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BACKGROUND DOCUMENT

SUMMARY OF DATA ON MUNICIPAL SOLID WASTE LANDFILL LEACHATE CHARACTERISTICS

"CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS"
(40 CFR PART 258)

SUBTITLE D OF RESOURCE CONSERVATION AND
RECOVERY ACT (RCRA)

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF SOLID WASTE

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Principal contributors included:

Rick Nace, NUS
Patricia Irle, NUS
Donald Habib, NUS
Todd Kimmell, NUS

Paul Cassidy, OSW
Jerry Garman, OSW
Susan Mooney OSW
Tom Freund, OSW
Jim Pittman, OSW

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1.0 INTRODUCTION

The 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) directed EPA to revise the "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR Part 257) for facilities that may receive household hazardous waste or hazardous waste from small quantity generators. Such revisions shall be those necessary to protect human health and the environment and may take into account the "practicable capability" of facilities to implement the Criteria (HSWA Section 302). "practicable capability" was included in HSWA by Congress to take into account the limited economic and technical capabilities of many owners and operators of solid waste disposal facilities.

In carrying out this mandate, EPA has undertaken efforts to revise the current Criteria. EPA is initially limiting the Criteria revisions to municipal solid waste landfills (MSWLFs) because these are the facilities for which the Agency has the most complete and reliable data as discussed in the Revised Final Draft Report to Congress: Solid Waste Disposal in the United States, Volume I and II [EPA, 1988]. The rationale for limiting the criteria revisions to MSWLFs is further discussed in the Background Document for Options Selection [EPA, 1986e].

The purpose of this report is to present information on the character of leachate from MSWLFs based on a study of existing leachate data. Section 2.0 briefly discusses the objectives of this report, Section 3.0 describes the sources of the data and its quality, and Section 4.0 presents the results of the study.

2.0 OBJECTIVE

The purpose of this study was to investigate MSWLF leachate: to determine some of the constituents* present, the concentrations of the constituents present relative to human health and environmental regulatory standards, and the effect of Subtitle C hazardous waste regulations on constituent concentrations in MSWLF leachate. To accomplish this purpose, the following four objectives were set:

(1) Identify constituents and determine their concentrations in MSWLF leachate.

(2) Compare concentrations of constituents in leachate from MSWLFs which began operation prior to the 1980 promulgation of the Subtitle C waste regulations, to leachate from landfills that began operation after 1980. In this report, landfills which began operation prior to or during 1980 are referred to as "pre-1980" landfills. Those that began operation after 1980 are referred to as "post-1980" landfills.

(3) Compare concentrations of constituents in MSWLF leachate to concentrations in leachate from hazardous waste landfills.

(4) Compare concentrations of constituents in MSWLF leachate to human health and environmental based regulatory standards, as some basis for drawing conclusions about the potential threat of MSWLF leachate to human health and the environment.

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* Constituents, as used in this report, are the parameters reported in a chemical analysis of a leachate sample. In this report constituents are subdivided into inorganics and organics, with inorganics including indicator parameters such as pH and conductivity.

3.0 DESCRIPTION OF DATA

3.1 Data Sources

Six independent studies were used to provide data on MSWLF leachate. These studies provided leachate data for 83 MSWLFs; 60 landfills provided both organic and inorganic leachate analyses, 16 landfills provided only inorganic analyses, and seven landfills provided only organic analyses. A seventh study provided information on leachate from 11 hazardous waste landfills. Each of these seven studies are described below. The data are presented in Appendix A. Summary data on the number of sites, samples, and constituents are provided in Table 3-1.

3.1.1 Wisconsin Study

The Wisconsin study provided organic and inorganic chemical analyses of leachate at 20 landfills [McGinley, 1984]. The study provided data on waste types and either exact ages or minimum ages of all landfills.

All 20 landfills were sampled and analyzed for inorganics; in most cases more than once; sometimes up to 300 times. Collectively, samples were analyzed for 54 different inorganic constituents; however, not all samples were analyzed for the same constituents. The results of the inorganic analyses were composited. Eighteen sampling locations at nine landfills were analyzed for 114 organics. The study provided median concentrations of all analyses for each constituent at a given sample location.

3.1.2 NUS Study

The NUS study provided analyses of 19 leachate samples from six municipal landfills. Two (2) of the landfills are co-disposal landfills, disposing of municipal waste with municipal incinerator ash [EPA, 1987]. Additional information on the other four landfills was provided in case studies performed for EPA [EPA, 1986a, 1986b, 1986c, 1986d].

TABLE 3-1

SUMMARY OF DATA USED, BY SOURCE

Landfill Study	Number of Sites	Inorganics		Organics		Total	
		Number of Samples	Number of Constituents Analyzed For*	Number of Samples	Number of Constituents Analyzed For	Number of Samples	Number of Constituents Analyzed For
Municipal							
Wisconsin	20	20 composites	54	24	114	44	168
NUS	6	15	46	19	210	19	256
Trade Assoc.	6	0	0	6	48	6	48
Sobotka	27	27	46	22	48	27	94
Texas A&M	1	0	0	1	24	1	24
WMI	23	104	50	104	204	104	254
Subtotal	83	166	--	176	--	201	--
Hazardous Waste							
TRW	11	27	46	23	32	34	94
TOTAL	94	193	--	199	--	235	--

* Includes some constituents detected less than twice

Each sample was analyzed for all substances listed in proposed Appendix IX of 40 CFR Part 261, including 210 organics (volatile, semivolatile, pesticide, herbicide, and PCB) and 46 inorganics. The inorganics included 18 water quality indicators. Concentrations of constituents detected were reported for 46 inorganic constituents and 19 organic constituents; detection limits were not reported.

3.1.3 Trade Association Case Studies

The Trade Association Case studies provided organics analyses of leachate from case studies performed at six MSWLFs [EPA, 1988]. Data was provided for each of the landfills, with a single analysis per landfill. It is not known whether a single sample was collected per analysis or whether several samples were composited [EPA, 1988]. For this report, the results were assumed to represent a single sample. Although all constituents analyzed for is unknown, 48 constituents were identified.

3.1.4 Sobotka Study

The Sobotka study gathered organic and inorganic analyses of leachate from 44 MSWLFs in 10 states [EPA, 1986f]. Seventeen (17) of those landfills were addressed under the Wisconsin Study; therefore, the Sobotka study provided additional information on 27 studies. The study provided one sample analysis (possibly a composite) for each site; the results were treated, in this report, as a single (uncomposited) sample. The study listed 46 inorganic and 48 organic constituents for which analyses were conducted.

3.1.5 Texas A&M Study

The Texas A&M study provided organics analysis of leachate at three MSWLFs [EPA, 1986f]. Two landfills were included in the Sobotka Study; therefore, this study provided additional data on only one landfill. The study provided one sample analysis with 24 constituents for this landfill [EPA, 1986f]. For this report it was assumed the sample was not composited, although this was not verified. The number of samples and the complete list of constituents analyzed for was not provided.

3.1.6 Waste Management Incorporated Study

Waste Management Incorporated (WMI) provided EPA with organic and inorganic analyses data for leachate collected at 23 WMI MSWLFs [Baker, 1987]. The data included analyses for 50 inorganic and 204 organic constituents. A total of 104 samples were analyzed although not all samples were analyzed for all constituents. WMI also provided waste types disposed at the landfills.

3.1.7 TRW Study

The TRW study provided leachate data for 11 hazardous waste landfills [EPA, 1983]. Nine of the landfills were analyzed for both inorganic and organic constituents; one was analyzed only for inorganics; and one only for organics. Twenty-seven (27) samples from ten landfills were analyzed for 46 inorganic constituents, and 23 samples from ten landfills (nine of the previous ten plus one additional landfill) were analyzed for 32 organic constituents. Information in the text occasionally differed from that provided in the appendices, making it difficult to always determine the correct value.

3.2 Data Base

Data from the above sources were compiled in a computerized data base. Concentrations of leachate were entered in four categories - three based on the age of the MSWLF (pre-1980, post-1980 and undated) and one from hazardous waste landfills. These four categories were subdivided into organics and inorganics; physical parameters (e.g., TDS, pH) were grouped with the inorganics. The number of landfill sites, samples collected, and constituents analyzed for each category are presented in Table 3-2.

The number of inorganic and organic constituents common to groups of landfill categories are presented in Table 3-3. (The standards referred to are discussed in Section 4.)

TABLE 3-2

DESCRIPTION OF DATA BASE

Landfill Categories	Inorganics			Organics		
	Number of Sites	Number of Samples	Number of Constituents Analyzed For	Number of Sites	Number of Samples	Number of Constituents Analyzed For
Municipal						
Pre-1980	36	107	64	25	107	62
Post-1980	6	23	52	9	30	54
Undated	34	36	54	33	39	62
Subtotal	76	166	--	67	176	--
Hazardous Waste	10	27	46	10	23	32
TOTAL	86	193	--	77	199	--

TABLE 3-3

CONSTITUENTS COMMON TO LANDFILL CATEGORIES

Landfill Categories	Number of Inorganic Constituents Detected			Number of Organic Constituents Detected
	Indicator Parameters	Other Inorganics	Total	
Pre-1980/Post-1980	24	14	38	13
Post-1980/Hazardous Waste	17	14	31	9
Pre/Post/Hazardous Waste	15	14	29	8
Pre-1980/Standards	4	16	20	42
Post-1980/Standards	4	16	20	27
Hazardous Waste/Standards	3	16	19	25
Pre/Post/Hazardous/Standards	2	11	13	5

3.3 Data Quality

The quality of the data determines the validity of any deductions. The weaknesses of the data used in this study should be kept in mind when interpreting the results. Some of these weaknesses are listed in Table 3-4. The weaknesses are generally those of sample size and sample representativeness; consistency in and quality of methods of sampling and analysis, and in reporting; and completeness of information provided.

The sample size is limited. Leachate data was collected for approximately one percent of the approximately 6,000 landfills currently operating in the United States. The sample representativeness is also questionable because the leachate data were not selected randomly, but based on availability. For example, the Wisconsin study investigated landfills only within that state. In addition, leachate constituents used for comparison were those most commonly analyzed for.

Second, sampling methods and analytical protocol differed or were not reported, making it difficult to determine the comparability of the data. For instance, the detection level for a given constituent may have been reported as 5 in one study, 20 in another, and simply as "not detected" in a third. The constituent may actually have been present in two of the three studies at a level above the lowest detection level (in this example, 5). However, this cannot be determined from the data provided.

Third, the data is incomplete. Leachate data for a site seldom included such information as landfill age, type of wastes disposed, or analytical procedures used.

TABLE 3-4

FACTORS AFFECTING DATA QUALITY

Factor	Discussion
Sample Size	The number of landfills represented in this study may not constitute a large enough sample size to come to firm statistical conclusions.
Sample Representativeness	It is unknown how representative the samples of MSWLF leachate collected are of the landfill and of the time the sample was collected.
Landfill Age	Leachate is considerably more concentrated during the early stages of landfill decomposition. The sources are generally not detailed enough to estimate landfill age at time of sampling .
Leachate Collection System	Leachate collection systems can vary from sophisticated to crude. Most systems have a tendency to lose the volatile component of leachates over time and also allow chemical oxidation to occur. This can affect the concentration of both inorganic and organic components.
Sampling and Analytical Conditions	Data quality depends on sampling and analytical methods and equipment. Most sources did not contain enough detailed information to determine whether appropriate equipment and methods were used. Detection limits differed or were not reported.
Target Compounds	For some sources it was not possible to determine whether compounds were undetected or simply not analyzed for.
QA/QC Requirements	Some sources did not provide detailed enough QA/QC requirements or results of QA/QC check samples (e.g., blanks, analytical controls).
Engineering Controls	Engineering controls on landfills (i.e., landfill covers, run-on/run-off controls) can drastically affect leachate composition. Most sources did not report the presence or conditions of engineering controls.
Waste Composition	Waste composition controls leachate composition. History of wastes accepted was not available for many landfills.

4.0 DISCUSSION

The data were evaluated to (1) characterize MSWLF leachate; (2) determine any differences between pre- and post-1980 MSWLF leachate; (3) determine differences between post-1980 MSWLF leachate and hazardous waste landfill leachate; and (4) compare the MSWLF leachate to human health and environmental based standards. The results are presented below.

All constituents analyzed for in the leachate samples were used to characterize the MSWLF leachate. Most of the constituents detected less than two times were omitted from the comparisons to eliminate the constituents least likely to be representative of the leachate. The omitted constituents are listed in Appendix B, Table B-1.

4.1 Characterization of MSWLF Leachate Constituents

MSWLF leachate was characterized by determining the number of constituents detected in different constituent categories. Summary information on the constituents found in MSWLF leachate is provided in Table 4-1. Information on the specific constituents is provided in Appendix B.

Approach - Leachate constituents were broken into two main categories: inorganics and organics. Inorganics were broken into two subcategories: indicator parameters (e.g., temperature, pH) and other inorganics (generally metals). Four subcategories of organics were used: (1) pesticides, herbicides, and PCBs; (2) volatile organics; (3) semivolatile organics; and (4) other organics. Table 4-1 provides, for each constituent category, the number of constituents analyzed for, the number of constituents detected, the number of constituents not detected, the total number of detections (i.e., the sum of all detections for all constituents), and the average number of detections per constituent.

More complete information on the constituents is provided in Appendix B, Tables B-2 through B-8. Minimum, maximum, median and average leachate concentrations, standard deviations, and number of time constituents were analyzed for are provided in Table B-2 through B-4 for MSWLFs (pre-1980, post-1980 and undated landfills, combined). Tables B-5 through B-8 provide minimum,

TABLE 4-1

DESCRIPTION OF CONSTITUENTS* OF MSWLF LEACHATE

Constituent Category	Number of Constituents Analyzed For	Constituents Detected		Constituents Never Detected		Total Number of Detections	Average Number of Detections per Constituent
		Number	Percent	Number	Percent		
Inorganics							
Indicator parameters	33	33	100	0	0	1,140	36
Other inorganics	25	22	88	3	12	998	40
Subtotal	58	55	95	3	5	2,138	37
Organics							
Pesticides, herbicides, PCBs	41	6	15	35	85	29	1
Volatiles	47	36	77	11	23	528	11
Semivolatiles	93	22	24	71	76	173	2
Others	94	24	24	70	76	312	3
Subtotal	275	89	32	187	68	1,042	4
TOTAL	333	143	43	190	57	3,180	10

* All constituents analyzed for (includes Appendix B, Table B-1 constituents).

maximum, and median leachate concentrations, and the number of sites at which constituents were detected, for pre-1980 and post-1980 MSWLFs and for hazardous waste landfills.

Results - Three hundred and thirty-three (333) constituents analyzed for were detected 3,180 times, for an average of ten detections per constituent. Inorganics were more frequently detected than organics. One hundred and ninety (190) constituents were analyzed for but not detected: three inorganics (5 percent) and 187 organics (68 percent). Table 4-1 summarizes these results. Tables B-2 through B-4 in Appendix B show that the standard deviations of the constituents are of the same order of magnitude as the average and median values.

4.2 Comparison of Pre-1980 to Post-1980 MSWLF Leachate

Pre-1980 and post-1980 MSWLF leachates were compared by studying both the frequency of which types of constituents were detected and the ratios of the median concentrations of the constituents.

4.2.1 Frequency of Detection

Approach - Pre- and post-1980 MSWLF leachates were compared by determining the frequency which constituents were detected in the leachate. Table 4-2a provides the number of constituents detected based on their frequency of detection. The information is provided for both inorganics and organics.

Table 4-2b presents the ratio of the number of times inorganic and organic constituents were not detected versus the number of times they were detected as a basis for comparing pre- and post-1980 leachate. These ratios are provided in Appendix C, Tables C-1 and C-2 for individual constituents.

Results - Table 4-2a shows that over half the inorganic constituents (61 percent in pre-1980 leachate and 68 percent post-1980 leachate) were detected more than 81 percent of the time. The table also shows that over half the organic constituents (63 percent pre-1980 and 79 percent post-1980) were detected less than 20 percent of the time.

TABLE 4-2

COMPARISON OF DETECTION FREQUENCIES IN PRE- AND POST-1980 MSWLF LEACHATE

Frequency of Detection	a. Number of Constituents by Detection Frequency					
	Pre-1980			Post-1980		
	Inorganics**	Organics	Total	Inorganics**	Organics	Total
Very low (0-20%)	0	37	37	7	42	49
Low (21-40%)	6	6	12	1	2	3
Moderate (41-60%)	4	8	12	1	3	4
High (61-80%)	4	3	7	2	4	6
Very High (81-100%)	30	5	35	30	2	32
Totals	44	59	103	41	53	94

	b. Ratio of Constituents Detected to Those Not Detected					
	Pre-1980			Post-1980		
	Inorganics**	Organics	Total	Inorganics**	Organics	Total
Total Constituents Not Detected	163	1,761	1,924	50	475	525
Total Constituents Detected	1,379	497	1,876	286	72	358
Total	1,542	2,258	3,800	336	547	883
Ratio of Constituents Not Detected to Constituents Detected	0.1	3.5	1.0	0.2	6.6	1.4

Does not include pH, eH or temperature as these parameters are always "detectable"

The ratios of constituents not detected to those detected are shown below:

MSWLF leachate	Inorganics	Organics	Total
pre-1980	0.1	3.5	1.0
post-1980	0.2	6.6	1.4

4.2.2 Ratio of Median Concentrations

Approach - Median values of pre-1980 MSWLF leachate were compared to post-1980 values by creating ratios of the pre to post values for each constituent for which both common values existed (35 inorganic constituents and 13 organic constituents; see Table 3-3). pH, eH and temperature were omitted as inappropriate. Only constituents with values above the detection limits were used.

The ratios were grouped by powers of ten, and the results presented on a bar graph (Figure 4-1). The incremental range around the ratio one is from log ratio -0.5 to 0.5 (1:3.15 to 3.15:1 in non-log terms). The height of the bar represents the number of occurrences of a given ratio. The ratios of the individual constituents and the tabulated values are provided in Appendix C, Tables C-3 and C-4.

Minimum and maximum concentrations of pre- and post-1980 constituents were also analyzed. These results are provided in Appendix C (Figure C-1 and Tables C-5 and C-6 for the minimum concentrations; Figure C-2 and Tables C-7 and C-8 for the maximum concentrations).

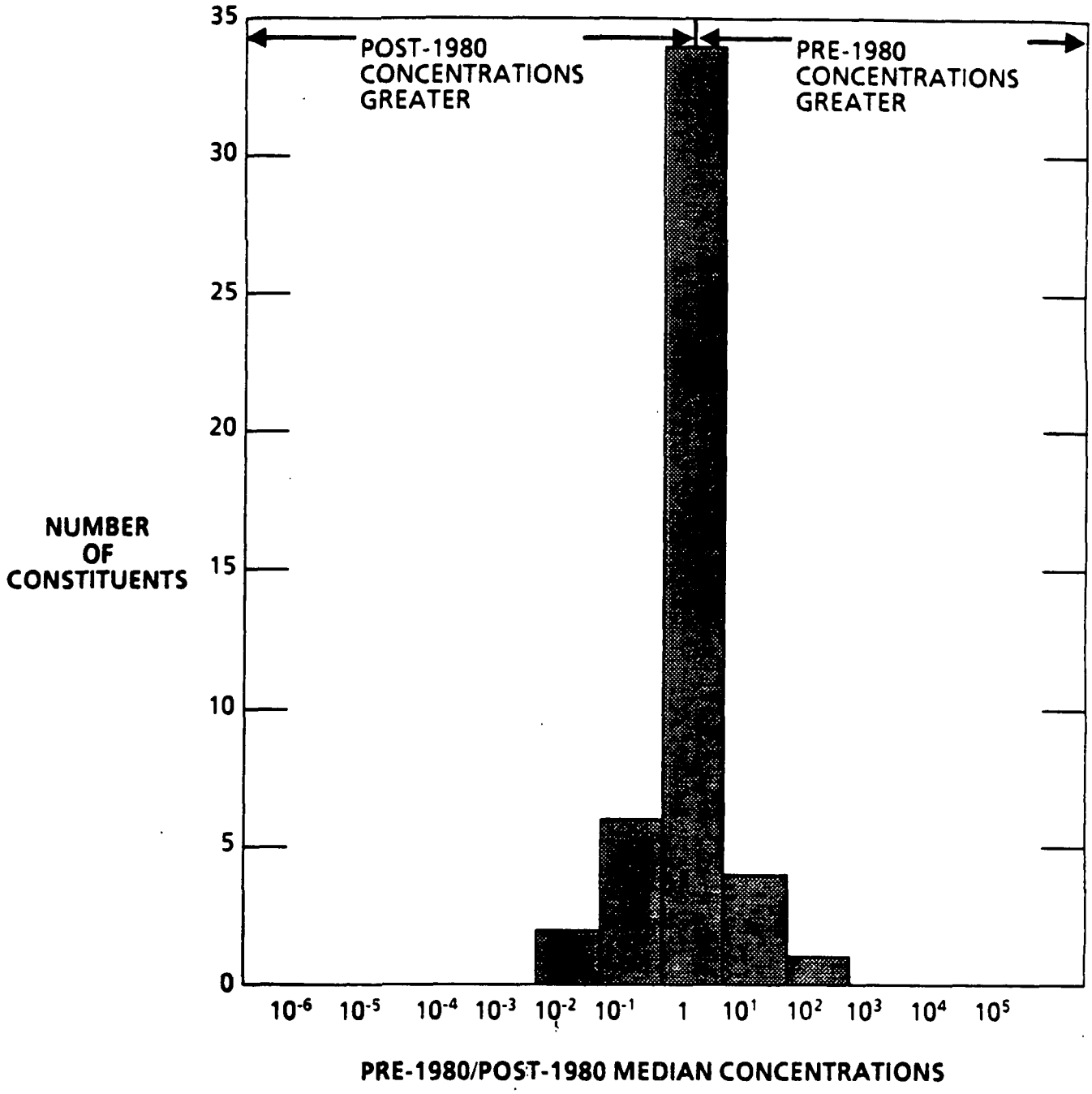
Results - As can be seen from Figure 4-1, approximately three-quarters of the constituents found center around one, within the increment from 1/3.15 to 3.15/1. Distributions of minimum and maximum values are similar. This result indicates little evidence of a difference based on starting date.

4.3 Comparison of MSWLF Leachate to Hazardous Waste Landfill Leachate

MSWLF leachate was compared to hazardous waste landfill leachate by studying ratios of their median concentrations.

FIGURE 4-1

PRE-1980 VS POST-1980 MEDIAN MSWLF LEACHATE CONCENTRATIONS



Approach - Post-1980 MSWLF leachate was compared to hazardous waste landfill leachate by comparing median concentrations of their 40 common constituents (31 inorganics and 9 organics) by creating ratios of the concentrations of each of the constituents. These ratios were plotted on a bar graph (Figure 4-2) following the procedure described above for Figure 4-1. The ratios of the individual constituents and the tabulated values used in Figure 4-2 are provided in Appendix C, Tables C-9 and C-10.

Results - About half the ratios of post-1980 MSWLF versus hazardous waste landfill leachate are near (between 1/3.15 and 3.15/1) the value of one. The number above this increment is approximately twice that below the increment, a weak indication that the hazardous waste leachate had higher concentrations of hazardous constituents than the post-1980 MSWLF leachate. The result cannot be considered strongly significant as the sample size is small.

4.4 Comparison of MSWLF Leachate to Standards

MSWLF leachate concentrations (for pre-1980, post-1980 and undated landfills combined) were compared to regulatory standards in three ways: plotted ratios; tabulated ratios; and number of sites exceeding standards. One of three allowable exposure standards was used as the standard. The National Interim Primary and Secondary Drinking Water Standards (MCLs) were used, if available. If not available, the EPA-established human health-based criteria for systemic toxicants and carcinogens were used. The Federal Water Quality Criteria were used if neither of the other two standards were available. If none of these standards existed, a comparison was not made. The standards are shown in Appendix C, Table C-13.

4.4.1 Plotted Ratios

Approach - Median MSWLF concentrations were compared to the standards by creating ratios of the median concentration of each of the constituents to the standard and plotting these ratios on a bar graph (Figure 4-3) following the procedures used to create Figures 4-1 and 4-2. Sixty-two ratios were created from the 62 constituents for which standards were available. The ratios of the individual constituents and the tabulated values used in Figure 4-3 are provided in Appendix C, Tables C-11 and C-12.

FIGURE 4-2

HAZARDOUS WASTE LANDFILL VS MEDIAN POST-1980 MSWLF LEACHATE CONCENTRATIONS

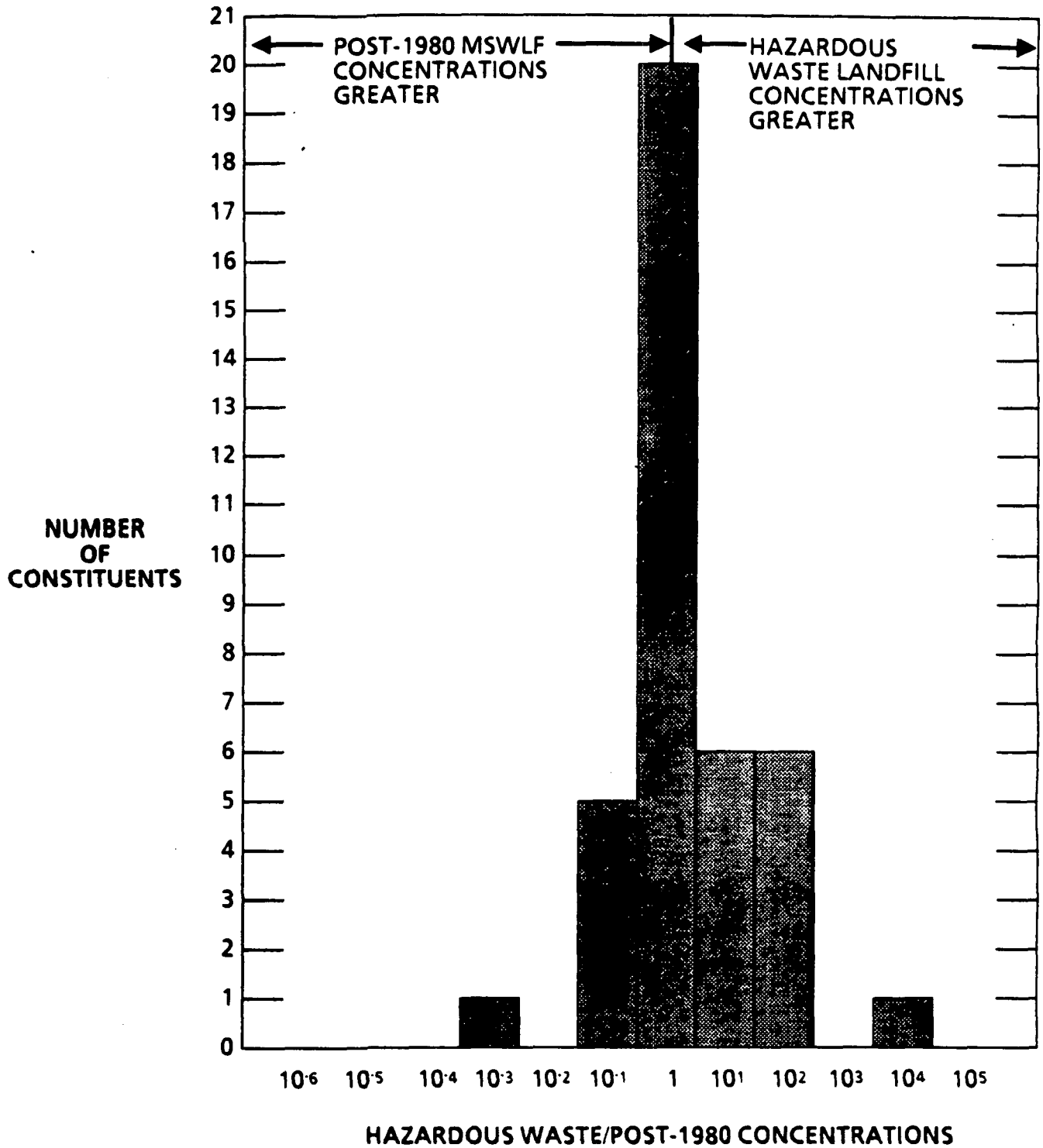
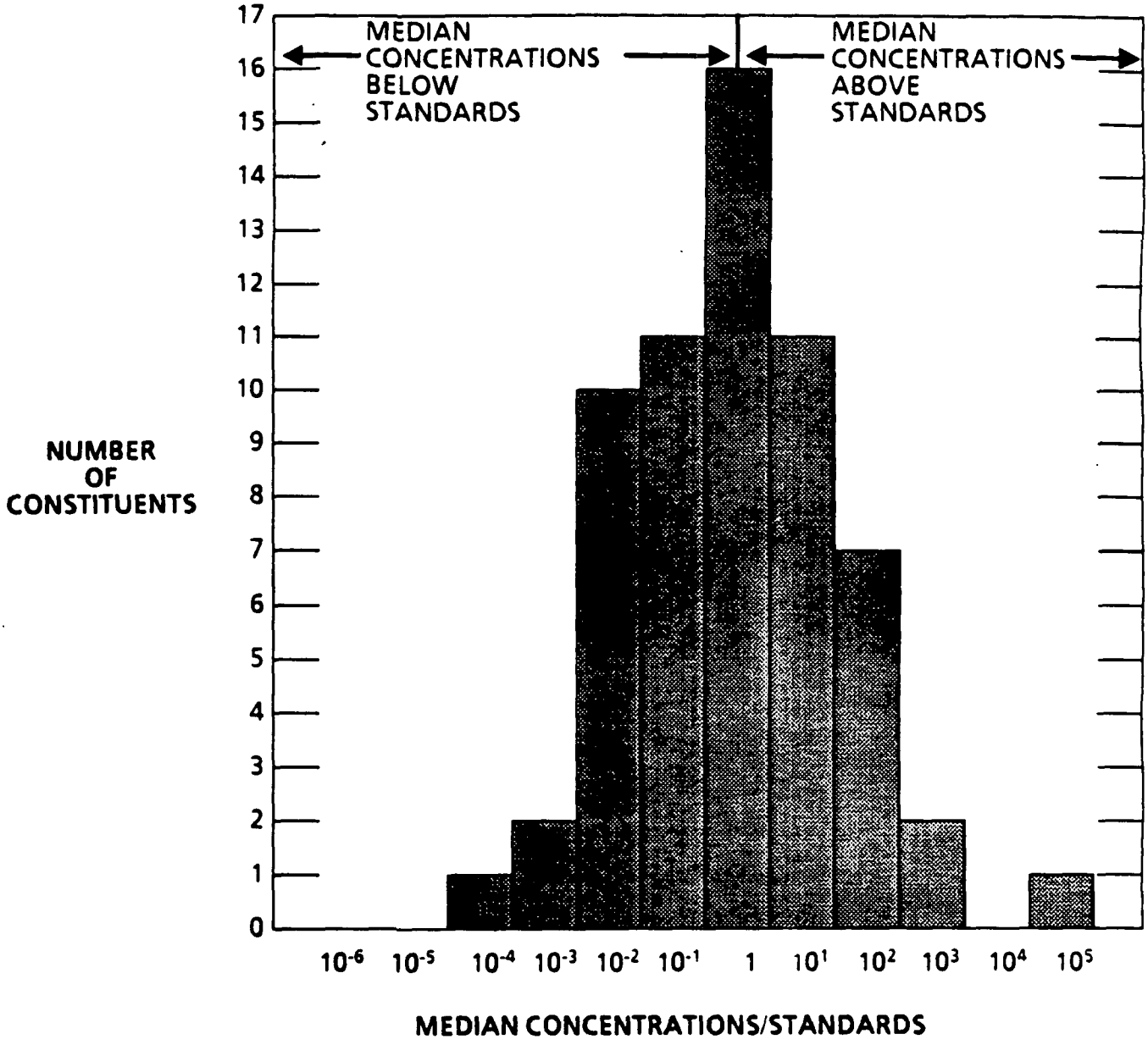


FIGURE 4-3

MEDIAN MSWLF* LEACHATE CONCENTRATIONS VS STANDARDS



* Includes pre-1980, post-1980 and unlined landfills

Average concentrations were compared in the same way. These results are provided in Appendix C, Figure C-3.

Results - As can be seen from Figure 4-3, over half the constituents were found near or greater than a concentration ratio of one, within the range of 1:31.5 to 31.5:1. Similar results are shown for the average concentrations (Appendix C, Figure C-3).

4.4.2 Tabulated Ratios

Approach - The average concentration of each constituent was compared to its regulatory standard by creating a ratio of concentration to standard. These ratios were grouped by powers of ten because the results were logarithmically distributed. The results are shown in Table 4-3. The fractions shown in Table 4-3 are

TABLE 4-3

COMPARISON OF AVERAGE MSWLF CONCENTRATIONS TO STANDARDS

Ratio of Median Concentrations to Standards	Inorganics		Organics		Total	
	Fraction	Percent	Fraction	Percent	Fraction	Percent
Less than 1	8/19	42	18/43	42	26/62	42
1-10	6/19	32	8/43	19	14/62	23
10-100	2/19	11	13/43	30	15/62	24
Greater than 100	3/19	16	4/43	9	7/62	11

the fraction of constituents with ratios within the specified range. The numerators and denominators are the actual number of constituents. The percents in Table 4-3 correspond to the fractions. The ratios of the individual constituents are provided in Appendix C, Table C-13.

Results - Of the 62 constituents with standards, 26 constituents (42 percent) had a ratio of less than 1; i.e., the average concentration was less than the standard. Fourteen constituents (23 percent) had a ratio greater than one and less than ten; 15 constituents' ratios (24 percent) fell between 10 and 100. Seven constituents (11

percent) had median concentrations more than 100 times that of the standard. One, bis (chloromethyl) ether, was over 10,000 greater than the standard.

4.4.3 Number of Sites Exceeding Standards

Approach - For each site, the number of times the concentration of a constituent exceeded a standard and exceeded 1,000 times the standard were counted. The value 1000 times the standard was arbitrarily selected to represent attentuation of the leachate constituents prior to human exposure. The tabulated results were put in one of four groups by number of standards exceeded: zero; only one; two to four; and five or more. Sites were grouped according to pre-1980, post-1980 and undated MSWLFs and hazardous waste landfills. The results are shown in Table 4-4, both as fractions and as percents. The denominator of the fractions represent the number of sites in the given landfill category. In Table 4-4a, the numerators are the number of sites (by landfill category) with the indicated number of constituents with concentrations exceeding the standards; in Table 4-4b, the numbers are the number of sites with the indicated number of constituents exceeding 1000 times the standards. The percents are the percent of sites (by landfill category) with the indicated number of constituents exceeding standards (4-4a) or 1000 times the standards (4-4b). Table 4-4c provides basic information about the sample size. Tables C-14 through C-17 in Appendix C provide the breakdown by site.

Results - Pre-1980 MSWLF sites exceeded five or more standards somewhat more frequently than either the hazardous waste landfill sites or the post-1980 sites. Both pre- and post-1980 MSWLF sites were more likely not to exceed 1,000 times any standard than were hazardous waste landfill sites.

TABLE 4-4

NUMBER OF SITES EXCEEDING STANDARDS

Number of Standards Exceeded	a. Sites with Constituents Exceeding Standards									
	Fraction[1]					Percent[2]				
	MSWLFs				Haz Waste Landfills	MSWLFs				Haz Waste Landfills
	Pre-1980[3]	Post-1980	Un-dated	Total		Pre-1980[3]	Post-1980	Un-dated	Average	
0	0/26	0/8	2/37	2/71	1/10	0	0	5	3	10
1	2/26	2/8	8/37	12/71	2/10	8	25	21	17	20
2-4	8/26	3/8	10/37	21/71	2/10	31	38	27	30	20
5 or more	16/26	3/8	17/37	36/71	5/10	62	38	46	51	50

Number of Standards Exceeded	b. Sites with Constituents Exceeding 1000 x Standards									
	Fraction[1]					Percent[2]				
	MSWLFs				Haz Waste Landfills	MSWLFs				Haz Waste Landfills
	Pre-1980[3]	Post-1980	Un-dated	Total		Pre-1980[3]	Post-1980	Un-dated	Average	
0	21/26	7/8	34/37	60/71	5/10	81	88	92	85	50
1	3/26	1/8	2/37	6/71	4/10	12	13	5	9	40
2-4	2/26	0/8	1/37	3/71	1/10	8	0	3	4	10
5 or more	0/26	0/8	0/37	0/71	0/10	0	0	0	0	0

	c. Number of Sites and Constituents per Site				
	MSWLFs				Hazardous Waste Landfills
	Pre-1980	Post-1980	Undated	Total	
Number of Sites	26	8	37	71	10
Average Constituents per Site	34	28	14	23	13

1 Denominators are number of sites in landfill category; numerators are number of sites in that category exceeding indicated number of standards
2 May not sum to 100 due to rounding
3 Wisconsin sites with only composite samples are not included

5.0 REFERENCES

Baker, John A. Personnel communication from J. Baker (WMI) to S. Mooney (EPA); concerning Leachate data; December 1, 1987.

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U.S. Environmental Protection Agency; Background Document for Options Selection; 1986e.

U.S. Environmental Protection Agency; Determination of Municipal Landfill Leachate Characteristics, Leachate Baseline Report; Office of Solid Waste; Washington, D.C.; unpublished; prepared by NUS Corporation, 1986f.

U.S. Environmental Protection Agency; Characterization of Leachates from Municipal Waste Disposal Sites and Codisposal Sites, Volume 6; Office of Solid Waste; Washington, D.C.; prepared by NUS Corporation, 1987.

U.S. Environmental Protection Agency; Report to Congress: Solid Waste Disposal in the United States, Volume I and II, Revised Final Draft, Office of Solid Waste; Washington, D.C.; unpublished, April 1988.

APPENDIX A

DATA USED IN THIS REPORT

NOTES

1. Concentrations of all inorganic constituents in parts per million unless noted otherwise; concentrations of organic constituents in parts per billion.

2. Negative values denote reported detection limit when substance was not detected.

3. ND = Substance was analyzed for and not detected.

4. *** NA *** = Substance was not analyzed for.

5. >> UNK << = No data were reported from source; substance was either not detected or not analyzed for.

6. Source identification is as follows:

Sobotka - Sobotka & Co., Incorporated; Case history data compiled and reported in a July 1986 report to the U.S. EPA's Economic Analysis Branch of the Office of Solid Waste; Washington, D.C.; 1984.

NUS - U.S. Environmental Protection Agency; Determination of Municipal Landfill Leachate Characteristics, Leachate Baseline Report; prepared by NUS Corporation; 1986.

Texas - Brown, K.W., and K.C. Donnelly; The Occurrence and Concentration of Organic Chemicals in Hazardous and Municipal Waste Landfill Leachate; Texas A&M University, Soil and Crop Sciences Department, College Station, Texas; undated.

Wisconsin - McGinley, Paul M., and Peter Kmet; Formation, Characteristics, Treatment, and Disposal of Leachate from Municipal Solid Waste Landfills; Wisconsin Department of Natural Resources; 1984.

Trade Assoc - Six Case Studies prepared for the National Solid Wastes Management Association; 1987.

Waste Mgmt - Baker, John A.; personal communication to Susan Mooney, U.S. Environmental Protection Agency, Office of Solid Waste; December 1, 1987.

7. Each Sample Analysis Number is unique and consists of a two-digit Site Number, followed by a hyphen, followed by a two-digit Sample Number. Each site has been assigned a unique Site Number, and each sample at a given site has been assigned a unique Sample Number for that site.

   Samples subjected to both inorganic and organic analyses appear once in the inorganics appendices and once in the organics appendices.

   Reported inorganic analyses of samples from the Wisconsin study are composite analyses calculated in that study. The reported values are the medians of actual values from two or more samples. Each of the Sample Numbers for these analyses consist of the Site Number followed by "comp," which denotes that the reported analysis is actually a composite of several samples.

TABLES IN APPENDIX A

Table	
A-1	Inorganic Analyses from MSWLFs Started During 1980 or Earlier
A-2	Organic Analyses from MSWLFs Started During 1980 or Earlier
A-3	Inorganic Analyses for MSWLFs Started After 1980
A-4	Organic Analyses from MSWLFs Started After 1980
A-5	Inorganic Analyses from MSWLFs of Unknown Age
A-6	Organic Analyses from MSWLFs of Unknown Age
A-7	Inorganic Analyses from Hazardous Waste Landfills
A-8	Organic Analyses from Hazardous Waste Landfills

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER

SAMPLE NUMBER	02-01	02-02	02-03	14-01	14-02	14-03	18ccap	19ccap	20ccap	21ccap
DATE STARTED	1975	1975	1975	1979	1979	1979	1978	1959	1969	1966
DATA SOURCE	NUS	NUS	NUS	NUS	NUS	NUS	Wisconsin	Wisconsin	Wisconsin	Wisconsin
WATER QUALITY INDICATORS										
ALKALINITY	1700	1700	1700	1700	1700	1600	5350	** NA **	2405	2430
AMMONIA	230	230	220	53	70	79	** NA **	125.3	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	21600	101	6800	533.5
CALCIUM	150	174	146	272	263	250	1970	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	1000	1200	1200	470	520	690	50450	1120	1600	2090
CHLORIDE	600	660	660	570	500	570	885	** NA **	2651	759
CONDUCTIVITY (umho/cm)	300	300	300	3900	3900	3900	8183	9000	10600	[illegible]
eH (mv)	406	406	406	411	411	411	** NA **	** NA **	** NA **	** NA **
FLUORIDE	ND	ND	ND	ND	ND	ND	** NA **	.5	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	720	670	690	1300	1300	1300	4160	** NA **	1550	1050
IRON	6.4	6.5	6.6	23.2	21.2	22.8	359	18.3	6.12	169
NITRATE	-.1	-.1	-.1	.1	-.1	.1	1.38	.105	.55	** NA **
NITRITE	-.04	-.04	-.04	-.04	-.04	-.04	** NA **	.005	** NA **	** NA **
NITROGEN (KJELDAHL)	270	200	200	73	110	99	** NA **	167.5	248.5	** NA **
NITROGEN (ORGANIC)	40	50	60	20	40	20	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	UNK	UNK	UNK	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (ph units)	7.8	7.8	7.8	6.98	6.98	6.98	5.7	6.85	6.92	6.8
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	UNK	UNK	UNK	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	3.8	2.1	2.3	.3	.2	.3	** NA **	.325	1	1.31
POTASSIUM	217.8	220.7	199.6	145.2	270.4	260.6	1175	250	** NA **	** NA **
SODIUM	576	701.7	1334.2	552.5	552.5	601.8	1190	** NA **	** NA **	** NA **
SULFATE	-20	-4	-4	420	390	420	155	** NA **	271.4	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	18	18	18	9.6	9.6	9.6	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	2730	2710	2760	3130	3110	3090	16120	** NA **	12666	** NA **
TOTAL SUSPENDED SOLIDS	44	32	76	94	82	88	1410	53	226	1605
TOTAL ORGANIC CARBON	259	237	245	130	140	140	** NA **	** NA **	640	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	UNK	UNK	UNK	UNK	UNK	UNK	16700	** NA **	10537	** NA **
OTHER INORGANICS										
ALUMINUM	ND	ND	1.6	ND	ND	ND	5.07	** NA **	** NA **	** NA **
ANTIMONY	ND	ND	ND	ND	ND	ND	** NA **	.0015	.34	** NA **
ARSENIC	.01	.009	.009	.007	.006	.007	** NA **	.009	.015	.07
BARIUM	.41	.34	.34	.48	.55	.48	.3	.04	1.3	2.69
BERYLLIUM	ND	ND	ND	ND	ND	ND	** NA **	.0025	ND	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	7.13	3.924	1.19	** NA **
CADMIUM	.002	.003	.002	ND	ND	ND	** NA **	.0065	.021	.05
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	** NA **
CHROMIUM (TOTAL)	.006	.005	.009	.003	.002	.003	.528	.03	.31	.23
COBALT	ND	ND	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **
COPPER	ND	ND	ND	ND	ND	ND	.321	.02	.049	.3
CYANIDE	ND	ND	ND	ND	ND	ND	** NA **	.004	.01	** NA **
LEAD	.009	.015	.006	ND	ND	ND	** NA **	.009	.29	1.11
MANGANESE	1.68	1.67	1.68	.3	.27	.31	25.9	.352	1.45	** NA **
MAGNESIUM	75	74	77	189	182	189	547	** NA **	** NA **	** NA **
MERCURY	ND	ND	ND	ND	ND	ND	** NA **	.0001	.0003	ND
NICKEL	.13	.13	.13	ND	.14	.16	** NA **	.105	.29	0.3
OSMIUM	ND	ND	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **
SELENIUM	ND	ND	ND	ND	ND	ND	** NA **	.0015	.001	.09
SILVER	ND	ND	ND	ND	ND	ND	** NA **	.0075	.013	ND
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	ND	ND	ND	ND	ND	ND	** NA **	.009	.007	** NA **
TIN	ND	ND	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **
VANADIUM	.023	.024	.02	.013	.011	.014	** NA **	** NA **	** NA **	** NA **
ZINC	.74	.1		.07	.10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	33comp	34comp	35comp	36comp	37comp	38comp	48-01	48-02	48-03	61-01
DATE STARTED	1978	1978	1975	1977	1976	1976	1975	1975	1975	1973
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	NUS	NUS	NUS	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	2000	57850	4290	4390	** NA **	4180	4740	4740	** NA **
AMMONIA	** NA **	** NA **	517	170	209	** NA **	580	560	550	44.3
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	5860	** NA **	** NA **	3500	** NA **	** NA **	** NA **	676
CALCIUM	** NA **	350	** NA **	2100	** NA **	** NA **	352	345	319	** NA **
CHEMICAL OXYGEN DEMAND	2060	15500	7370	33500	5220	9520	2400	2400	2400	1000
CHLORIDE	795	700	980	1770	** NA **	300	1600	1600	1600	233
CONDUCTIVITY (umho/cm)	6375	9000	10150	15100	6000	9250	10000	10000	10000	[illegible]
pH (av)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	884	884	884	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	.29
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	1845	3900	3590	9300	** NA **	** NA **	1000	1100	1000	** NA **
IRON	46.65	1400	246	500	** NA **	150	16.3	17.6	16.4	31
NITRATE	** NA **	** NA **	.21	** NA **	ND	** NA **	-.1	-.1	-.1	.01
NITRITE	** NA **	** NA **	.112	** NA **	ND	** NA **	-.04	-.04	-.04	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	710	** NA **	235	** NA **	660	660	650	40.7
NITROGEN (ORGANIC)	** NA **	** NA **	4.5	** NA **	** NA **	** NA **	80	100	100	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	UNK	UNK	UNK	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.6	5.9	7.21	5.4	7.1	6.15	7.05	7.05	7.05	6.05
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.00015
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	UNK	UNK	UNK	** NA **
PHOSPHORUS	** NA **	** NA **	2.48	** NA **	4.6	* NA **	12	12	11	** NA **
POTASSIUM	** NA **	160	** NA **	400	31	** NA **	871.1	744	816.6	** NA **
SODIUM	500.5	570	12	1200	** NA **	** NA **	1293	1228.4	1510.5	220
SULFATE	100	210	500	** NA **	** NA **	200	-4	220	-4	104
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	25	25	25	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	5400	12646	** NA **	** NA **	** NA **	4260	6180	5860	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	365	** NA **	** NA **	2035	166	168	184	322
TOTAL ORGANIC CARBON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	1000	923	810	360
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.015
TOTAL SOLIDS	** NA **	** NA **	10700	** NA **	9300	25073	UNK	UNK	UNK	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	.01	5.4	5.8	5	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	ND	-.08
ARSENIC	** NA **	ND	** NA **	** NA **	ND	.001	.023	.019	.023	.009
BARIUM	** NA **	ND	** NA **	** NA **	** NA **	5	.48	.48	.34	.26
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	ND	-.005
BORON	** NA **	5.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	** NA **	ND	ND	** NA **	.009	.07	.006	.005	.007	-.005
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	** NA **	ND	** NA **	** NA **	.06	.05	.012	.012	.01	.013
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
COPPER	** NA **	ND	ND	** NA **	.12	.09	ND	ND	ND	.027
CYANIDE	** NA **	** NA **	** NA **	** NA **	** NA **	.003	ND	ND	ND	-.03
LEAD	** NA **	ND	** NA **	** NA **	.25	.07	0.053	.035	.061	.012
MANGANESE	** NA **	22	3.1	** NA **	** NA **	1.35	1.31	1.34	1.3	2.2
MAGNESIUM	** NA **	150	** NA **	700	** NA **	** NA **	125	117	116	** NA **
MERCURY	** NA **	ND	** NA **	** NA **	.0003	** NA **	ND	ND	ND	-.0003
NICKEL	** NA **	ND	.2	** NA **	.1	.02	ND	ND	ND	.042
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
SELENIUM	** NA **	ND	** NA **	** NA **	** NA **	** NA **	.006	.006	ND	.007
SILVER	** NA **	ND	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	-.01
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	.31	ND	ND	ND	-5
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.009	.011	.021	** NA **
ZINC	** NA **	2.4	1.6	** NA **	3.13	04	2.37	2.59	2.19	

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	61-02	61-03	62-03	62-04	63-01	63-02	63-03	63-04	63-05	63-06
DATE STARTED	1973	1973	1973	1973	1979	1979	1979	1979	1979	1979
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	75.98	34.1	** NA **	** NA **	1100	** NA **	340	1100	** NA **	34
BIOLOGICAL OXYGEN DEMAND	1053	64	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	1150
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	979	266	** NA **	** NA **	** NA **	** NA **	** NA **	42400	** NA **	3700
CHLORIDE	520	364	** NA **	** NA **	1300	1500	650	1300	** NA **	150
CONDUCTIVITY (umho/cm)	4120	3700	36800	9700	10460	** NA **	9200	** NA **	** NA **	** NA **
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	.26	** NA **	** NA **	** NA **	.10	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	51.2	15.4	** NA **	** NA **	2200	** NA **	896	1700	** NA **	320
NITRATE	.00	.95	** NA **	** NA **	-.1	** NA **	.07	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	88.45	34.41	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	2.8	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.87	7.2	5.77	6.8	5.46	5.59	6.36	5.68	** NA **	5.79
PHENOLICS, TOTAL	0.00028	0.00012	** NA **	** NA **	0.019	** NA **	0.012	0.017	** NA **	0.00073
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.09	** NA **	1.2
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	400.2	203.77	** NA **	** NA **	603	** NA **	710	** NA **	** NA **	** NA **
SULFATE	116	88	** NA **	** NA **	1400	1300	620	1300	** NA **	260
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.00625	-0.0002	-0.00001
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	276	85	** NA **	** NA **	** NA **	70	** NA **	810	** NA **	120
TOTAL ORGANIC CARBON	664	76	** NA **	** NA **	13000	** NA **	6600	1400	** NA **	1100
TOTAL ORGANIC HALOGEN	0.23	** NA **	** NA **	** NA **	0.455	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	-100	-100	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.011	.01	.01	.009	.31	** NA **	.05	.203	** NA **	.12
BARIUM	1.33	-.02	** NA **	** NA **	.35	** NA **	1.2	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.01	-.01	-.01	-.01	.02	-.005	-.01	** NA **	** NA **	** NA **
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	-.05	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.051	-.05	.137	-.05	1.704	.76	.562	.69	** NA **	.05
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.002	.027	** NA **	** NA **	** NA **	.04	** NA **	.03	** NA **	-.01
CYANIDE	** NA **	** NA **	-.02	-.02	** NA **	-.01	** NA **	-.01	.3	-.01
LEAD	.015	-.01	.030	.031	.13	.21	.18	.1	** NA **	-.05
MANGANESE	4.7	.91	** NA **	** NA **	79	** NA **	47.4	57	** NA **	22
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.0005	-.0005	-.0005	-.0005	-.002	-.0004	-.0005	** NA **	** NA **	** NA **
NICKEL	.304	.108	2.227	.194	** NA **	** NA **	** NA **	.43	** NA **	.06
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	-.002	-.002	** NA **	** NA **	-.025	** NA **	-.002	-.02	** NA **	-.01
SILVER	-.02	-.02	** NA **	** NA **	.02	** NA **	.035	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	2.20	.47	** NA **	** NA **	** NA **	24	** NA **	[illegible]	** NA **	** NA **

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	64-01	64-02	64-03	64-04	65-01	65-02	65-03	65-04	65-05	65-06
DATE STARTED	1970	1970	1970	1970	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	580	880	350	120	** NA **	184	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	4680	9280	2160	2740	6:00	4000
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	1800	410	12000	13600	2240	5840	6780	6760
CHLORIDE	1400	1970	173.5	193	640	35	155	470	501	432
CONDUCTIVITY (umho/cm)	11260	12900	10502	13477	7650	** NA **	1960	5951	4625	[illegible]
pH (av)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	1.1	** NA **	** NA **	** NA **	** NA **	** NA **	.11	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	6	66.2	** NA **	** NA **	321	1020	220	190	185	230
NITRATE	-.1	.1	** NA **	** NA **	** NA **	** NA **	-.05	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	8.5	7.23	8.52	12.5	5.7	** NA **	6.22	5.85	5.92	6.17
PHENOLICS, TOTAL	0.00041	0.00071	** NA **	** NA **	0.00290	0.00339	0.0009	0.002	0.0023	0.00002
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	1030	1500	** NA **	** NA **	** NA **	** NA **	120	** NA **	** NA **	** NA **
SULFATE	190	41	200	140	890	1020	13.5	114	150	94
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	6955	9360	2245	4640	4640	5010
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	6470	1370	200	490	970
TOTAL ORGANIC CARBON	1200	665.0	385.0	129	** NA **	** NA **	630	1710	1700	4816
TOTAL ORGANIC HALOGEN	2.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-
ANTIMONY	** NA **	** NA **	** NA **	** NA **	.6	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.033	.036	** NA **	** NA **	.982	** NA **	** NA **	** NA **	** NA **	** NA **
BARIUM	.11	.04	** NA **	** NA **	** NA **	** NA **	1.4	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	-.01	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.005	-.01	** NA **	** NA **	.05	.15	-.01	.01	.01	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.060	.063	** NA **	** NA **	.29	1.9	.06	.09	.110	.07
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	** NA **	** NA **	** NA **	** NA **	.25	2	.49	.05	.05	.07
CYANIDE	** NA **	** NA **	** NA **	** NA **	.12	.24	.02	.02	.03	-.02
LEAD	.012	-.025	** NA **	** NA **	.42	1.23	-.1	-.05	-.05	-.05
MANGANESE	1.19	4.95	** NA **	** NA **	13.5	35	3.7	6.2	6.2	5.7
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.001	-.0003	** NA **	** NA **	.0029	.0032	-.003	-.0003	-.001	-.002
NICKEL	** NA **	** NA **	** NA **	** NA **	.40	1.8	.260	1.4	.270	.230
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	-.005	-.025	** NA **	** NA **	-.05	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	-.01	-.016	** NA **	** NA **	-.02	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	.4	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	-1	2	-1	-1	-1	-1
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	** NA **	** NA **	** NA **	** NA **	10	71	[illegible]	[illegible]	[illegible]	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-07	65-08	65-09	65-10	65-11	65-12	65-13	65-14	65-15	65-16
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	6800	11800	** NA **	18300	5100	** NA **	950	1100	2600	2400
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	6300	6730	** NA **	7190	9100	-20	1600	2000	3940	3000
CHLORIDE	156	360	** NA **	377	420	440	140	120	210	94
CONDUCTIVITY (umho/cm)	6034	5600	** NA **	5690	6624	2400	1700	1370	3100	[illegible]
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	200	220	** NA **	250	500	270	110	52	140	190
NITRATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.25	6.37	** NA **	6.28	6.41	6.16	6.39	5.79	6.24	5.9
PHENOLICS, TOTAL	0.00163	0.00293	** NA **	0.00235	0.00199	0.00295	0.00063	0.00042	0.00026	0.00130
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	75	120	** NA **	85	92	** NA **	55	140	15	-10
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	3400	5325	** NA **	5100	5100	5200	1900	1700	3200	5600
TOTAL SUSPENDED SOLIDS	1600	830	** NA **	250	17000	650	450	110	710	250
TOTAL ORGANIC CARBON	2040	2220	** NA **	2040	1000	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BARIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.05	-.01	** NA **	-.01	.03	-.01	-.01	-.01	.045	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	-.25	.09	** NA **	.11	.45	.052	-.05	-.05	-.05	-.05
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	-.25	.06	** NA **	.17	.61	.040	.067	-.05	-.05	-.05
CYANIDE	.02	-.02	** NA **	-.02	-.02	-.02	-.02	-.02	-.02	-.02
LEAD	-.25	-.05	** NA **	-.05	.29	-.05	-.05	-.05	-.05	-.05
MANGANESE	1.6	5.4	** NA **	5	11	5.4	2.6	2.5	4.6	3.6
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	.0098	.00037	** NA **	-.0003	-.001	-.0005	-.0005	-.0005	-.0005	-.0005
NICKEL	-.25	.16	** NA **	.18	.55	.110	.18	.110	.12	.14
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	-5	-1	** NA **	-1	-1	-1	-1	-1	-1	-1
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	7.6	NA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-17	65-18	65-19	65-20	65-21	65-22	65-23	65-24	65-25	65-26
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	3500	1500	640	4200	2700	2600	2400	2400	1970	2100
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	3400	2300	3600	5100	3100	3900	3400	300	2600	3300
CHLORIDE	340	200	320	470	330	290	250	31	405	430
CONDUCTIVITY (umho/cm)	4465	3175	3900	2905	2025	3450	3013	2290	1600	[illegible]
pH (av)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	.65	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	170	107	1000	200	77	130	192	134	90.2	153
NITRATE	-.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.45	6.40	6.6	6.4	6.35	6.45	6.67	7.01	6.5	6.00
PHENOLICS, TOTAL	0.00106	0.0011	** NA **	0.0033	0.0015	0.0021	0.0012	0.00107	0.0012	0.00001
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	260	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	14	-10	170	40	65	-5	66	-64	110	150
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	4100	3400	3500	4900	3000	3000	3100	3000	3400	390
TOTAL SUSPENDED SOLIDS	350	400	13000	400	1100	23	320	230	250	560
TOTAL ORGANIC CARBON	1200	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.007	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BARIUM	2	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.01	-.01	-.01	-.01	-.01	-.01	-.01	-.01	-.01	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	-.05	-.05	1.5	-.05	-.05	-.05	-.05	-.05	-.05	-.05
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	-.02	.065	2.0	-.02	.02	-.02	.29	-.02	-.02	.026
CYANIDE	-.02	-.02	.01	-.01	-.01	.02	-.01	-.02	-.02	-.02
LEAD	-.05	-.05	1.6	-.05	.005	-.05	-.05	.05	-.05	.140
MANGANESE	3	4.1	45	3.4	2.6	3.2	2.91	4.01	3.33	3.35
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.0005	-.0005	-.0005	-.0005	-.0005	-.0005	-.0005	-.0005	-.0005	-.0005
NICKEL	-.05	.16	1.7	.13	.076	.16	.264	.251	.001	.250
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	-.002	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	-.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	-1	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	-2	** NA **	** NA **	-1	** NA **	-1	-.01	-.01	-.05	-.01
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	.85	-.01	22	.55	.49	.46	.51	1.34	1.33	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-27	65-28	65-29	65-30	68-01	68-02	68-03	68-04	69-01	71-01
DATE STARTED	1971	1971	1971	1971	1979	1979	1979	1979	1968	1968
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	** NA **	** NA **	52	112	177.7	151.85	** NA **	1.6
BIOLOGICAL OXYGEN DEMAND	2000	4700	1960	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	** NA **	** NA **	** NA **	284	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	2300	6900	2700	** NA **	398	** NA **	** NA **	** NA **	** NA **	** NA **
CHLORIDE	490	550	210	** NA **	270	609	676	882	192	[redacted]
CONDUCTIVITY (uamho/cm)	4075	[redacted]	2975	** NA **	2000	4200	3195	7900	** NA **	[redacted]
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[redacted]
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	.37	.27	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	17.9	281	116	** NA **	7.94	18	96.5	13.11	39.8	64.4
NITRATE	** NA **	** NA **	** NA **	** NA **	-.02	** NA **	-.01	.13	.55	.5
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	59.25	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.44	6.67	6.15	** NA **	7.23	7.15	7.4	7.77	** NA **	6.87
PHENOLICS, TOTAL	0.00091	0.00250	0.0013	** NA **	** NA **	0.0008	0.00241	0.00003	0.00575	0.00056
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	** NA **	** NA **	** NA **	158	440	728.9	585.64	784	776
SULFATE	-10	10	57	** NA **	100	** NA **	26	-10	310	94
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	4200	5600	2900	** NA **	2010	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	140	350	81	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	** NA **	** NA **	** NA **	110	1440	1790	135	** NA **	750
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	0.0005	0.09	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	** NA **	** NA **	** NA **	** NA **	-.01	** NA **	.029	.007	0.016	.025
BARIUM	** NA **	** NA **	** NA **	** NA **	** NA **	.67	.95	.05	.35	.20
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.01	-.01	-.01	** NA **	** NA **	** NA **	-.01	-.010	-.01	-.005
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	-.05	-.05	-.05	** NA **	** NA **	.022	.107	-.050	.073	.042
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.031	.041	.026	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CYANIDE	** NA **	-.02	-.02	** NA **	-.01	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	-.05	-.05	-.05	** NA **	-.01	** NA **	.012	-.01	.162	-.01
MANGANESE	6.3	7.94	5.02	** NA **	** NA **	.57	6.05	.22	3.91	5.02
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.0005	-.0005	-.0005	** NA **	** NA **	** NA **	-.0005	-.0005	-.0005	-.0003
NICKEL	.157	.168	.095	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-.002	-.002	-.002	-.005
SILVER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.025	-.02	-.01	-.01
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	-.01	-.01	-.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	72-01	72-02	73-01	73-02	73-03	73-04	73-05	73-06	73-07	73-08
DATE STARTED	1977	1977	1973	1973	1973	1973	1973	1973	1973	1973
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	394	** NA **	** NA **	** NA **	237	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	3880	** NA **	9080	2843	11800	14400	1864
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	1110	4340	** NA **	7100	** NA **	13800	9600	2905
CHLORIDE	** NA **	1620	1150	1280	** NA **	1900	** NA **	640	620	** NA **
CONDUCTIVITY (umho/cm)	** NA **	13490	9000	8750	** NA **	4020	** NA **	5450	5100	** NA **
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	1.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	** NA **	34.4	35	32	29	490	** NA **	370	477	78.8
NITRATE	** NA **	-.1	.15	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	** NA **	7.29	7.8	7.05	** NA **	5.96	** NA **	5.92	6.65	** NA **
PHENOLICS, TOTAL	** NA **	0.00212	0.00004	0.00004	0.00001	0.002	** NA **	0.0026	0.0026	0.00056
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	1850	870	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	** NA **	72	57	88	** NA **	380	** NA **	1200	200	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.009
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	4900	** NA **	9700	** NA **	9200	6500	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	100	440	** NA **	1000	60	260	360	3535
TOTAL ORGANIC CARBON	** NA **	1201	490	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	0.70	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	-.25	-.5	** NA **	** NA **	** NA **	** NA **	-.05
ARSENIC	.028	.024	-.002	-.01	-.01	** NA **	** NA **	** NA **	** NA **	-.005
BARIUM	.56	.38	.7	** NA **	.03	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	-.005	-.01	** NA **	** NA **	** NA **	** NA **	-.005
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.02	-.005	-.01	-.01	-.01	-.01	-.005	-.01	-.01	-.005
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-.01
CHROMIUM (TOTAL)	.490	.071	-.05	-.05	.053	.07	-.005	** NA **	** NA **	-.01
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	** NA **	** NA **	** NA **	-.05	-.05	.035	.240	.033	.021	.063
CYANIDE	** NA **	** NA **	-.02	-.02	.05	-.02	-.01	-.01	-.02	** NA **
LEAD	.055	.005	-.05	.059	.075	-.05	-.005	-.05	.12	.03
MANGANESE	** NA **	3.06	.68	.61	1.6	19	** NA **	16.9	16.1	** NA **
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.0003	.0039	-.0005	-.0005	-.0005	-.005	** NA **	-.0005	-.0005	-.0002
NICKEL	** NA **	** NA **	** NA **	.21	.2	.420	.16	.6	.439	.173
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	-.005	-.005	-.002	** NA **	-.002	** NA **	** NA **	** NA **	** NA **	-.005
SILVER	-.05	-.013	.012	** NA **	-.01	** NA **	** NA **	** NA **	** NA **	-.01
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	-.5	** NA **	** NA **	** NA **	** NA **	-.01
TIN	** NA **	** NA **	** NA **	-1	** NA **	-10	** NA **	-.01	.23	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	** NA **	** NA **	** NA **	.51	.56	4.7	29	[illegible]	[illegible]	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	73-09	73-10	73-11	75-01	75-02	75-03	77-01	78-01	78-02	78-03
DATE STARTED	1973	1973	1973	1959	1959	1959	1965	1962	1962	1962
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	320	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	600	370	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	170	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	4300	2096	640	** NA **	** NA **	** NA **	** NA **	530	320	590
CHLORIDE	920	** NA **	410	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	5500	** NA **	3300	** NA **	** NA **	** NA **	1932	6150	3950	[illegible]
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.03	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.03	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	87.3	57.9	36.6	** NA **	** NA **	** NA **	51.2	** NA **	** NA **	** NA **
NITRATE	.80	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	39.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (ph units)	6.65	** NA **	6.9	** NA **	** NA **	** NA **	6.54	6.69	6.47	6.69
PHENOLICS, TOTAL	0.001	** NA **	0.00023	** NA **	** NA **	** NA **	** NA **	0.00001	0.00001	0.00001
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	17.8	** NA **	** NA **	** NA **
SODIUM	590	** NA **	** NA **	** NA **	** NA **	** NA **	221	** NA **	** NA **	** NA **
SULFATE	72	** NA **	17	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	6300	** NA **	2000	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	350	300	94	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	1500	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	61	53	60
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	1.6	** NA **	** NA **	** NA **
ANTIMONY	** NA **	-.06	** NA **	** NA **	** NA **	** NA **	-10	** NA **	** NA **	** NA **
ARSENIC	.015	-.01	** NA **	** NA **	** NA **	** NA **	.017	.013	.009	.006
BARIUM	-.1	** NA **	** NA **	** NA **	** NA **	** NA **	3.4	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	-.005	** NA **	** NA **	** NA **	** NA **	-.005	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.01	-.005	-.01	** NA **	** NA **	** NA **	-.005	.02	-.01	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	-.05	.045	** NA **	** NA **	** NA **	** NA **	.022	.06	-.02	-.02
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-.05	.07	.08	-.02
COPPER	.048	-.075	.023	** NA **	** NA **	** NA **	-.02	-.02	-.02	.02
CYANIDE	-.02	** NA **	-.02	** NA **	** NA **	** NA **	** NA **	-.02	-.02	.02
LEAD	-.05	.039	-.05	** NA **	** NA **	** NA **	.072	-.05	-.05	-.05
MANGANESE	.7	** NA **	1.91	** NA **	** NA **	** NA **	34.6	** NA **	** NA **	** NA **
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	120	** NA **	** NA **	** NA **
MERCURY	-.0005	-.0002	-.0005	** NA **	** NA **	** NA **	-.0002	** NA **	** NA **	** NA **
NICKEL	.18	.172	.1	** NA **	** NA **	** NA **	.188	.15	.08	.16
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	-.002	-.005	** NA **	** NA **	** NA **	** NA **	-.002	-.005	-.005	-.005
SILVER	-.01	-.01	** NA **	** NA **	** NA **	** NA **	-.01	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	-.01	** NA **	** NA **	** NA **	** NA **	.05	** NA **	** NA **	** NA **
TIN	-.01	** NA **	-10	** NA **	** NA **	** NA **	-.01	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-.05	** NA **	** NA **	** NA **
ZINC	.68	.9	[illegible]	** NA **	** NA **	** NA **	09	[illegible]	[illegible]	[illegible]

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	78-04	78-05	78-06	78-07	78-08	78-09	78-10
DATE STARTED	1962	1962	1962	1962	1962	1962	1962
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS							
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	110	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	610	** NA **	560	400	410	690
CHLORIDE	940	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	7000	9000	4400	6000	4000	5300	7400
pH (av)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	.2	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	-0.0056	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	0.123	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	25.7	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRATE	.14	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.6	6.52	6.4	6.5	6.37	6.54	6.75
PHENOLICS, TOTAL	0.00002	0.00001	** NA **	0.00003	0.00002	0.00002	0.00001
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	460	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	20	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	40	** NA **	60	84	100	52
TOTAL ORGANIC CARBON	** NA **	** NA **	74	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	0.4227	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS							
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	-.05	** NA **
ARSENIC	.0034	.018	** NA **	.016	.009	.010	.017
BARIUM	2.5	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	-.01	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.01	-.01	** NA **	-.01	-.01	-.01	.02
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.06	.03	** NA **	.02	.02	.03	-.02
COBALT	** NA **	.13	** NA **	-.05	.13	-.01	** NA **
COPPER	** NA **	-.02	** NA **	-.02	-.02	-.02	.02
CYANIDE	** NA **	.05	** NA **	-.02	-.02	-.02	-.02
LEAD	.26	-.05	** NA **	.05	-.05	-.05	.21
MANGANESE	.66	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	-.0005	** NA **	** NA **	** NA **	** NA **	-.0005	** NA **
NICKEL	** NA **	-.02	** NA **	.04	.04	.03	.14
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	.0034	-.005	** NA **	-.005	-.005	-.005	-.005
SILVER	.01	** NA **	** NA **	** NA **	** NA **	-.02	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	.06	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	** NA **						

TABLE A-1 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	22comp	23comp	24comp	25comp	26comp	28comp	29comp	30comp	31comp	32comp
DATE STARTED	1971	1980	1969	1970	1976	1975	1970	1969	1977	1976
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin
WATER QUALITY INDICATORS										
ALKALINITY	6845	** NA **	2650	** NA **	** NA **	6360	960	2875	1584	2770
AMMONIA	557	410	34	** NA **	** NA **	336	26.08	** NA **	** NA **	220
BIOLOGICAL OXYGEN DEMAND	29200	2360	740	638	12000	1645	1150	3080	3040	8236
CALCIUM	** NA **	** NA **	200	** NA **	** NA **	321	** NA **	** NA **	** NA **	425
CHEMICAL OXYGEN DEMAND	15900	2640	3520	1156	** NA **	2118	2635	5700	3365	8530
CHLORIDE	2270	** NA **	350	** NA **	** NA **	1400	180	923	840	1040
CONDUCTIVITY (umho/cm)	13750	** NA **	3540	5804	** NA **	15405	2840	10005	4350	7635
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	.2	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	4305	** NA **	1481	** NA **	** NA **	2240	1700	2896	1825	3670
IRON	113	** NA **	2.1	** NA **	305	15.05	66.2	211	4	29.5
NITRATE	.12	.14	1.4	** NA **	** NA **	ND	.75	.125	** NA **	ND
NITRITE	ND	.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	1470	439.5	** NA **	** NA **	** NA **	309	46.61	47.3	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	90	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.50	** NA **	6.5	6.32	6.3	7.10	6.60	6.7	6.4	6.45
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	5.35	117.10	.52	** NA **	** NA **	1.88	** NA **	3.8	** NA **	1.31
POTASSIUM	700	107.5	75	** NA **	** NA **	560	** NA **	** NA **	** NA **	46.5
SODIUM	1630	** NA **	** NA **	NA	** NA **	** NA **	** NA **	771.4	321	500
SULFATE	200	** NA **	112	** NA **	** NA **	255	140	8.4	** NA **	** NA **
SULFIDE	2.40	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	2100	** NA **	** NA **	7676	** NA **	** NA **	4170	9300
TOTAL SUSPENDED SOLIDS	790	275	20	140	650	260	** NA **	330	** NA **	156
TOTAL ORGANIC CARBON	5890	** NA **	427	** NA **	** NA **	406	** NA **	1121	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	33050	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	5860
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.31	** NA **	ND
ANTIMONY	.066	.009	** NA **	.56	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.225	.015	ND	.0002	** NA **	ND	ND	.002	** NA **	** NA **
BARIUM	1.3	.6	** NA **	** NA **	** NA **	ND	ND	.225	** NA **	** NA **
BERYLLIUM	.0045	.001	** NA **	.008	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	12.3	4.05	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.039	.015	ND	.015	.06	ND	ND	.05	** NA **	ND
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.34	.10	ND	.059	.4	1	.1	.64	** NA **	ND
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.09	.050	ND	.029	.1	.1	.5	.17	** NA **	ND
CYANIDE	.02	.025	** NA **	.005	ND	** NA **	** NA **	.25	** NA **	** NA **
LEAD	.46	.13	ND	.1	ND	.3	.015	.03	** NA **	ND
MANGANESE	2.03	1.795	.03	** NA **	** NA **	1.4	** NA **	.5	** NA **	2.07
MAGNESIUM	** NA **	** NA **	120	** NA **	** NA **	280	** NA **	** NA **	** NA **	210.5
MERCURY	.0006	.001	ND	.0006	** NA **	ND	ND	.0002	** NA **	** NA **
NICKEL	1.65	.23	ND	.14	1.25	.10	ND	1.08	** NA **	ND
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	.006	.002	** NA **	ND	** NA **	ND	** NA **	.02	** NA **	** NA **
SILVER	.024	.008	** NA **	.009	** NA **	ND	** NA **	.0008	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	.028	.004	** NA **	.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.16	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	28.9	1.96	ND	** NA **	18	2	.03	.2	** NA **	.42

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER

SAMPLE NUMBER	02-01	02-02	02-03	19-01	19-02	20-01	20-02	20-03	22-01	22-02
DATE STARTED	1975	1975	1975	1959	1959	1969	1969	1969	1970	1970
DATA SOURCE	NUS	NUS	NUS	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin
ACETONE	170	350	290	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	ND	ND	ND	-100	-100	-1500	-100	-100	-1500	-100
BENZENE	ND	ND	ND	270	67	-250	310	470	-250	600
BROMOMETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	290	430	440	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	-10	-10	125	-10	-10	-20	-10
CARBON TETRACHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	-10	4	-250	-10	-10	-250	-10
CHLOROETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	860
BIS(2-CHLOROETHOXY)METHANE	ND	ND	ND	-10	-10	-100	-10	25	-50	-10
2-CHLOROETHYL VINYL ETHER	ND	ND	ND	-10	-10	-320	-10	-10	-400	2
CHLOROFORM	ND	ND	ND	-10	-10	-2[illegible]0	-10	-10	-250	-10
CHLOROMETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	-10	-10	-500	-10	-10	-500	-10
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	-10	-10	-100	-10	-10	-20	-10
P-CRESOL	54	53	70	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	120	89	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	.11	.056	.042	ND	ND	ND	ND	ND	ND	ND
DIBROMOMETHANE	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	ND	ND	ND	-10	-10	100	-10	-10	-20	-10
1,2-DICHLOROBENZENE	ND	ND	ND	-10	-10	-100	-10	-10	-20	13
1,4-DICHLOROBENZENE	ND	ND	ND	8	-10	-100	-10	37	-20	-10
DICHLORODIFLUOROMETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	450
1,1-DICHLOROETHANE	ND	ND	ND	-10	-10	-250	-10	5	510	-10
1,2-DICHLOROETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	ND	ND	ND	-10	24	-250	-10	-10	2200	1300
1,2-DICHLOROPROPANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
1,3-DICHLOROPROPENE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
DIETHYL PHTHALATE	ND	ND	ND	-10	-10	200	71	3	300	300
2,4-DIMETHYLPHENOL	ND	ND	ND	-25	-25	-25	-25	-25	-75	10
DIMETHYL PHTHALATE	ND	ND	ND	-10	-10	-100	-10	-10	30	-10
ENDRIN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	ND	ND	ND	-10	245	-250	-10	-10	150	500
BIS(2-ETHYLHEXYL)PHTHALATE	ND	ND	ND	-10	-10	150	-10	-10	50	-10
2-HEXANONE	6	ND	12	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	ND	ND	ND	-10	-10	4000	4	-10	16000	500
LINDANE	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	2	3	3	-10	-10	20000	450	-10	2800	1500

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	82-01	82-02	82-03	19-01	19-02	20-01	20-02	20-03	22-01	22-02
DATE STARTED	1975	1975	1975	1959	1959	1969	1969	1969	1976	1970
DATA SOURCE	NUS	NUS	NUS	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin
NAPHTHALENE	ND	ND	ND	13	-10	-100	-10	-10	-50	-10
NITROBENZENE	ND	ND	ND	-10	-10	-100	-10	-10	120	-10
4-NITROPHENOL	ND	ND	ND	-25	-25	-25	-25	-25	-75	-25
PENTACHLOROPHENOL	ND	ND	ND	-25	-25	-25	-25	-25	-75	-25
PHENOL	41	45	70	-25	19	-25	13	-25	5790	3700
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
TETRACHLOROETHYLENE	ND	ND	ND	-10	-10	-250	-10	-10	60	-10
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	ND	ND	ND	190	460	290	8	-10	1400	1900
TOXAPHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	-10	-10	-250	-10	-10	-250	-10
1,1,2-TRICHLOROETHANE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
TRICHLOROETHYLENE	ND	ND	ND	-10	-10	-250	-10	-10	600	370
TRICHLOROFLUOROMETHANE	ND	ND	ND	-10	-10	-250	74	-10	-250	-10
1,2,3-TRICHLOROPROPANE	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	ND	ND	ND	-10	-10	-250	-10	-10	-250	-10
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	22-03	22-04	22-05	22-06	22-07	22-08	23-01	23-02	23-03	23-04
DATE STARTED	1978	1978	[illegible]	1978	1978	1978	1980	1980	1980	1980
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	-100	-100	-100	-100	-100	-100	270	-100	-100	-100
BENZENE	500	1000	120	9	46	100	-250	440	380	10
BROMOMETHANE	-10	-10	-10	-10	-10	-10	-250	-10	-10	-10
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	-10	21	-10	-10	-10	-10	150	-10	-10	-10
CARBON TETRACHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	-10	-10	5	3	1	7	-250	-10	-10	-10
CHLOROETHANE	-10	-10	-10	-10	-10	27	-250	-10	-10	-10
BIS(2-CHLOROETHOXY)METHANE	-10	-10	-10	-10	-10	-10	-100	-10	10	-10
2-CHLOROETHYL VINYL ETHER	1100	-10	-10	-10	-10	-10	-320	-10	-10	-10
CHLOROFORM	-10	-10	-10	0	-10	-10	-250	-10	-10	-10
CHLOROMETHANE	-10	-10	-10	-10	-10	-10	-250	-10	-10	-10
BIS(CHLOROMETHYL)ETHER	-10	-10	-10	-10	-10	-10	-500	-10	-10	*** NA ***
2-CHLORONAPHTHALENE	-10	-10	-10	-10	-10	46	-100	-10	-10	-10
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	-10	49	-10	-10	-10	-10	150	-10	-10	-10
1,2-DICHLOROBENZENE	-10	-10	9	-10	-10	9	-100	-10	-10	-10
1,4-DICHLOROBENZENE	-10	-10	5	4	4	0	-100	-10	1	-10
DICHLORODIFLUOROMETHANE	-10	-10	-10	-10	-10	-10	-250	-10	-10	*** NA ***
1,1-DICHLOROETHANE	64	-10	419	264	134	720	-250	160	-10	-10
1,2-DICHLOROETHANE	-10	-10	-10	-10	-10	-10	-250	-10	-10	-10
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	-10	-10	1620	86	160	2760	96	-10	-10	26
1,2-DICHLOROPROPANE	-10	-10	2	4	86	50	-250	-10	-10	-10
1,3-DICHLOROPROPENE	-10	-10	-10	-10	-10	30	-250	-10	-10	-10
DIETHYL PHTHALATE	170	330	254	-10	-10	107	150	20	62	-10
2,4-DIMETHYLPHENOL	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
DIMETHYL PHTHALATE	-10	-10	-10	-10	-10	-10	-100	-10	-10	-10
ENDRIN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	-10	-10	890	38	230	1270	-250	-10	-10	67
BIS(2-ETHYLHEXYL)PHTHALATE	-10	-10	-10	-10	-10	-10	150	-10	-10	-10
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	210	160	224	76	-10	524	-250	-10	160	15
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	430	4900	835	1520	7	1400	1100	1900	-10	92

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	22-03	22-04	22-05	22-06	22-07	22-08	23-01	23-02	23-03	23-04
DATE STARTED	1978	1978	1978	1978	1978	1978	1980	1980	1980	1980
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin
NAPHTHALENE	8	-10	41	-10	-10	68	-100	2	10	-10
NITROBENZENE	-10	-10	-10	-10	-10	-10	-100	-10	-10	-10
4-NITROPHENOL	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
PENTACHLOROPHENOL	-25	-25	-25	-25	-25	-25	-25	-25	-25	45
PHENOL	1230	1800	11300	1800	51	11050	293	39	350	-25
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	-10	-10	-10	-10	-10	-10	-250	-10	-10	-10
TETRACHLOROETHYLENE	-10	215	141	232	2	620	-250	-10	-10	-10
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	-10	1740	700	419	790	1430	420	720	390	420
TOXAPHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	-10	640	84	190	-10	310	-250	-10	-10	-10
1,1,2-TRICHLOROETHANE	-10	-10	352	30	-10	-10	-250	-10	-10	-10
TRICHLOROETHYLENE	-10	43	542	56	16	1120	-250	180	-10	-10
TRICHLOROFLUOROMETHANE	-10	-10	56	110	-10	-10	-250	-10	-10	-10
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	-10	-10	-10	-10	-10	47	-250	-10	-10	-10
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	23-05	23-06	24-01	30-01	31-01	32-01	38-01	53-01	61-01	61-02
DATE STARTED	1980	1980	1969	1969	1977	1976	1978	1979	1973	1973
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Trade Assoc	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
ACROLEIN	-100	-5000	*** NA ***	-10	-10	-10	-10	>> UNK <<	-100	*** NA ***
BENZENE	-10	-500	*** NA ***	19	4	4	-100	740	-10	*** NA ***
BROMOMETHANE	-10	-500	*** NA ***	170	-1	-1	-100	>> UNK <<	-10	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	-10	-10	*** NA ***	-10	-50	-50	-50	>> UNK <<	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	ND	ND	*** NA ***	ND	ND	ND	ND	>> UNK <<	-10	*** NA ***
CHLOROBENZENE	-10	-500	*** NA ***	-10	-50	-50	-100	>> UNK <<	-10	*** NA ***
CHLOROETHANE	-10	400	*** NA ***	170	16	20	*** NA ***	>> UNK <<	-10	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	-10	-10	*** NA ***	-10	-1	-1	-10	>> UNK <<	-10	*** NA ***
2-CHLOROETHYL VINYL ETHER	-10	-500	*** NA ***	-10	-1	-1	-100	>> UNK <<	-10	*** NA ***
CHLOROFORM	-10	-500	14.0	71	27	31	1300	>> UNK <<	-10	*** NA ***
CHLOROMETHANE	-10	-500	*** NA ***	170	-1	-1	-100	>> UNK <<	-10	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	250	-1	-1	*** NA ***	>> UNK <<	-10	*** NA ***
2-CHLORONAPHTHALENE	-10	-10	*** NA ***	-10	-50	-50	-10	>> UNK <<	-10	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	-50	*** NA ***
4,4-DDT	ND	ND	*** NA ***	ND	ND	ND	ND	>> UNK <<	-10	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	-10	-10	*** NA ***	12	-50	-50	-10	>> UNK <<	-10	*** NA ***
1,2-DICHLOROBENZENE	-10	-10	*** NA ***	-10	-50	-50	-20	>> UNK <<	-10	*** NA ***
1,4-DICHLOROBENZENE	-10	-40	*** NA ***	-10	-50	-50	-20	>> UNK <<	-10	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	180	-1	-1	-100	>> UNK <<	-10	*** NA ***
1,1-DICHLOROETHANE	-10	1900	*** NA ***	6300	110	61	570	>> UNK <<	77	*** NA ***
1,2-DICHLOROETHANE	-10	-500	*** NA ***	13	1	-1	11000	>> UNK <<	-10	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	-10	1400	*** NA ***	1300	17	55	*** NA ***	>> UNK <<	75	*** NA ***
1,2-DICHLOROPROPANE	-10	-500	*** NA ***	54	5	3	-100	>> UNK <<	-10	*** NA ***
1,3-DICHLOROPROPENE	-10	-500	*** NA ***	10	-1	-1	-100	>> UNK <<	-20	*** NA ***
DIETHYL PHTHALATE	11	120	*** NA ***	43	69	-50	-20	>> UNK <<	-10	*** NA ***
2,4-DIMETHYLPHENOL	28	-2500	*** NA ***	-25	-50	-50	-10	>> UNK <<	-25	*** NA ***
DIMETHYL PHTHALATE	-10	-10	*** NA ***	55	-50	-50	-20	>> UNK <<	-10	*** NA ***
ENDRIN	ND	ND	*** NA ***	ND	ND	ND	ND	>> UNK <<	-10	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
ETHYL BENZENE	4900	-500	*** NA ***	250	6	7	100	>> UNK <<	25	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	32	-10	*** NA ***	34	-50	-50	110	>> UNK <<	-10	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
ISOPHORONE	-10	-10	*** NA ***	-10	-50	-50	-10	>> UNK <<	-10	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	-2	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
METHYLENE CHLORIDE	-10	2600	186	2300	540	780	2500	>> UNK <<	142	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	23-05	23-06	24-01	30-01	31-01	32-01	38-01	53-01	61-01	61-02
DATE STARTED	1980	1980	1969	1969	1977	1976	1978	1979	1973	1973
DATA SOURCE	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Wisconsin	Trade Assoc	Waste Mgmt	Waste Mgmt
NAPHTHALENE	-10	-10	*** NA ***	19	-50	-50	-10	>> UNK <<	-10	*** NA ***
NITROBENZENE	-10	-10	*** NA ***	40	-50	-50	-20	>> UNK <<	-10	*** NA ***
4-NITROPHENOL	-25	-2500	*** NA ***	-25	-50	-50	17	>> UNK <<	-25	*** NA ***
PENTACHLOROPHENOL	470	-2500	3	-25	-50	-50	-10	>> UNK <<	-25	*** NA ***
PHENOL	-25	-2500	*** NA ***	221	500	110	-10	>> UNK <<	-25	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	-10	-500	*** NA ***	-10	-1	-1	210	>> UNK <<	-10	*** NA ***
TETRACHLOROETHYLENE	-10	-500	*** NA ***	26	11	25	-100	>> UNK <<	-10	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
TOLUENE	29	3200	*** NA ***	1600	56	79	280	>> UNK <<	322	*** NA ***
TOXAPHENE	ND	ND	*** NA ***	ND	ND	ND	ND	>> UNK <<	-10	*** NA ***
1,1,1-TRICHLOROETHANE	-10	-500	*** NA ***	2400	16	10	-100	>> UNK <<	-10	*** NA ***
1,1,2-TRICHLOROETHANE	-10	-500	*** NA ***	-10	-1	-1	500	>> UNK <<	-10	*** NA ***
TRICHLOROETHYLENE	-10	-500	*** NA ***	160	33	26	-100	57	12	*** NA ***
TRICHLOROFLUOROMETHANE	-10	-500	*** NA ***	15	6	11	-100	>> UNK <<	-10	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	*** NA ***	*** NA ***
VINYL CHLORIDE	-10	-500	*** NA ***	61	-1	-1	-100	>> UNK <<	23	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	130	-10	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	70	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	61-03	62-03	62-04	63-01	63-02	63-03	63-04	63-05	63-06	64-01
DATE STARTED	1973	1973	1973	1979	1979	1979	1979	1979	1979	1978
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	390	-150	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	-1000	-2000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	*** NA ***	-440	-88	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
BROMOMETHANE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	-60	*** NA ***
BUTANOL	*** NA ***	*** NA ***	-20000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
t-BUTANOL	*** NA ***	*** NA ***	-10000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	2010	293	*** NA ***	*** NA ***	*** NA ***	-250	*** NA ***	2000	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	-200	-56	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
CHLOROBENZENE	*** NA ***	-600	-120	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
CHLOROETHANE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
CHLOROFORM	*** NA ***	-160	-32	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
CHLOROMETHANE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	-60	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	-200	45.2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	-200	-100	-50	*** NA ***	*** NA ***	*** NA ***	220	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-3.1	*** NA ***	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	-19	21.9	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	-44	13.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	491	526	*** NA ***	*** NA ***	*** NA ***	200	*** NA ***	73	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	-200	-56	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	-160	909	*** NA ***	*** NA ***	*** NA ***	180	*** NA ***	-30	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	-600	-120	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	-1500	-300	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	-60	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	-54	-5.4	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	*** NA ***	*** NA ***	*** NA ***	-.1	*** NA ***	*** NA ***	*** NA ***	-11	*** NA ***	*** NA ***
ETHANOL	*** NA ***	*** NA ***	-10000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	-720	323	*** NA ***	*** NA ***	*** NA ***	27	*** NA ***	-30	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-250	*** NA ***	-150	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	57100	6720	*** NA ***	*** NA ***	*** NA ***	1500	*** NA ***	1800	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	61-03	62-03	62-04	63-01	63-02	63-03	63-04	63-05	63-06	64-01
DATE STARTED	1973	1973	1973	1979	1979	1979	1979	1979	1979	1978
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	176	282	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	*** NA ***	-19	-3.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	*** NA ***	-48	-4.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	*** NA ***	-72	-72	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	*** NA ***	1760	6320	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	*** NA ***	-18000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	-18000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	-690	-140	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	-410	-82	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	42	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	1300	*** NA ***	1100	*** NA ***
TOLUENE	*** NA ***	13300	3390	*** NA ***	*** NA ***	*** NA ***	450	*** NA ***	390	*** NA ***
TOXAPHENE	*** NA ***	-500000	-500000	-5	*** NA ***	*** NA ***	*** NA ***	-11000	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	*** NA ***	-380	-76	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	280	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	-580	-180	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	-30	*** NA ***
TRICHLOROETHYLENE	*** NA ***	-190	234	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	30	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	-1000	-200	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	-60	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	71	*** NA ***	68	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	64-02	64-03	64-04	65-01	65-02	65-03	65-04	65-05	65-06	65-07
DATE STARTED	1970	1970	1970	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	-1000	-1000	-100	-1000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	-44	950	-4.4	760	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BROMOMETHANE	-100	-1000	-10	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	-28	-280	-2.8	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROBENZENE	-60	685	-6	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	-100	-1000	-10	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	-100	-1000	-10	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROFORM	-16	-160	-1.6	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROMETHANE	-100	-1000	-10	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	-100	-1000	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	7.4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	-100	-1000	-10	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	-47	-470	-4.7	170	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROETHANE	-28	-280	-2.8	20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	-16	3130	-1.6	140	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROPROPANE	-60	-600	-6	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,3-DICHLOROPROPENE	-150	-1500	-15	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	140	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	-5000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL [illegible]	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	31	-720	-7.2	56	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	-28	8110	12.5	4500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	64-02	64-03	64-04	65-01	65-02	65-03	65-04	65-05	65-06	65-07
DATE STARTED	1970	1970	1970	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	-9000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	-9000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	*** NA ***	*** NA ***	*** NA ***	-5000	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	-69	-690	-6.9	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	-41	-410	-4.1	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	496	3960	-6	800	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOXAPHENE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	-30	-300	-3.0	60	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	-50	-500	-5	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROETHYLENE	-19	-190	-1.9	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROFLUOROMETHANE	-100	-1000	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	-100	-1000	-10	-20	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-08	65-09	65-10	65-11	65-12	65-13	65-14	65-15	65-16	65-17
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	-100	*** NA ***	*** NA ***	-500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100
BENZENE	*** NA ***	43	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	26.6
BROMOMETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8
CHLOROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	7
CHLOROETHANE	*** NA ***	56	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	62
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
2-CHLOROETHYL VINYL ETHER	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
CHLOROFORM	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.6
CHLOROMETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
BIS(CHLOROMETHYL)ETHER	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
2-CHLORONAPHTHALENE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-4.7
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
1,2-DICHLOROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
1,4-DICHLOROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	6
DICHLORODIFLUOROMETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	36
1,1-DICHLOROETHANE	*** NA ***	252	*** NA ***	*** NA ***	260	*** NA ***	*** NA ***	*** NA ***	*** NA ***	240
1,2-DICHLOROETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	421	*** NA ***	*** NA ***	197	*** NA ***	*** NA ***	*** NA ***	*** NA ***	204
1,2-DICHLOROPROPANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-6
1,3-DICHLOROPROPENE	*** NA ***	-20	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-15
DIETHYL PHTHALATE	*** NA ***	21	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	10.4
2,4-DIMETHYLPHENOL	*** NA ***	-125	*** NA ***	*** NA ***	-2500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-22
DIMETHYL PHTHALATE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
ENDRIN	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	64	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	46.4
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	186	*** NA ***	*** NA ***	19	*** NA ***	*** NA ***	*** NA ***	*** NA ***	67
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	1130	*** NA ***	*** NA ***	1285	*** NA ***	*** NA ***	*** NA ***	*** NA ***	1060

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-08	65-09	65-10	65-11	65-12	65-13	65-14	65-15	65-16	65-17
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	8
NITROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
4-NITROPHENOL	*** NA ***	-125	*** NA ***	*** NA ***	-2500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-24
PENTACHLOROPHENOL	*** NA ***	-125	*** NA ***	*** NA ***	-2500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-36
PHENOL	*** NA ***	220	*** NA ***	*** NA ***	-2500	*** NA ***	*** NA ***	*** NA ***	*** NA ***	438.2
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.9
TETRACHLOROETHYLENE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	6
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	1220	*** NA ***	*** NA ***	880	*** NA ***	*** NA ***	*** NA ***	*** NA ***	539
TOXAPHENE	*** NA ***	-10000	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-40
1,1,1-TRICHLOROETHANE	*** NA ***	87	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	8
1,1,2-TRICHLOROETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-5
TRICHLOROETHYLENE	*** NA ***	74	*** NA ***	*** NA ***	92	*** NA ***	*** NA ***	*** NA ***	*** NA ***	41.5
TRICHLOROFLUOROMETHANE	*** NA ***	-10	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	56	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	44
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-18	65-19	65-20	65-21	65-22	65-23	65-24	65-25	65-26	65-27
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-3.6	*** NA ***	*** NA ***	*** NA ***	-3.6	*** NA ***
ACROLEIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1000	*** NA ***	*** NA ***	*** NA ***	-1000	*** NA ***
BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-44	*** NA ***	*** NA ***	*** NA ***	37	*** NA ***
BROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	-28	*** NA ***
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-60	*** NA ***	*** NA ***	*** NA ***	-60	*** NA ***
CHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***	*** NA ***	-6	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
CHLOROFORM	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-16	*** NA ***	*** NA ***	*** NA ***	-16	*** NA ***
CHLOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-3	*** NA ***	*** NA ***	*** NA ***	-3	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-5	*** NA ***	*** NA ***	*** NA ***	5.97	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	192	*** NA ***	*** NA ***	*** NA ***	265	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	-28	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	.202	*** NA ***	*** NA ***	*** NA ***	229	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-60	*** NA ***	*** NA ***	*** NA ***	-60	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-150	*** NA ***	*** NA ***	*** NA ***	-150	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	224	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8	*** NA ***	*** NA ***	*** NA ***	-27	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
ENDRIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-72	*** NA ***	*** NA ***	*** NA ***	59	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.3	*** NA ***	*** NA ***	*** NA ***	33.6	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	1440	*** NA ***	*** NA ***	*** NA ***	578	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-18	65-19	65-20	65-21	65-22	65-23	65-24	65-25	65-26	65-27
DATE STARTED	1971	1971	1971	1971	1971	1971	1971	1971	1971	1971
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	6.45	*** NA ***	*** NA ***	*** NA ***	8.26	*** NA ***
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.5	*** NA ***	*** NA ***	*** NA ***	-24	*** NA ***
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-3.7	*** NA ***	*** NA ***	*** NA ***	-36	*** NA ***
PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	386	*** NA ***	*** NA ***	*** NA ***	224	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	50.8	*** NA ***	*** NA ***	*** NA ***	-41	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	487	*** NA ***	*** NA ***	*** NA ***	781	*** NA ***
TOXAPHENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-18	*** NA ***	*** NA ***	*** NA ***	-18	*** NA ***
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	45.9	*** NA ***	*** NA ***	*** NA ***	-38	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-58	*** NA ***	*** NA ***	*** NA ***	-58	*** NA ***
TRICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	99.2	*** NA ***	*** NA ***	*** NA ***	37.6	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-188	*** NA ***	*** NA ***	*** NA ***	-188	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-188	*** NA ***	*** NA ***	*** NA ***	57	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-28	65-29	65-30	68-01	68-02	68-03	66-04	69-01	71-01	72-01
DATE STARTED	1971	1971	1971	1979	1979	1979	1979	1960	1968	1977
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	-3.6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***	*** NA ***
BENZENE	*** NA ***	*** NA ***	5.49	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-4.4	*** NA ***	*** NA ***
BROMOMETHANE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	*** NA ***	-2.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8	*** NA ***	*** NA ***
CHLOROBENZENE	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***
CHLOROETHANE	*** NA ***	*** NA ***	11.1	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
CHLOROFORM	*** NA ***	*** NA ***	7.27	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.6	*** NA ***	*** NA ***
CHLOROMETHANE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
4,4-DDT	*** NA ***	*** NA ***	-3	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	-5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	373	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	-4.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-4.7	*** NA ***	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	*** NA ***	-2.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8	*** NA ***	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	39.5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.6	*** NA ***	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-6	*** NA ***	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	-15	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-15	*** NA ***	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	118	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	-14	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-20
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	*** NA ***	10.2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	23.3	*** NA ***	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	10.6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-400
4 METHYL-2 PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	*** NA ***	178	*** NA ***	*** NA ***	*** NA ***	*** NA ***	2.8	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	65-28	65-29	65-30	68-01	68-02	68-03	68-04	69-01	71-01	72-01
DATE STARTED	1971	1971	1971	1979	1979	1979	1979	1968	1968	1977
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	3.45	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	*** NA ***	*** NA ***	-12.5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	*** NA ***	*** NA ***	-19	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	*** NA ***	*** NA ***	100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-6.9	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	*** NA ***	18.2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-4.1	*** NA ***	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	*** NA ***	77.5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	17.9	*** NA ***	*** NA ***
TOXAPHENE	*** NA ***	*** NA ***	-18	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-500
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	173	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-3.8	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	-5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-5	*** NA ***	*** NA ***
TRICHLOROETHYLENE	*** NA ***	*** NA ***	4.63	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.9	*** NA ***	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	122	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	17.9	*** NA ***	*** NA ***	*** NA ***	*** NA ***	18.6	*** NA ***	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	72-02	73-01	73-02	73-03	73-04	73-05	73-06	73-07	73-08	73-09
DATE STARTED	1973	1973	1973	1973	1973	1973	1973	1973	1973	1973
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	-100	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100
BENZENE	*** NA ***	-10	*** NA ***	-4.4	*** NA ***	-10	*** NA ***	*** NA ***	37	6.3
BROMOMETHANE	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	-10	*** NA ***	-2.8	*** NA ***	-10	*** NA ***	*** NA ***	-1	-2.8
CHLOROBENZENE	*** NA ***	-10	*** NA ***	-6	*** NA ***	-10	*** NA ***	*** NA ***	-1	-6
CHLOROETHANE	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-5.3
2-CHLOROETHYL VINYL ETHER	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
CHLOROFORM	*** NA ***	-10	*** NA ***	-2	*** NA ***	-10	*** NA ***	*** NA ***	-1	-1.6
CHLOROMETHANE	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
BIS(CHLOROMETHYL)ETHER	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.9
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	-4.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2.8
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	3	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-1.9
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	-10	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-4.4
DICHLORODIFLUOROMETHANE	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
1,1-DICHLOROETHANE	*** NA ***	-10	*** NA ***	-4.7	*** NA ***	-10	*** NA ***	*** NA ***	4	11.6
1,2-DICHLOROETHANE	*** NA ***	-10	*** NA ***	-2.8	*** NA ***	-10	*** NA ***	*** NA ***	4	-2.8
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	-10	*** NA ***	-10	*** NA ***	11	*** NA ***	*** NA ***	7	31.7
1,2-DICHLOROPROPANE	*** NA ***	-10	*** NA ***	-6	*** NA ***	-10	*** NA ***	*** NA ***	-1	-6
1,3-DICHLOROPROPENE	*** NA ***	-20	*** NA ***	-15	*** NA ***	-10	*** NA ***	*** NA ***	-2	-15
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	34.7
2,4-DIMETHYLPHENOL	*** NA ***	-25	-5.4	-3	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2700
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
ENDRIN	*** NA ***	-.1	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	-10	*** NA ***	-7.2	*** NA ***	-10	*** NA ***	*** NA ***	24	29.2
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	14.1
LINDANE	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	35	*** NA ***	8.6	*** NA ***	-10	*** NA ***	*** NA ***	-1	200

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	72-02	73-01	73-02	73-03	73-04	73-05	73-06	73-07	73-08	73-09
DATE STARTED	1977	1973	1973	1973	1973	1973	1973	1973	1973	1973
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	4	2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	0.76
NITROBENZENE	*** NA ***	*** NA ***	-10	4	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-1.9
4-NITROPHENOL	*** NA ***	-25	-4.0	-2.4	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-40
PENTACHLOROPHENOL	*** NA ***	-25	-7.2	-3.6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-72
PHENOL	*** NA ***	-25	-3	7.3	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	154
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	-10	*** NA ***	-7	*** NA ***	-10	*** NA ***	*** NA ***	-1	-6.9
TETRACHLOROETHYLENE	*** NA ***	-10	*** NA ***	-4.1	*** NA ***	-10	*** NA ***	*** NA ***	-1	-4.1
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	19	*** NA ***	7	*** NA ***	-10	*** NA ***	*** NA ***	79	169
TOXAPHENE	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10000
1,1,1-TRICHLOROETHANE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	-1	-3.8
1,1,2-TRICHLOROETHANE	*** NA ***	-10	*** NA ***	-5	*** NA ***	-10	*** NA ***	*** NA ***	-1	-5
TRICHLOROETHYLENE	*** NA ***	-10	*** NA ***	-1.9	*** NA ***	-10	*** NA ***	*** NA ***	-1	-1.9
TRICHLOROFLUOROMETHANE	*** NA ***	-10	*** NA ***	-10	*** NA ***	-10	*** NA ***	*** NA ***	-1	-10
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	-10	-10	*** NA ***	-10	*** NA ***	*** NA ***	8	36.4
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	73-10	73-11	75-01	75-02	75-03	75-04	77-01	78-01	78-02	78-03
DATE STARTED	1973	1973	1959	1959	1959	1959	1965	1965	1965	1965
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	10.4	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	*** NA ***	-100	-100	-100	-100	-4	*** NA ***	*** NA ***	-100
BENZENE	*** NA ***	*** NA ***	-4.4	4.8	6.1	5.31	22.1	*** NA ***	*** NA ***	-10
BROMOMETHANE	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	195	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	*** NA ***	-2.8	-2.8	-2.8	-2.8	-4	*** NA ***	*** NA ***	-10
CHLOROBENZENE	*** NA ***	*** NA ***	-6	-6	-6	-6	-4	*** NA ***	*** NA ***	-10
CHLOROETHANE	*** NA ***	*** NA ***	-10	-10	27.9	-10	-4	*** NA ***	*** NA ***	-10
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	-5.3	*** NA ***	-12	-20	*** NA ***	*** NA ***	-10
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
CHLOROFORM	*** NA ***	*** NA ***	-1.6	-1.6	-1.6	-1.6	-4	*** NA ***	*** NA ***	-10
CHLOROMETHANE	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	-10	-10	-10	-10	*** NA ***	*** NA ***	*** NA ***	-10
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	-1.9	*** NA ***	-4.4	-20	*** NA ***	*** NA ***	-10
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	-4.7	*** NA ***	-7	-.1	*** NA ***	*** NA ***	-10
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	40.1	-20	*** NA ***	*** NA ***	-10
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	14.7	14	-10	-4.4	-20	*** NA ***	*** NA ***	-10
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	-4.4	*** NA ***	52.1	-20	*** NA ***	*** NA ***	-10
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	-4.7	-4.7	-4.7	-4.7	-4	*** NA ***	*** NA ***	-10
1,2-DICHLOROETHANE	*** NA ***	*** NA ***	-2.8	-2.8	-2.8	-2.8	-4	*** NA ***	*** NA ***	-10
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	-1.6	16.3	-1.6	20	-4	*** NA ***	*** NA ***	-10
1,2-DICHLOROPROPANE	*** NA ***	*** NA ***	-6	-6	-6	-6	-4	*** NA ***	*** NA ***	-10
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	-15	-15	-15	-15	-8	*** NA ***	*** NA ***	-10
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	77.8	68.2	*** NA ***	*** NA ***	-10
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	-3.2	*** NA ***	-120	-40	*** NA ***	*** NA ***	-10
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	-25	-20	*** NA ***	*** NA ***	-10
ENDRIN	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	-25	-.5	*** NA ***	*** NA ***	-10
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	*** NA ***	52.4	88	52.4	70.6	98.2	*** NA ***	*** NA ***	10
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	23	*** NA ***	529	-20	*** NA ***	*** NA ***	-10
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-4	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	-2.2	*** NA ***	-5	-20	*** NA ***	*** NA ***	-10
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	*** NA ***	-3	-2.8	-3	-3	-4	*** NA ***	*** NA ***	-10

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	73-10	73-11	75-01	75-02	75-03	75-04	77-01	78-01	78-02	78-03
DATE STARTED	1973	1973	1959	1959	1959	1959	1965	1965	1965	1965
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	12	*** NA ***	50.4	36	*** NA ***	*** NA ***	13
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	-1.9	*** NA ***	-5	-20	*** NA ***	*** NA ***	-10
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	-2.9	*** NA ***	-110	-40	*** NA ***	*** NA ***	-10
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	-4.3	*** NA ***	-160	-40	*** NA ***	*** NA ***	-10
PHENOL	*** NA ***	*** NA ***	*** NA ***	202	*** NA ***	15000	-40	*** NA ***	*** NA ***	-10
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	-6.9	-6.9	-6.9	-6.9	-4	*** NA ***	*** NA ***	-10
TETRACHLOROETHYLENE	*** NA ***	*** NA ***	-4.1	-4.1	-4.1	-4.1	-4	*** NA ***	*** NA ***	-10
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	34	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	*** NA ***	65.9	379	66.5	413	5.55	*** NA ***	*** NA ***	-10
TOXAPHENE	*** NA ***	*** NA ***	*** NA ***	-10000	*** NA ***	-30	-10	*** NA ***	*** NA ***	-25000
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	-4	-3.8	-4	-3.8	-4	*** NA ***	*** NA ***	-10
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	-5	-5	-5	-5	-4	*** NA ***	*** NA ***	-10
TRICHLOROETHYLENE	*** NA ***	*** NA ***	-1.9	-1.9	-1.9	-1.5	-4	*** NA ***	*** NA ***	-10
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	-10	-10	-10	-10	-4	*** NA ***	*** NA ***	-10
M-XYLENE	*** NA ***	*** NA ***	57.5	*** NA ***	153	*** NA ***	171	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	241	*** NA ***	*** NA ***	32

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	78-04	78-05	78-06	78-07	78-08	78-09	78-10
DATE STARTED	1965	1965	1965	1965	1965	1965	1965
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-100	*** NA ***
BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	13	*** NA ***
BROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	11	*** NA ***
CHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
CHLOROFORM	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
CHLOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
ENDRIN	*** NA ***	*** NA ***	-.1	*** NA ***	*** NA ***	-10	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	23	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
LINDANE	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***

TABLE A-2 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED DURING 1980 OR EARLIER (continued)

SAMPLE NUMBER	78-04	78-05	78-06	78-07	78-08	78-09	78-10
DATE STARTED	1965	1965	1965	1965	1965	1965	1965
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	12	*** NA ***
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
TOXAPHENE	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***	-25000	*** NA ***
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
TRICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-3 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980

SAMPLE NUMBER	27-01	27-02	27-03	27-03a	60-01	60-02	60-03	60-04	60-05	60-06
DATE STARTED	1982	1982	1982	1982	1983	1983	1983	1983	1983	1983
DATA SOURCE	NUS	NUS	NUS	NUS	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	4200	4000	3800	3800	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	330	350	320	330	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	60	70	300	420	61	13
CALCIUM	709	657	794	747	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	8500	8700	8600	8700	2100	320	330	1370	547	160
CHLORIDE	820	820	780	760	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	8000	[illegible]	8000	8000	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (av)	481	[illegible]	481	481	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	2900	3000	2800	2900	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	260	261	242	214	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRATE	-.1	-.1	.2	-.1	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	.05	-.04	.05	-.04	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	380	390	300	370	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	50	40	60	40	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	UNK	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	0.0065	0.0010	0.002	0.008	0.005	0.0015
pH (pH units)	7.25	7.25	7.25	7.25	7.97	7.47	7.84	8.2	8.39	7.61
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	0.00004	0.00017	0.00009	0.00044	0.00005	0.00002
PHOSPHATE	UNK	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	1.5	2.0	1.3	.53	2.9	1.4	.73	2	2.1	.6
POTASSIUM	453.7	471.0	471.0	363	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	817	822.0	846.3	752.3	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	-20	-20	-20	-20	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	11.3	11.3	11.3	11.3	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	7020	31000	7720	7720	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	616	672	920	560	600	700	430	210	32	960
TOTAL ORGANIC CARBON	2510	2600	2400	2400	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	UNK	UNK	UNK	UNA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	2.4	3.4	2.8	2.2	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.011	.008	.008	.014	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BARIUM	1.64	1.7	1.57	1.43	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.003	.003	ND	ND	-.01	-.01	-.01	-.01	-.01	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.011	.039	.006	.065	.09	.11	.02	.05	.04	.02
COBALT	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	ND	ND	ND	ND	.07	.02	-.02	-.02	-.02	.02
CYANIDE	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	ND	.048	.012	ND	-.05	-.05	-.05	-.05	-.05	-.05
MANGANESE	8.20	8.07	8.20	7.59	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MAGNESIUM	424	422	412	400	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NICKEL	ND	.13	.13	ND	.19	.10	.12	.69	.21	.05
OSMIUM	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	ND	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	.016	.019	.018	.024	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	.44	.51	[illegible]	[illegible]	.57	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE A-3 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	60-07	60-08	62-01	62-02	62-05	62-06	67-01	67-02	67-03	74-01
DATE STARTED	1983	1983	1983	1983	1983	1983	1981	1981	1981	1984
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	2.2	810	** NA **	76.87	** NA **	.39	257	54
BIOLOGICAL OXYGEN DEMAND	460	3170	** NA **	** NA **	5980	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	1060
CHEMICAL OXYGEN DEMAND	890	4300	** NA **	16000	8412	7351	** NA **	** NA **	** NA **	6710
CHLORIDE	** NA **	** NA **	43	820	** NA **	510	1080	1155	1892	1390
CONDUCTIVITY (umho/cm)	** NA **	** NA **	3080	15000	9950	10000	1750	** NA **	23500	[illegible]
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	.38	1.8	** NA **	.54	.4	.4	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	-0.01	** NA **	** NA **	** NA **	-0.1	-0.056	** NA **	** NA **
GROSS BETA	** NA **	** NA **	0.072	** NA **	** NA **	** NA **	0.644	0.561	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	** NA **	** NA **	9.2	2.6	** NA **	146.02	230	695	610	175
NITRATE	** NA **	** NA **	-.01	.66	** NA **	.04	-.1	.24	-.1	-.1
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	81
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	0.0017	0.0035	** NA **	** NA **	0.047	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.32	6.35	6.4	** NA **	6.91	6.17	6.3	** NA **	6.70	6.7
PHENOLICS, TOTAL	0.0012	0.0010	0.00034	0.0041	0.00242	** NA **	0.0085	0.00063	0.00601	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	7.9	6.3	** NA **	** NA **	.29	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	** NA **	69	550	** NA **	421.15	2100	1592	1301	675
SULFATE	** NA **	** NA **	1240	390	** NA **	795	1300	27	-100	130
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	0.71	** NA **	0.27	** NA **	** NA **	** NA **	0.625
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	12000	** NA **	** NA **	7976	** NA **	** NA **	** NA **	8440
TOTAL SUSPENDED SOLIDS	210	200	** NA **	** NA **	260	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	** NA **	20	370	** NA **	2362.5	14500	12000	7630	2785
TOTAL ORGANIC HALOGEN	** NA **	** NA **	0.74	** NA **	** NA **	1.481	0.655	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	-.1	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	** NA **	** NA **	-.005	.013	.005	** NA **	.014	.012	-.002	.04
BARIUM	** NA **	** NA **	.08	.5	** NA **	-.2	.33	-.02	.9	.69
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	-.01	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	-.01	.01	-.005	.02	-.01	** NA **	.007	-.01	-.01	-.01
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.08	.09	-.01	.37	.004	** NA **	.002	-.05	.140	.08
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.03	.06	** NA **	** NA **	.031	** NA **	** NA **	** NA **	** NA **	** NA **
CYANIDE	** NA **	** NA **	** NA **	** NA **	-.02	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	-.05	.07	.007	.15	-.01	** NA **	.079	.045	-.01	-.03
MANGANESE	** NA **	** NA **	1	15.9	** NA **	10.17	50	37	14.6	** NA **
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	275
MERCURY	** NA **	** NA **	-.0003	-.0005	-.0005	** NA **	-.002	-.001	-.0005	-.01
NICKEL	.91	1.6	** NA **	** NA **	.269	** NA **	** NA **	** NA **	** NA **	** NA **
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	** NA **	** NA **	-.005	.002	-.002	** NA **	-.01	-.002	-.002	-.01
SILVER	** NA **	** NA **	-.01	-.015	-.025	** NA **	-.01	.026	.027	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	5.7	6.4	** NA **	** NA **	.34	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-3 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	74-02	74-03	79-01
DATE STARTED	1984	1984	1985
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS			
ALKALINITY	** NA **	** NA **	** NA **
AMMONIA	** NA **	299.16	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	15.6
CALCIUM	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	42
CHLORIDE	2856	94	** NA **
CONDUCTIVITY (umho/cm)	3400	20125	** NA **
pH (mv)	** NA **	** NA **	** NA **
FLUORIDE	-.2	** NA **	** NA **
GROSS ALPHA	-0.021	** NA **	** NA **
GROSS BETA	0.327	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **
IRON	288	10.23	** NA **
NITRATE	-.1	-.1	** NA **
NITRITE	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **
pH (pH units)	6.2	6.17	6.2
PHENOLICS, TOTAL	0.00291	0.00599	** NA **
PHOSPHATE	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	1.02
POTASSIUM	** NA **	** NA **	** NA **
SODIUM	456	2574	** NA **
SULFATE	24	38	** NA **
SULFIDE	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	958
TOTAL ORGANIC CARBON	[illegible]5	6360	** NA **
TOTAL ORGANIC HALOGEN	0.01	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **
OTHER INORGANICS			
ALUMINUM	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **
ARSENIC	.010	.003	** NA **
BARIUM	1.11	-.2	** NA **
BERYLLIUM	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **
CADMIUM	-.01	-.01	.006
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	-.05	.200	.03
COBALT	** NA **	** NA **	** NA **
COPPER	** NA **	** NA **	.04
CYANIDE	** NA **	** NA **	** NA **
LEAD	.024	-.01	-.03
MANGANESE	25.6	23.6	** NA **
MAGNESIUM	** NA **	** NA **	** NA **
MERCURY	-.0025	-.0005	** NA **
NICKEL	** NA **	** NA **	.00
OSMIUM	** NA **	** NA **	** NA **
SELENIUM	-.002	-.002	** NA **
SILVER	.036	-.02	** NA **
STRONTIUM	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **
ZINC	** NA **	** NA **	

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980

SAMPLE NUMBER	14-01	14-02	14-03	27-01	27-02	27-03	27-03a	48-01	48-02	48-03
DATE STARTED	1981	1981	1981	1982	1982	1982	1982	1981	1981	1981
DATA SOURCE	NUS	[redacted]	NUS	NUS	NUS	NUS	NUS	NUS	NUS	[redacted]
ACETONE	ND	0	8	4800	4100	4300	4000	4200	3000	1900
ACROLEIN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	ND	ND	ND	9900	11000	12000	10000	1500	1300	3000
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIS(2-CHLOROETHOXY)METHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-CHLOROETHYL VINYL ETHER	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROFORM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	ND	ND	ND	4400	4400	4500	5100	ND	ND	ND
2,4-D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4-DDT	ND	ND	ND	.042	.05	.1	.11	.14	.16	.22
DIBROMOMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-N-BUTYL PHTHALATE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-DICHLOROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DICHLORODIFLUOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-DICHLOROETHANE	4	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-DICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	16	6	12	ND	ND	ND	ND	ND	ND	ND
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-DICHLOROPROPENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DIETHYL PHTHALATE	ND	ND	ND	ND	ND	ND	ND	32	ND	ND
2,4-DIMETHYLPHENOL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DIMETHYL PHTHALATE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ENDRIN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIS(2-ETHYLHEXYL)PHTHALATE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-HEXANONE	ND	ND	ND	690	41	360	370	480	39	85
ISOPHORONE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LINDANE	ND	ND	ND	ND	ND	.017	.022	ND	ND	ND
4-METHYL 2-PENTANONE	ND	ND	ND	570	ND	61	110	290	ND	ND
METHYLENE CHLORIDE	120	140	6	310	690	570	500	60	110	40

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	14-01	14-02	14-03	27-01	27-02	27-03	27-03a	48-01	48-02	48-03
DATE STARTED	1981	1981	1981	1982	1982	1982	1982	1981	1981	1981
DATA SOURCE	NUS	NUS	NUS	NUS	NUS	NUS	NUS	NUS	NUS	NUS
NAPHTHALENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NITROBENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-NITROPHENOL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PENTACHLOROPHENOL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PHENOL	ND	ND	ND	1400	1700	1800	2100	ND	ND	ND
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	ND	ND	ND	540	550	610	590	1000	1100	ND
TOXAPHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-TRICHLOROPROPANE	ND	ND	ND	230	ND	ND	ND	ND	ND	ND
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	54-81	68-81	68-82	68-83	68-84	68-85	68-86	68-87	68-88	62-81
DATE STARTED	1981	1983	1983	1983	1983	1983	1983	1983	1983	1983
DATA SOURCE	Trade Assoc	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BROMOMETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTANOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROBENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROFORM	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROMETHANE	400	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-50
DIBROMOMETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CIS-1,2-DICHLOROETHYLENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROPROPANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,3-DICHLOROPROPENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIETHYL PHTHALATE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHANOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-.1
ETHYL ACETATE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4 METHYL-2-PENTANONE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-2
METHYLENE CHLORIDE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	54-01	60-01	60-02	60-03	60-04	60-05	60-06	60-07	60-08	62-01
DATE STARTED	1981	1983	1983	1983	1983	1983	1983	1983	1983	1983
DATA SOURCE	Trade Assoc	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRAHYDROFURAN	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOXAPHENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-18
1,1,2-TRICHLOROETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROETHYLENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROFLUOROMETHANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
M-XYLENE	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	62-02	62-05	62-06	67-01	67-02	67-03	74-01	74-02	74-03	79-01
DATE STARTED	1983	1983	1983	1981	1981	1981	1984	1984	1984	1985
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	-1800	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	*** NA ***	-44	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BROMOMETHANE	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2 BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROBENZENE	*** NA ***	-68	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	-11	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROFORM	*** NA ***	-14	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROMETHANE	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	-200	*** NA ***	*** NA ***	*** NA ***	-50	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	-5.6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	-180	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	-47	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	677	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	-68	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	-150	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIETHYL PHTHALATE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	-54	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	*** NA ***	-28	*** NA ***	-.1	*** NA ***	*** NA ***	*** NA ***	-.1	*** NA ***	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	-72	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	-28	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	25	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***	*** NA ***	-2	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	55.5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-4 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs STARTED AFTER 1980 (continued)

SAMPLE NUMBER	62-02	62-05	62-06	67-01	67-02	67-03	74-01	74-02	74-03	79-01
DATE STARTED	1983	1983	1983	1981	1981	1981	1984	1984	1984	1985
DATA SOURCE	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	*** NA ***	-40	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	*** NA ***	-72	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	*** NA ***	378	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	-69	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	-41	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	83	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOXAPHENE	*** NA ***	-20	*** NA ***	-10	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	*** NA ***	-30	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROETHYLENE	*** NA ***	-19	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-5 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE

INORGANICS ANALYSES OF LEACHATE

SAMPLE NUMBER	01-01	02-04	03-01	04-01	05-01	06-01	07-01	08-01	09-01	10-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	591	1834	4680	2370	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	58	14.4	1280	32.2	357	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	161	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	126	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	472.5	168	6835	720	** NA **	** NA **	** NA **	** NA **	** NA **
CHLORIDE	169	400	258	1488.9	484.7	975	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	** NA **	[illegible]	2660.5	10900	5423.5	13400	** NA **	** NA **	** NA **	** NA **
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	560	705	1200	5700	927.65	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	14.1	2.85	1.7	210	7.58	1300	475	** NA **	** NA **	** NA **
NITRATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	66	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	7.2	8	6.7	6.69	7.38	5.9	** NA **	** NA **	** NA **	** NA **
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	871	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	** NA **	8.7	105	346	123	** NA **	** NA **	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	10100	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	135	** NA **	6730	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	6804	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.02	** NA **	** NA **	** NA **	** NA **	.021	.012	** NA **	** NA **	** NA **
BARIUM	.34	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.02	-.001	** NA **	** NA **	** NA **	** NA **	-.01	** NA **	** NA **	** NA **
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.05	** NA **	** NA **	** NA **	** NA **	.11	.013	** NA **	** NA **	** NA **
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	** NA **	.003	** NA **	** NA **	** NA **	.07	.05	** NA **	** NA **	** NA **
CYANIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	.14	-.005	** NA **	** NA **	** NA **	.37	.12	** NA **	** NA **	** NA **
MANGANESE	.57	** NA **	** NA **	** NA **	** NA **	43	.26	** NA **	** NA **	** NA **
MAGNESIUM	** NA **	91.5	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	.0007	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NICKEL	** NA **	.04	** NA **	** NA **	** NA **	** NA **	.06	** NA **	** NA **	** NA **
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	1.8	.11	** NA **	** NA **	** NA **	13	.15	** NA **	** NA **	** NA **

TABLE A-5 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

INORGANICS ANALYSES OF LEACHATE

SAMPLE NUMBER	11-01	12-01	13-01	15-01	16-01	17-01	39-01	39-02	39-03	40-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	NUS	NUS	NUS	Sobotka
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	470	** NA **	** NA **	1344	970	1800	1800	1600	** NA **
AMMONIA	63.0	** NA **	200	40	60	** NA **	160	170	190	152
BIOLOGICAL OXYGEN DEMAND	** NA **	1700	** NA **	** NA **	2330	** NA **	** NA **	** NA **	** NA **	9044
CALCIUM	** NA **	** NA **	320	** NA **	516	100	775	765	803	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	1100	2100	4020	** NA **	3800	3300	3900	15020
CHLORIDE	310	120	900	102	** NA **	330	2100	2100	2100	** NA **
CONDUCTIVITY (umho/cm)	5400	2700	** NA **	5220	4004	2600	10000	10000	10000	** NA **
pH (av)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	383	383	383	** NA **
FLUORIDE	** NA **	.12	** NA **	** NA **	302	.79	ND	ND	ND	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	1956	.8	2200	2200	2200	** NA **
IRON	** NA **	** NA **	230	** NA **	47.5	.22	93.8	92.4	93.8	** NA **
NITRATE	** NA **	** NA **	** NA **	** NA **	.77	.56	.7	.5	.5	** NA **
NITRITE	** NA **	-.01	** NA **	** NA **	.03	** NA **	-.04	-.04	-.04	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	190	210	250	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	30	40	60	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	UNK	UNK	UNK	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.0	7.4	** NA **	6.70	7.3	7.0	7.2	7.2	7.2	5.6
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	.42	** NA **	UNK	UNK	UNK	2.15
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	1.1	.97	.97	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	131.75	40	580.7	707.0	780.3	** NA **
SODIUM	** NA **	** NA **	** NA **	** NA **	250	300	1645.7	1669.2	2500.4	** NA **
SULFATE	17	32	** NA **	0	237	40	-20	-20	-20	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	5	5	5	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	4010	** NA **	1400	1940	1930	7970	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	45	54	251	292
TOTAL ORGANIC CARBON	110	** NA **	** NA **	1000	** NA **	-5	1250	1270	1310	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	1900	** NA **	** NA **	** NA **	** NA **	UNK	UNK	UNK	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.02	.01	.02	** NA **
ARSENIC	** NA **	** NA **	** NA **	** NA **	** NA **	-.001	.01	.000	.012	** NA **
BARIUM	** NA **	** NA **	** NA **	** NA **	** NA **	.2	.09	.09	.02	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
BORON	.63	.99	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	** NA **	** NA **	.03	** NA **	** NA **	-.0001	.011	.009	.006	** NA **
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.0005	** NA **	** NA **	** NA **	** NA **	-.02	.009	.011	.013	** NA **
COBALT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
COPPER	** NA **	** NA **	.13	** NA **	** NA **	-.05	.18	.2	.19	** NA **
CYANIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
LEAD	** NA **	** NA **	** NA **	** NA **	** NA **	-.001	.018	.01	.022	** NA **
MANGANESE	** NA **	** NA **	** NA **	** NA **	41.75	3.2	11.3	11.2	11.3	** NA **
MAGNESIUM	** NA **	** NA **	120	** NA **	122	76	199	184	191	** NA **
MERCURY	** NA **	** NA **	** NA **	** NA **	** NA **	-.0001	ND	ND	ND	** NA **
NICKEL	** NA **	** NA **	.47	** NA **	** NA **	** NA **	.23	.23	.24	** NA **
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	-.001	ND	ND	ND	** NA **
SILVER	** NA **	** NA **	** NA **	** NA **	** NA **	-.01	ND	ND	ND	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	ND	ND	ND	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	.015	0.015	ND	** NA **

TABLE A-[illegible] INORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

INORGANICS ANALYSES OF LEACHATE

SAMPLE NUMBER	41-01	42-01	43-01	43-02	43-03	44-01	45-01	46-01	47-01	49-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	NUS	NUS	NUS	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	3600	3900	3600	** NA **	7375	** NA **	** NA **	3090
AMMONIA	226	** NA **	300	410	300	180	921.5	822.5	** NA **	279
BIOLOGICAL OXYGEN DEMAND	2550	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	117.25
CALCIUM	** NA **	** NA **	216	207	174	** NA **	** NA **	** NA **	** NA **	95.5
CHEMICAL OXYGEN DEMAND	11000	** NA **	1400	1900	1300	587.5	2944	3867	** NA **	1110
CHLORIDE	333	** NA **	1200	1300	1300	492.5	5475	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	** NA **	** NA **	8400	8400	8400	3246	** NA **	** NA **	** NA **	** NA **
pH (av)	** NA **	** NA **	541	541	541	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	.4	** NA **	ND	ND	ND	.35	** NA **	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	900	930	900	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	230	** NA **	21.1	184	20.9	** NA **	5.77	** NA **	** NA **	8.65
NITRATE	** NA **	** NA **	-.1	-.1	-.1	.02	50.93	** NA **	** NA **	.34
NITRITE	** NA **	** NA **	-.05	-.05	-.05	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	410	420	450	** NA **	930	** NA **	** NA **	427.5
NITROGEN (ORGANIC)	** NA **	** NA **	70	10	70	** NA **	** NA **	62.5	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.6	** NA **	7.3	7.3	7.3	** NA **	7.55	** NA **	** NA **	7.13
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	UNK	UNK	UNK	** NA **	8.7	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	1.7	2.3	1.5	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	613.5	526.3	500.1	** NA **	** NA **	** NA **	937	** NA **
SODIUM	344	** NA **	1075.6	1407.0	1134.3	** NA **	** NA **	** NA **	929	** NA **
SULFATE	57	** NA **	56	42	57	55.5	130	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	21.1	21.1	21.1	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	9000	** NA **	4000	5130	5040	4325	7506.5	** NA **	** NA **	4761
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	184	2220	100	** NA **	** NA **	** NA **	** NA **	51.55
TOTAL ORGANIC CARBON	** NA **	** NA **	461	430	440	** NA **	630	** NA **	** NA **	469
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	UNK	UNK	UNK	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	1.1	** NA **
ARSENIC	.08	** NA **	.044	.046	.044	-.01	.02	** NA **	** NA **	.02
BARIUM	.425	** NA **	.27	.41	.34	.215	** NA **	** NA **	** NA **	.20
BERYLLIUM	** NA **	.005	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.04	** NA **	ND	ND	ND	-.005	-.003	.0007	** NA **	.02
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.02	** NA **	ND	.005	.008	.01	** NA **	.02	** NA **	.15
COBALT	** NA **	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.15	** NA **	ND	ND	ND	** NA **	.12	** NA **	** NA **	** NA **
CYANIDE	.02	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	.04	** NA **	.026	.027	.018	.01	-.01	.03	1.05	.08
MANGANESE	9.4	** NA **	1.31	1.40	1.29	** NA **	** NA **	** NA **	1.06	.68
MAGNESIUM	** NA **	** NA **	110	124	114	** NA **	** NA **	** NA **	927	135.5
MERCURY	.0000	** NA **	ND	ND	ND	.0005	** NA **	.006	** NA **	.0004
NICKEL	.2	** NA **	.13	.14	ND	** NA **	.34	** NA **	1.07	** NA **
OSMIUM	** NA **	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	.01	.01	ND	ND	ND	.005	** NA **	** NA **	** NA **	.01
SILVER	.05	** NA **	ND	ND	ND	-.01	** NA **	** NA **	** NA **	.02
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	.08	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	ND	ND	ND	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	.017	.029	.024	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	.85	.65	[illegible]	.09	.12	** NA **	[illegible]	[illegible]	[illegible]	[illegible]

TABLE A-5 INORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

INORGANIC ANALYSES OF LEACHATE										
SAMPLE NUMBER	50-01	51-01	52-01	66-01	70-01	75-04	76-01	76-02	80-01	80-02
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	766	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	324.75	11.3	** NA **	53	** NA **	** NA **	138	520	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	2290	7	** NA **	2650	** NA **	** NA **	** NA **	** NA **	** NA **	126.7
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	3410	440	4160	** NA **	** NA **	** NA **	** NA **	** NA **	650	317
CHLORIDE	695	440	380	** NA **	270	** NA **	310	1680	** NA **	** NA **
CONDUCTIVITY (umho/cm)	3907	2300	7040	1990	5625	8000	2715	11025	4500	3000
eH (mv)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	.20	** NA **	2.00	** NA **	** NA **	** NA **
GROSS ALPHA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.0002	** NA **	** NA **	** NA **
GROSS BETA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.1	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	690	24.4	350	** NA **	386	** NA **	26.2	** NA **	8	** NA **
NITRATE	.2	.0	3.6	** NA **	-.1	** NA **	3.7	** NA **	** NA **	** NA **
NITRITE	.2	.01	.007	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	70.2	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	504.5	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OIL & GREASE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	6.2	** NA **	6.4	6.7	5.47	7.40	8.02	7.22	6.0	6.04
PHENOLICS, TOTAL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	0.00019	** NA **	0.00012	** NA **
PHOSPHATE	** NA **	ND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	30	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	104	** NA **	** NA **	296	** NA **	251	** NA **	** NA **	** NA **
SULFATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	60	** NA **	** NA **	** NA **
SULFIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SURFACTANT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Deg. Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	7944.5	1480	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	310	** NA **	** NA **	30	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	960	** NA **	** NA **	** NA **	2700	** NA **	170	620	** NA **	** NA **
TOTAL ORGANIC HALOGEN	** NA **	** NA **	** NA **	** NA **	0.94	** NA **	0.415	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	.19	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	47	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	.01	** NA **	ND	** NA **	.011	** NA **	-.01	** NA **	** NA **	** NA **
BARIUM	** NA **	** NA **	.5	** NA **	.10	** NA **	.33	** NA **	** NA **	** NA **
BERYLLIUM	.01	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	.02	.005	.012	-.01	.006	** NA **	-.005	** NA **	.039	.02
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	.10	.001	.016	-.05	.740	** NA **	-.01	** NA **	.012	.01
COBALT	** NA **	** NA **	.04	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	.05	.025	.05	.035	-.02	** NA **	** NA **	** NA **	.016	.06
CYANIDE	.004	-.005	ND	** NA **	** NA **	** NA **	** NA **	** NA **	-.01	** NA **
LEAD	.3	.05	.06	.132	.065	** NA **	.01	** NA **	-.005	.16
MANGANESE	** NA **	.02	** NA **	** NA **	21.1	** NA **	3.76	** NA **	** NA **	** NA **
MAGNESIUM	99.5	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	.0004	** NA **	.005	** NA **	-.003	** NA **	-.0003	** NA **	-.0005	** NA **
NICKEL	.04	.05	.04	.113	.29	** NA **	** NA **	** NA **	.051	.06
OSMIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	.005	** NA **	.02	** NA **	-.005	** NA **	-.005	** NA **	** NA **	** NA **
SILVER	.02	** NA **	.032	** NA **	-.01	** NA **	-.01	** NA **	-.01	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	.08	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	67	.67	.12	.24	7.27	** NA **	** NA **	** NA **	.10	[illegible]

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE

SAMPLE NUMBER	01-01	06-01	07-01	08-01	09-01	10-01	11-01	12-01	13-01	15-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka
ACETONE	*** NA ***	11000	*** NA ***	*** NA ***	*** NA ***	7500	140	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	360	*** NA ***	*** NA ***	*** NA ***	320	-50	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	2000	*** NA ***	*** NA ***	*** NA ***	8300	110	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	*** NA ***	*** NA ***	*** NA ***	-25	-5	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	60	-5	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROFORM	*** NA ***	*** NA ***	*** NA ***	-10	-2	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	-25	5	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-7.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	35	46	13	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	-10	*** NA ***	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	190	*** NA ***	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	17	3.8	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	13	2	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	.04	50	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	-50	*** NA ***	*** NA ***	*** NA ***	42	-5	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	*** NA ***	500	*** NA ***	*** NA ***	*** NA ***	30	12	*** NA ***	*** NA ***	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	*** NA ***	660	*** NA ***	*** NA ***	*** NA ***	270	10	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	*** NA ***	*** NA ***	*** NA ***	64	200	260	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	01-01	06-01	07-01	08-01	09-01	10-01	11-01	12-01	13-01	15-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	6980	*** NA ***	*** NA ***	*** NA ***	10000	94	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	-100	-20	-40	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRACHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	-100	-20	-40	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TETRAHYDROFURAN	*** NA ***	-5	*** NA ***	*** NA ***	*** NA ***	260	18	*** NA ***	*** NA ***	*** NA ***
TOLUENE	*** NA ***	510	*** NA ***	*** NA ***	*** NA ***	52	7.5	*** NA ***	*** NA ***	*** NA ***
TOXAPHENE	1	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	-10	7.6	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	-10	-2	-4	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	43	43	1.2	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	-10	15	-7	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
M-XYLENE	*** NA ***	79	*** NA ***	*** NA ***	*** NA ***	21	26	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	17-01	39-01	39-02	39-03	40-01	41-01	42-01	43-01	43-02	43-03
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	NUS	NUS	NUS	Sobotka	Sobotka	Sobotka	NUS	NUS	NUS
ACETONE	*** NA ***	810	150	ND	*** NA ***	*** NA ***	*** NA ***	180	430	1500
ACROLEIN	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
BENZENE	-2	ND	ND	ND	*** NA ***	*** NA ***	8	ND	ND	ND
BROMOMETHANE	-10	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	*** NA ***	2200	1600	ND	*** NA ***	*** NA ***	*** NA ***	120	730	1100
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	-2	ND	ND	ND	*** NA ***	*** NA ***	6	ND	ND	ND
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROETHANE	-5	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
BIS(2-CHLOROETHOXY)METHANE	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
2-CHLOROETHYL VINYL ETHER	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
CHLOROFORM	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
CHLOROMETHANE	-10	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	*** NA ***	5100	ND	ND	*** NA ***	*** NA ***	*** NA ***	210	ND	ND
2,4-D	*** NA ***	130	ND	160	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
4,4-DDT	*** NA ***	.053	.098	.099	*** NA ***	*** NA ***	*** NA ***	.12	.12	.13
DIBROMOMETHANE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
DI-N-BUTYL PHTHALATE	-4	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,2-DICHLOROBENZENE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,4-DICHLOROBENZENE	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
DICHLORODIFLUOROMETHANE	*** NA ***	ND	ND	ND	369	*** NA ***	*** NA ***	ND	ND	ND
1,1-DICHLOROETHANE	-5	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,2-DICHLOROETHANE	-5	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	-5	ND	ND	ND	238	*** NA ***	*** NA ***	ND	ND	ND
1,2-DICHLOROPROPANE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,3-DICHLOROPROPENE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
DIETHYL PHTHALATE	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
2,4-DIMETHYLPHENOL	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
DIMETHYL PHTHALATE	-4	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
ENDRIN	*** NA ***	.25	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	-5	ND	ND	ND	*** NA ***	*** NA ***	18	ND	15	270
BIS(2-ETHYLHEXYL)PHTHALATE	-6	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
2-HEXANONE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	68	450
ISOPHORONE	-10	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
LINDANE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
4-METHYL-2-PENTANONE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	80
METHYLENE CHLORIDE	-2	98	170	190	1830	*** NA ***	60	270	30	36

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	17-01	39-01	39-02	39-03	40-01	41-01	42-01	43-01	43-02	43-03
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	NUS	NUS	NUS	Sobotka	Sobotka	Sobotka	NUS	NUS	[illegible]
NAPHTHALENE	4	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
NITROBENZENE	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
4-NITROPHENOL	-40	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
PENTACHLOROPHENOL	-3	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
PHENOL	-15	2100	ND	ND	28000	6500	30	89	98	70
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	-7	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
TETRACHLOROETHYLENE	-2	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TOLUENE	-2	120	120	ND	320	*** NA ***	10	94	73	73
TOXAPHENE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,1,1-TRICHLOROETHANE	-2	*** NA ***	*** NA ***	*** NA ***	200	*** NA ***	1	*** NA ***	*** NA ***	*** NA ***
1,1,2-TRICHLOROETHANE	-7	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
TRICHLOROETHYLENE	*** NA ***	ND	ND	ND	5	*** NA ***	*** NA ***	ND	ND	ND
TRICHLOROFLUOROMETHANE	4	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
1,2,3-TRICHLOROPROPANE	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
VINYL CHLORIDE	-5	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	*** NA ***	ND	ND	ND	*** NA ***	*** NA ***	*** NA ***	ND	ND	ND

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	44-01	45-01	46-01	47-01	49-01	50-01	51-01	52-01	55-01	56-01
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Trade Assoc	Texas
ACETONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
ACROLEIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
BENZENE	*** NA ***	4.3	*** NA ***	*** NA ***	26	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	540
BROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	10000
1-BUTANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2-BUTANONE (MEK)	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	27000
BUTYL BENZYL PHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
CARBON TETRACHLORIDE	*** NA ***	397.5	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
CHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	237	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
CHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
BIS(2-CHLOROETHOXY)METHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2-CHLOROETHYL VINYL ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
CHLOROFORM	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	100	>> UNK <<	>> UNK <<
CHLOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	175	>> UNK <<
BIS(CHLOROMETHYL)ETHER	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2-CHLORONAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
P-CRESOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2,4-D	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
4,4-DDT	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
DIBROMOMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
DI-N-BUTYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
1,2-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	18
1,4-DICHLOROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	14
DICHLORODIFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	UNK <<
1,1-DICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	140	>> UNK <<	26
1,2-DICHLOROETHANE	*** NA ***	-.83	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	-5	UNK <<	6
CIS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	470
TRANS-1,2-DICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	68
1,2-DICHLOROPROPANE	*** NA ***	0.83	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	81
1,3-DICHLOROPROPENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
DIETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2,4-DIMETHYLPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
DIMETHYL PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
ENDRIN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
ETHANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	23000
ETHYL ACETATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	130
ETHYL BENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	42.25	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	250
BIS(2-ETHYLHEXYL)PHTHALATE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
2-HEXANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
ISOPHORONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
LINDANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
4-METHYL-2-PENTANONE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	710
METHYLENE CHLORIDE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	5	*** NA ***	*** NA ***	1300	>> UNK <<	1300

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	44-81	45-81	46-81	47-81	49-81	50-81	51-81	52-81	55-81	56-81
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Sobotka	Trade Assoc	Texas
NAPHTHALENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
NITROBENZENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
4-NITROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
PENTACHLOROPHENOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
PHENOL	*** NA ***	29.5	724.5	*** NA ***	*** NA ***	1400	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
1-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	11000
2-PROPANOL	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	26000
1,1,2,2-TETRACHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
TETRACHLOROETHYLENE	*** NA ***	94.52	*** NA ***	*** NA ***	80	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	250
TETRAHYDROFURAN	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	430
TOLUENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	12.75	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	600
TOXAPHENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
1,1,1-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	80	>> UNK <<	>> UNK <<
1,1,2-TRICHLOROETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
TRICHLOROETHYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	1	*** NA ***	*** NA ***	-2	>> UNK <<	125
TRICHLOROFLUOROMETHANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	150	>> UNK <<
1,2,3-TRICHLOROPROPANE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
VINYL CHLORIDE	*** NA ***	-.10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
M-XYLENE	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	>> UNK <<
XYLENES	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	>> UNK <<	190

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	57-01	58-01	59-01	66-01	70-01	76-01	76-02	68-01	80-02
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Trade Assoc	Trade Assoc	Trade Assoc	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
ACETONE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	123	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ACROLEIN	>> UNK <<	>> UNK <<	>> UNK <<	-100	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BENZENE	>> UNK <<	>> UNK <<	>> UNK <<	-4.4	-4.4	*** NA ***	*** NA ***	-1	*** NA ***
BROMOMETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTANOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-BUTANOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-BUTANONE (MEK)	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	496	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BUTYL BENZYL PHENOL	>> UNK <<	>> UNK <<	>> UNK <<	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CARBON TETRACHLORIDE	>> UNK <<	>> UNK <<	>> UNK <<	-2.8	-2.8	*** NA ***	*** NA ***	-1	*** NA ***
CHLOROBENZENE	>> UNK <<	520	>> UNK <<	-6	-6	*** NA ***	*** NA ***	1.1	*** NA ***
CHLOROETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-10	14.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(2-CHLOROETHOXY)METHANE	>> UNK <<	>> UNK <<	>> UNK <<	-5.4	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLOROETHYL VINYL ETHER	>> UNK <<	>> UNK <<	>> UNK <<	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
CHLOROFORM	>> UNK <<	>> UNK <<	>> UNK <<	-1.6	-1.6	*** NA ***	*** NA ***	-1	*** NA ***
CHLOROMETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
BIS(CHLOROMETHYL)ETHER	>> UNK <<	>> UNK <<	>> UNK <<	-100	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-CHLORONAPHTHALENE	>> UNK <<	>> UNK <<	>> UNK <<	-1.9	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
P-CRESOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-D	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	180	-50	*** NA ***	*** NA ***	*** NA ***
4,4-DDT	>> UNK <<	>> UNK <<	>> UNK <<	-2.8	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIBROMOMETHANE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DI-N-BUTYL PHTHALATE	>> UNK <<	>> UNK <<	>> UNK <<	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2-DICHLOROBENZENE	>> UNK <<	>> UNK <<	>> UNK <<	-1.9	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,4-DICHLOROBENZENE	>> UNK <<	>> UNK <<	>> UNK <<	-4.4	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DICHLORODIFLUOROMETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-10	10.3	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1-DICHLOROETHANE	>> UNK <<	44000	>> UNK <<	-4.7	51.4	*** NA ***	*** NA ***	-1	*** NA ***
1,2-DICHLOROETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-2.8	-2.8	*** NA ***	*** NA ***	-1	*** NA ***
CIS-1,2-DICHLOROETHYLENE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
TRANS-1,2-DICHLOROETHYLENE	>> UNK <<	4800	>> UNK <<	-1.6	5.6	*** NA ***	*** NA ***	2	*** NA ***
1,2-DICHLOROPROPANE	>> UNK <<	500	>> UNK <<	-6	-6	*** NA ***	*** NA ***	-1	*** NA ***
1,3-DICHLOROPROPENE	>> UNK <<	>> UNK <<	>> UNK <<	-15	-15	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIETHYL PHTHALATE	83	>> UNK <<	150	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2,4-DIMETHYLPHENOL	>> UNK <<	>> UNK <<	>> UNK <<	-55	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
DIMETHYL PHTHALATE	>> UNK <<	>> UNK <<	>> UNK <<	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ENDRIN	>> UNK <<	>> UNK <<	>> UNK <<	-10	-.1	-.1	*** NA ***	*** NA ***	*** NA ***
ETHANOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL ACETATE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ETHYL BENZENE	>> UNK <<	>> UNK <<	>> UNK <<	-7.2	-7.2	*** NA ***	*** NA ***	240	*** NA ***
BIS(2-ETHYLHEXYL)PHTHALATE	>> UNK <<	750	>> UNK <<	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***	16
2-HEXANONE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
ISOPHORONE	>> UNK <<	>> UNK <<	>> UNK <<	-2.2	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
LINDANE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	-2	-2	*** NA ***	*** NA ***	*** NA ***
4-METHYL-2-PENTANONE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
METHYLENE CHLORIDE	>> UNK <<	220000	>> UNK <<	10.8	639	*** NA ***	*** NA ***	34	*** NA ***

TABLE A-6 ORGANIC ANALYSES OF LEACHATE FROM MSWLFs OF UNKNOWN AGE (continued)

SAMPLE NUMBER	57-01	58-01	59-01	66-01	70-01	76-01	76-02	80-01	80-02
DATE STARTED	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
DATA SOURCE	Trade Assoc	Trade Assoc	Trade Assoc	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt	Waste Mgmt
NAPHTHALENE	37	>> UNK <<	>> UNK <<	-1.6	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
NITROBENZENE	>> UNK <<	>> UNK <<	>> UNK <<	-1.9	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
4-NITROPHENOL	>> UNK <<	>> UNK <<	>> UNK <<	-40	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PENTACHLOROPHENOL	>> UNK <<	>> UNK <<	>> UNK <<	-73	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
PHENOL	>> UNK <<	>> UNK <<	>> UNK <<	-30	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1-PROPANOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
2-PROPANOL	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,1,2,2-TETRACHLOROETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-6.9	-6.9	*** NA ***	*** NA ***	-1	*** NA ***
TETRACHLOROETHYLENE	>> UNK <<	500	>> UNK <<	-4.1	5.7	*** NA ***	*** NA ***	-1	*** NA ***
TETRAHYDROFURAN	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	-100	*** NA ***	*** NA ***	*** NA ***	244
TOLUENE	>> UNK <<	18000	>> UNK <<	12.2	114.1	*** NA ***	*** NA ***	730	9
TOXAPHENE	>> UNK <<	>> UNK <<	>> UNK <<	-10000	-10	-5000	*** NA ***	*** NA ***	*** NA ***
1,1,1-TRICHLOROETHANE	>> UNK <<	13000	>> UNK <<	-3.0	3.0	*** NA ***	*** NA ***	-1	*** NA ***
1,1,2-TRICHLOROETHANE	>> UNK <<	630	>> UNK <<	-5	-5	*** NA ***	*** NA ***	-1	*** NA ***
TRICHLOROETHYLENE	1300	>> UNK <<	>> UNK <<	-1.9	13.9	*** NA ***	*** NA ***	-1	*** NA ***
TRICHLOROFLUOROMETHANE	>> UNK <<	>> UNK <<	>> UNK <<	-10	-4.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***
1,2,3-TRICHLOROPROPANE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***	*** NA ***
VINYL CHLORIDE	>> UNK <<	>> UNK <<	>> UNK <<	-10	-10	*** NA ***	*** NA ***	*** NA ***	*** NA ***
M-XYLENE	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	9.7	*** NA ***	*** NA ***	*** NA ***	*** NA ***
XYLENES	>> UNK <<	>> UNK <<	>> UNK <<	*** NA ***	*** NA ***	*** NA ***	*** NA ***	310	*** NA ***

TABLE A-7 INORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS

SAMPLE NUMBER	81-01	81-02	81-03	81-04	81-05	81-06	81-07	81-08	81-09	81-10
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOCHEMICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHLORIDE	** NA **	[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umhos/cm)	** NA **	[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (su)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	164	26.2	** NA **	186	51	25.9	** NA **	** NA **	** NA **	** NA **
NITRATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	2.245	1.26
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (KJELDAHL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (ph units)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SULFATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Degrees Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS										
ALUMINUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	2.96	128	** NA **	8.76	0.484	[illegible]	11.5	[illegible]	** NA **	** NA **
BARIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **
CADMIUM	3.91	1.5.46	5.[illegible]8	2.14	0.6[illegible]	5.46	** NA **	[illegible]	** NA **	** NA **
CHROMIUM (TOTAL)	0.87	0.36	** NA **	-0.058	0.24	-0.25	0.24	[illegible]	[illegible]	[illegible]
COBALT	1.22	0.3	0.17	0.41	0.11	0.1c	** NA **	[illegible]	[illegible]	[illegible]
COPPER	1.21	0.81	1.70	1.62	0.11	0.54	0.480	[illegible]	0.352	[illegible]
CYANIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **	** NA **
LEAD	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **	** NA **
MANGANESE	09.42	13.95	[illegible]	41.54	[illegible]	[illegible]	** NA **	[illegible]	[illegible]	[illegible]
MAGNESIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MERCURY	2.048	0.286	** NA **	0.284	0.281	-0.016	** NA **	** NA **	** NA **	** NA **
NICKEL	4.02	1.31	1.17	1.61	0.20	0.74	[illegible]	** NA **	** NA **	** NA **
SELENIUM	-0.045	-0.045	0.045	-0.025	** NA **	0.025	** NA **	[illegible]	** NA **	** NA **
SILVER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	2.53	1.39	2.16	1.95	0.17	1.06	[illegible]	** NA **	[illegible]	[illegible]
BISMUTH	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
LITHIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MOLYBDENUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TITANIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-7 INORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

SAMPLE NUMBER	83-04	84-01	84-02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WATER QUALITY INDICATORS										
ALKALINITY	** NA **	** NA **	** NA **	** NA **	548	** NA **	** NA **	** NA **	** NA **	** NA **
AMMONIA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	70	22500	** NA **	** NA **	** NA **	** NA **	** NA **
CALCIUM	** NA **	3.150	5.40	72	495	112	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	** NA **	** NA **	47	12600	** NA **	** NA **	** NA **	** NA **	** NA **
CHLORIDE	** NA **	** NA **	** NA **	48	5420	746	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	** NA **	** NA **	** NA **	438	28000	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	** NA **	** NA **	265	[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	1.64	57.0	-0.170	0.3	142	** NA **	16.0	14.2	[illegible]	NA **
NITRATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (AMMONIA)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	22.0	** NA **	** NA **	** NA **	** NA **
pH (pH units)	** NA **	** NA **	** NA **	7.3	6.6	5.2		** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	** NA **	** NA **	21	480	[illegible]	** NA **	** NA **	** NA **	** NA **
SULFATE	** NA **	** NA **	** NA **	112	550	246	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	** NA **	** NA **	67	5300	[illegible]	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (Degrees Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	1661	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	** NA **	** NA **	13.6	12100	678	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	** NA **	** NA **	660	36300	1212	** NA **	** NA **	** NA **	** NA **
Other Inorganics										
ALUMINUM	** NA **	78	-0.050	-1	-1	** NA **	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	0.064	-0.005	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	** NA **	0.018	-0.005	-0.05	-0.05	** NA **	** NA **	** NA **	** NA **	** NA **
BARIUM	** NA **	0.290	-0.100	-1	-1	** NA **	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	-0.010	-0.010	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	** NA **	** NA **	0.26	16	** NA **	** NA **	** NA **	** NA **	** NA **
CADMIUM	** NA **	0.040	-0.010	-0.05	0.06	** NA **	0.0	1.0	0.5	0.0
CHROMIUM (TOTAL)	0.011	0.110	-0.010	-0.05	0.05	** NA **	** NA **	** NA **	** NA **	** NA **
COBALT	** NA **	0.290	-0.050	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
COPPER	0.004	0.130	-0.010	-0.05	0.1	** NA **	0.60	0.1	0.1	[illegible]
CYANIDE	** NA **	** NA **	** NA **	0.02	0.023	** NA **	** NA **	** NA **	** NA **	** NA **
LEAD	11.72	0.020	-0.003	0.01	0.45	** NA **	** NA **	** NA **	** NA **	** NA **
MANGANESE	** NA **	0.300	-0.050	0.16	1.16	** NA **	** NA **	** NA **	** NA **	** NA **
MAGNESIUM	** NA **	0.030	10.70	21	411	92	** NA **	** NA **	** NA **	** NA **
MERCURY	** NA **	-0.0004	-0.0001	-0.0005	-0.0005	** NA **	** NA **	** NA **	** NA **	** NA **
NICKEL	** NA **	** NA **	** NA **	-0.05	0.2	** NA **	0.1	0.1	0.1	[illegible]
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	** NA **	0.020	-0.010	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	0.069	0.205	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	0.150	-0.100	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	4.67	0.190	0.20	-0.1	0.3	** NA **	0.1	0.	0.1	0.1
BERYLLIA	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHROMIUM (HEXAVALENT)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
MOLYBDENUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NICKEL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
STRONTIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TITANIUM	0.12	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-7 INORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WATER QUALITY INDICATORS						
ALKALINITY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	674	** NA **	** NA **	** NA **	** NA **	** NA **
BIOLOGICAL OXYGEN DEMAND	** NA **	13400	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	930	[illegible]	** NA **	** NA **	** NA **	** NA **
CHEMICAL OXYGEN DEMAND	** NA **	22000	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	3310	** NA **	** NA **	** NA **	** NA **	** NA **
CONDUCTIVITY (umho/cm)	** NA **	[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FLUORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
HARDNESS	** NA **	4550	** NA **	** NA **	** NA **	** NA **	** NA **
IRON	17.4	350	8.94	1[illegible].9	491.4	11.5	1[illegible]
NITRATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITRITE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (AMMONIA)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (ORGANIC)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
NITROGEN (TOTAL)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
pH (pH units)	** NA **	7.0	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHOSPHORUS	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
POTASSIUM	** NA **	1500	7.37	** NA **	** NA **	** NA **	** NA **
SULFATE	** NA **	1100	** NA **	** NA **	** NA **	** NA **	** NA **
SODIUM	** NA **	2100	24.7	** NA **	** NA **	** NA **	** NA **
TEMPERATURE (degrees Centigrade)	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL DISSOLVED SOLIDS	** NA **	16242	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SUSPENDED SOLIDS	** NA **	1470	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL ORGANIC CARBON	** NA **	6570	** NA **	** NA **	** NA **	** NA **	** NA **
TOTAL SOLIDS	** NA **	20026	** NA **	** NA **	** NA **	** NA **	** NA **
OTHER INORGANICS							
ALUMINUM	** NA **	[illegible].2	0.47	** NA **	** NA **	** NA **	** NA **
ANTIMONY	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ARSENIC	** NA **	-0.05		** NA **	** NA **	** NA **	** NA **
BARIUM	** NA **	1.4	0.[illegible]	** NA **	** NA **	** NA **	** NA **
BERYLLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BORON	** NA **	6.5	2.[illegible]	** NA **	** NA **	** NA **	** NA **
CADMIUM	0.6	-0.01	0.02	** NA **	** NA **	** NA **	** NA **
CHROMIUM (TOTAL)	** NA **	0.27	0.03[illegible]	** NA **	** NA **	** NA **	** NA **
COBALT	** NA **	** NA **	0.054	** NA **	** NA **	** NA **	** NA **
COPPER	0.2	0.11	0.104	** NA **	** NA **	** NA **	** NA **
CYANIDE	** NA **	0.023	0.027	** NA **	** NA **	** NA **	** NA **
LEAD	** NA **	0.58	0.9[illegible]	** NA **	** NA **	** NA **	** NA **
MANGANESE	** NA **	18.0	0.59	** NA **	** NA **	** NA **	** NA **
MAGNESIUM	** NA **	610	25.[illegible]	** NA **	** NA **	** NA **	** NA **
MERCURY	** NA **	-0.02	0.00[illegible]	** NA **	** NA **	** NA **	** NA **
NICKEL	0.2	1.4	0.064	** NA **	** NA **	** NA **	** NA **
SELENIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILVER	** NA **	** NA **	0.02	** NA **	** NA **	** NA **	** NA **
THALLIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TIN	** NA **	** NA **	0.12	** NA **	** NA **	** NA **	** NA **
VANADIUM	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ZINC	1.4	12	0.214	0.07	0.[illegible]	0.05	0.40
[illegible]	** NA **	** NA **	0.[illegible]	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	[illegible]	0.2[illegible]	0.[illegible]	0.00	0.[illegible]
MOLYBDENUM	** NA **	** NA **	0.0[illegible]	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
SILICA	** NA **	** NA **	3.91	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	0.[illegible]	** NA **	** NA **	** NA **	** NA **
TITANIUM	** NA **	** NA **	0.2	** NA **	** NA **	** NA **	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	1800	2100	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1-BUTANOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	59	52	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
[illegible]	332	672	477	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
BIS(CHLOROMETHYL)ETHER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
2-CHLOROETHYL VINYL ETHER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
CHLOROFORM	19.0	2320	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
CHLOROMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	242	** NA **
BIS(CHLOROMETHYL)ETHER	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
2-CHLORONAPHTHALENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible],4-D	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible],4-5T	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DIBROMOMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DI-N-BUTYL PHTHALATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
1,2-DICHLOROBENZENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,4-DICHLOROBENZENE	** NA **	** NA **	211	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DICHLORODIFLUOROMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,1-DICHLOROETHANE	698	594	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
1,2-DICHLOROETHANE	1120	10000	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
CIS-1,2-DICHLOROETHYLENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TRANS-1,2-DICHLOROETHYLENE	4650	797	** NA **	** NA **	** NA **	** NA **	** NA **	45	[illegible]	** NA **
1,2-DICHLOROPROPANE	35	182	** NA **	** NA **	** NA **	** NA **	** NA **	16	[illegible]	** NA **
1,3-DICHLOROPROPENE	50	50	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DIETHYL PHTHALATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	** NA **
2,4-DIMETHYLPHENOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	52	[illegible]	** NA **
DIMETHYL PHTHALATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ENDRIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ETHANOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ETHYL ACETATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ETHYL BENZENE	400	1850	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
BIS(2-ETHYLHEXYL)PHTHALATE	** NA **	** NA **	** NA **	** NA **	** NA **	500	** NA **	[illegible]	[illegible]	** NA **
2-HEXANONE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ISOPHORONE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
LINDANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
METHYLENE CHLORIDE	11600	45100	** NA **	** NA **	** NA **	[illegible]	[illegible]	[illegible]	[illegible]	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

[illegible]	[illegible]1	[illegible]2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]ENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
NITROBENZENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
4-NITROPHENOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PENTACHLOROPHENOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
PHENOL	** NA **	** NA **	** NA **	** NA **	** NA **	428	752	[illegible]	[illegible]	** NA **
1-PROPANOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
2-PROPANOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,1,2,2-TETRACHLOROETHANE	752	7240	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
TETRACHLOROETHYLENE	602	869	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
TETRAHYDROFURAN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TOLUENE	1730	5780	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
TOXAPHENE	** NA **	** NA **	** NA **	** NA **	** NA **	18	** NA **	[illegible]	** NA **	** NA **
1,1,1-TRICHLOROETHANE	240	577	** NA **	** NA **	** NA **	** NA **	** NA **	172	[illegible]	** NA **
1,1,2-TRICHLOROETHANE	50	103	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
TRICHLOROETHYLENE	1690	1170	56	** NA **	** NA **	** NA **	** NA **	14	[illegible]	** NA **
TRICHLOROFLUOROMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,2,3-TRICHLOROPROPANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
VINYL CHLORIDE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]	[illegible]	** NA **
M-XYLENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
XYLENES	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
BENZENE	[illegible]	0.36	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	150	** NA **	2	70	[illegible]	8	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
2-[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
4,4-DDT	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.001	-0.001	-0.001	[illegible]
DIBROMOMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DI-N-BUTYL PHTHALATE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,2-DICHLOROBENZENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,4-DICHLOROBENZENE	** NA **	** NA **	30	670	2	18	** NA **	** NA **	** NA **	** NA **
DICHLORODIFLUOROMETHANE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,1-DICHLOROETHANE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,2-DICHLOROETHANE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,1-DICHLOROETHYLENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
TRANS 1,2-DICHLOROETHYLENE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,2-DICHLOROPROPANE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
1,3-DICHLOROPROPENE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DIETHYL PHTHALATE	63	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
DIMETHYL PHTHALATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ENDRIN	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.001	-0.001	-0.001	[illegible]
ETHANOL	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ETHYL ACETATE	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
ETHYL BENZENE	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
FORMONONE	-25	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	-0.001	-0.001	[illegible]	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	120	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

Sample number	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	1000	** NA **	** NA **	** NA **	** NA **	** NA **	-0.021	-0.020	[illegible]	[illegible]
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	29	0.027	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	4.59	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	-10	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

[illegible]	11-25	11-26	[illegible]
[illegible]	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **
BENZENE	** NA **	** NA **	** NA **
BROMOMETHANE	** NA **	** NA **	** NA **
BUTANOL	** NA **	** NA **	** NA **
1-BUTANE	** NA **	** NA **	** NA **
2-BUTANONE (MEK)	** NA **	** NA **	** NA **
BUTYL BENZYL PHENOL	** NA **	** NA **	** NA **
CARBON TETRACHLORIDE	** NA **	** NA **	** NA **
CHLOROBENZENE	** NA **	** NA **	** NA **
CHLOROETHANE	** NA **	** NA **	** NA **
BIS(2-CHLOROETHOXY)METHANE	** NA **	** NA **	** NA **
2-CHLOROETHYL VINYL ETHER	** NA **	** NA **	** NA **
CHLOROFORM	** NA **	** NA **	** NA **
CHLOROMETHANE	** NA **	** NA **	** NA **
BIS(2-CHLOROISOPROPYL)ETHER	** NA **	** NA **	** NA **
2-CHLORONAPHTHALENE	** NA **	** NA **	** NA **
P-CRESOL	** NA **	** NA **	** NA **
2,4-D	** NA **	** NA **	** NA **
4,4-DDT	-0.001	-0.001	-0.001
DIBROMOMETHANE	** NA **	** NA **	** NA **
DI N-BUTYL PHTHALATE	** NA **	** NA **	** NA **
1,2-DICHLOROBENZENE	** NA **	** NA **	** NA **
1,4-DICHLOROBENZENE	** NA **	** NA **	** NA **
DICHLORODIFLUOROMETHANE	** NA **	** NA **	** NA **
1,1-DICHLOROETHANE	** NA **	** NA **	** NA **
1,2-DICHLOROETHANE	** NA **	** NA **	** NA **
CIS-1,2 DICHLOROETHYLENE	** NA **	** NA **	** NA **
TRANS-1,2-DICHLOROETHYLENE	** NA **	** NA **	** NA **
1,2 DICHLOROPROPANE	** NA **	** NA **	** NA **
1,3-DICHLOROPROPENE	** NA **	** NA **	** NA **
DIETHYL PHTHALATE	** NA **	** NA **	** NA **
2,4-DIMETHYLPHENOL	** NA **	** NA **	** NA **
DIMETHYL PHTHALATE	** NA **	** NA **	** NA **
ENDRIN	-0.001	-0.001	-0.001
ETHANOL	** NA **	** NA **	** NA **
ETHYL ACETATE	** NA **	** NA **	** NA **
ETHYL BENZENE	** NA **	** NA **	** NA **
BIS(2-ETHYLHEXYL PHTHALATE	** NA **	** NA **	** NA **
2-HEXANONE	** NA **	** NA **	** NA **
ISOPHORONE	** NA **	** NA **	** NA **
LINDANE	-0.001	-0.001	-0.001
4-METHYL 2-PENTANONE	** NA **	** NA **	** NA **
METHYLENE CHLORIDE	** NA **	** NA **	** NA **

TABLE A-8 ORGANIC ANALYSES OF LEACHATE FROM HAZARDOUS WASTE LANDFILLS (continued)

[illegible]	11-85	11-86	11-[illegible]
NAPHTHALENE	** NA **	** NA **	** NA **
NITROBENZENE	** NA **	** NA **	** NA **
4-NITROPHENOL	** NA **	** NA **	** NA **
PENTACHLOROPHENOL	** NA **	** NA **	** NA **
PHENOL	-0.001	0.002	1.09
[illegible]	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **
1,1,[illegible]-TETRACHLOROETHANE	** NA **	** NA **	** NA **
TETRACHLOROETHYLENE	** NA **	** NA **	** NA **
TETRACHLOROMETHANE	** NA **	** NA **	** NA **
TOLUENE	** NA **	** NA **	** NA **
[illegible]	** NA **	** NA **	** NA **
1,1,1-TRICHLOROETHANE	** NA **	** NA **	** NA **
1,1,2-TRICHLOROETHANE	** NA **	** NA **	** NA **
TRICHLOROETHYLENE	** NA **	** NA **	** NA **
TRICHLOROFLUOROMETHANE	** NA **	** NA **	** NA **
1,2,3-TRICHLOROPROPANE	** NA **	** NA **	** NA **
VINYL CHLORIDE	** NA **	** NA **	** NA **
M-XYLENE	** NA **	** NA **	** NA **
XYLENES	** NA **	** NA **	** NA **

APPENDIX B

BASIC STATISTICAL VALUES

NOTES

1. Inorganic constituents, both water quality indicators and other inorganics, are in parts per million unless otherwise stated; organic constituents are in parts per billion.

2. "Pre-1980 MSWLF" refers to municipal solid waste landfills constructed prior to or during 1980; "post-1980 MSWLF" refers to landfills constructed after 1980. Unless distinguished by "pre-1980", "post-1980" or "undated", MSWLF refers to pre-1980, post-1980, and undated municipal solid waste landfills.

TABLES IN APPENDIX B

Table	
B-1	Organic Constituents Detected Twice or Less in MSWLF Leachate
B-2	Statistical Summary of Indicator Parameters in MSWLF Leachate
B-3	Statistical Summary of Other Inorganics in MSWLF Leachate
B-4	Statistical Summary of Organics in MSWLF Leachate
B-5	Data Summary of Indicator Parameters for Pre-1980 and Post-1980 MSWLFs
B-6	Data Summary of Other Inorganics for Pre-1980 and Post-1980 MSWLFs
B-7	Data Summary of Organics for Pre-1980 and Post-1980 MSWLFs
B-8	Data Summary of Hazardous Waste Landfills and Post-1980 MSWLFs

TABLE B-1

ORGANIC CONSTITUENTS* DETECTED TWICE OR LESS IN MSWLF LEACHATE

	Number of Times Analyzed For	Number of Times Detected	Percent Detections
Acetonitrile	2	2	100
Acenaphthene	60	0	0
Acenaphthylene	59	0	0
Acetophenone	19	0	0
2-Acetylanimofluorene	19	0	0
4-Aminobiphenyl	19	0	0
Acrylonitrile	69	0	0
Acrylamide	2	0	0
Allyl chloride	21	0	0
Aniline	22	0	0
Aldrin	60	0	0
Anthracene	60	0	0
Aramite	19	0	0
Benzidene	60	0	0
Benzo (a) anthracene	62	0	0
Benzo (a) pyrene	62	0	0
Benzo (g,h,i) perylene	60	0	0
Benzo (b) fluoranthene	42	0	0
Benzo (k) fluoranthene	60	0	0
1,4-Benzoquinone	19	0	0
BHC-Alpha	62	0	0
BHC-Beta	62	0	0
BHC-Gamma	62	0	0
Benzoic acid	20	0	0
Benzotrichloride	2	0	0
Benzyl alcohol	20	0	0
Benzyl chloride	2	0	0
3,4-Benzofluoranthene	20	0	0
Berzenethiol	19	0	0
Iso-butanol	1	0	0
Bis (2-chloroethyl) ether	39	0	0
n-Butanol	1	0	0
Bis (2-chlorosiopropyl) ether	60	0	0
4-Bromophenyl phenyl ether	60	0	0
Butanol	1	0	0
1-Butanol	1	0	0
Butyl benzyl phthalate	60	1	2

* In rough alphabetical order only; 201 constituents listed; 179 of these were not detected; 18 were detectd once; 4 were detected twice.

TABLE B-1

ORGANIC CONSTITUENTS DETECTED TWICE OR LESS IN MSWLF LEACHATE (continued)

	Number of Times Analyzed For	Number of Times Detected	Percent Detections
Carbazole	19	0	0
Carbon Disulfide	5	0	0
Chlordane	62	0	0
1-Chloro-2,3-epoxypropane	2	0	0
Chloroacetaldehyde	1	0	0
4-Chloroaniline	20	0	0
4-Chlorophenyl phenyl ether	60	0	0
3-Chloropropionitrile	19	0	0
Cyclohexane	1	1	100
2-Chloro-ethanol phosphate	1	1	100
2-Chlorophenol	63	0	0
Chlorobenzilate	19	0	0
Chrysene	62	0	0
o-Cresol	2	1	50
Dibenzo (a,h) anthracene	61	0	0
Dibenzo (a,e) pyrene	19	0	0
Dibenzo (a,i) pyrene	19	0	0
Dibenzofuran	20	0	0
1,3-Dichlorobenzene	66	1	2
2,6-Dichlorophenol	21	0	0
2,3-Dichloropropanol	1	0	0
2,3-Dichloropropylene	3	0	0
3,3-Dichlorobenzidine	60	0	0
2,4-Dichlorophenol	63	0	0
1,1-Dichloroethylene	74	0	0
4,4-DDD	60	0	0
4,4-DDE	60	0	0
Dieldrin	60	0	0
Dimethyl sulfoxide	1	0	0
7,12-Dimethylbenz (a) anthracene	19	0	0
p-Dimethylaminoazobenzene	19	0	0
3,3-Dimethylbenzidine	19	0	0
a,a-Dimethylphenethylamine	19	0	0
1,2-Diphenyl hydrazine	60	0	0
1,3-Dinitrobenzene	19	0	0
2,4-Dinitrophenol	63	0	0
4,6-Dinitro-o-cresol	63	0	0
2,4-Dinitrotoluene	62	0	0

TABLE B-1

ORGANIC CONSTITUENTS DETECTED TWICE OR LESS IN MSWLF LEACHATE (continued)

	Number of Times Analyzed For	Number of Times Detected	Percent Detections
2,6-Dinitrololuene	60	0	0
Di-n-octyl phthalate	60	1	2
Di-n-octyl phthalate	60	1	2
Dinoseb	19	0	0
m-Dinitrobenzene	2	0	0
Diphenylamine	21	0	0
Diphenylamine	2	0	0
1,4-Dioxane	1	0	0
1,2-Dibromoethane	19	0	0
1,2-Dibromo-3-chloropropane	19	0	0
3,3-Dimethoxybenzidine	19	0	0
Disulfonton	19	0	0
Endosulfan-alpha	60	0	0
Endosulfan-beta	60	0	0
Endrin aldehyde	60	0	0
Endrin ketone	1	0	0
Ethanol	1	0	0
Ethyl ether	1	1	100
Ethyl methacrylate	19	0	0
Fluorene	60	0	0
Famphur	19	0	[illegible]
Formic acid	2	0	[illegible]
Freon TF	2	0	0
Heptachlor	62	0	0
Heptachlorepoxide	60	0	0
Hexachlorobenzene	62	0	0
Hexachlorobutadiene	62	0	0
Hexachlorocyclopentadiene	62	0	0
Hexachloroethane	62	0	0
Hexachloropropene	19	0	0
Hexachlorophene	19	0	0
Indeno (1,2,3-c,d) pyrene	62	0	0
Iodomethane	19	0	0
Isobutyl alcohol	1	0	0
Isodrin	19	0	0
Kepone	19	0	0
Maleic anhydride	2	0	0

TABLE B-1

ORGANIC CONSTITUENTS DETECTED TWICE OR LESS IN MSWLF LEACHATE (continued)

	Number of Times Analyzed For	Number of Times Detected	Percent Detection
Malononitrile (propanedinitrile)	19	0	0
Methapyrilene	19	0	0
Methanol	2	0	0
Methoxychlor	31	0	0
Methyl methane sulfonate	19	0	0
Methylnaphthalene	1	0	0
3-Methylcholanthrene	19	0	0
2-Methylphenol	20	0	0
4-Methyl-1-(1-methylethyl) cyclohexanol	1	1	100
1-(2-Methoxy-1-methylethoxy) 2-propanol	1	1	100
2-(2-Methoxypropoxy) 1-propanol	1	1	100
n-(1-Methylethyl)-n-nitroso 2-propanamine	1	1	100
Methacrylonitrile	19	0	0
3-Methylphenol (m-cresol)	21	1	5
4,4-Methylene bis (2-chloroaniline)	19	0	0
2-Methylnaphthalene	19	0	0
N-nitrosodimethylamine	60	0	0
N-nitrosodiphenylamine	60	1	2
N-nitrosodi-n-propylamine	37	0	0
1,4-Naphtoquinone	21	0	0
2-Nitroaniline	20	0	0
3-Nitroaniline	20	0	0
4-Nitroaniline	20	0	0
2-Nitrophenol	61	0	0
1-Naphthylamine	19	0	0
2-Naphthylamine	19	0	0
5-Nitro-2-amino toluene	19	0	0
n-Nitroso-di-n-butylamine	19	0	0
n-Nitrosodiethylamine	19	0	0
n-Nitrosomethylethylamine	19	0	0
n-Nitrosomorpholine	19	0	0
n-Nitrosopiperidine	19	0	0
n-Nitrosopyrrolidine	19	0	0
p-Chloro-m-cresol	62	2	3
PCB-1248	60	0	0
PCB-1254	60	0	0
PCB-1260	60	0	0

TABLE B-1

ORGANIC CONSTITUENTS DETECTED TWICE OR LESS IN MSWLF LEACHATE (continued)

	Number of Times Analyzed For	Number of Times Detected	Percent Detections
PCB-1016	60	0	0
PCB-1221	60	0	0
PCB-1232	60	0	0
PCB-1242	60	0	0
Parathion, ethyl	19	0	0
Parathion, methyl	19	0	0
Paraldehyde	2	0	0
Pentachloronitrobenzene	19	0	0
Pentachlorobenzene	21	0	0
Pentachloroethane	21	0	0
Phenacetin	19	0	0
Phenanthrene	56	0	0
Phenylenediamine	19	0	0
m-Phenylenediamine	2	0	0
o-Phenylenediamine	2	0	0
p-Phenylenediamine	2	0	0
Phorate	21	0	0
Phthalic anhydride	2	0	0
2-Picoline	21	0	0
Pronamide	19	0	0
Pyrene	60	0	0
Pyridine	2	0	0
Styrene	23	1	0
2,4,5-T	21	0	0
1,2,3,4-Tetrachlorobenzene	2	0	0
1,2,3,5-Tetrachlorobenzene	2	0	0
1,2,4,5-Tetrachlorobenzene	21	0	0
1,1,1,2-Tetrachloroethane	7	0	0
2,3,4,5-Tetrachlorophenol	2	0	0
2,3,5,6-Tetrachlorophenol	2	0	0
Toluene-2,4-diamine	2	0	0
Trans-1,3-dichloropropylene	46	0	0
1,2,3-Trichlorobenzene	4	1	25
1,2,4-Trichlorobenzene	18	0	0
1,3,5-Trichlorobenzene	2	0	0
2,4,5-Trichlorophenol	20	0	0
1,1,2-Trichloropropane	3	0	0
1,2,2-Trichloropropane	2	0	0
1,1,2-Trichloro-1,2,2-trifluoroethane	19	0	0

TABLE B-1

ORGANIC CONSTITUENTS DETECTED TWICE OR LESS IN MSWLF LEACHATE (continued)

	Number of Times Analyzed For	Number of Times Detected	Percent Detections
Resorcinol	19	0	0
Safrole	19	0	0
Silvex (2,4,5-tp)	14	2	14
Sulfotepp	19	0	0
2,3,7,8-Tetrachlorodibenzo-p-dioxin	23	0	0
2,4,6-Trichlorophenol	39	0	0
Trichloromethanethiol	19	0	0
Tris (2,3-dibromopropyl) phosphate	19	0	0
Trimethyl cyclohexanol	1	1	100
Trimethyl-bicyclo-heptan-2-one	2	2	100
3,3,5-Trimethyl cyclohexanone	1	1	100
Vinyl acetate	3	0	0
Zinophos	19	0	0

TABLE B-2

STATISTICAL SUMMARY OF INDICATOR PARAMETERS IN MSWLF LEACHATE

Indicator	Minimum	Maximum	Median	Average	Standard Deviation	Number of Values
Alkalinity	470	57,850	2,650	4,214	2,992	43
Ammonia	0.39	1,200	209	281	203	77
Biological Oxygen Demand	7	29,200	2,310	3,837	3,379	75
Calcium	95.5	2,100	320	492	332	33
Chemical Oxygen Demand	42	50,450	2,800	4,773	4,145	121
Chloride	31	5,475	594	786	503	118
Conductivity (umho/cm)	300	36,000	5,600	6,764	3,509	129
eH (mV)	383	804	481	516	99	19
Fluoride	0.11	302	0.39	13.1	24.1	24
Hardness	0.8	9,380	1,665	2,100	1,186	40
Iron	0.22	2,280	95.15	221	215	120
Nitrate	0.01	50.93	0.22	1.88	2.77	38
Nitrite	0.005	0.2	0.03	0.0527	0.0459	9
Nitrogen (Kjeldahl)	34.41	1,470	270	324	211	37
Nitrogen (Organic)	4.5	100	50	51.1	20.8	22
Nitrogen (Total)	504.5	504.5	504.5	504.5	504.5	1
pH (pH units)	5.4	12.5	6.69	6.79	0.56	144
Phosphate	0.42	8.7	1.2	2.67	2.41	5
Phosphorus	0.29	117.18	1.4	7.82	10.42	21
Potassium	17.8	1,175	381.5	409	257	34
Sulfate	8	1,400	111	244	231	86
Sodium	12	2,574	692.9	821	445	65
Temperature (Degrees Centigrade)	5	25	11.3	14.8	6.22	19
Total Dissolved Solids	390	31,800	4,890	5,691	2,744	74
Total Suspended Solids	23	17,800	276	813	918	98
Total Organic Carbon	20	14,500	1,000	2,048	1,909	73
Total Solids	1,900	33,050	10,658	14,260	8,231	8

TABLE B-3

STATISTICAL SUMMARY OF OTHER INORGANICS IN MSWLF LEACHATE

Inorganic Toxicant	Minimum	Maximum	Median	Average	Standard Deviation	Number of Values
Aluminum	0.01	5.8	2.4	2.75	1.69	13
Antimony	0.0015	47	0.066	4.52	7.72	11
Arsenic	0.0002	0.982	0.0135	0.0418	0.0476	72
Barium	0.08	5	0.525	0.8526	0.5667	60
Beryllium	0.001	0.01	0.00475	0.0056	0.0026	6
Boron	0.63	12.3	3.987	4.41	2.82	8
Cadmium	0.0007	0.15	0.0135	0.022	0.0169	46
Chromium (Total)	0.0005	1.9	0.06	0.1754	0.2017	97
Cobalt	0.04	0.13	0.08	0.0900	0.0320	5
Copper	0.003	2.8	0.054	0.1679	0.1821	68
Cyanide	0.004	0.3	0.02	0.0634	0.0644	21
Lead	0.005	1.6	0.063	0.1616	0.1629	73
Manganese	0.03	79	3.7	9.59	9.75	103
Magnesium	74	927	135.5	227	140	34
Mercury	0.0001	0.0098	0.0006	0.0020	0.0020	19
Nickel	0.02	2.227	0.170	0.3255	0.2770	98
Selenium	0.001	0.09	0.006	0.0119	0.0105	18
Silver	0.0008	0.05	0.02	0.0208	0.0104	19
Thallium	0.004	0.86	0.08	0.1753	0.1899	11
Tin	0.16	2	0.23	0.7967	0.8022	3
Vanadium	0.009	0.029	0.0175	0.0179	0.0045	18
Zinc	0.03	350	0.675	8.32	12.18	114

TABLE B-4

STATISTICAL SUMMARY OF ORGANICS IN MSWLF LEACHATE

Organic Toxicant	Minimum	Maximum	Median	Average	Standard Deviation	Number of Values
Acetone	8	11,000	430	2,163	2,260	23
Acrolein	270	270	270	270	0	1
Benzene	4	1,080	37	221	255	35
Bromomethane	170	170	170	170	0	1
Butanol	10,000	10,000	10,000	10,000	0	1
1-Butanol	320	360	340	340	20	2
2-Butanone (Methyl Ethyl Ketone)	110	27,000	1,550	4,151	4,441	24
Butyl Benzyl Phenol	21	150	125	98.7	51.8	3
Carbon Tetrachloride	6	397.5	202	202	196	2
Chlorobenzene	1	685	7	128	176	12
Chloroethane	11.1	860	27.9	151	177	11
Bis (2-Chloroethyoxy) Methane	18	25	21.5	21.5	3.5	2
2-Chloroethyl Vinyl Ether	2	1,100	551	551	549	2
Chloroform	7.27	1,300	29	195	276	8
Chloromethane	170	400	175	248	101	3
Bis(Chloromethyl) Ether	250	250	250	250	0	1
2-Chloronaphthalene	46	46	46	46	0	1
p-Cresol	45.2	5,100	2,305	2,394	2,305	10
2,4-D	7.4	220	130	129	49	7
4,4-DDT	0.042	0.22	0.105	0.1031	0.0356	16
Dibromomethane	5	5	5	5	0	1
Di-N-Butyl Phthalate	12	150	49	70.2	43.8	5

TABLE B-4

STATISTICAL SUMMARY OF ORGANICS IN MSWLF LEACHATE (continued)

Organic Toxicant	Minimum	Maximum	Median	Average	Standard Deviation	Number of Values
1,2-Dichlorobenzene	3	21.9	11.5	11.8	4.1	8
1,4-Dichlorobenzene	1	52.1	7	13.2	10.6	12
Dichlorodifluoromethane	10.3	450	274	237	161	6
1,1-Dichloroethane	4	44,000	165	1,715	2,768	34
1,2-Dichloroethane	1	11,000	10	1,841	3,053	6
Cis-1,2-Dichloroethylene	190	470	330	330	140	2
Trans-1,2-Dichloroethylene	2	4,800	92	568	721	40
1,2-Dichloropropane	0.03	500	9	66.7	77.8	12
1,3-Dichloropropene	18	30	24	24	6	2
Diethyl Phthalate	3	330	83	118	77	27
2,4-Dimethyl Phenol	10	28	19	19	9	2
Dimethyl Phthalate	30	55	42.5	42.5	12.5	2
Endrin	0.04	50	0.25	16.8	22.2	3
Ethanol	23,000	23,000	23,000	23,000	0	1
Ethyl Acetate	42	130	86	86	44	2
Ethyl Benzene	6	4,900	58	274	333	41
Bis(2-Ethylhexyl) Phthalate	16	750	80	184	182	10
2-Hexanone (Methyl Butyl Ketone)	6	690	88	231	202	11
Isophorone	4	16,000	76	1,168	1,859	19
Lindane	0.017	0.023	0.020	0.020	0.003	2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	10	710	270	306	226	9

TABLE B-4

STATISTICAL SUMMARY OF ORGANICS IN MSWLF LEACHATE (continued)

Organic Toxicant	Minimum	Maximum	Median	Average	Standard Deviation	Number of Values
Methylene Chloride (Dichloromethane)	2	220,000	440	5,352	8,446	68
Naphthalene	2	202	12	32.4	33.4	23
Nitrobenzene	4	120	40	54.7	43.6	3
4-Nitrophenol	17	17	17	17	0	1
Pentachlorophenol	3	470	45	173	198	3
Phenol	7.3	28,800	378	2,456	3,094	45
1-Propanol	11,000	11,000	11,000	11,000	0	1
2-Propanol	94	26,000	8,450	10,748	7,626	4
1,1,2,2-Tetrachloroethane	210	210	210	210	0	1
Tetrachloroethylene	2	620	55.4	132	129	18
Tetrahydrofuran	18	1,300	260	484	409	7
Toluene	5.55	18,000	413	1,016	1,161	69
Toxaphene	1	1	1	1	0	1
1,1,1-Trichloroethane	1	13,000	86	887	1,363	20
1,1,2-Trichloroethane	30	630	426	378	187	4
Trichloroethylene	1	1,300	43	187	217	28
Trichlorofluormethane	4	150	34	56.1	46.3	10
1,2,3-Trichloropropane	230	230	230	230	0	1
Vinyl Chloride	8	61	40.2	36.1	17	10
m-Xylene	9.7	171	68	81	53	8
Xylenes	32	310	71	141	93	7

TABLE B-5

DATA SUMMARY OF INDICATOR PARAMETERS FOR PRE-1980 AND POST-1980 MSWLFs

Inorganics Indicator Parameters	Post - 1980 MSWLFs				Pre - 1980 MSWLFs			
	Minimum	Maximum	Median	Number of Sites	Minimum	Maximum	Median	Number of Sites
Alkalinity	3,800	4,200	3,900	1	960	57,850	2,650	17
Ammonia	0.39	810	299	4	1.6	1,100	215	21
Biological Oxygen Demand	13	5,980	185	3	64	29,200	2,600	20
Calcium	657	1,060	747	2	146	2,100	284	11
Chemical Oxygen Demand	42	16,000	4,300	5	266	50,450	2,817	29
Chloride	43	2,056	820	4	31	2,651	550	28
Conductivity (umho/cm)	1,750	28,125	8,800	4	300	36,000	5,450	32
eH (mv)	481	481	481	1	411	804	486	3
Fluoride	0.38	1.8	0.4	2	0.11	1.1	0.28	9
Hardness	2,800	3,000	2,900	1	670	9,380	1,550	17
Iron	2.6	695	230	4	2.1	2,280	93.4	31
Nitrate	0.04	0.66	0.22	3	0.01	1.4	0.135	19
Nitrite	0.05	0.05	0.05	1	0.005	0.112	0.01	3
Nitrogen (Kjeldahl)	81	390	380	2	34.41	1,470	235	15
Nitrogen (Organic)	40	60	45	1	4.5	100	50	3
pH (pH units)	6.17	8.39	6.91	3	5.4	12.5	6.58	33
Phosphorus	0.29	7.9	1.7	3	0.325	117.18	1.31	11
Potassium	363	471.8	462	1	17.8	1,175	239.4	14
Sulfate	24	1,300	260	3	8.4	1,400	118	23
Sodium	69	2,574	817	4	12	1,830	596	23
Temperature (Degrees Centigrade)	11.3	11.3	11.3	1	9.6	25	18	3
Total Dissolved Solids	7,020	31,800	7,976	3	390	16,120	4,230	14
Total Suspended Solids	32	960	554	4	23	17,800	264	22
Total Organic Carbon	20	14,500	2,860	4	74	13,000	810	17

TABLE B-6

DATA SUMMARY OF OTHER INORGANICS OF PRE-1980 AND POST-1980 MSWLFs

Inorganics Other Inorganics	Post - 1980 MSWLFs				Pre - 1980 MSWLFs			
	Minimum	Maximum	Median	Number of Sites	Minimum	Maximum	Median	Number of Sites
Aluminum	2.2	3.4	2.6	1	0.01	5.8	3.3	6
Arsenic	0.003	0.04	0.011	4	0.0002	0.982	0.015	24
Barium	0.08	1.7	1.0	4	0.11	5	0.58	22
Cadmium	0.003	0.02	0.0065	5	0.002	0.15	0.018	15
Chromium (total)	0.006	0.37	0.008	6	0.002	1.9	0.06	28
Copper	0.02	0.07	0.031	3	0.02	2.8	0.059	18
Lead	0.007	0.15	0.046	5	0.031	1.6	0.072	24
Manganese	1	50	12.38	4	0.03	79	3.26	26
Magnesium	275	424	412	2	74	780	138	10
Nickel	0.05	1.6	0.185	4	0.02	2.227	0.164	21
Selenium	0.002	0.002	0.002	1	0.001	0.09	0.006	9
Silver	0.026	0.037	0.036	2	0.0008	0.035	0.012	10
Vanadium	0.016	0.024	0.0185	1	0.009	0.024	0.014	3
Zinc	0.06	6.4	0.335	4	0.03	350	0.88	25

TABLE B-7

DATA SUMMARY OF ORGANICS FOR PRE-1980 AND POST-1980 MSWLFs

Organics	Post - 1980 MSWLFs				Pre - 1980 MSWLFs			
	Minimum	Maximum	Median	Number of Sites	Minimum	Maximum	Median	Number of Sites
Acetone	8	4,600	4,000	3	170	390	320	2
2-Butanone (Methyl Ethyl Ketone)	1,300	12,000	9,900	2	195	2,800	430	7
Chloromethane	400	400	400	1	170	170	170	1
p-Cresol	4,400	4,500	4,450	1	45.2	78	53.5	2
4,4-DDT	0.042	0.22	0.11	2	0.042	0.11	0.056	1
1,1-Dichlorethane	4	4	4	1	4	6,300	220	12
Trans-1,2-Dichlorethylene	6	677	14	2	7	3,130	168	13
Diethyl Phthalate	32	32	32	1	3	330	92.4	9
2-Hexanone (Methyl Butyl Ketone)	39	690	360	2	6	12	9	1
Isophorone	25	25	25	1	4	16,000	91	5
Methylene Chloride (Dichloromethane)	6	690	120	4	2	57,000	1,100	15
Phenol	378	2,100	1,700	2	7.3	15,800	258	12
Toluene	83	1,100	590	3	5.55	13,300	420	16

TABLE B-8

DATA SUMMARY OF HAZARDOUS WASTE LANDFILLS AND POST-1980 MSWLFs

Constituent	HAZARDOUS WASTE LANDFILLS			POST - 1980 MSWLFs		
	Concentration Range	Median	Number of Sites	Concentration Range	Median	Number of Sites
Alkalinity	540	540	1	3,800 - 4,200	3,900	1
Ammonia	870	870	1	0.39 - 810	299	4
Biological Oxygen Demand	30 - 22,500	13,400	2	13 - 5,980	185	3
Calcium	0.150 - 820	72	5	657 - 1,060	747	2
Chemical Oxygen Demand	47 - 22,000	12,600	2	42 - 16,000	4,300	5
Chloride	40 - 8,420	2,028	3	43 - 2,056	820	4
Conductivity (umho/cm)	430 - 20,000	20,000	2	1,750 - 28,125	8,800	4
Hardness	265 - 4,550	2,930	2	2,800 - 3,000	2,900	1
Iron	0.3 - 491.4	17.2	8	2.6 - 695	230	4
Nitrogen (Organic)	22.8	22.8	1	40 - 60	45	1
pH (pH units)	6.6 - 7.0	6.9	3	6.17 - 8.39	6.91	6
Potassium	3.1 - 1,500	34	4	363 - 471.8	462	1
Sulfate	112 - 1,600	399	3	24 - 1,300	260	3
Sodium	24.7 - 5,200	377	4	69 - 2,574	817	4
Total Dissolved Solids	2,883 - 18,242	10,562	2	7,020 - 31,800	7,976	3
Total Suspended Solids	1,470	1,470	1	32 - 960	554	4
Total Organic Carbon	13.8 - 12,200	4,624	2	20 - 14,500	2,860	4
Aluminum	0.49 - 78	2.2	3	2.2 - 3.4	2.6	1
Arsenic	0.004 - 120	2.78	4	0.003 - 0.04	0.011	4
Barium	0.2 - 2.32	0.84	4	0.08 - 1.7	1.0	4

TABLE B-8

DATA SUMMARY OF HAZARDOUS WASTE LANDFILLS AND POST-1980 MSWLFs (continued)

Constituent	HAZARDOUS WASTE LANDFILLS			POST - 1980 MSWLFs		
	Concentration Range	Median	Number of Sites	Concentration Range	Median	Number of Sites
Cadmium	0.0059 - 125.5	0.6	6	0.003 - 0.02	0.0065	5
Chromium (Total)	0.011 - 0.87	0.110	7	0.006 - 0.37	0.008	6
Copper	0.0204 - 1.62	0.215	8	0.02 - 0.07	0.031	3
Lead	0.0124 - 11.73	0.48	5	0.007 - 0.15	0.046	5
Manganese	0.18 - 89.42	7.65	5	1 - 50	12.38	4
Magnesium	0.830 - 610	25.4	5	275 - 424	412	2
Nickel	0.064 - 4.02	0.272	6	0.05 - 1.6	0.185	4
Selenium	6.53	6.53	1	0.002 - 0.002	0.002	1
Silver	0.02	0.02	1	0.026 - 0.037	0.036	2
Vanadium	0.150	0.150	1	0.016 - 0.024	0.0185	1
Zinc	0.05 - 12	0.536	9	0.06 - 6.4	0.335	4
Acetone	60,000	60,000	1	8 - 4,600	4,000	3
Chloromethane	340	340	1	400 - 400	400	1
1,1-Dichloroethane	32 - 35,000	594	2	4 - 4	4	1
Trans-1,2-Dichloroethylene	45 - 4,650	2,350	2	6 - 677	14	2
Diethyl Phthalate	83	83	1	32 - 32	32	1
Isophorone	26 - 390	208	1	25 - 25	25	1
Methylene Chloride (Dichlormethane)	130 - 270,000	7,715	4	6 - 690	120	4
Phenol	0.002 - 3,100	1.09	4	378 - 2,100	1,700	2
Toluene	0.027 - 12,000	880	8	83 - 1,100	590	3

APPENDIX C

SUPPORTING DATA

NOTES

1. Concentrations of all inorganic constituents in parts per million unless noted otherwise; concentrations of organic constituents in parts per billion.

2. Standards used in tables are included in Table C-13; selection of standards used is discussed in the text.

3. "Pre-1980 MSWLF" refers to municipal solid waste landfills constructed prior to or during 1980; "post-1980 MSWLF" refers to landfills constructed after 1980. Unless distinguished by "pre-1980", "post-1980", or "undated", MSWLF refers to pre-1980, post-1980, and undated municipal solid waste landfills.

4. The indicated ratios encompass the range between the nearest lower and upper half logs (base ten); for instance, around "one", the range is between the log values of -0.5 to 0.5; in non-log values, from 1/3.15 to 3.15/1.

5. Inorganic constituents include both indicator parameters (e.g., pH, iron) and other inorganic constituents.

6. Abbreviations used in this appendix include "NA" - not applicable; "--" - not available; "inorg" - inorganic constituents; "org" - organic constituents; "ND" - constituents not detected; and "DET" - constituents detected.

7. Percentages may not total to 100 due to rounding.

TABLES AND FIGURES IN APPENDIX C

Figure

C-1 Pre-1980 vs Post-1980 Minimum MSWLF Leachate Concentrations

C-2 Pre-1980 vs Post-1980 Maximum MSWLF Leachate Concentrations

C-3 Average MSWLF Leachate Concentrations vs Standards

Table

C-1 Number of Inorganic Constituents Detected and Number Not Detected in Pre- and Post-1980 MSWLF Leachate

C-2 Number of Organic Constituents Detected and Number Not Detected in Pre- and Post-1980 MSWLF Leachate

C-3 Log Ratios of Pre-1980 vs Post-1980 Median MSWLF Leachate Concentrations

C-4 Distribution of Ratios of Pre-1980 to Post-1980 Median MSWLF Leachate Concentrations

C-5 Log Ratios of Pre-1980 vs Post-1980 Minimum MSWLF Leachate Concentrations

C-6 Distribution of Ratios of Minimum MSWLF Leachate Concentrations vs Standards

C-7 Log Ratios of Pre-1980 vs Post-1980 Maximum MSWLF Leachate Concentrations

C-8 Distribution of Ratios of Maximum MSWLF Leachate Concentrations vs Standards

C-9 Log Ratios of Hazardous Waste Landfill vs Post-1980 MSWLF Leachate Concentrations

C-10 Distribution of Ratios of Hazardous Waste Landfill vs Post-1980 MSWLF Leachate Concentrations

C-11 Log Ratios of Median MSWLF Leachate Concentrations vs Standards

C-12 Distribution of Ratios of Median MSWLF Leachate Concentrations vs Standards

C-13 Comparison of Average MSWLF Leachate Concentrations to Standards

TABLES AND FIGURES IN APPENDIX C
(continued)

Table

C-14 Number of Pre-1980 MSWLF Leachate Constituents Exceeding Standards, by Site

C-15 Number of Post-1980 MSWLF Leachate Constituents Exceeding Standards, by Site

C-16 Number of Undated MSWLF Leachate Constituents Exceeding Standards, by Site

C-17 Number of Hazardous Waste Landfill Leachate Constituents Exceeding Standards, by Site

FIGURE C-1

PRE-1980 VS POST-1980 MINIMUM MSWLF LEACHATE CONCENTRATIONS

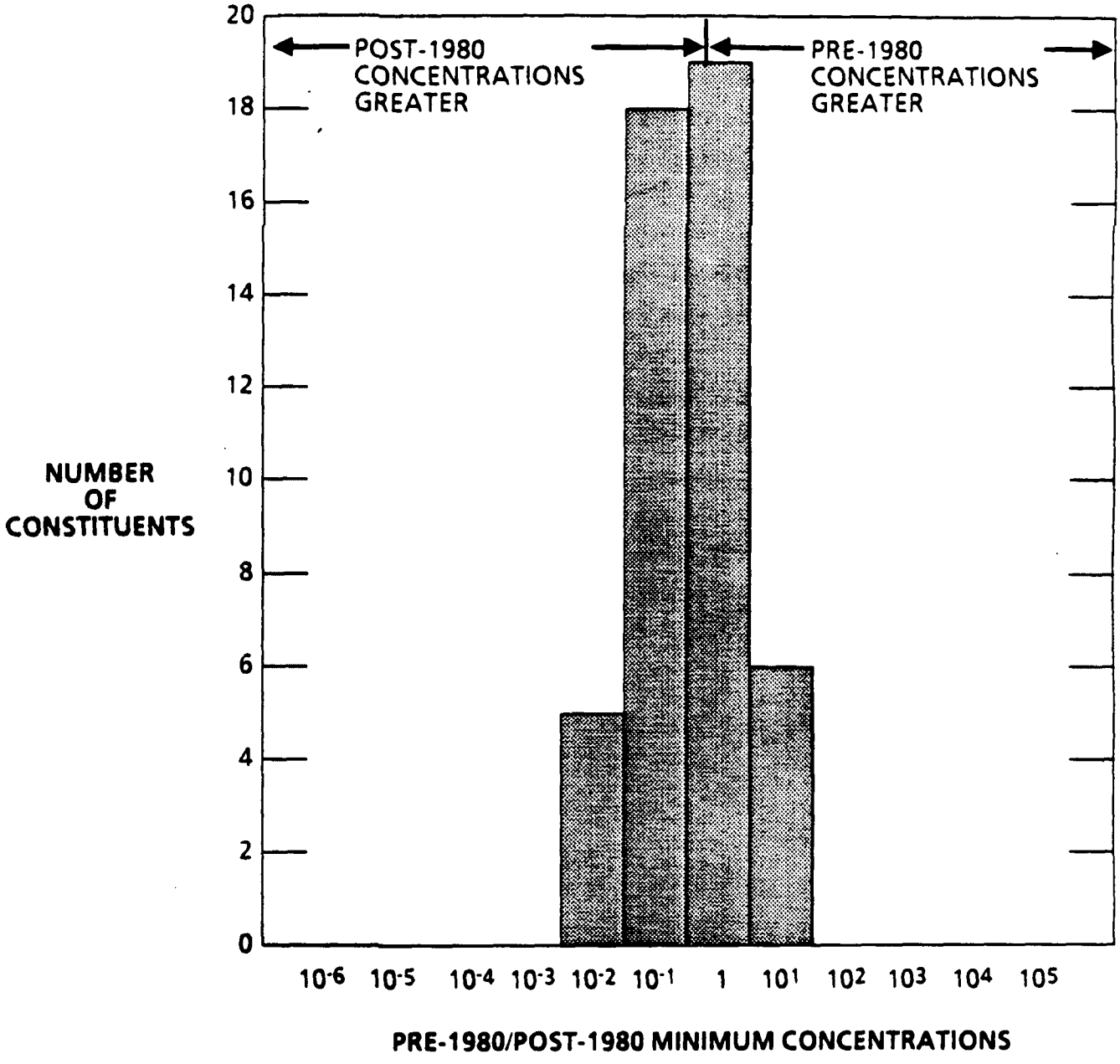

FIGURE C-2

PRE-1980 VS POST-1980 MAXIMUM MSWLF LEACHATE CONCENTRATIONS

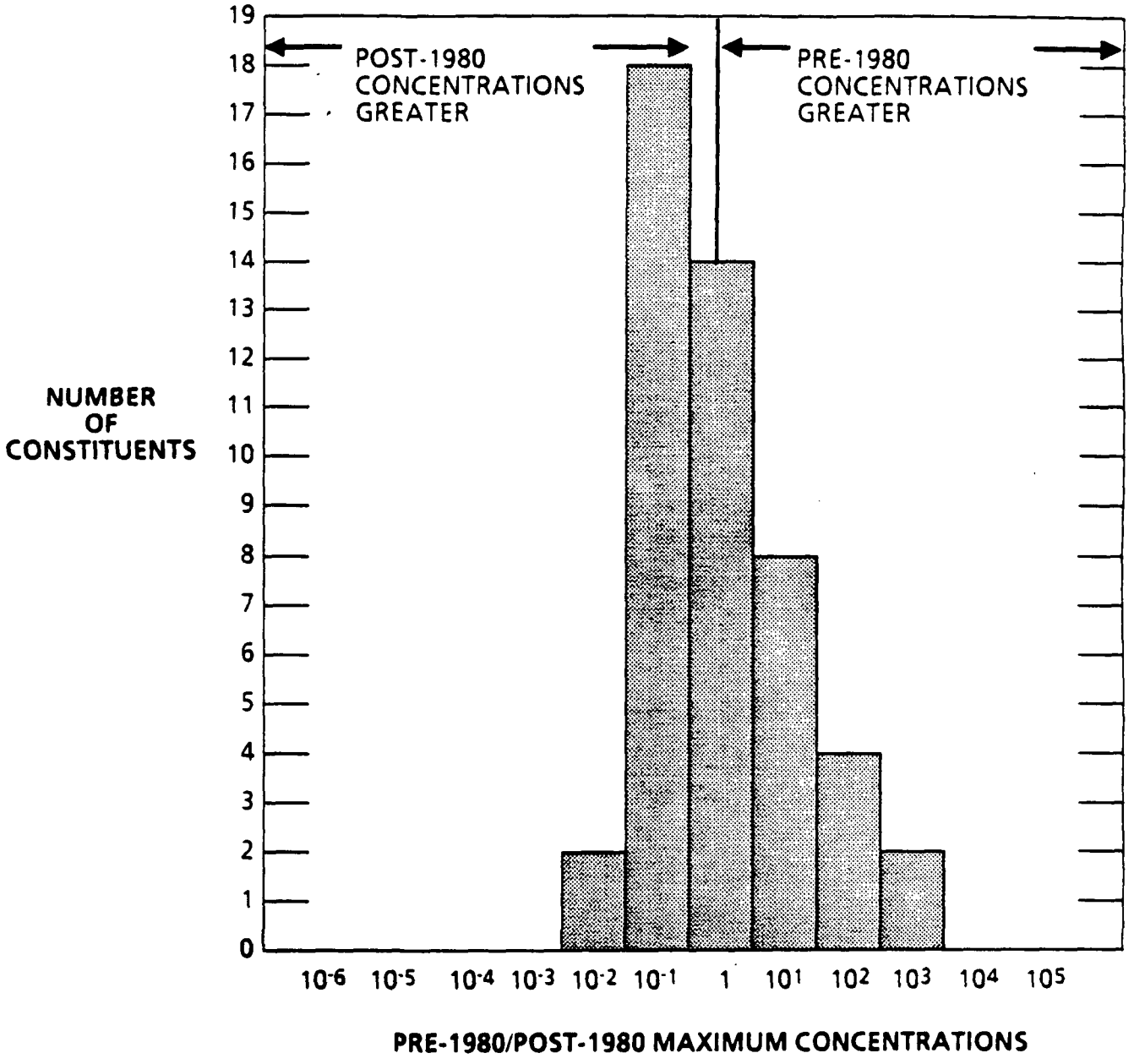

FIGURE C-3

AVERAGE MSWLF LEACHATE CONCENTRATION VS STANDARDS

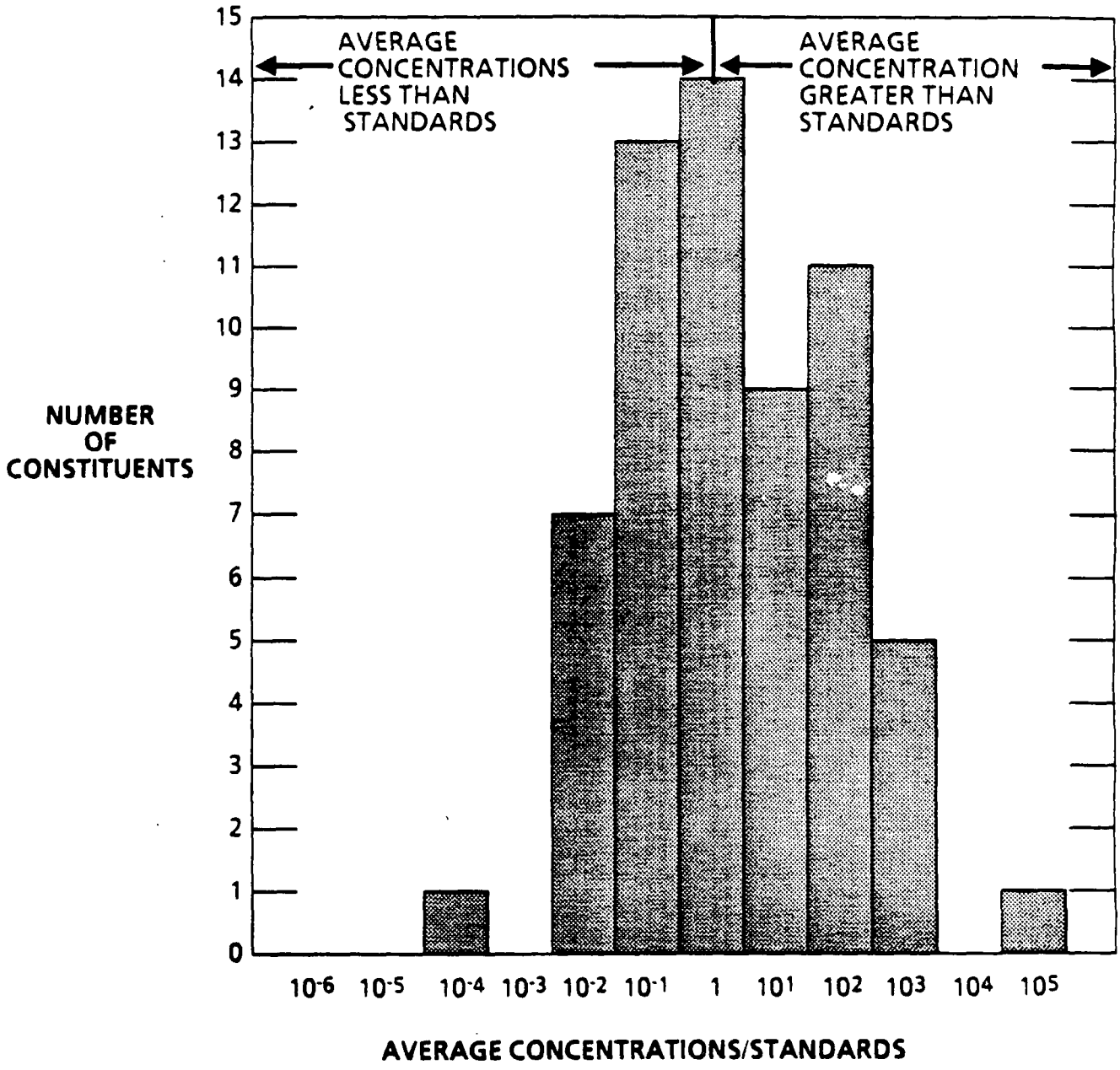

TABLE C-1

NUMBER OF INORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST-1980 MSWLF LEACHATE

Constituents[1]	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Indicator Parameters[2]										
Alkalinity	0	23	23	0	100	0	4	4	0	100
Ammonia	0	40	40	0	100	0	11	11	0	100
Biological Oxygen Demand	0	55	55	0	100	0	10	10	0	100
Calcium	0	17	17	0	100	0	5	5	0	100
Chemical Oxygen Demand	0	80	80	0	100	0	17	17	0	100
Chloride	0	79	79	0	100	0	13	13	0	100
Fluoride	9	12	21	43	57	4	5	9	0	56
Hardness	0	23	23	0	100	0	4	4	0	100
Iron	0	82	82	0	100	0	13	13	0	100
Nitrate	3	22	25	12	88	0	4	4	0	100
Nitrite	2	3	5	40	60	0	2	2	0	60
Nitrogen (Kjeldahl)	0	23	23	0	100	0	5	5	0	100
Nitrogen (organic)	0	10	10	0	100	0	4	4	0	100
Phosphate	0	2	2	0	100	0	0	0	--	100
Phosphorus	0	20	20	0	100	0	14	14	0	100
Potassium	0	20	20	0	100	0	4	4	0	100

1 Includes only constituents detected at least once.
2. pH, eH and temperature not included.

TABLE C-1

NUMBER OF INORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST-1980 MSWLF LEACHATE (continued)

Constituents	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Sulfate	0	62	62	0	100	0	8	8	0	100
Sodium	0	38	38	0	100	0	13	13	0	100
Total Dissolved Solids	0	52	52	0	100	0	7	7	0	100
Total Suspended Solids	0	74	74	0	100	0	14	14	0	100
Total Organic Carbon	0	43	43	0	100	0	13	13	0	100
Total Solids	0	7	7	0	100	0	0	0	--	--
Subtotals	14	787	801	2	98	4	170	174	2	98
Other Inorganics										
Aluminum	6	8	14	75	25	0	4	4	--	--
Antimony	10	6	16	63	37	4	0	4	100	0
Arsenic	5	47	52	10	90	0	11	11	0	100
Barium	3	36	39	8	92	0	10	10	0	100
Beryllium	11	4	15	73	27	4	0	4	100	0
Boron	0	6	6	0	100	0	0	0	--	--
Cadmium	9	26	35	26	74	2	6	8	25	75
Chromium (total)	3	59	62	5	95	0	19	19	0	0
Cobalt	9	4	13	69	31	4	0	4	100	64
Copper	13	46	59	22	78	4	7	11	36	64
Cyanide	10	19	29	35	65	4	0	4	100	0
Lead	7	45	52	14	86	2	8	10	20	100

TABLE C-1

NUMBER OF INORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST-1980 MSWLF LEACHATE (continued)

Constituents	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Manganese	0	74	74	0	100	0	12	12	0	100
Magnesium	0	16	16	0	100	0	5	5	0	100
Mercury	14	12	26	54	46	4	0	4	100	0
Nickel	8	68	76	11	89	2	12	14	14	86
Selenium	10	10	20	50	50	4	1	5	80	20
Silver	12	11	23	62	48	4	3	7	57	43
Thallium	9	9	18	50	50	4	0	4	100	0
Tin	9	3	12	75	25	4	0	4	100	0
Vanadium	0	9	9	0	100	0	4	4	0	100
Zinc	1	74	75	1	99	0	14	14	0	100
Subtotals	149	592	741	20	80	46	116	162	28	72
TOTALS	163	1,379	1,542	10	90	50	286	336	14	86

TABLE C-2

NUMBER OF ORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST-1980 MSWLF[1] LEACHATE

Constituents	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Acetone	4	5	9	44	56	1	9	10	10	90
Acrolein	49	1	50	98	2	11	0	11	100	0
Benzene	24	31	55	44	56	1	0	11	100	0
Bromomethane	53	1	54	98	2	11	0	11	100	0
2-Butanune (MEK)	1	7	8	13	88	3	7	10	30	70
Butyl benzyl phenol	22	3	25	88	12	0	0	0	--	--
Carbon tetrachloride	54	0	54	100	0	11	0	11	100	0
Chlorobenzene	43	8	51	84	16	1	0	1	100	
Chloroethane	43	10	53	81	19	11	0	11	100	0
Bis (2-chloroeh toxy) methane	40	2	42	95	5	11	0	11	100	0
2-Chloroethyl vinyl ether	52	2	54	96	4	11	0	11	100	0
Chloroform	48	7	55	87	13	11	0	11	100	0
Chloromethane	53	1	54	98	2	11	1	12	91	9
Bis (chloromethyl) ether	38	1	39	97	3	1	0	1	100	0
2-Chloronapthalene	38	1	39	97	3	1	0	1	100	0
p-Creosol	1	4	5	20	80	6	4	10	60	50
2,4-D	8	4	12	67	33	13	0	13	100	0
4,4-DDT	39	3	42	93	7	4	7	11	36	64

1. Butanol, 1-butanol and ethanol, which were analyzed for only once each, are not included

TABLE C-2

NUMBER OF ORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST-1980 MSWLF LEACHATE (continued)

Constituents[1]	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Dibromomethane	3	0	3	100	0	0	0	0	--	--
Di-n-butyl phthalate	37	5	42	88	12	11	0	11	100	0
1,2-Dichlorobenzene	41	7	48	85	15	11	0	11	100	0
1,4-Dichlorobenzene	35	11	46	76	24	11	0	11	100	0
Dichlorodifluoromethane	43	4	47	91	9	11	0	11	100	0
1,1-Dichloroethane	28	26	54	52	48	10	1	11	91	9
1,2-Dichloroethane	49	5	54	91	9	11	0	11	100	0
Trans-1,2-dichloroethylene	24	29	53	45	55	7	4	11	64	36
1,2-Dichloropropane	47	7	54	87	13	11	0	11	100	0
1,3-Dichloropropene	51	2	53	96	4	11	0	11	100	0
Diethyl phthalate	17	24	41	42	59	10	1	11	91	9
2,4-Dimethyl phenol	43	2	45	96	4	11	0	11	100	0
Dimethly phthalate	40	2	42	95	5	11	0	11	100	0
Endrin	46	0	46	100	0	14	0	14	100	0
Ethyl benzene	22	32	54	41	59	11	0	11	100	0
Bis (2-ethylhexyl) phthalate	34	8	42	81	19	11	0	11	100	0
2-Hexanone	4	2	6	67	33	3	7	10	30	70
Isophorone	24	18	42	57	43	10	1	11	91	9
Lindane	8	0	8	100	0	11	2	13	80	20
4-Methyl-2-pentanone	3	0	3	100	0	6	4	10	60	40
Methylene chloride	16	39	55	29	71	0	11	11	0	100

TABLE C-2

NUMBER OF ORGANIC CONSTITUENTS DETECTED AND NUMBER NOT DETECTED IN PRE- AND POST 1980 MSWLF LEACHATE (continued)

Constituents[1]	Pre-1980					Post-1980				
	ND	DET	Total	% ND	% DET	ND	DET	Total	% ND	% DET
Napthalene	23	21	44	52	48	11	0	11	100	0
Nitrobenzene	41	3	44	93	7	11	0	11	100	0
4-Nitrophenol	44	1	45	98	2	11	0	11	100	0
Pentachlorophenol	43	3	46	93	7	11	0	11	100	0
Phenol	15	30	45	33	67	6	5	11	55	45
1-Propanol	1	0	1	100	0	0	0	0	--	--
2-Propanol	1	0	1	100	0	0	0	0	--	--
1,1,2,2-Tetrachloroethane	50	1	51	98	2	11	0	11	100	0
Tetrachloroethylene	41	13	54	76	24	11	0	11	100	0
Tetrahydrofuran	0	3	3	0	100	0	0	0	--	--
Toluene	9	45	54	17	83	4	7	11	36	64
Toxaphene	48	0	48	100	0	14	0	14	100	0
1,1,1-Trichloroethane	37	13	50	74	26	0	0	0	100	0
1,1,2-Trichloroethane	51	3	54	94	6	11	0	11	100	0
Trichloroethylene	34	21	55	62	38	11	0	11	100	0
Trichlorofluoromethane	45	7	52	87	14	11	0	11	100	0
1,2,3-Trichloropropane	5	0	5	100	0	9	1	10	90	10
Vinyl chloride	44	10	54	81	19	11	0	11	100	0
M-xylene	1	4	5	20	80	0	0	0	--	--
Xylenes	3	5	8	38	63	10	0	10	100	0
TOTALS	1,761	497	2,268	--	--	475	72	547	--	--

TABLE C-3

LOG RATIOS OF PRE-1980 VS POST-1980 MEDIAN MSWLF LEACHATE CONCENTRATIONS

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS			
Indicator Parameters*			
Nitrite	0.05	0.01	-0.70
TOC	2,860	810	-0.55
Calcium	747	284	-0.42
Iron	230	93.4	-0.39
Sulfate	260	118	-0.34
TSS	554	264	-0.32
Potassium	462	239.4	-0.29
TDS	7,976	4,230	-0.28
Hardness	2,900	1,550	-0.27
Nitrate	0.22	0.135	-0.21
Nitrogen (Kjeldahl)	380	235	-0.21
Sp. Cond. (umho/cm)	8,800	5,450	-0.21
COD	4,300	2,817	-0.18
Chloride	820	550	-0.17
Alkalinity	3,900	2,650	-0.17
Fluoride	0.4	0.28	-0.15
Ammonia	299	215	-0.14
Sodium	817	596	-0.14
Phosporus	1.7	1.31	-0.11
Nitrogen (organic)	45	50	0.05
BOD	185	2,600	1.15
SUBTOTAL	36,037	23,264	--
Other Inorganics			
Manganese	12.38	3.26	-0.58
Silver	0.036	0.012	-0.48
Magensium	412	138	-0.48
Barium	1	0.58	-0.24
Vanadium	0.0185	0.014	-0.12
Nickel	0.185	0.164	-0.05
Aluminum	2.6	3.3	0.10
Arsenic	0.011	0.015	0.13
Lead	0.046	0.072	0.19
Copper	0.031	0.059	0.28

* pH, eH and temperature not included

TABLE C-3

LOG RATIOS OF PRE-1980 VS POST-1980 MEDIAN MSWLF LEACHATE CONCENTRATIONS (continued)

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS (continued)			
Zinc	0.335	0.88	0.42
Cadmium	0.0065	0.018	0.44
Selenium	0.002	0.006	0.48
Chromium (Total)	0.008	0.06	0.88
SUBTOTAL	429	146	--
ORGANICS			
p-Cresol	4450	53.5	-1.92
2-Hexanone	360	9	-1.60
2-Butanone	9900	430	-1.36
Acetone	4000	320	-1.10
Phenol	1700	258	-0.82
Chloromethane	400	170	-0.37
4,4-DDT	0.11	0.056	-0.29
Toluene	590	420	-0.15
Diethyl Phthalate	32	92.4	0.46
Isophorone	25	91	0.56
Methylene Chloride	120	1100	0.96
Trans-1,2-Dichloroethylene	14	168	1.08
1,1-Dichloroethane	4	220	1.74
SUBTOTAL	21,595	3,332	--

TABLE C-4

DISTRIBUTION OF RATIOS OF PRE-1980 TO POST-1980 MEDIAN MSWLF LEACHATE CONCENTRATIONS

Ratio	Indicator Parameters*	Percent	Other Inorganics	Percent	Organic	Percent	Total	Percent
10^{-6}	0	0	0	0	0	0	0	0
10^{-5}	0	0	0	0	0	0	0	0
10^{-4}	0	0	0	0	0	0	0	0
10^{-3}	0	0	0	0	0	0	0	0
10^{-2}	0	0	0	0	2	15	2	4
10^{-1}	2	10	1	7	3	23	6	13
1	18	86	12	86	4	31	34	71
10	1	5	1	7	3	23	5	10
10^{2}	0	0	0	0	1	8	1	2
10^{3}	0	0	0	0	0	0	0	0
10^{4}	0	0	0	0	0	0	0	0
10^{5}	0	0	0	0	0	0	0	0
TOTAL	21	100	14	100	13	100	48	100

* pH, eH and temperature not included

TABLE C-5

LOG RATIOS OF PRE-1980 VS POST-1980 MINIMUM MSWLF LEACHATE CONCENTRATIONS

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS			
Indicator Parameters*			
Potassium	363	17.8	-1.31
TDS	7,020	390	-1.26
Nitrite	0.05	0.005	-1.00
Nitrogen (organic)	40	4.5	-0.95
Sp. Cond. (umho/cm)	1,750	300	-0.77
Sodium	69	12	-0.76
Calcium	657	146	-0.65
Hardness	2,800	670	-0.62
Nitrate	0.04	0.01	-0.60
Alkalinity	3,800	960	-0.60
Fluoride	0.38	0.11	-0.54
Sulfate	24	8.4	-0.46
Nitrogen (Kjeldahl)	81	34.41	-0.37
TSS	32	23	-0.14
Chloride	43	31	-0.14
Iron	2.6	2.1	-0.09
Phosphorus	0.29	0.325	0.05
TOC	20	74	0.57
Ammonia	0.39	1.6	0.61
BOD	13	64	0.69
COD	42	266	0.80
SUBTOTAL	17,256	3,431	--
Other Inorganics			
Aluminum	2.2	0.01	-2.34
Manganese	1	0.03	-1.52
Silver	0.026	0.0008	-1.51
Arsenic	0.003	0.0002	-1.18
Magnesium	275	74	-0.57
Chromium (total)	0.006	0.002	-0.48
Nickel	0.05	0.02	-0.40
Selenium	0.002	0.001	-0.30
Zinc	0.06	0.03	-0.30

* pH, eH and temperature not included

TABLE C-5

LOG RATIOS OF PRE-1980 VS POST-1980 MINIMUM MSWLF LEACHATE CONCENTRATIONS (continued)

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS (continued)			
Vanadium	0.016	0.009	-0.25
Cadmium	0.003	0.002	-0.18
Copper	0.02	0.02	0.00
Barium	0.08	0.11	0.14
Lead	0.007	0.031	0.65
SUBTOTAL	279	74	--
ORGANICS			
p-Cresol	4,400	45.2	-1.99
Phenol	378	7.3	-1.71
Toluene	83	5.55	-1.17
Diethyl Phthalate	32	3	-1.03
2-Butanone	1,300	195	-0.82
2-Hexanone	39	6	-0.81
Isophorone	25	4	-0.80
Methylene Chloride	6	2	-0.48
Chloromethane	400	170	-0.37
4,4-DDT	0.042	0.042	0.00
1,1-Dichloroethane	4	4	0.00
Trans-1,2-Dichloroethylene	6	7	0.07
Acetone	8	170	1.33
SUBTOTAL	6,681	619	--

TABLE C-6

DISTRIBUTION OF RATIOS OF MINIMUM MSWLF LEACHATE CONCENTRATIONS VS STANDARDS

Ratio	Indicator Parameters*	Percent	Other Inorganics	Percent	Organic	Percent	Total	Percent
10^{-6}	0	0	0	0	0	0	0	0
10^{-5}	0	0	0	0	0	0	0	0
10^{-4}	0	0	0	0	0	0	0	0
10^{-3}	0	0	0	0	0	0	0	0
10^{-2}	0	0	3	21	2	15	5	10
10^{-1}	11	52	2	14	5	38	18	38
1	6	29	8	57	5	38	19	40
10	4	19	1	7	1	0	6	13
10^{2}	0	0	0	0	0	8	0	0
10^{3}	0	0	0	0	0	0	0	0
10^{4}	0	0	0	0	0	0	0	0
10^{5}	0	0	0	0	0	0	0	0
TOTAL	21	100	14	100	13	100	48	100

* pH, eH and temperature not included

TABLE C-7

LOG RATIOS OF PRE-1980 VS POST-1980 MAXIMUM MSWLF LEACHATE CONCENTRATIONS

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS			
Indicator Parameters			
TDS	31,800	16,120	-0.30
Fluoride	1.8	1.1	-0.21
Sodium	2,574	1,830	-0.15
TOC	14,500	13,000	-0.05
Sulfate	1,[illegible]0	1,400	0.03
Sp. Cond. (umho/cm)	28,125	36,000	0.11
Chloride	2,056	2,651	0.11
Ammonia	810	1,100	0.13
Nitrogen (organic)	60	100	0.22
Calcium	1,060	2,100	0.30
Nitrate	0.66	1.4	0.33
Nitrite	0.05	0.112	0.35
Potassium	471.8	1,175	0.40
Hardness	3,000	9,380	0.50
COD	16,000	50,450	0.50
Iron	695	2,280	0.52
Nitrogen (Kjeldahl)	390	1,470	0.58
BOD	5,980	29,200	0.69
Alkalinity	4,200	57,850	1.14
Phosphorus	7.9	117.18	1.17
TSS	960	17,800	1.27
SUBTOTAL	114,493	244,867	--
Other Inorganics			
Silver	0.037	0.035	-0.02
Vanadium	0.024	0.024	0.00
Nickel	1.6	2.227	0.14
Manganese	50	79	0.20
Aluminum	3.4	5.8	0.23
Magensium	424	780	0.26
Barium	1.7	5	0.47
Chromium (total)	0.37	1.9	0.71
Cadmium	0.02	0.15	0.88

TABLE C-7

LOG RATIOS OF PRE-1980 VS POST-1980 MAXIMUM MSWLF LEACHATE CONCENTRATIONS (continued)

Constituent	Post-1980	Pre-1980	Log Ratio Pre/Post
INORGANICS (continued)			
Lead	0.15	1.6	1.03
Arsenic	0.04	0.982	1.39
Copper	0.07	2.8	1.60
Selenium	0.002	0.09	1.65
Zinc	6.4	350	1.74
SUBTOTAL	488	1,230	--
ORGANICS			
p-Cresol	4,500	78	-1.76
2-Hexanone	690	12	-1.76
Acetone	4,600	390	-1.07
2-Butanone	12,000	2,800	-0.63
Chloromethane	400	170	-0.37
4,4-DDT	0.22	0.11	-0.30
Trans-1,2-Dichloroethylene	677	3,130	0.66
Phenol	2,100	15,800	0.88
Diethyl Phthalate	32	330	1.01
Toluene	1,100	13,300	1.08
Methylene Chloride	690	57,000	1.92
Isophrone	25	16,000	2.81
1,1-Dichloroethane	4	6,300	3.20
SUBTOTAL	26,818	115,310	--

TABLE C-8

DISTRIBUTION OF RATIOS OF MAXIMUM MSWLF LEACHATE CONCENTRATION VS STANDARDS

Ratio	Indicator Parameters*.	Percent	Other Inorganics	Percent	Organic	Percent	Total	Percent
10^{-6}	0	0	0	0	0	0	0	0
10^{-5}	0	0	0	0	0	0	0	0
10^{-4}	0	0	0	0	0	0	0	0
10^{-3}	0	0	0	0	0	0	0	0
10^{-2}	0	0	0	0	2	15	2	4
10^{-1}	16	76	0	0	2	15	18	39
1	5	24	7	50	2	15	14	30
10	0	4	4	29	4	31	8	17
10^{2}	0	0	3	21	1	8	4	9
10^{3}	0	0	0	0	2	15	2	4
10^{4}	0	0	0	0	0	0	0	0
10^{5}	0	0	0	0	0	0	0	0
TOTAL	21	100	14	100	13	100	46	100

* pH, eH and temperature not included

TABLE C-9

LOG RATIOS OF HAZARDOUS WASTE LANDFILL VS POST-1980 MSWLF MEDIAN LEACHATE CONCENTRATIONS

Constituent	Post-1980 MSWLFs	Hazardous Waste Landfills	Log Ratio Hazardous Waste to Post-1980 MSWLFs
INORGANICS			
Indicator Parameters			
Potassium	462	34	-1.13
Iron	230	17.2	-1.13
Calcium	747	72	-1.02
Alkalinity	3,900	540	-0.86
Sodium	817	377	-0.34
Nitrogen (organic)	45	22.8	-0.30
Hardness	2,900	2,930	.00
TDS	7,976	10,562	0.12
Sulfate	260	399	0.19
TOC	2,860	4,624	0.21
Sp. Cond. (umho/cm)	8,800	20,000	0.36
Chloride	820	2,028	0.39
TSS	554	1,470	0.42
Ammonia	299	870	0.46
COD	4,300	12,600	0.47
BOD	185	13,400	1.86
SUBTOTAL	35,162	69,953	--
Other Inorganics			
Magnesium	412	25.4	-1.21
Silver	0.036	0.02	-0.26
Manganese	12.38	7.65	-0.21
Barium	1	0.84	-0.08
Aluminum	2.6	2	-0.07
Nickel	0.185	0.272	0.17
Zinc	0.335	0.536	0.20
Copper	0.031	0.215	0.84
Vanadium	0.0185	0.15	0.91
Lead	0.046	0.48	1.02
Chromium (total)	0.008	0.11	1.14
Cadmium	0.0065	0.6	1.97
Arsenic	0.011	2.78	2.40
Selenium	0.002	6.53	3.51
SUBTOTAL	429	48	--

TABLE C-9

LOG RATIOS OF HAZARDOUS WASTE LANDFILL VS POST-1980 MSWLF MEDIAN LEACHATE CONCENTRATIONS (continued)

Constituent	Post-1980 MSWLF	Hazardous Waste Landfill	Log Ratio Hazardous Waste to Post-1980 MSWLFs
ORGANICS			
Phenol	1,700	1.09	-3.19
Chloromethane	400	340	-0.07
Toluene	590	880	0.17
Diethyl Phthalate	32	83	0.41
Isophorone	25	208	0.92
Acetone	4,000	60,000	1.18
Methylene Chloride	120	7,715	1.81
1,1-Dichloroethane	4	594	2.17
Trans-1,2-Dichloroethylene	14	2,350	2.22
SUBTOTAL	6,885	72,171	--

TABLE C-10

DISTRIBUTION OF RATIOS OF HAZARDOUS WASTE LANDFILL VS POST-1980 MSWLF MEDIAN LEACHATE CONCENTRATIONS

Ratio	Indicator Parameters*	Percent	Inorganic	Percent	Organic	Percent	Total	Percent
10^{-6}	0	0	0	0	0	0	0	0
10^{-5}	0	0	0	0	0	0	0	0
10^{-4}	0	0	0	0	0	0	0	0
10^{-3}	0	0	0	0	1	11	1	3
10^{-2}	0	0	0	0	0	0	0	0
10^{-1}	4	25	1	7	0	0	5	13
1	11	69	6	43	3	33	20	51
10	0	0	4	29	2	22	6	15
10^{2}	1	6	2	14	3	33	6	15
10^{3}	0	0	0	0	0	0	0	0
10^{4}	0	0	1	7	0	0	1	3
10^{5}	0	0	0	0	0	0	0	0
TOTAL	16	100	14	100	9	100	39	100

* pH, eH and temperature not included

TABLE C-11

LOG RATIOS OF MEDIAN MSWLF LEACHATE CONCENTRATION VS STANDARDS

Constituent	Standard	Median	Log Ratio Median to Standard
INORGANICS			
Indicator Parameters			
Nitrate	10.00	0.22	-1.66
Cyanide	0.70	0.02	-1.54
Nickel	0.70	0.17	-0.61
Other Inorganics			
Arsenic	0.05	0.01	-0.57
Mercury	0.002	0.0006	-0.52
Silver	0.05	0.02	-0.40
Barium	1.00	0.53	-0.28
Selenium	0.01	0.01	-0.22
Chromium (total)	0.05	0.06	0.03
Lead	0.05	0.06	0.10
Cadmium	0.01	0.01	0.13
Zinc	0.11	0.68	0.79
Thallium	0.01	0.08	0.79
Antimony	0.01	0.07	0.82
TDS	250	4,890	1.29
Copper	0.001	0.05	1.65
Manganese	0.05	3.70	1.87
Iron	0.30	95.15	2.50
Beryllium	7.1E-06	0.0048	2.83
ORGANICS			
Dimethyl Phthalate	313,000	42.5	-3.87
1,2-Dichloropropane	5,700	9	-2.80
Diethyl Phthalate	30,000	83	-2.56
Trichloro Fluoromethane	10,000	34	-2.47
Lindane	4	0.02	-2.30
Chlorobenzene	1,000	7	-2.15
2,4-Dimethyl Phenol	2,120	19	-2.05
Di-N-Butyl Phthalate	4,000	49	-1.91
Isophorone	5,200	76	-1.84
Naphthalene	620	12	-1.71
1,2-Dichlorobenzene	400	11.5	-1.54
Dichloro Difluoromethane	7,000	274	-1.41

TABLE C-11

LOG RATIOS OF MEDIAN MSWLF LEACHATE CONCENTRATIONS VS STANDARDS (continued)

Constituent	Standard	Median	Log Ratio Median To Standard
ORGANICS (continued)			
Toluene	10,000	413	-1.38
Ethyl Benzene	1,400	58	-1.38
Pentachlorophenol	1,000	45	-1.35
1,4-Dichlorobenzene	75	7	-1.03
4-Nitrophenol	150	17	-0.95
Bis (2-Ethyhexyl) Phthalate	700	80	-0.94
Toxaphene	5	1	-0.70
Phenol	1000	378	-0.42
1,1,1-Trichloroethane	200	86	-0.37
2-Butanone	2000	1550	-0.11
4,4-DDT	0.1	0.105	0.02
1,2,3-Trichloropropane	200	230	0.06
p-Cresol	2000	2305	0.06
Endrin	0.2	0.25	0.10
2,4,-D	100	130	0.11
1,2-Dichloroethane	5	10	0.30
Nitrobenzene	20	40	0.30
Chloroform	5.7	29	0.71
Benzene	5	37	0.87
Tetrachloroethylene	6.9	55.4	0.90
Trichloroethylene	5	43	0.93
Acrolein	21	270	1.11
Bromomethane	10	170	1.23
Vinyl Chloride	2	40.2	1.30
Carbon Tetrachloride	5	202	1.61
1,1,2-Trichloroethane	6.1	426	1.84
Methylene Chloride	4.7	440	1.97
1,1,2,2-Tetrachloroethane	1.75	210	2.08
1,3-Dichloropropene	0.19	24	2.10
Bis (Chloromethyl) Ether	0.0037	2581	4.83

TABLE C-12

DISTRIBUTION OF RATIOS OF MEDIAN MSWLF LEACHATE CONCENTRATIONS VS STANDARDS

Ratio	Indicator Parameters	Percent	Other Inorganics	Percent	Organic	Percent
10^{-6}	0	0	0	0	0	0
10^{-5}	0	0	0	0	0	0
10^{-4}	0	0	1	2	1	2
10^{-3}	0	0	2	5	2	3
10^{-2}	2	11	8	19	10	16
10^{-1}	3	16	8	19	11	18
1	6	32	10	24	16	26
10	4	21	7	17	11	18
10^{2}	2	11	5	12	7	11
10^{3}	2	11	0	0	2	3
10^{4}	0	0	0	0	0	0
10^{5}	0	0	1	2	1	2
TOTAL	19	100	42	100	61	100

TABLE C-13

COMPARISON OF AVERAGE MSWLF LEACHATE CONCENTRATIONS TO STANDARDS

Constituent	Average	Standard		Ratio Average to Standard	Ratio Standard to Average
INORGANICS					
Indicator Parameters*					
Iron	221	1,000	a	0.2	4.5
Nitrate	1.88	10	a	0.2	5.3
Total Dissolved Solids	5,691	20	a	284	0.004
Other Inorganics					
Antimony	4.52	0.01	c	452	0.602
Arsenic	0.0418	0.05	b	0.8	1.2
Barium	0.8526	1.0	b	0.9	1.2
Beryllium	0.0056	0.2	c	0.028	36
Cadmium	0.022	0.01	b	2.2	0.5
Chromium (total)	0.1754	0.05	b	3.5	0.3
Copper	0.1679	0.012 0.018	c a	14 9.3	0.1 0.1
Cyanide	0.0634	0.7	c	0.09	11.0
Lead	0.1616	0.05	b	3.2	0.3
Manganese	9.59	0.05	a	192	0.005
Mercury	0.0020	0.002	b	1	1
Nickel	0.3255	0.07	c	4.6	0.2
Selenium	0.0119	0.01	b	1.2	0.8
Silver	0.0208	0.05	b	0.4	2.4
Thallium	0.1753	0.04	a	4.4	0.2
Zinc	8.32	0.110	a	76	0.01
ORGANICS					
Acrolein	270	21	a	12.8	0.08
Benzene	221	5	c	44	0.02
Bromomethane	170	10	c	17	0.06
2-Butanone (Methyl Ethyl Ketone)	4,151	2,000	a	2.1	0.5
Carbon Tetrachloride	202	5	c	40	0.03
Chlorobenzene	128	1,000	c	0.1	7.8
Chloroform	195	5.7	d	34	0.03
Bis(Chloromethyl) Ether	250	0.0037	d	67,568	0.00002
p-Cresol	2,394	2,000	c	1.2	0.8
2,4-D	129	100	c	1.3	0.8

* pH, eH and temperature not included
a Water Quality Criteria
b National Interim Primary or Secondary Drinking Water Standard
c Systematic Toxicant
d Carcinogen

TABLE C-13

COMPARISON OF AVERAGE MSWLF LEACHATE CONCENTRATIONS TO STANDARDS (continued)

Constituent	Average	Standard	Ratio Average to Standard	Ratio Standard to Average
ORGANICS (continued)				
4,4-DDT	0.1031	0.1 d	1.03	1.0
Di-N-Butyl Phthalate	70.2	4,000 c	0.02	5.7
1,2-Dichlorobenzene	11.8	763 a	0.02	65
1,4-Dichlorobenzene	13.2	75 c	0.2	5.7
Dichlorodifluoromethane	237	7,000 c	0.03	30
1,1-Dichloroethane	1,715	7 b 0.58 d	245 2,957	0.004 0.0003
1,2-Dichloroethane	1841	5 c	368	0.003
1,2-Dichloropropane	66.7	5,700 a	0.01	86
1,3-Dichloropropene	24	0.19 d	126	0.008
Diethyl Phthalate	118	30,000 c	0.004	254
2,4-Dimethyl Phenol	19	2,120 a	0.009	112
Dimethyl Phthalate	42.5	313,000 a	0.0001	7365
Endrin	16.8	0.2 c	84	0.01
Ethyl benzene	274	1,400 a	0.2	5.1
Bis (2-Ethylhexyl) Phthalate	184	70 c	2.6	0.4
Isophorone	1,168	5,200 a	0.2	4.5
Lindane	0.020	4 c	0.005	200
Methylene Chloride (Dichlormethane)	5,352	4.7 d	114	0.0009
Naphthalene	32.4	620 a	0.05	19
Nitrobenzene	54.7	20 c	2.7	0.4
4-Nitrophenol	17	150 a	0.1	8.8
Pentachlorophenol	173	1,000 c	0.2	5.8
Phenol	2,456	1,000 c	2.4	0.4
1,1,2,2-Tetrachloroethane	210	1.75 d	120	0.008
Tetrachloroethylene	132	6.9 d	19.1	0.05
Toluene	1,016	10,000 c	0.1	9.8
Toxaphene	1	5 b	0.2	5.0
1,1,1-Trichloroethane	887	200 b 3,000 c	4.4 0.3	0.2 3.4
1,1,2-Trichloroethane	378	6.1 d	62	0.02
Trichloroethytlene	187	5 b 3.2 c	37 58	0.03 0.02
Trichlorofluoromethane	56.1	10,000 c	0.006	178
1,2,3-Trichloropropane	230	20 c	11.5	0.09
Vinyl Chloride	36.1	2 b	18.0	0.06

TABLE C-14

NUMBER OF PRE-1980 MSWLF LEACHATE CONSTITUENTS EXCEEDING STANDARDS, BY SITE

Site I.D. Number	Number of Samples		Number of Constituents			Number of Constituents Exceeding Standards			Number of Constituents Exceeding 1000 x Standards		
	Inorg	Org	Inorg	Org	Total	Inorg	Org	Total	Inorg	Org	Total
2	3	3	13	38	51	4	2	6	0	0	0
14	3	-	19	-	19	4	-	4	0	-	0
19	-	2	-	36	36	-	1	1	-	0	0
20	-	3	-	38	38	-	3	3	-	0	0
22	-	8	-	36	36	-	6	6	-	0	0
23	-	6	-	34	34	-	6	6	-	1	1
24	-	1	-	3	3	-	2	2	-	0	0
30	-	1	-	36	36	-	9	9	-	0	0
31	-	1	-	36	36	-	3	3	-	0	0
32	-	1	-	37	37	-	4	4	-	0	0
38	-	1	-	37	37	-	5	5	-	0	0
48	3	-	14	-	14	5	-	5	0	-	0
53	-	1	-	2	2	-	2	2	-	0	0
61	3	1	18	40	58	6	4	10	0	0	0
62	4	2	7	31	38	2	4	6	0	1	1
63	6	6	19	23	42	9	6	15	2	0	2
64	4	4	10	19	29	3	2	5	0	0	0
65	30	30	14	32	46	19	4	23	3	0	3
68	4	4	12	-	12	3	-	3	0	-	0
69	1	1	11	18	29	4	1	5	0	0	0
71	1	1	11	-	11	2	-	2	0	-	0
72	2	1	10	4	14	5	0	5	0	0	0
73	11	6	19	38	57	7	3	10	1	0	1
75	-	4	-	36	36	-	1	1	-	0	0
77	1	1	16	37	53	5	1	6	0	0	0
78	10	10	18	36	54	9	1	10	0	0	0
Totals	86	99	211	647	858	87	70	157	6	2	8

TABLE C-15

NUMBER OF POST-1980 MSWLF LEACHATE CONSTITUENTS EXCEEDING STANDARDS, BY SITE

Site I.D Number	Number of Samples		Number of Constituents			Numberof Constituents Exceeding Standards			Number of Constituents Exceeding 1000 x Standards		
	Inorg	Org	Inorg	Org	Total	Inorg	Org	Total	Inorg	Org	Total
14	-	3	-	42	42	-	1	1	-	0	0
27	4	3	15	39	54	5	5	10	0	0	0
48	-	3	-	37	37	-	4	4	-	0	0
60	8	0	6	-	6	5	-	5	0	-	0
62	4	4	13	35	48	8	1	9	0	0	0
67	3	1	10	4	14	4	0	4	1	0	1
74	3	3	11	4	15	4	0	4	0	0	0
79	1	0	5	-	5	1	-	1	0	-	0
Totals	23	17	60	161	221	27	11	38	1	0	1

TABLE C-16

NUMBER OF UNDATED MSWLF CONSTITUENTS EXCEEDING STANDARDS, BY SITE

Site I.D. Number	Number of Samples		Number of Constituents			Number of Constituents Exceeding Standards			Number of Constituents Exceeding 1000 x Standards		
	Inorg	Org	Inorg	Org	Total	Inorg	Org	Total	Inorg	Org	Total
1	1	1	11	2	13	5	0	5	0	0	0
2	1	-	6	-	6	2	-	2	0	-	0
3	1	-	1	-	1	1	-	1	0	-	0
4	1	-	1	-	1	1	-	1	0	-	0
5	1	-	1	-	1	1	-	1	0	-	0
6	1	1	9	4	13	8	2	10	0	0	0
7	1	-	9	-	9	5	-	5	0	-	0
8	-	1	-	11	11	-	2	2	-	0	0
9	-	1	-	10	10	-	2	2	-	0	0
10	-	1	-	14	14	-	2	2	-	0	0
11	1	1	2	3	5	1	0	1	0	0	0
13	1	-	5	-	5	4	-	4	0	-	0
15	1	-	1	-	1	1	-	1	0	-	0
16	1	-	4	-	4	3	-	3	0	[illegible]	0
17	1	1	14	26	40	3	0	3	0	0	0
39	3	3	19	38	57	8	5	13	0	0	0
40	-	1	-	6	6	-	2	2	-	0	0
41	1	1	15	1	16	7	1	8	0	0	0
42	1	1	3	7	10	3	3	6	0	0	0
43	3	3	15	28	43	4	2	6	0	0	0
44	1	-	10	-	10	1	-	1	0	-	0
45	1	1	9	6	15	5	1	6	0	0	0
46	1	1	4	1	5	1	0	1	0	0	0
47	1	-	5	-	5	5	-	5	0	0	0
49	1	1	13	6	19	6	2	8	0	0	0
50	1	1	16	1	17	11	1	12	2	0	2
51	1	-	11	-	11	5	-	5	0	-	0
52	1	1	14	5	19	7	2	9	1	0	1
55	-	1	-	1	1	-	0	0	-	0	0
56	-	1	-	10	10	-	5	5	-	0	0
57	-	1	-	3	3	-	1	1	-	0	0
58	-	1	-	8	8	-	6	6	-	1	1
59	-	1	-	1	1	-	0	0	-	0	0
66	1	1	6	36	42	3	1	4	0	0	0
70	1	1	14	25	39	5	3	8	1	0	1
76	2	2	11	4	15	2	0	2	0	0	0
80	2	2	10	13	23	5	1	6	0	0	0
Totals	34	32	239	270	509	113	44	157	4	1	5

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16. Abstract (Limit: 200 words)

In August 1988, the U.S. Environmental Protection Agency proposed Solid Waste Disposal Facilities Criteria (40 CFR Part 258) for municipal solid waste landfills. This background document is the basis for the development of a portion of the Subtitle D criteria.

This document presents information on the character of leachate from municipal solid waste landfills based on a study of existing leachate data. The purpose of this document was to 1) investigate municipal solid waste landfill leachate, 2) determine the constituents present, 3) determine the concentrations of the constituents present relative to human health and environmental regulatory standards, and 4) evaluate the effects of Subtitle C hazardous waste regulations on constituent concentrations in municipal solid waste landfill leachate. This document describes the sources of the data and its quality and presents the results of the study.

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