



Date Prepared/Revised
<b>DEP USE ONLY</b>
Date Received

## FORM 50 MUNICIPAL WASTE LANDFILL LEACHATE ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 50, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 273.255(d) and (e) and 273.276(a)  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. SITE IDENTIFIER**

Applicant/permittee \_\_\_\_\_

Site Name \_\_\_\_\_

Facility ID (as issued by DEP) \_\_\_\_\_

**SECTION B. FACILITY INFORMATION**

Facility Name: \_\_\_\_\_

Sampling Point Identification \_\_\_\_\_

Location: County \_\_\_\_\_ Municipality: \_\_\_\_\_

Sampling Point: Latitude: \_\_\_\_° \_\_\_\_' \_\_\_\_" Longitude: \_\_\_\_° \_\_\_\_' \_\_\_\_"

Sampling Method:  Pumped  Bailed  Grab

Sample Field Filtered (must be 0.45 micron)?  Yes  No

Sample Date (mm/dd/yy) \_\_\_\_\_ Sample Collection Time: \_\_\_\_\_

Sample Collector's Name: \_\_\_\_\_

Sample Collector's Affiliation: \_\_\_\_\_

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Laboratory Certification Number(s): \_\_\_\_\_

Lab Sample Number(s): \_\_\_\_\_ Final Lab Analysis Completion Date: \_\_\_\_\_

Were Any Holding Times Exceeded?  Yes  No If Yes, please explain in comments field.

Name/Affiliation of Person Who Filled Out Form \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

**FORM 50**  
**QUARTERLY MUNICIPAL WASTE**  
**LANDFILL**  
**LEACHATE ANALYSES**

Monitoring Point No. _____
Sample Date _____
I.D. No. _____

For new facilities and cells as well as existing facilities which were permitted and which received waste after April 9, 1988, discharge flow volume from leachate collection shall be measured daily [273.276(a)(1)]. Discharge flow volume from the detection zone shall be estimated weekly [273.255(d)(2)]. Form 50 is due quarterly after the flow of leachate from the collection system has started. For facilities or cells which have received no waste since April 9, 1988, detection zone monitoring will meet permit/closure requirements.

FLOW FACTOR	LEACHATE DISCHARGE	DETECTION ZONE DISCHARGE
Volume (average gpd)		
Area Drained (acres)		
Ratio (gallons/acre/day)		

Once leachate flow begins from a leachate collection system, leachate discharge will be analyzed quarterly for all analytes listed below. In the leachate detection zone, any fluid found in any detection zone monitoring point must be sampled during the initial four quarters for the leachate indicator parameters (designated by \*, below) to establish a baseline fluid composition. Thereafter, any fluid detected in each monitoring point in the leachate detection zone must be sampled annually for the leachate indicator parameters. Quarterly sampling of the fluid in any detection zone monitoring point for leachate indicator parameters is required only when the quarterly flow at that monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point. If the indicator analytes confirm leachate contamination in the detection zone, the fluid will be analyzed initially within 30 days and thereafter annually for all analytes listed below. When MCL's (where established) of any detection zone analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19.

ANALYTE (mg/l unless otherwise indicated)	LEACHATE DISCHARGE <sup>†</sup>	DETECTION ZONE DISCHARGE <sup>†</sup>	ANALYSIS METHOD NUMBER
1.* Alkalinity, Total	p		
2.* Ammonia-Nitrogen	p		
3.* Bicarbonate (as CaCO <sub>3</sub> )	p		
4.* Calcium, Total	p		
5.* Chemical Oxygen Demand	p		
6.* Chloride (Cl)	p		
7.* Magnesium, Total	p		
8.* pH, Field, (Standard Units)	p		
9.* pH, Laboratory, (Standard Units)	p		
10.* Potassium, Total	p		
11.* Specific Conductance, Field (micromhos/cm)	p		
12.* Specific Conductance, Laboratory (micromhos/cm)	p		
13.* Sodium, Total	p		
14.* Sulfate, Total	p		
15.* Total Organic Carbon (TOC)	p		
16. Fluoride	p		
17. Iron, Total	p		
18. Manganese, Total	p		
19. Nitrate-Nitrogen	p		

† Please indicate detection limit if analyte is not detected.

## FORM 50

Monitoring Point No. _____
Sample Date _____
I.D. No. _____

ANALYTE		LEACHATE DISCHARGE <sup>†</sup>	DETECTION ZONE DISCHARGE <sup>†</sup>	ANALYSIS METHOD NUMBER
20.	Phenolics, Total (mg/l) p			
21.	Total Dissolved Solids (mg/l) p			
22.	Tritium (pCi/L)#		N/A	EPA 906.0
23.	Turbidity (mg/l) p			
24.	Antimony, Total (µg/l) d			
25.	Arsenic, Total (µg/l)			
26.	Barium, Total (µg/l)			
27.	Beryllium, Total (µg/l) d			
28.	Cadmium, Total (µg/l)			
29.	Chromium, Total (µg/l)			
30.	Cobalt, Total (µg/l) d			
31.	Copper, Total (µg/l)			
32.	Lead, Total (µg/l)			
33.	Mercury, Total (µg/l) p			
34.	Nickel, Total (µg/l) d			
35.	Selenium, Total (µg/l)			
36.	Silver, Total (µg/l)			
37.	Thallium, Total (µg/l) d			
38.	Vanadium, Total (µg/l) d			
39.	Zinc, Total (µg/l)			
40.	Acetone (µg/l) d			
41.	Acrylonitrile (µg/l) d			
42.	Benzene (µg/l)			
43.	Bromochloromethane (µg/l) d			
44.	Bromodichloromethane (µg/l) d			
45.	Bromoform (Tribromomethane) (µg/l)			
46.	Carbon Disulfide (µg/l) d			
47.	Carbon Tetrachloride (µg/l)			
48.	Chlorobenzene (µg/l)			
49.	Chloroethane (Ethyl Chloride) (µg/l)			
50.	Chloroform (Trichloromethane) (µg/l) d			
51.	3-Chloro-1-propene (µg/l) p			
52.	Dibromochloromethane (µg/l) (Chlorodibromomethane)			
53.	1,2-Dibromo-3-chloropropane (µg/l) (DBCP) d			
54.	1,2-Dibromoethane (µg/l) (Ethylene dibromide; EDB)			
55.	1,2-Dichlorobenzene (µg/l) (o-Dichlorobenzene)			
56.	1,3-Dichlorobenzene (µg/l) (m-Dichlorobenzene) p			

† Please indicate detection limit if analyte is not detected.

**FORM 50**

Monitoring Point No. _____
Sample Date _____
I.D. No. _____

<b>ANALYTE (µg/l)</b>	<b>LEACHATE DISCHARGE†</b>	<b>DETECTION ZONE DISCHARGE†</b>	<b>ANALYSIS METHOD NUMBER</b>
57. 1,4-Dichlorobenzene (p-Dichlorobenzene)			
58. trans-1,4-Dichloro-2-butene	d		
59. Dichlorodifluoromethane	p		
60. 1,1-Dichloroethane (Ethylidene chloride)			
61. 1,2-Dichloroethane (Ethylene dichloride)			
62. 1,1-Dichloroethene (Vinylidene chloride)			
63. cis-1,2-Dichloroethene			
64. trans-1,2-Dichloroethene			
65. 1,2-Dichloropropane (Propylene dichloride)			
66. cis-1,3-Dichloropropene			
67. trans-1,3-Dichloropropene			
68. Ethyl Benzene			
69. Methyl butyl ketone (2-Hexanone)	d		
70. Methyl bromide (Bromomethane)			
71. Methyl chloride (Chloromethane)			
72. Methylene bromide (Dibromomethane)	d		
73. Methylene chloride (Dichloromethane)			
74. Methyl ethyl ketone (MEK; 2-Butanone)			
75. Methyl iodide (Iodomethane)	d		
76. 4-Methyl-2-pentanone (Methyl isobutyl ketone)			
77. Styrene	d		
78. 1,1,2,2-Tetrachloroethane			
79. 1,1,1,2-Tetrachloroethane			
80. Tetrachloroethene (Perchloroethylene)			
81. Toluene			
82. 1,1,1-Trichloroethane (Methylchloroform)			
83. 1,1,2-Trichloroethane			
84. Trichloroethene			

† Please indicate detection limit if analyte is not detected.

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Sample Date _____
I.D. No. _____

ANALYTE (µg/l unless otherwise indicated)	LEACHATE DISCHARGE <sup>†</sup>	DETECTION ZONE DISCHARGE <sup>†</sup>	ANALYSIS METHOD NUMBER
85. Trichlorofluoromethane (CFC-11)			
86. 1,2,3-Trichloropropane			
87. Vinyl acetate d			
88. Vinyl chloride			
89. Xylenes			

p = PADEP 273.284 analyte exclusively # Analyzed in the 4<sup>th</sup> calendar quarter only

d = Subtitle D. Appendix I analyte exclusively

All other analytes are common to both lists.

† Please indicate detection limit if analyte is not detected.

## FORM 50

Monitoring Point No. \_\_\_\_\_  
 Sample Date \_\_\_\_\_  
 I.D. No. \_\_\_\_\_

### Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

<u>Constituent</u>	<u>CAS Number</u>