices vary considerably among participating companies depending upon size, types of waste generated, geographic location of facilities, and corporate policy. Just as no one chemical plant exactly represents the waste handling practices of its parent company, so no one corporation represents the chemical industry as a whole. The aggregate statistics presented in this report reflect the combined practices of 53 companies and their 1,605 chemical facilities and thus may differ substantially from any one corporate view of how chemical wastes are, were, or perhaps will be handled.

And second, just as waste disposal practices vary by company, they vary also by region of the country and by state. Climate, density of population, and state environmental and land use laws are significant factors influencing waste handling practices across the country. Thus, these findings may differ from impressions or observations of those familiar with waste disposal practices in only one state or only one part of the country.

A. The Facilities

Of the approximately 1,200 chemical producers in the country,[5] the 53 largest chemical companies participated in the study. Table I shows the breakdown by state of the 1,605 chemical plants, owned or operated by the 53 companies, which provided information on their waste disposal practices.[6]

[5] Based on statistics in the Directory of Chemical Producers, compiled by the Stanford Research Institute.

[6] Some small number of these facilities had been closed by the date of the study. While information on waste disposal practices during 1978 was therefore not available, data on past disposal methods were.

Table I.—*Number of facilities participating in the study by State*

State	Number	State	Number
Alabama	42	Montana	4
Alaska	2	Nebraska	9
Arizona	4	Nevada	5
Arkansas	24	New Hampshire	2
California	140	New Jersey	116
Colorado	10	New Mexico	4
Connecticut	20	New York	59
Delaware	20	North Carolina	57
Florida	49	Ohio	105
Georgia	57	Oklahoma	15
Hawaii	4	Oregon	11
Idaho	3	Pennsylvania	77
Illinois	88	Puerto Rico	15
Indiana	32	Rhode Island	2
Iowa	15	South Carolina	35
Kansas	16	South Dakota	1
Kentucky	31	Tennessee	42
Louisiana	68	Texas	159
Maine	5	Utah	9
Maryland	24	Virginia	31
Massachusetts	25	Washington	19
Michigan	42	West Virginia	33
Minnesota	5	Wisconsin	16
Mississippi	15	Wyoming	7
Missouri	31		
		Total	1,605

These 1,605 facilities represent approximately 14 percent of the estimated 11,425 operating chemical facilities in the country,[7] although they do not totally reflect the distribution of different types of chemical manufacturing within the industry.

As shown in Table II, manufacturers of plastic materials and synthetics are the most over-represented of all chemical concerns in the study population, compared with the industry as a whole, followed by inorganic chemical manufacturers. Paint and allied products manufacturing facilities are under-represented in the study population. Any generalizations from the study population to the chemical industry as a whole should be made with this in mind.

Table II.—*Type of facilities as a percentage of the entire chemical industry and of the participating study population**

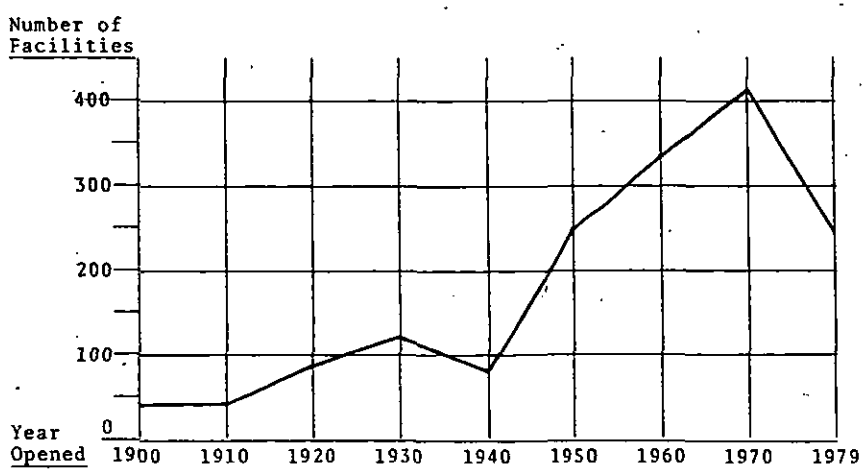
Type of facility	Percentage of the Chemical Industry	Study population
Inorganic chemicals	9	28
Plastic materials and synthetics	4	22
Paints and allied products	14	2
Organic chemicals	7	16
Agricultural products	11	14

*Based on select standard industrial classification codes.

The 1,605 facilities participating in the study reflect the growth and development of the chemical industry over the years, with some facilities opening as early as the late 1800's, but with the majority opening in the 1950's and later. The graph below depicts the years facilities opened, demonstrating the major growth of the chemical industry after World War II and into the 1960's, with a decline in new starts in the 1970's.

[7] Based on U.S. Department of Commerce, Bureau of the Census, Census of Manufacturers, 1972, Vol. II.

Graph: Years Facilities Participating in the Study Opened



Pre -1900:	53
1900-1909:	40
1910-1919:	86
1920-1929:	117
1930-1939:	82
1940-1949:	243
1950-1959:	330
1960-1969:	412
1970-1979:	242
	1,605

B. WASTE GENERATION AND DISPOSAL IN 1978

The 1,605 facilities participating in the study were asked to report the total amount of process wastes (wastes resulting directly from chemical production processes, excluding those recycled or reprocessed on-site or discharge waters covered under NPDES permits) generated in 1978. The facilities reported generating a total of approximately 66 million tons of chemical process waste for disposal. Table III shows the amount of process waste generated by participating facilities by state.

TABLE III.—*Amount of waste generated in 1978 reported by facilities participating in the study by state*

[Figures in hundreds of tons]

State	*Amount*	*State*	*Amount*
Alabama	5,174.4	Nebraska	16.1
Alaska	24.0	Nevada	4,351.0
Arizona	0.4	New Hampshire	631.0
Arkansas	201.2	New Jersey	4,823.7
California	4,929.4	New Mexico	*56,066.0
Colorado	902.7	New York	8,015.1
Connecticut	200.0	North Carolina	4,367.3
Delaware	1,702.6	Ohio	16,596.2
Florida	*215,654.8	Oklahoma	8,418.8
Georgia	2,143.9	Oregon	36.7
Hawaii	7.0	Pennsylvania	17,017.6
Idaho	26,655.0	Puerto Rico	687.6
Illinois	18,192.0	Rhode Island	0.4
Indiana	7,641.6	South Carolina	1,009.7
Iowa	1,914.1	South Dakota	3.0
Kansas	473.5	Tennessee	20,898.8
Kentucky	2,513.8	Texas	39,333.5
Louisiana	*80,081.2	Utah	7,506.6
Maine	49.6	Virginia	1,073.5
Maryland	1,675.4	Washington	218.8
Massachusetts	2,133.0	West Virginia	2,467.7
Michigan	4,814.9	Wisconsin	250.7
Minnesota	121.3	Wyoming	*84,905.5
Mississippi	807.9	Total (or approx. 66 million tons)	658,984.7
Missouri	2,394.0		
Montana	782.3		

*Reflects generation of large amounts of wastes such as phosphate slag, gypsum stacks, certain mining wastes, etc.

Although these 1,605 facilities represent only about 14 percent of all chemical plants in the country, they undoubtedly account for well over 14 percent of all process waste generated annually by the chemical industry since they belong to the largest chemical companies. However, absent specific information on production by the chemical industry as a whole, it is not possible to determine what proportion of all chemical process wastes generated annually these 66 million tons represent. Similarly, not knowing the specific chemical components of these wastes, it is not possible to determine what proportion of these wastes could be regarded as "hazardous" by any definition of the term.

As shown in Table VI, 31 percent of these sites are located on the immediate property of one of the 1,605 participating facilities and, with few exceptions, were used only by that facility or other facilities owned by the company. The remainder, or 69 percent, are off-site. Thirty-four percent of all sites were owned by one of the participating companies at the time of disposal. An additional 48 percent were owned by private concerns other than participating companies, usually a disposal company or disposal contractor. Sixteen percent were publicly-owned sites, typically municipal dumps.

TABLE VI.—*Descriptive information on the 3,383 sites*

	Percent
Location:	
Onsite	31
Offsite	69
Ownership:	
Owned by a company participating in the survey	34
Owned by a private concern, not one of the companies	48
Publicly-owned	16
Unknown ownership	2
Current status:	
Closed	32
Open	58
Unknown if open or closed	9
Users of site:	
Only facility reporting on site	28
Facility reporting on site and other company facilities	3
Company facilities and others	52
Unknown who users are	16

Some of the sites were used as early as 1904 for disposal, with 10 percent being used before 1950. The majority, however, were used for about a decade, generally from 1970 to date. Over half the sites were used for disposal in 1979, although one-third have not been used by any participating facility since 1976, the year RCRA was enacted into law.

A total of 762 million tons of process waste were disposed of at these 3,383 sites. About 59 percent (1,999) of the sites utilized only one disposal method. As shown in Table VII, of the 1,999 sites using only one disposal method, 65 percent used some form of landfill—primarily a landfill with mixed industrial wastes. As the table indicates, the use of other disposal methods—such as pits, ponds, and lagoons or incineration—occurs more frequently at sites utilizing a variety of disposal techniques. However, when considering the amount of waste disposed of by different methods, it is apparent that while dumps, pits and the like are more frequently used, relatively small quantities of waste are disposed by these methods.

TABLE VII.—PERCENT OF ALL SITES (3,383) USING DIFFERENT DISPOSAL METHODS—PERCENT OF SITES (1,999) USING ONE DISPOSAL METHOD

Method of disposal	Percent of all sites (3,383) using different disposal methods*	Percent of sites (1,999) using one disposal method
Landfill mono industrial waste	19	[1] 14
Landfill mixed industrial waste	45	[1] 40
Landfill drummed waste	26	[1] 20
Landfill municipal refuse codisposed	26	[1] 30
Pits/ponds/lagoons	28	11
Deep well	5	2
Stacks/piles (notably gypsum)	1	1
Land farming	6	1
Incineration	22	8
Treatment	16	2
Reprocessing	15	6
Other	9	4

*Note: Numbers add to more than 100 percent due to use of two or more methods at many sites.
[1] 65 percent using any kind of landfill.

Percent distribution of waste disposed by different methods at sites using one method of disposal only

Landfills	12
Pits/ponds/lagoons	25
Deep well	2
Stacks/piles (notably gypsum)	25
Land farming	Trace
Incineration	1
Treatment	Trace
Reprocessing/recycling	Trace
Other (including evaporation, open pit burning, disposal in navigable waters)	35

Table VIII shows the percentage of sites containing any one of a number of different chemical components in the waste received. The actual amount of any component present in the waste is unknown, thus these data should not be used to determine whether the wastes could pose any hazard. Such an assessment would additionally have to take into account the combination of chemical components present in the waste, the specific disposal methods used for such waste, and the types of monitoring or control used for these methods. However, the table does show that 75 percent of the sites received wastes which contained some form of organics, often a troublesome waste, and small but important numbers of sites received any one of a number of chemical components known to be problematical.

TABLE VIII.—PERCENT DISTRIBUTION OF CHEMICAL COMPONENTS AT ALL SITES AND NUMBER OF SITES WITH COMPONENT KNOWN TO BE OPEN AND NUMBER KNOWN TO BE CLOSED

Chemical components	Percent of all sites with component	Number open	Number closed
Acid solutions, with pH<3	23	527	153
Pickling liquor	1	20	4
Metal plating waste		14	1
Circuit ethines		8	0
Inorganic acid manufacture	8	199	66
Organic acid manufacture	6	171	28
Based solutions, with pH>12	18	439	140
Caustic soda manufacture	3	80	23
Nylon and similar polymer generation	1	27	8
Scrubber residual	6	160	33
Heavy metals and trace metals (bonded organically and inorganically)	49	128	430
Arsenic, selenium, antimony	19	429	155
Mercury	11	255	98
Iron, manganese, magnesium	26	852	298
Zinc, cadmium, copper, chromium (trivalent)	34	804	277
Chromium (hexavalent)	15	387	98
Lead	19	458	153
Radioactive residues, >50 pico curies/gram	3	62	17
Uranium residuals and residuals for UF_4 recycling		11	0
Lathanide series elements and rare earth salts		11	4
Phosphate slag		13	4
Thorium		12	5
Radium		9	4
Other alpha, beta and gamma emitters	1	29	6
Organics	75	1667	633
Insecticides and intermediates	9	233	62
Herbicides and intermediates	7	171	52
Fungicides and intermediates	11	257	103
Rodenticides and intermediates	1	32	7
Halogenated aliphatics	15	378	99
Halogenated aromatics	13	303	91
Acrylates and latex emulsions	16	378	111
PCB/PBB's	3	70	16
Amides, amines, imides	22	545	146
Plastizers	16	407	104
Resins	35	818	272
Elastomers	11	273	85
Solvents polar (except water)	20	500	113
Carbontatoachloride	6	162	31
Trichloroethylene	7	186	49
Other solvents nonpolar	24	593	154
Solvents halogenated aliphatic	13	315	83
Solvents halogenated aromatic	9	219	52
Oils and oil sludges	33	794	263
Esters and ethers	21	498	152
Alcohols	21	645	194
Ketones and aldehydes	21	527	130
Dioxins	2	42	10
Inorganics	57	1265	512
Salts	51	1145	455
Mercaptans	6	162	34
Miscellaneous	47	1081	379
Pharmaceutical wastes	2	56	13
Paints and pigments	19	442	145
Catalysts (eg. *vanadium, platinum, palladium*)	11	295	62
Asbestos	14	335	100
Shock sensitive wastes (eg. nitrated toluenes)	2	57	15
Air water reactive wastes (eg. P_4, aluminum chloride)	5	132	38
Wastes with flash point below 100° F	20	492	114

D. NUMBER OF DISPOSAL SITES USED BY FACILITY

The 1,605 facilities were asked to identify all sites, including their own property, used since 1950 for disposal of their chemical process wastes. The facilities identified an average of three or four sites each. Approximately 20 percent of the facilities mentioned six or more sites, with 80 facilities identifying 10 or more sites. Eleven percent of the facilities indicated they knew of no sites where wastes had been disposed, suggesting that all of their wastes since 1950, if they had any, went to unknown locations.

The number of sites identified varied, depending upon the year a facility opened and how far back in company records or employees' recollection facilities went in gathering survey information. As would be expected, the older facilities with records dating back to the 1950's and facilities which relied on employee recall back through the 1950's and earlier identified larger numbers of disposal sites. The amount of waste generated by a facility was not, however, related to the number of disposal sites utilized.

E. CLOSED SITES

Of the 3,383 sites identified in the survey, 1,099 (32 percent) were reported as closed for disposal of wastes. Some closed as early as the 1940's; others as recently as 1979. Twenty-six percent closed since 1976, the year RCRA became law. It is not known whether an additional 319 sites (9 percent) are still open or have closed. None of these closed sites will be regulated or monitored under EPA's hazardous waste program.

The study disclosed that over 100 million tons of waste (13 percent of the 762 million tons generated by the 1,605 facilities since 1950, or earlier) were disposed of at the 1,099 closed sites. While disposal methods at these closed sites vary, the primary method is landfills (used at 69 percent of the sites) followed by pits, ponds, and lagoons, as shown in Table IX. This indicates that a substantial amount of potentially hazardous waste is lying in landfills, pits, ponds, and lagoons and will not be covered by EPA's hazardous waste program.

TABLE IX.—DISPOSAL METHODS USED AT OPEN AND CLOSED SITES, LOCATION OF OPEN AND CLOSED SITES, OWNERSHIP OF OPEN AND CLOSED SITES

Method	Current status for all sites * (3, 383)			Current status for sites using only one method		
	Percent open (1965)	Percent closed (1099)	Unknown if percent open or closed (319)	Percent open	Percent closed	Percent unknown if open or closed
Landfills	70	69	32	70	65	59
Pits, ponds/lagoons	31	26	7	15	10	5
Deep well	7	2	2	1	2	1
Land farming	8	3	0	1	1	0
Incineration	25	17	10	4	9	12
Treatment	21	8	3	1	2	1
Reprocessing	20	6	9	1	8	11
Other	11	10	4	7	4	9

* Note: Column percents for methods will add to more than 100 percent owing to many sites using 2 or more methods.

[In percent]

	Open	Closed	Unknown if open or closed
Location:			
Onsite	31	42	98
Offsite	69	58	2
Ownership:			
Company owned	34	45	7
Private, not company owned	50	37	79
Publicly owned	15	18	14

Forty-five percent of the closed sites were owned by one of the participating companies at the time of disposal; 42 percent were on company property. Thirty-seven percent of the closed sites were owned by a private concern other than one of the participating companies, and 18 percent were on publicly-owned land. It is not known what percent of these sites would currently be classified as "abandoned" (that is, sites with no identifiable owner with the resources necessary to monitor or clean up the site should it pose imminent health hazards). However, judging from the names and descriptions of the sites alone, it is believed that a substantial proportion could be classified as "abandoned" or "orphaned," without an easily identifiable responsible party. These sites include, for example, tennis courts, a yacht club, parking lots (including two church parking lots), a cemetery, a raceway, botanical gardens, nurseries, an abandoned silo, an abandoned oil well, and an abandoned landfill. Indeed, over 80 closed sites were identified as private farms or residences, some with identifying information as minimal as "pastures (various)" and "numerous small farms and gardens."

The number of closed and potentially abandoned sites raises concerns, since these sites—as well as any others which will close prior to promulgation of EPA's hazardous waste regulations—will not be covered under the RCRA program. While the actual amount of any of the chemical components present in the waste disposed of at these closed sites (as shown in Table VIII) is unknown, the presence of some of these components merits further attention.

F. ON-SITE DISPOSAL

Seventy-eight percent of the facilities reported that either company haulers or outside contractors were used to remove at least some of the chemical process wastes from facility property to other locations since 1950. Indeed, of all the locations identified as waste disposal sites, 69 percent were off-site.

Despite the large number of facilities using haulers to remove wastes from the facility location and the large number of off-site locations used for disposal, the vast majority—some 94 percent—of wastes generated by these facilities since 1950 remained on site. With the advent of RCRA and the publication in December, 1978, of EPA's proposed hazardous waste regulations, it has been suggested that many of the on-site disposal locations will not qualify for permitted disposal without costly modifications. This particularly applies to pits, ponds, and lagoons which, as shown on Table X, are a disposal method more frequently found on-site. Some companies may be deterred by

the added expense to qualify for on-site disposal and will thus be sending quantities of waste, currently disposed of on-site, to off-site locations. But with a paucity of off-site locations that will be eligible for permitted hazardous waste disposal, the question must be raised, "where will this waste go?" The Subcommittee believes it will be extremely important for EPA and the states to monitor on-site disposal practices, once RCRA rules are promulgated.

TABLE X—PERCENT OF SITES USING DIFFERENT DISPOSAL METHODS BY LOCATION FOR ALL SITES AND FOR SITES USING ONLY ONE DISPOSAL METHOD

Method	For all sites* (3,383)		For sites using only 1 disposal method (1,999)	
	Percent onsite	Percent offsite	Percent onsite	Percent offsite
Landfills	57	68	38	74
Pits/ponds/lagoons	55	14	37	3
Deep well	4	4	2	1
Land farming	9	3	1	1
Incineration	27	16	8	8
Treatment	16	13		2
Reprocessing	15	13	2	7
Other	15	6	12	4

*Note: Number will add to more than 100 percent owing to the use of two or more disposal methods at many sites.

G. WASTES GOING TO UNKNOWN LOCATIONS

Of the 1,605 facilities, 37 percent indicated they did not know the disposal site locations of all process waste hauled from their facilities since 1950, or earlier. These 593 facilities provided information on approximately 960 haulers or hauling companies who had removed wastes and taken them to unknown places.

Facilities indicated they began using these haulers as early as the 1920's and, in some instances, were still using them in 1979. In general, however, haulers named were used during the period 1968 to 1975.

The 960 haulers removed approximately 4.8 million tons of waste from the facilities. Even though it is not possible to determine what proportion of this waste may be harmful, the amount alone, particularly in light of the chemical components of the waste (as shown in Table XI), makes it essential to determine where these wastes were taken and the manner in which they were disposed. Of course, the generator's lack of knowledge with respect to ultimate disposal does not prove in any way improper disposal; the materials may very well have been disposed of in a proper manner.

TABLE XI.—*Chemical components of waste hauled to unknown locations*

	Percent of haulers taking waste to unknown location with component present in waste
Acid solutions, with pH<3	12
Pickling liquor	1
Metal plating waste	-----
Circuit etchings	0
Inorganic acid manufacture	5
Organic acid manufacture	3
Base solutions, with pH>12	15
Caustic soda manufacture	2
Nylon and similar polymer generation	1
Scrubber residual	5
Heavy metals and trace metals (bonded organically and inorganically)	33
Arsenic, selenium, antimony	11
Mercury	6
Iron, manganese, magnesium	28
Zinc, cadmium, copper, chromium (trivalent)	26
Chromium (hexavalent)	12
Lead	16
Radioactive residues, >50 pico curies/gram	-----
Uranium residuals and residuals for UF_6 recycling	-----
Lathanide series elements and rare earth salts	-----
Phosphate slag	0
Thorium	-----
Radium	-----
Other alpha, beta and gamma emitters	-----
Organics	60
Insecticides and intermediates	3
Herbicides and intermediates	3
Fungicides and intermediates	7
Rodenticides and intermediates	1
Halogenated aliphatics	11
Halogenated aromatics	9
Acrylates and latex emulsions	15
PCB/PBB's	1
Amides, amines, imides	20
Plastizers	15
Resins	31
Elastomers	12
Solvents polar (except water)	20
Carbontetrachloride	1
Trichloroethylene	4
Other solvents nonpolar	23
Solvents halogenated aliphatic	11
Solvents halogenated aromatic	6
Oils and oil sludges	40
Esters and ethers	-----
Alcohols	27
Ketones and aldehydes	21
Dioxins	1
Inorganics	39
Salts	36
Mercaptans	2
Miscellaneous	32
Pharmaceutical wastes	2
Paints and pigments	19
Catalysts (e.g. vanadium, platinum, palladium)	4
Asbestos	6
Shock sensitive wastes (e.g. nitrated toluenes)	1
Air water reactive wastes (e.g. P_4, aluminum chloride)	2
Wastes with flash pt. below 100° F	17

V. RELEASE OF SPECIFIC DISPOSAL SITE INFORMATION

The Subcommittee believes it is in the public interest to recommend further investigation, where warranted, into those disposal sites identified in the survey. While useful for legislative purposes, the data gathered are not sufficient at this time for determining with certainty which, if any, of these sites may pose threats to public health or the environment. In order to make such judgments, additional information should be gathered, particularly for those sites which are closed and on private lands and will *not* be covered by RCRA regulations. Therefore, the identity and location of the 3,383 waste disposal sites (actually, 3,379 since the participating facilities furnished no descriptive data on four of the sites), together with descriptive data on each site, are set forth in Appendix E for investigation by appropriate governmental authorities.

APPENDIX A

Methodology

The Subcommittee chose to identify sites by going directly to industrial concerns and asking them to provide information on all sites they had used for waste disposal. The Subcommittee decided to concentrate, initially, on the chemical industry in its search for disposal sites across the country since that industry produces some of the most toxic hazardous wastes. By focusing on the chemical industry, the Subcommittee's intention was not to suggest that this industry is solely or even primarily responsible for problems associated with the disposal of waste materials; rather, by virtue of the nature of its wastes, the chemical industry appeared to be a reasonable place to begin what ultimately should become a comprehensive national inventory.

Rather than survey a random sample of the entire chemical industry, the Subcommittee determined that it would be more effective to study the chemical plants of the largest domestic chemical companies. By going back to 1950, information was also received about the disposal practices of many small companies as well—companies which were acquired by the giants in the interim. Using the 1976 Kline Guide to the chemical industry and the American Chemical Society's 1977 listing of the top 50 chemical companies, 53 domestic companies were identified as the largest in terms of sales. Each was invited to participate in the survey, and each voluntarily cooperated 100 percent with the Subcommittee.

As explained to these companies at a private briefing and in written instructions, each company was to collect specific waste disposal information from each of its own chemical plants and those of its subsidiaries and affiliates. The Directory of Chemical Producers, issued by the Stanford Research Institute, was used as a guide for determining which types of facilities the Subcommittee expected to be included in the survey. A total of 1,605 chemical facilities, owned or operated by the 53 chemical companies, provided information on their waste disposal practices to the Subcommittee via their corporate headquarters.

Standardized questionnaire forms were provided to companies for recording the requested information. These forms, and related instructions and definitions, were devised by the Subcommittee with assistance from the Library of Congress Congressional Research Service, the House Information Systems Service, and representatives from the chemical industry and EPA. Companies were given 60 days to collect the requested information from their chemical facilities and return it to the Subcommittee. With minor exceptions, all information was returned by the specified date.

The completed survey forms were put through a multi-stage editing process as data were readied for analysis in order to minimize respondent and data handling errors. Analysis of the data included exploration of a variety of questions both about the disposal sites themselves and the participating companies and facilities.

The survey results reported herein are based on the initial submissions of information by the companies. The corrected or supplemental data furnished by the companies after the closing date of the survey were not included in the survey results because of logistical reasons.

APPENDIX B

The 53 Participating Companies

Air Products
Allied Chemical
American Cyanamid
Ashland Oil
Atlantic Richfield
Borden
Borg-Warner
Celanese
CF Industries
Chevron
Cities Service
Diamond Shamrock
Dow Chemical
Dow Corning
DuPont
Eastman-Kodak
Esmark
Ethyl
Exxon
Farmland Industries
FMC Corporation
General Electric
B. F. Goodrich
Goodyear
W. R. Grace
Gulf Oil
Hercules
IMC Corporation
Kerr-McGee
Koppers
Lubrizol
Mobil
Monsanto
Nalco
National Distillers
NL Industries
Occidental Petroleum
Olin Corporation
Pennwalt
Pfizer
Phillips Petroleum
PPG Industries
Reichhold Chemical
Rohm and Haas
Shell Oil
Standard Oil (Ind.)
Stauffer
Tenneco
Texaco
Union Carbide
Union Oil (Cal.)
U.S. Steel
Williams Companies

APPENDIX C

(Identical letter sent to the 53 participating companies.)

Congress of the United States,
House of Representatives,
Subcommittee on Oversight and Investigations of the
Committee on Interstate and Foreign Commerce,
Washington, D.C., April 18, 1979.

Dear Mr. ——— ———: The Subcommittee on Oversight and Investigations, under Rules X and XI of the House of Representatives, is conducting an investigation into problems associated with the disposal of industrial waste materials. The Subcommittee's inquiry will include an examination of the performance of the Environmental Protection Agency, in implementing the Resource Conservation and Recovery Act of 1976, and a determination of whether additional legislation is needed to address these problems.

The Subcommittee's investigation has disclosed that some disposal practices of the past, which appear to be questionable in the light of present day knowledge, have raised increasing concerns among certain sectors of the public, industry and government. The potential for adverse health and environmental effects from these practices are most acute where dump sites are abandoned or inactive, and their locations are unknown to responsible authorities.

In an attempt to begin to identify such sites, the Subcommittee is requesting each of the 50 largest domestic chemical companies to contact all of their plants or facilities, and those of their subsidiaries and affiliates, to gather data on dump sites and on industrial waste disposal practices since 1950, and to report such data on the enclosed questionnaire forms. This effort is not to suggest that the chemical industry is solely responsible for the situation that exists, but the very nature of your industry is such that large quantities of potentially dangerous wastes are generated. Additionally, this is only the first step of an effort to conduct a comprehensive national survey.

I recognize that going back thirty years in company records will be a difficult and, in some instances, impossible task, merely because complete records may not exist. But where there are no records, I hope you will attempt, as thoroughly as possible, through interviews of long-time employees, to pinpoint former dump sites.

Moreover, I would ask that you not necessarily limit your search to the period since 1950. The chemical industry was a vital part of our war effort and it is conceivable, even understandable, that during that time of national emergency dumping of dangerous waste materials occurred in a manner most expeditious for the moment.

Our objective is not to assess blame or give undue publicity regarding the disposal practices of this industry or any of its component companies; rather we are soliciting your cooperation and assistance in obtaining as complete information as possible in a narrowly defined area. While our primary focus is on identifying abandoned and inactive sites, which may or may not be dangerous, we are requesting information about the overall disposal practices of each of the surveyed companies to better understand and deal with the problem.

The questionnaire has been designed to achieve the objective of the survey and yet minimize the burden on your company and avoid proprietary information as much as possible. With respect to the data you provide, you may be assured that the Subcommittee and its staff will treat the data with the same high degree of care and control accorded all investigative materials containing sensitive data. Unauthorized disclosures will not be made. At the same time, you should be aware that the Subcommittee may always authorize disclosure of information it deems to be in the public interest, consistent with our valid legislative purposes, and which is relevant to our investigation.

The survey forms (Forms A, B, C, and D), together with instructions, are enclosed. In addition, the Subcommittee staff will be available to respond to any questions you may have with regard to the questionnaire at a private briefing for the participating companies on Friday, April 27, 1979, at 3:00 p.m. in Room 2123 Rayburn House Office Building. It would be appreciated if you would withhold your questions until that time.

A copy of this letter, with enclosures, has been sent to your Washington representative. Sufficient quantities of the questionnaires for your company will be available following the staff briefing.

It is requested that the completed questionnaires be returned to the Subcommittee office by the close of business, Friday, June 29, 1979.

Your cooperation in this effort is greatly appreciated.

Sincerely,

BOB ECKHARDT,
Chairman, Subcommittee on Oversight and Investigations.

Enclosures.

Appendix D

INSTRUCTIONS

WASTE DISPOSAL SITE SURVEY

Conducted by:

Subcommittee on Oversight and Investigations

Committee on Interstate and Foreign Commerce

U. S. House of Representatives

Hon. Bob Eckhardt, Chairman

April 1979

PURPOSE

This Waste Disposal Site Survey is being conducted by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, U. S. House of Representatives. The purpose of the survey is to begin to identify the location of sites in the United States used for the disposal of chemical plant process waste materials since 1950. The fifty largest chemical companies and their subsidiaries or affiliates are included in this first national survey. Information gathered will assist the Congress in addressing the problems posed by active as well as inactive or abandoned waste disposal sites. The information will also be useful to the U. S. Environmental Protection Agency in effectively implementing the Resource Conservation and Recovery Act of 1976.

WHO IS INCLUDED IN THE SURVEY

The survey is based on the experiences of the 50 largest chemical companies in the United States. A complete set of instruments is to be filled out for every facility or plant in the United States owned, operated or leased by one of these companies or any of their subsidiary or affiliated companies.

It is recommended that the corporate headquarters, to whom the survey instruments are sent, send a complete set of instruments and the instruction manual to the plant manager or supervisor of each of the company's plants or facilities. The plant manager or supervisor should then complete the forms using whatever records or employee knowledge he or she may have at his or her disposal. It is further requested that completed forms from each facility be returned to the corporate headquarters for final collation before returning them to the Subcommittee.

TIME PERIOD TO BE COVERED

It is the Subcommittee's intention to collect information on waste disposal sites used since 1950 (or since the time a particular facility began operation if after 1950). Some facilities may not have formal records on waste disposal dating back to 1950. The Subcommittee requests that every effort is made to reconstruct waste disposal practices for which written records do not exist. Most important is the identification (by name and location) of all sites used for the disposal of process wastes from a facility since 1950. It is very likely that employees with some tenure at a facility will know where wastes were disposed of; thus the knowledge employees may have of waste disposal practices by the facility should be explored along with record searches.

FORMS

The instrument package consists of 4 separate forms as described below:

FORM A: GENERAL FACILITY INFORMATION: This form elicits information on the total amount of process waste generated by a facility in 1978 and the methods used other than sale for use for the disposal of these wastes. This information will provide a general picture of the facility's current operations. The form also requests information on the number of sites used since 1950 for the disposal of process wastes and the hauling of process wastes from the facility. The answers to these questions will indicate whether or not (and in what numbers) Forms B, C and D need to be completed.

FORM B: DISPOSAL SITE INFORMATION: This form is to be completed for every disposal site used by the facility since 1950 for the disposal of the facility's process wastes. The property on which the facility is located may also have been used for waste disposal; if so, one Form

"B" should be used for this "on site" disposal. The form elicits information on the name, location and ownership of the site, the dates the site was used by the facility, the amount and content of the process waste disposed at the site from the facility, the current status of the site as well as the types of disposal methods used at the site. In all instances a facility should seek the answers to each of the questions. (NOTE: Form "B" consists of 2 pages.)

FORM C: HAULER INFORMATION: This form asks a facility to list the names and addresses of all firms or independent contractors (including the company and its affiliates and subsidiaries) who since 1950 removed process waste materials from the facility. Information on the years used is also requested.

FORM D: SUPPLEMENTAL HAULER INFORMATION: Some process wastes may have been hauled from a facility and taken to a location unknown to the facility. For every firm or contractor who has taken waste in this manner from a facility, Form D elicits information on the content and amount of wastes hauled and the dates the hauler was used.

COMPLETING THE FORMS

The information requested on the forms is largely numerical in nature. Block spaces have been provided for this information. Respondents are requested to write (or type) responses clearly within these spaces. In any instance in which the response has fewer digits than the number of spaces provided, the response should be right justified. For example, if a facility generated 21,292 tons of process waste during 1978, the response on Form A, Question 3 would be recorded as follows:

hundred tons . . . . | | | | | 2 | 1 | 3 | (25-32)

In requesting information on amounts of process waste generated, disposed at a given site or hauled by a given firm/contractor, three different categories (gallons, tons and cubic yards) have been provided. One or all of these categories may be used, depending upon which is most convenient for a facility. In no instance, however, should the amount of waste be double counted (i.e. a given amount should not be recorded as both gallons and tons).

All non-numerical responses (eg. names and addresses) should be written legibly or typed in the spaces provided. If there is a need to clarify responses to any questions, clarification should be provided on the back of the form or on an appended page.

WHO TO CALL WITH QUESTIONS

The Subcommittee will hold a private briefing for all companies asked to participate in this survey on Friday, April 27, 1979 at 3:00 p.m. in 2123 Rayburn House Office Building in order to answer any questions or concerns. Companies should hold all initial questions for this private briefing. Following this date, all questions should be directed to Anne Cohn, Survey Coordinator at (202) 225-4231 or Mark Raabe, Staff Director, at (202) 225-4441.

WHO TO RETURN FORMS TO

The Subcommittee requests that a company compile completed forms from all of their facilities and forward the entire package, at one time, to:

Hon. Bob Eckhardt, Chairman
Subcommittee on Oversight and Investigations
Committee on Interstate and Foreign Commerce
2323 Rayburn HOB
U. S. Congress
Washington, D. C. 20515

Attn: Survey Coordinator

WHEN TO RETURN FORMS

All completed forms are to be returned to the Subcommittee no later than June 29, 1979.

|_|_|_|_|_| (1-5)
(DO NOT USE)

PART A: GENERAL FACILITY INFORMATION

Company Name: _____

Facility Name: _____

Address: _____
No. Street

_____
City State Zip Code

Name of Person Completing Form: _____

Position: _____

Phone Number: ( ) _____

1. Year Facility Opened ..... 19|_|_| (10-11)

2. Primary SIC Code ..... |_|_|_|_| (12-15)

3. Estimate the total amounts of process wastes (excluding wastes sold for use) generated by this facility during 1978:

thousand gallons ..... |_|_|_|_|_|_|_|_| (16-24)

hundred tons ..... |_|_|_|_|_|_|_|_| (25-32)

thousand cubic yards ..... |_|_|_|_|_|_|_|_| (33-41)

4. Estimate (in whole percents) how these process wastes generated in 1978 were disposed of:

in landfill ..... |_|_|_| (42-44)

in pit/pond/lagoon ..... |_|_|_| (45-47)

in deep well ..... |_|_|_| (48-50)

incinerated ..... |_|_|_| (51-53)

reprocessed/recycled ..... |_|_|_| (54-56)

evaporated ..... |_|_|_| (57-59)

unknown ..... |_|_|_| (60-62)

other (Specify _____) ..... |_|_|_| (63-65)

5. What is the total number of known sites (including disposal on the property where this facility is located as one site) that have been used for the disposal of process wastes from this facility since 1950? ..... |_|_|_| (66-68)

COMPLETE ONE FORM "B" FOR EACH OF THE SITES

6. Have any of the process wastes generated at this facility been hauled (removed) from this facility for disposal? (Yes=1; no=2) ..... |_| (69)

IF YES, COMPLETE FORM "C"

7. Do you know the disposal site locations of all of the process waste hauled from your facility since 1950? (Yes=1; no=2) ..... |_| (70)

IF NO, COMPLETE ONE FORM "D" FOR EACH FIRM OR CONTRACTOR WHO TOOK WASTE TO AN UNKNOWN LOCATION

8. Specify the earliest year represented by information from company or facility records supplied on this and other forms .....19|_|_| (71-72)

9. Specify the earliest year represented by information from employee knowledge supplied on this and other forms .....19|_|_| (73-74)

FORM B: DISPOSAL SITE INFORMATION

(1-8) (DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: _____
Facility Name: _____
Name of Site: _____
Address of Site: _____
no. street

_____
city state zip code

Name of Owner (while used by facility): _____
Address: _____
no. street

_____
city state zip code

Current Owner (if different from above): _____
Address: _____
no. street

_____
city state zip code

1. Location (1= the property on which facility is located; 2= off-site) ..... (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) ..... (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... (12)
   IF CLOSED, specify year closed ..... 19__ (13-14)
4. Year first used for process waste from this facility ..... 19__ (15-16)
5. Year last used for process waste from this *facility* (enter "79" if still in use) ..... 19__ (17-18)
6. Total amount of process waste from this facility disposed at site:
   thousand gallons ..... (19-26)
   hundred tons ..... (27-33)
   thousand cubic yards ..... (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=*currently in use*; 2=no longer in use; 3=never used; 9=don't know)
   - landfill, mono industrial waste ..... (42)
   - landfill, mixed industrial waste ..... (43)
   - landfill, drummed waste ..... (44)
   - landfill, municipal refuse co-disposed ... (45)
   - pits/ponds/lagoons ..... (46)
   - deep well injection ..... (47)
   - land farming ..... (48)
   - incineration ..... (49)
   - treatment (eg. neutralizing) ..... (50)
   - reprocessing/recycling ..... (51)
   - other (specify) ..... (52)
8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

FORM B CONTINUED ON SECOND PAGE

FORM B - PAGE 2

(DO NOT USE)

Company Name: _____
Facility Name: _____
Site Name: _____

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

- Acid solutions, with pH<3 ..... (10)
  - pickling liquor ..... (11)
  - metal plating waste ..... (12)
  - circuit etchings ..... (13)
  - inorganic acid manufacture ..... (14)
  - organic acid manufacture ..... (15)
- Base solutions, with pH> 12 ..... (16)
  - caustic soda manufacture ..... (17)
  - nylon and similar polymer-generation ..... (18)
  - scrubber residual ..... (19)
- Heavy metals & trace metals (bonded organically & inorganically) ..... (20)
  - arsenic, selenium, antimony ..... (21)
  - mercury ..... (22)
  - iron, manganese, magnesium ..... (23)
  - zinc, cadmium, copper, chromium (trivalent) ..... (24)
  - chromium (hexavalent) ..... (25)
  - lead ..... (26)
- Radioactive residues, > 50 pico curies/gram ..... (27)
  - uranium residuals & residuals for UF_6 recycling ..... (28)
  - lathanide series elements and rare earth salts ..... (29)
  - phosphate slag ..... (30)
  - thorium ..... (31)
  - radium ..... (32)
  - other alpha, beta & gamma emitters ..... (33)
- Organics ..... (34)
  - insecticides & intermediates ..... (35)
  - herbicides & intermediates ..... (36)
  - fungicides & intermediates ..... (37)
  - *rodenticides & intermediates* ..... (38)
  - halogenated aliphatics ..... (39)
  - halogenated aromatics ..... (40)
  - acrylates & latex emulsions ..... (41)
  - PCB/TBB's ..... (42)
  - amides, amines, imides ..... (43)
  - plastizers ..... (44)
  - resins ..... (45)
  - elastomers ..... (46)
  - solvents polar (except water) ..... (47)
  - carbontetrachloride ..... (48)
  - trichloroethylene ..... (49)
  - other solvents nonpolar ..... (50)
  - solvents halogenated aliphatic ..... (51)
  - solvents halogenated aromatic ..... (52)
  - oils and oil sludges ..... (53)
  - esters and ethers ..... (54)
  - alcohols ..... (55)
  - ketones & aldehydes ..... (56)
  - dioxins ..... (57)
- Inorganics ..... (58)
  - salts ..... (59)
  - mercaptans ..... (60)
- Misc ..... (61)
  - pharmaceutical wastes ..... (62)
  - paints & pigments ..... (63)
  - catalysts (eg. vanadium, platinum, palladium) ..... (64)
  - *asbestos* ..... (65)
  - shock sensitive wastes (eg. nitrated toluenes) ..... (66)
  - air water reactive wastes (eg. P_4, aluminum chloride) ..... (67)
  - wastes with flash point below 100° F ..... (68)

FORM C: HAULER INFORMATION

(1-5) (DO NOT USE)

PROVIDE A COMPLETE LIST OF ALL FIRMS AND INDEPENDENT CONTRACTORS, INCLUDING THE COMPANY AND ITS AFFILIATES AND SUBSIDIARIES, USED TO REMOVE PROCESS WASTES FROM THIS FACILITY SINCE 1950.

Company Name: _____

Facility Name: _____

Name of Firm or Contractor	Address	ICC # (If Known)	Years Used

FORM D: SUPPLEMENTAL HAULER INFORMATION

(1-8) (DO NOT USE)

COMPLETE THIS FORM FOR EACH FIRM OR INDEPENDENT CONTRACTOR (INCLUDING YOUR OWN COMPANY, ITS AFFILIATES & SUBSIDIARIES) WHO REMOVED PROCESS WASTE FROM THIS FACILITY SINCE 1950 AND TOOK IT TO AN UNKNOWN LOCATION

Company Name: _____
Facility Name: _____
Name of Hauling Firm/Contractor: _____
Address: (no.) (street) _____
(city) (state) (zip code) _____

1. Year first used 19 (10-11)
2. Year last used (enter "79" if still in use) 19 (12-13)
3. Total amount of process waste hauled from this facility:
   thousand gallons ..... (14-21)
   hundred tons ..... (22-28)
   thousand cubic yards ..... (29-36)
4. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know):
   FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	(37)
pickling liquor	(38)
metal plating waste	(39)
circuit etchings	(40)
inorganic acid manufacture	(41)
organic acid manufacture	(42)
Base solutions, with pH>12	(43)
caustic soda manufacture	(44)
nylon and similar polymer generation	(45)
scrubber residual	(46)
Heavy metals & trace metals (bonded organically & inorganically)	(47)
arsenic, selenium, antimony	(48)
mercury	(49)
iron, manganese, magnesium	(50)
zinc, cadmium, copper, chromium (trivalent)	(51)
chromium (hexavalent)	(52)
lead	(53)
Radioactive residues, > 50 pico curies/gram	(54)
uranium residuals & residuals for UF_6 recycling	(55)
lathanide series elements and rare earth salts	(56)
phosphate slag	(57)
thorium	(58)
radium	(59)
other alpha, beta & gamma emitters	(60)
Organics	(61)
insecticides & intermediates	(62)
herbicides & intermediates	(63)
fungicides & intermediates	(64)
rodenticides & intermediates	(65)
halogenated aliphatics	(66)
halogenated aromatics	(67)
acrylates & latex emulsions	(68)
PCB/PBB's	(69)
amides, amines, imides	(70)
plastizers	(71)
resins	(72)
elastomers	(73)
solvents polar (except water)	(74)
carbontetrachloride	(75)
trichloroethylene	(76)
other solvents nonpolar	(77)
solvents halogenated aliphatic	(78)
solvents halogenated aromatic	(79)
oils and oil sludges	(10)
esters and ethers	(11)
alcohols	(12)
ketones & aldehydes	(13)
dioxins	(14)
Inorganics	(15)
salts	(16)
mercaptans	(17)
Misc	(18)
pharmaceutical wastes	(19)
paints & pigments	(20)
catalysts (eg. vanadium, platinum, palladium)	(21)
asbestos	(22)
shock sensitive wastes (eg. nitrated toluenes)	(23)
air water reactive wastes (eg. P_4, aluminum chloride)	(24)
[illegible] flash point below 1000 F	(25)

11K8

12 FE

Additional Instructions—Waste Disposal Site Survey

GENERAL COMMENTS

1. Companies are asked to include all of their own facilities and those of their subsidiaries (and affiliates) that manufacture or otherwise produce chemicals. The Directory of Chemical Producers, produced by Chemical Information Services of the Stanford Research Institute should be used as a guide to determine which facilities (or which types of facilities) the Subcommittee expects to be included. (If a company has any questions about the listings in this Director, a representative should contact Anne Cohn 202–225–4231).

2. *Waste* is defined to include waste materials that result from a facility's industrial chemical process *except for:* discharge waters covered by MPDS permit; wastes that are reprocessed or recycled *at* the facility; or wastes that are sold for use elsewhere. Sludge resulting from treatment of discharge waters is included. Wastes sent off-site for reprocessing or recycling, but not sold, are included.

3. Forms B and D request information on the components of waste disposed of or hauled. Facilities are asked to indicate the presence or absence in the waste of each item on the list. If a trace amount of a particular item is present in the waste and if the facility believes that this trace amount is *inconsequential* it need not be reported. If, however, such trace amounts could be of concern, please indicate that the item is present and explain that it is a trace amount on the back of the form.

4. Forms A, B and D request information on amounts of waste. Whenever possible, facilities are asked to record waste amounts in terms of *tons*, rather than gallons or cubic yards. On Form A in particular, question 3 should be answered in terms of *tons* so that question 4 on disposal techniques can be accurately answered.

5. A company may have owned or operated a chemical facility that is now closed (eg. the company moved operations from one location to another, or phased out that particular operation and facility). If so, the company is asked to provide information on that closed facility, if possible.

6. A company may have sold a chemical facility since 1950. The Subcommittee is *not* asking the company to provide information on that facility.

7. A company may have recently purchased a facility. The Subcommittee asks that the company supply information on that facility dating back to 1950.

8. A facility is encouraged to provide explanations to answers provided whenever such explanations appear desirable. Such explanatory information should appear on the back of a form or on appended sheets.

9. At the top of every form, the company name and facility name is requested. Facilities are asked to provide a complete identification including the name of the division or subsidiary as well as parent company.

10. Facilities are asked to obtain as complete information as possible. If a facility is unable to get an answer to a question, the code 9 should be used to indicate "don't know." In using this code, every block space associated with the question should be coded 9.

FORM SPECIFIC COMMENTS

Form A: General Facility Information:

- One Form A is to be completed for each facility. If it is more convenient to use 2 Form A's for a given facility (because of record-keeping procedures or other issues), you may do so.
- If a facility has more than one *primary* SIC code, list one in the spaces provided and the other(s) directly beneath that space.
- On question 3, all amounts must be right justified. You are encouraged to use *tons* only.
- Question 4 will make most sense if question 3 is responded to *only* in tons. If a facility is unable to convert all waste to tons, under question 4, use the spaces provided to indicate, by percent, how the waste measured by tons was disposed of in 1978. On the back of the form, indicate how the waste measured by gallons (or by cubic yards) was disposed of.

Form B: Disposal Site Information:

- One Form B should be completed for every disposal site used by a facility; if it is more convenient to use 2 Form B's for a given disposal site (because of record-keeping procedures or other issues), *you may do so.*
- The name and address of the site must be as complete as possible. Include any nicknames, if known.
- Under question 2, code 1 "company ownership" includes ownership by the parent company.
- Under question 6, if the amount disposed of is under 50 tons (or 200 gallons or 500 cubic yards) enter 0 in the boxes provided and indicate the actual amount under the boxes.
- Under question 8, if a site is public site (eg. a municipal dump site) it is not necessary to list all users. It would be helpful, however, to identify the types of users, if known.
- Be sure to enter complete identification for the company, facility and site on page 2 and make sure that pages 1 and 2 are attached to each other.

Forms C and D:

- Again, complete identification of the company and facility (including the division and/or subsidiary's name) is important.

APPENDIX E

Waste Disposal Site Directory

The following is a directory of the 3,383* waste disposal sites identified in the Subcommittee's survey. These sites are listed alphabetically by town/city for each state. There is also a cross-reference index at the end of the directory which lists the sites alphabetically by name.

It is emphasized that these 3,383 sites, as reported to the Subcommittee, represent *only* those locations used for disposal of chemical process wastes since 1950 (or earlier) by the 1,605 plant facilities of the 53 largest domestic chemical companies. This directory does *not* represent the complete list of all waste disposal sites in the United States which have been used over the years by other chemical companies and other waste-generating industrial groups.

It is further emphasized—and should be clearly understood by the reader—that these are *waste* disposal sites, not necessarily *hazardous waste* disposal sites. Not all reported waste would necessarily produce a hazardous site. Moreover, neither the exact quantity of any particular chemical component in the waste disposed nor the condition of the site itself is known. *Thus, these sites do not necessarily pose threats to public health or the environment.*

The Subcommittee cannot attest to the accuracy of the information contained in this directory. The data was compiled and reported to the Subcommittee by the 1,605 facilities participating in the survey. In a number of instances, the information is based on facility employees' recollections of waste disposal practices many years ago, rather than on corporate records. In addition, while standardized instructions on data collection were provided to all participating facilities, some variability in interpretation of questions on the survey forms could be expected. It should also be noted that the information contained in this directory was furnished from the prospective of the individual plant facilities and may be somewhat limited or incomplete in certain instances, based on the extent of knowledge of the reporting facility.

Finally, in any survey of this magnitude the possibility of human error in compiling, reporting, coding, keypunching and computerizing the information must be taken into consideration.

Descriptive data for each site includes:

(1) whether the site is, or is not, located on property of a chemical plant facility participating in the survey

(2) years the site is known to have been used for disposal

(3) ownership of off-site facilities

*The directory actually contains 3,379 sites. Four sites are not listed since no identifying data was furnished on them by the reporting facilities.

(4) whether sites are still being used or are closed

(5) amount (by weight) of chemical process waste disposed at *on-site* facilities since 1950 (or earlier, if known); amounts of chemical process waste disposed at *off-site* facilities are not furnished since such sites could very well include waste produced by other generators

(6) general identity of chemical components of waste disposed at the site (Note: To repeat... the exact quantity of any particular chemical component in the waste disposed at each site is unknown.)

(7) disposal method (s) used at the site

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS, COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE, NINETY-SIXTH CONGRESS

WASTE DISPOSAL SITE DIRECTORY, OCTOBER 1979

CONTENTS

BISHOP LANDFILL, ROUTE 5 35950

[illegible] IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE [illegible] FOR DISPOSAL FROM 1971 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN [illegible] COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE [illegible] AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, [illegible] WASTE LANDFILL.

ALEXANDER PROPERTY, RURAL ROUTE #2 35014

[illegible] IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE [illegible] FOR DISPOSAL DURING 1975. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN [illegible] COMPANY INCLUDED IN THIS SURVEY. SITE IS POSSIBLY OPEN OR CLOSED. CHEMICAL COMPONENTS OF [illegible] DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND [illegible]). METHODS OF DISPOSAL INCLUDE MONO INDUSTRIAL WASTE LANDFILL.

ANNISTON PLANT LANDFILL, HIGHWAY 202 WEST 36202

[illegible] IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN [illegible] FOR DISPOSAL FROM 1920 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE [illegible] OF AT THIS SITE WAS NOT REPORTED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE [illegible] AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE [illegible] DRUMMED WASTE LANDFILL, INCINERATION AND REPROCESSING AND/OR RECYCLING.

BRINE SLUDGE PONT (ONSITE), P.O.BOX 100 36505

[illegible] IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN [illegible] FOR DISPOSAL FROM 1974 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE [illegible] OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 24 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE [illegible] AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY) AND [illegible]. METHODS OF DISPOSAL INCLUDE PITS, PONDS AND LAGOONS.

LEMOYNE PLANT, P.O. BOX 100 36505

[illegible] IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN [illegible] FOR DISPOSAL FROM 1953 TO 1978. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE [illegible] OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 174 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE [illegible] AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), BASE SOLUTIONS (WITH PH > 12), HEAVY METALS [illegible] METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE [illegible]. METHODS OF DISPOSAL INCLUDE MONO INDUSTRIAL WASTE LANDFILL, MIXED INDUSTRIAL WASTE LANDFILL, [illegible] WASTE LANDFILL, PITS, PONDS AND LAGOONS AND TREATMENT (EG.: NEUTRALIZATION).

MOBILE PLANT, P O BOX 525 36505

[illegible] IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN [illegible] FOR DISPOSAL FROM 1968 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE [illegible] OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 3 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE [illegible] AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12), HEAVY METALS AND TRACE METALS (BONDED [illegible] AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF [illegible] INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL, INCINERATION, TREATMENT (EG.: [illegible] NEUTRALIZATION) AND REPROCESSING AND/OR RECYCLING.

BALDWIN COUNTY LANDFILL MAGNOL, P.O. BOX 150 36507

[illegible] IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE [illegible] FOR DISPOSAL DURING 1977. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING [illegible] CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED [illegible] AND INORGANICALLY) AND INORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE [illegible] FILL.

ACTON ACTON TOWN LANDFILL, OFF ROUTE 2 01720

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1951 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

ACTON *W.R. GRACE & CO-ORGANIC CHEMIC, 50 INDEPENDENCE ROAD 01720*

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1951 TO 1979. AT TIME OF USE, SITE WAS OWNED BY CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 23 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND INORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL AND MIXED INDUSTRIAL WASTE LANDFILL.

ADAMS ADAMS PLANT, 240 COLUMBIA ST. 01220

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN *USED FOR DISPOSAL FROM 1950 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE* DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 2,894 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12) AND INORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

ADAMS ADAMS SANITARY LANDFILL, EAST ROAD 01220

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1973 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL *INCLUDE DRUMMED WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.*

ADAMS ADAMS SANITARY LANDFILL, EAST ROAD 01220

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1965 TO 1972. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE DRUMMED WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

ANDOVER ANDOVER PLANT INCINERATOR, 27 LOWELL JUNCTION RD 01810

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL *FROM 1972 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE* DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 35 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE INCINERATION.

ANDOVER ANDOVER TOWN DUMP, CHANDLER RD 01810

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1955 TO 1973. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS NO LONGER IN USE. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND INORGANICS. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

ATTLEBORO *ATTLEBORO LANDFILL, 36 TOURDEAU AVE 02703*

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1955 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS NO LONGER IN USE. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

The Eckhart Report

BRAINTREE RECYCLE IND INC MONTAVALE LABS. 365 QUINCY AVENUE 02184

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1976 TO 1978. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3) AND BASE SOLUTIONS (WITH PH > 12). METHODS OF DISPOSAL INCLUDE TREATMENT (EG.: NEUTRALIZATION) AND REPROCESSING AND/OR RECYCLING.

BRAINTREE RECYCLING INDUSTRIES LANDFILL, ADDRESS UNREPORTED

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1977 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE DRUMMED WASTE LANDFILL.

BRIDGEWATER CAMBRIDGE ENGINEERING COMPANY, FIRST STREET 02324

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1976 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE DRUMMED WASTE LANDFILL, INCINERATION, TREATMENT (EG.: NEUTRALIZATION) AND REPROCESSING AND/OR RECYCLING.

CAMBRIDGE ORGANIC CHEMICALS DIVISION-PLA, HARVEY STREET 02140

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL IN 1950 AT EARLIEST. SITE IS NO LONGER IN USE, HAVING CLOSED IN 1978. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 14 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE NON-INDUSTRIAL WASTE LANDFILL.

CANTON ALLAN PLASTICS, 30 PEQUIT ST

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL DURING 1973. AT TIME OF USE, SITE WAS OWNED BY AN UNIDENTIFIED PARTY. SITE IS POSSIBLY OPEN OR CLOSED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

CANTON PLYMOUTH RUBBER CO INC, REVERE STREET 02021

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1973 TO 1975. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

CHICOPEE AHEARN TRUCKING COMPANY,INC.SA, 845 BURNETT ROAD 01020

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1966 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), BASE SOLUTIONS (WITH PH > 12), HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

CHICOPEE CHICOPEE, GRATTAN 01021

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1956 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

COHCHESTER MILE ROAD DUMP, ADDRESS UNREPORTED

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1958 TO 1962. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS NO LONGER IN USE. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND INORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

EVERETT EVERETT PLANT, MYSTIC VIEW ROAD 02149

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL IN 1978 AT LATEST. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 1,000 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL, PITS, PONDS AND LAGOONS AND INCINERATION.

FITCHBURG H. MUEHLSTEIN & CO. INC., P.O. BOX 577 01420

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1977 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

GRANBY M.T. SULLIVAN CO., NEW LUDLOW ROAD 01033

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL IN 1975 AT LATEST. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS NO LONGER IN USE, HAVING CLOSED IN 1976. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3) AND ORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

HAVERHILL VERNON PLASTICS CO, HAVERHILL MUNICIPAL DUMP 01830

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1967 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

HOLYOKE MOBIL CHEMICAL COMPANY, 3 HANOVER STREET 01040

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1957 TO 1974. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 19 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

INDIAN ORCHARD BIRCHAM BEIRD PLANT, 199 GROCHMAL AVENUE 01151

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1950 TO 1960. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 10 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

INDIAN ORCHARD SPRINGFIELD PLANT, 730 WORCHESTER STREET 01151

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL IN 1969 AT EARLIEST. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 1,065 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL, PITS, PONDS AND LAGOONS, INCINERATION AND OTHER UNCATAGORIZED METHODS.

LEOMINSTER LEOMINSTER MUNICIPAL LANDFILL, MECHANIC STREET , 01453

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1965 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL CONPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

LEOMINSTER POND & INCINERATOR, 531 LANCASTER STREET 01453

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1965 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 15 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE PITS, PONDS AND LAGOONS AND INCINERATION.

LOWELL SILRESIN CHEMICAL CORPORATION, 86 TANNER STREET 01853

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL DURING 1977. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS POSSIBLY OPEN OR CLOSED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

LYNN EASTERN SMELTING, 37-39 BUBIER STREET 01901

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1956 TO 1974. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE INCINERATION, REPROCESSING AND/OR RECYCLING AND OTHER UNCATAGORIZED METHODS.

LYNN LYNNCOR/LYNN VINYL PLASTICS, 92 BROOKLINE ST. 10902

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1974 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

MANSFIELD MANSFIELD TOWN FILL, EAST STREET & ROUTE 106 02048

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1953 TO 1978. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL AND LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

MEDFORD MEDFORD WORKS, 93 CORPORATION WAY 02155

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1917 TO 1977. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 147 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12), HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL, DRUMMED WASTE LANDFILL AND PITS, PONDS AND LAGOONS.

NATICK INTEREX CORPORATION, 3 STRATHMORE RD 01760

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1977 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE INCINERATION, TREATMENT (E.G. NEUTRALIZATION) AND REPROCESSING AND/OR RECYCLING.

NORTH ADAMS NORTH ADAMS SANITARY LANDFILL, WEST SHAFT ROAD 01247

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL DURING 1975. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

NORTH ANDOVER NORTH ANDOVER TOWN LAND FILL, HOLT ROAD 01845

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1956 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

NORTH ANDOVER RESINITE DEP'T - NO ANDOVER, 1 CLARK STREET 01845

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1966 TO 1971. SITE IS NO LONGER IN USE. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE WAS NOT REPORTED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MONO INDUSTRIAL WASTE LANDFILL.

PEABODY L. FINE, 243 LYNNFIELD ST 10960

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1973 TO 1977. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.

PEABODY LIME DISPOSAL AREA, KINGSTON STREET 01960

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1930 TO 1979. AT TIME OF USE, SITE WAS OWNED BY CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 1,419 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12). METHODS OF DISPOSAL INCLUDE PITS, PONDS AND LAGOONS.

PITTSFIELD INCINERATOR-GENERAL ELECTRIC C, 100 WOODLAWN AVENUE 01201

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1972 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 11.82 HUNDRED TONS. CHEMICAL COMPONENTS OF WAST DISPOSED AT THIS SITE INCLUDE ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE INCINERATION.

PITTSFIELD MUNICIPAL LANDFILL, EAST ST, HUBBARD AVE AFTER 1978 01201

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1950 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BONDED ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE LANDFILL IN WHICH MUNICIPAL WASTE IS CO-DISPOSED.

PITTSFIELD MUNICIPAL SEWER PLANT, HOLMES ROAD 01201

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1973 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS. METHODS OF DISPOSAL INCLUDE UNCATAGORIZED METHODS.

MASSACHUSETTS

PITTSFIELD SETTLING POND-GENERAL ELECTRIC, 100 WOODLAWN AVENUE 01201

SITE IS LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY AND IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1950 TO 1979. SITE IS STILL BEING USED. AMOUNT OF CHEMICAL PROCESS WASTE DISPOSED OF AT THIS SITE THROUGH 1978 WAS REPORTED AS 2,206.8 HUNDRED TONS. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE PITS, PONDS AND LAGOONS.

RANDOLPH RANDOLPH SANITARY LANDFILL, 95 LIBERTY ST 02368

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1978 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND INORGANICS. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

SALEM S SALEM SEWERAGE TREATMENT PLT, 80 FORT AVE. 01970

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1978 TO 1979. AT TIME OF USE, SITE WAS PUBLICLY OWNED. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE BASE SOLUTIONS (WITH PH > 12), METHODS OF DISPOSAL INCLUDE INCINERATION.

✓SAUGUS REFUSE ENERGY SYS CO (RESCO), 100 SALEM TURNPIKE 01906

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1975 TO 1979. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE INCINERATION.

SPRINGFIELD SPRINGFIELD LANDFILL, CORNER OF TURNBULL AND COTTAGE STREETS 01104

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1952 TO 1969. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS NO LONGER IN USE. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ACID SOLUTIONS (WITH PH < 3), BASE SOLUTIONS (WITH PH > 12), HEAVY METALS AND TRACE METALS (BOUND ORGANICALLY AND INORGANICALLY), ORGANICS, INORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE MIXED INDUSTRIAL WASTE LANDFILL.

✓TYNGSBORO CHARLES GEORGE LAND FILL, ADDRESS UNREPORTED 01879

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1973 TO 1976. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE ORGANICS AND INORGANICS. METHODS OF DISPOSAL ARE NOT KNOWN.

WEST YARMOUTH CANNON ENGINEERING CO, 330 MAIN ST 02673

SITE IS NOT LOCATED ON PROPERTY OF CHEMICAL PLANT PARTICIPATING IN SURVEY, BUT IS KNOWN TO HAVE BEEN USED FOR DISPOSAL FROM 1976 TO 1977. AT TIME OF USE, SITE WAS OWNED BY PRIVATE CONCERN OTHER THAN CHEMICAL COMPANY INCLUDED IN THIS SURVEY. SITE IS STILL BEING USED. CHEMICAL COMPONENTS OF WASTE DISPOSED AT THIS SITE INCLUDE HEAVY METALS AND TRACE METALS (BOUND ORGANICALLY AND INORGANICALLY), ORGANICS AND MISCELLANEOUS WASTE MATERIAL. METHODS OF DISPOSAL INCLUDE REPROCESSING AND/OR RECYCLING.