

APPENDIX I
BASELINE AND DETECTION MONITORING REQUIREMENTS

Table 1

**DETECTION GROUNDWATER MONITORING
FOR LANDFILLS ACCEPTING
MUNICIPAL SOLID WASTE**

Waste Type	Detection Parameters ¹	Frequency for All Wells	Frequency for Subtitle D Wells
Municipal solid waste	Alkalinity Chloride COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness	Semi-annual	Semi-annual
	VOC scan	Annual	Semi-annual
Municipal solid waste combustor residue	Alkalinity Boron Cadmium Chloride COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Lead Selenium Sulfate	Semi-annual	Semi-annual

¹ Additional parameters are required if other waste types are accepted at the landfill. See Table 2.

Note: Refer to Appendix III for a list of VOCs, parameter numbers, CAS numbers,

synonyms and analytical methods required to run VOC analyses.

Note: Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.

Table 2
DETECTION GROUNDWATER MONITORING
FOR LANDFILLS ACCEPTING
WASTE TYPES OTHER THAN MUNICIPAL SOLID WASTE

Waste Type	Detection Parameters	Frequency for All Wells
Paper mill sludge	Ammonia nitrogen Alkalinity Chloride COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Nitrate + Nitrite as N Sulfate	Semi-annual
Fly or bottom ash	Alkalinity Boron COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Sulfate	Semi-annual
Foundry waste	Alkalinity COD Field conductivity (at 25°C) Field pH Field temperature Fluoride Groundwater elevation Hardness Sodium	Semi-annual
Demolition Waste	Demolition monitoring requirements are listed in NR 503	
Other solid waste	As specified in writing by the department	

Note: Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.

Table 3

BASELINE GROUNDWATER MONITORING
PUBLIC HEALTH AND WELFARE PARAMETERS
NOT INCLUDED AS DETECTION MONITORING PARAMETERS

PUBLIC WELFARE STANDARDS	PUBLIC HEALTH STANDARDS	
Copper Manganese Sulfate Zinc	Arsenic Barium Cadmium Chromium Fluoride Lead Mercury Nitrate + Nitrite (as N) Selenium Silver	Antimony* Beryllium* Cobalt* Nickel* Thallium* Vanadium*
*Only required for background at Subtitle D wells		

Note: Refer to Appendix IV for parameter numbers and required analytical methods.

Table 4
DETECTION LEACHATE MONITORING
FOR ALL LANDFILLS¹

Municipal Solid Waste and Municipal Solid Waste Combustor Residue	Paper Mill Sludge	Fly or Bottom Ash	Foundry Waste
The volume of the leachate removed shall be recorded at least monthly and reported to the department semi-annually.			
Semi-Annual Monitoring Parameters			
BOD ₅ Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Hardness Iron Lead Manganese Mercury Ammonia nitrogen Total Kjeldahl nitrogen Sodium Sulfate Total suspended solids VOC scan Other parameters specified by waste type in this table if accepted at the landfill	BOD ₅ Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Hardness Iron Lead Manganese Mercury Ammonia nitrogen Total Kjeldahl nitrogen Sodium Sulfate Total suspended solids VOC scan	BOD ₅ Field Conductivity (at 25°C) Field pH Alkalinity Boron Cadmium Chloride COD COD Hardness Iron Lead Manganese Mercury Selenium Sulfate Total suspended solids	BOD ₅ Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Fluoride Hardness Iron Lead Manganese Mercury Sodium Sulfate Total suspended solids VOC scan
Annual Monitoring Parameters			
Base/Neutral Extractable Compounds Acid Extractable Compounds	Base/Neutral Extractable Compounds Acid Extractable Compounds	Base/Neutral Extractable Compounds Acid Extractable Compounds	Base/Neutral Extractable Compounds Acid Extractable Compounds

¹ Leachate monitoring for other solid waste not included in this table may be done as specified by the department in writing.
 Note: Leachate samples shall not be filtered. The color, odor and turbidity shall also be noted for all samples.

Note: Refer to Appendix III for a list of VOCs, parameter numbers, CAS numbers, synonyms and analytical methods required to run VOC analyses.
 Note: Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.

Table 5
DETECTION LYSIMETER MONITORING
FOR ALL LANDFILLS^{1,2}

Municipal Solid Waste	Municipal Solid Waste Combustor Residue	Paper Mill Sludge	Fly or Bottom Ash	Foundry Waste
The volumes of lysimeter fluid removed shall be recorded and be reported to the department semi-annually.				
Semi-annual Monitoring Parameters				
Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Total Kjeldahl nitrogen Sodium Sulfate Other parameters specified by waste type in this table if accepted at the landfill	Field conductivity (at 25°C) Field pH Alkalinity Cadmium Hardness Chloride COD Lead Total Kjeldahl nitrogen Sodium Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Total Kjeldahl nitrogen Sodium Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Boron Hardness Chloride COD Total Kjeldahl nitrogen Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Fluoride Total Kjeldahl nitrogen Sulfate
Annual Monitoring Parameters				
VOC Scan	VOC Scan	VOC Scan		VOC Scan

¹ Lysimeter monitoring for landfills accepting waste not included in this table shall be done as specified by the department in writing.
² Lysimeter samples may not be filtered. When only small sampling volumes are obtained, the VOC scan shall take precedence. The color, odor and turbidity shall also be noted for all samples.

Note: Refer to Appendix III for a list of VOCs, parameter numbers, CAS numbers, synonyms and analytical methods required to run VOC analyses.
 Note: Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.

APPENDIX II
SUBSTANCES FOR ASSESSMENT MONITORING¹
AT MUNICIPAL SOLID WASTE LANDFILLS

Common name ²	Parameter No. ³	CAS RN ⁴	Synonyms	Analytical methods ⁵
Acenaphthene	34205	83-32-9	1,2-Dihydroacenaphthylene	8100, 8270, 8310
Acenaphthylene	34200	208-96-8		8100, 8270, 8310
Acetone	81552	67-64-1	2-Propanone	8260
Acetonitrile	76997	75-05-8	Methyl cyanide	8015, 8260
Acetophenone	81553	98-86-2	1-Phenylethanone	8270
2-Acetylaminofluorene	73501	53-96-3	N-9H-fluoren-2-yl-Acetamide; 2-AAF	
Acrolein	34210	107-02-8	2-Propenal	8015, 8030, 8260
Acrylonitrile	34215	107-13-1	2-Propenenitrile	8015, 8030, 8260
Aldrin	39330	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1 α ,4 α ,4a β ,5 α ,8 α -,8a β)-	8081, 8080, 8270
Allyl chloride	78109	107-05-1	3-Chloro-1-propene	8021, 8260
4-Aminobiphenyl	77581	92-67-1	[1,1'-Biphenyl]-4-amine	8270
Anthracene	34220	120-12-7		8100*, 8270
Antimony	01097	7440-36-0		6010, 7040*, 7041
Arsenic	01002	7440-38-2		6010, 7060, 7061
Barium	01007	7440-39-3		6010, 7080*
Benzene	34030	71-43-2		8021, 8260
Benzo[a]anthracene	34526	56-55-3	Benzanthracene	8100, 8270, 8310
Benzo[b]fluoranthene	34230	205-99-2	Benz[e]acephenanthrylene	8100, 8270, 8310
Benzo[k]fluoranthene	34242	207-08-9		8100, 8270, 8310
Benzo[ghi]perylene	34521	191-24-2		8100, 8270, 8310
Benzo[a]pyrene	34247	50-32-8		8100, 8270, 8310
Benzyl alcohol	77147	100-51-6	Benzenemethanol	8270
Beryllium	01012	7440-41-7		6010, 7090, 7091
alpha-BHC	39076	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 α ,3 β ,4 α ,5 β ,6 β)	8081, 8270, 8080, 8250*
beta-BHC	39338	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 β ,3 α ,4 β ,5 α ,6 β)	8081, 8270, 8080, 8250*
delta-BHC	34259	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 α ,2 α ,3 α ,4 β ,5 α ,6 β)	8081, 8270, 8080, 8250*

gamma-BHC; Lindane	39340	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1 α ,2 α ,3 β ,4 α ,5 α ,6 β)-	8081, 8270, 8080, 8250*
Bis(2-chloroethoxy)methane	34278	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis-[2-chloro-	8270
Bis(2-chloroethyl)ether	34273	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	8270
Bis(2-chloro-1-methylethyl) ether [see note 6]	73522	108-60-1	2,2'-Dichlorodiisopropylether	8021, 8270
Bis(2-ethylhexyl) phthalate	39100	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	8061, 8060*, 8270
Bromochloromethane	77297	74-97-5	Chlorobromomethane	8021, 8260
Bromodichloromethane	32101	75-27-4	Dichlorobromomethane	8021, 8260
Bromoform	32104	75-25-2	Tribromomethane	8021, 8260
4-Bromophenyl phenyl ether	34636	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270
Butyl benzyl phthalate	34292	85-68-7	Benzyl butyl phthalate	8060*, 8061, 8270
Cadmium	01027	7440-43-9		6010, 7130*, 7131
Carbon disulfide	77041	75-15-0		8260
Carbon tetrachloride	32102	56-23-5	Tetrachloromethane	8021, 8260
Chlordane [see note 7]	39350	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro	8081, 8080, 8250*
p-Chloroaniline	73529	106-47-8	Benzenamine, 4-chloro-	8270
Chlorobenzene	34301	108-90-7	Monochlorobenzene	8021, 8260
Chlorobenzilate	39460	510-15-6	Benzeneacetic acid, 4-chloro- α -(4-chlorophenyl)- α -hydroxy-, ethyl ester	8270
p-Chloro-m-cresol	34452	59-50-7	Phenol, 4-chloro-3-methyl-	8040*, 8041, 8270
Chloroethane	34311	75-00-3	Ethyl chloride	8021, 8260
Chloroform	32106	67-66-3	Trichloromethane	8021, 8260
2-Chloronaphthalene	34581	91-58-7		8120, 8270
2-Chlorophenol	34586	95-57-8		8040*, 8041, 8270
4-Chlorophenyl phenyl ether	34641	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270
Chloroprene	81520	126-99-8	1,3-Butadiene, 2-chloro-	8021, 8260
Chromium	01034	7440-47-3		6010, 7190*, 7191
Chrysene	34320	218-01-9		8100, 8270, 8310
Cobalt	01037	7440-48-3		6010, 7200*, 7201
Copper	01042	7440-50-8		6010, 7210, 7211
m-Cresol	77151	108-39-4	3-Methylphenol	8270
o-Cresol	77152	95-48-7	2-Methylphenol	8270
p-Cresol	77146	106-44-5	4-Methylphenol	8270
Cyanide	00720	57-12-5		9010
2,4-D; 2,4-Dichlorophenoxy-acetic acid	39730	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150, 8151

4,4'-DDD	39361	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	8081, 8080, 8270
4,4'-DDE	39366	72-55-9	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro	8081, 8080, 8270
4,4'-DDT	39371	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro	8081, 8080, 8270
Diallate	73540	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	8270
Dibenzo[a,h]anthracene	34556	53-70-3	Dibenz[a,h]anthracene	8100, 8270, 8310
Dibenzofuran	81302	132-64-9		8270
Dibromochloromethane	32105	124-48-1	Chlorodibromomethane	8021, 8260
1,2-Dibromo-3-chloropropane	38437	96-12-8	DBCP	8021, 8260, 8270
1,2-Dibromoethane	77651	106-93-4	EDB, Ethylene dibromide	8021, 8260
Di-n-butyl phthalate	39110	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060*, 8270, 8061
o-Dichlorobenzene	34536	95-50-1	1,2-Dichlorobenzene	8021, 8120, 8270
m-Dichlorobenzene	34566	541-73-1	1,3-Dichlorobenzene	8021, 8120, 8270
p-Dichlorobenzene	34571	106-46-7	1,4-Dichlorobenzene	8021, 8120, 8270
3,3'-Dichlorobenzidine	34631	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270
trans-1,4-Dichloro-2-butene	73547	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8260
Dichlorodifluoromethane	34668	75-71-8	Freon 12, CFC-12	8021, 8260
1,1-Dichloroethane	34496	75-34-3	Ethylidene chloride	8021, 8260
1,2-Dichloroethane	32103	107-06-2	Ethylene dichloride	8021, 8260
1,1-Dichloroethylene	34501	75-35-4	Vinylidene chloride; 1,1-Dichloroethene	8021, 8260
cis-1,2-Dichloroethylene	77093	156-59-2	cis-1,2-Dichloroethene	8021, 8260
trans-1,2-Dichloroethylene	34546	156-60-5	trans-1,2-Dichloroethene	8021, 8260
2,4-Dichlorophenol	34601	120-83-2		8040*, 8041, 8270
2,6-Dichlorophenol	77541	87-65-0		8270
1,2-Dichloropropane	34541	78-87-5	Propylene dichloride	8021, 8260
1,3-Dichloropropane	77173	142-28-9	Trimethylene chloride	8021, 8260
2,2-Dichloropropane	77170	594-20-7		8021, 8260
1,1-Dichloropropene	77168	563-58-6	1,1-dichloropropylene	8021, 8260
cis-1,3-Dichloropropene	34704	10061-01-5	1,3-dichloropropylene, (Z)	8021, 8260
trans-1,3-Dichloropropene	34699	10061-02-6	1,3-dichloropropylene, (E)	8021, 8260
Dieldrin	39380	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-o ctahydro-, (1 α ,2 β ,2 α ,3 β ,6 β ,6 α ,7 β ,7 α)-	8081, 8080, 8270
Diethyl phthalate	34336	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8081, 8060*, 8270
O,O-Diethyl O-2-pyrazinyl phosphorothioate	73553	297-97-2	Thionazin	8270
Dimethoate	46314	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	8270

p-(Dimethylamino)azobenzene	73558	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270
7,12-Dimethylbenz[a]anthracene	73559	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270
3,3'-Dimethylbenzidine	73560	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270
2,4-Dimethylphenol	34606	105-67-9	2,4-Dimethylphenol	8040*, 8041, 8270
Dimethyl phthalate	34341	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060*, 8270
m-Dinitrobenzene	45622	99-65-0	1,3-Dinitrobenzene	8270
4,6-Dinitro-o-cresol	79533	534-52-1	2-Methyl-4,6-dinitrophenol	8040*, 8041, 8270
2,4-Dinitrophenol	34616	51-28-5		8040*, 8041, 8270
2,4-Dinitrotoluene	34611	121-14-2	1-Methyl-2,4-dinitrobenzene	8090*, 8091, 8270
2,6-Dinitrotoluene	34626	606-20-2	2-Methyl-1,3-dinitrobenzene	8090*, 8091, 8270
Dinoseb	81287	88-85-7	DNBP; 2-sec-Butyl-4,6-dinitrophenol	8150, 8270
Di-n-octyl phthalate	34596	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060*, 8061, 8270
Diphenylamine	77579	122-39-4	Benzenamine, N-phenyl-	8270
Disulfoton	81888	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	8041, 8140*, 8270
Endosulfan I	34361	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a hexahydro-, 3-oxide, (3 α ,5a β ,6 α ,9 α ,9a β)-	8081, 8270, 8080, 8250*
Endosulfan II	34356	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3 α ,5a α ,6 β ,9 β ,9a α)-	8081, 8270, 8080
Endosulfan sulfate	34351	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide	8081, 8080, 8270
Endrin	39390	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-o ctahydro-, (1 α ,2 β ,2a β ,3 α ,6 α ,6a β ,7 β ,7a α)-	8081, 8270, 8080, 8250*
Endrin aldehyde	34366	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5- carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1 α ,2 β ,2a β ,4 β ,4a β ,5 β ,6a β ,6b β ,7R*)-	8081, 8080, 8270
Ethylbenzene	78113	100-41-4		8021, 8260
Ethyl methacrylate	73570	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015, 8260, 8270
Ethyl methanesulfonate	73571	62-50-0	Methanesulfonic acid, ethyl ester	8270
Famphur	38462	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O, O-dimethyl ester	8270
Fluoranthene	34376	206-44-0		8100, 8270
Fluorene	34381	86-73-7	9H-Fluorene	8100, 8270
Heptachlor	39410	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a- tetrahydro-	8081, 8080, 8270

Heptachlor epoxide	39420	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro,(1α,1β,2α,5α,5aβ,6β,6α)	8081, 8080, 8270
Hexachlorobenzene	39700	118-74-1		8120, 8270
Hexachlorobutadiene	34391	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120, 8270
Hexachlorocyclopentadiene	34386	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120, 8270
Hexachloroethane	34396	67-72-1		8120, 8270
Hexachlorophene	73575	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	8270
Hexachloropropene	73576	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270
2-Hexanone	77103	591-78-6	Methyl butyl ketone	8015, 8260
Indeno(1,2,3-cd)pyrene	34403	193-39-5	Indeno[1,2,3-cd]pyrene	8100, 8270
Isobutyl alcohol	77033	78-83-1	1-Propanol, 2-methyl-	8015, 8260
Isodrin	39430	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α,4α,4aβ,5β,8β,8aβ)-	8270
Isophorone	34408	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090*, 8270
Isosafrole	73582	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270
Kepone	81281	143-50-0	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachloro-octahydro-	8270
Lead	01051	7439-92-1		6010, 7420*, 7421
Mercury	71900	7439-97-6		7470
Methacrylonitrile	81593	126-98-7	2-Propenenitrile, 2-methyl-	8015, 8260
Methapyrilene	73589	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	8270
Methoxychlor	39480	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-	8081, 8080, 8270
Methyl bromide	34413	74-83-9	Bromomethane	8021, 8260
Methyl chloride	34418	74-87-3	Chloromethane	8021, 8260
3-Methylcholanthrene	73591	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270
Methyl ethyl ketone	81595	78-93-3	2-Butanone; MEK	8015, 8260
Methyl iodide	77424	74-88-4	Iodomethane	8021, 8260
Methyl methacrylate	81597	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015, 8260
Methyl methanesulfonate	73595	66-27-3	Methanesulfonic acid, methyl ester	8270
2-Methylnaphthalene	77416	91-57-6		8270
Methyl parathion	39600	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	8141, 8140*, 8270
4-Methyl-2-pentanone	78133	108-10-1	Methyl isobutyl ketone	8015, 8260
Methyl tert-butyl ether	78032	1634-04-4	MTBE	8021, 8260
Methylene bromide	77596	74-95-3	Dibromomethane	8021, 8260
Methylene chloride	34423	75-09-2	Dichloromethane	8021, 8260
Naphthalene	34696	91-20-3		8100, 8270
1,4-Naphthoquinone	73599	130-15-4	1,4-Naphthalenedione	8270
1-Naphthylamine	73600	134-32-7	1-Naphthalenamine	8270
2-Naphthylamine	73601	91-59-8	2-Naphthalenamine	8270

Nickel	01067	7440-02-0		6010, 7520*, 7521
o-Nitroaniline		88-74-4	2-Nitrobenzenamine	8270
m-Nitroaniline		99-09-2	3-Nitrobenzenamine	8270
p-Nitroaniline	73605	100-01-6	4-Nitrobenzenamine	8270
Nitrobenzene	34447	98-95-3		8090*, 8270
o-Nitrophenol	34591	88-75-5	2-Nitrophenol	8040*, 8041, 8270
p-Nitrophenol	34646	100-02-7	4-Nitrophenol	8040*, 8041, 8270
N-Nitrosodi-n-butylamine	78207	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270
N-Nitrosodiethylamine	78200	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270
N-Nitrosodimethylamine	34438	62-75-9	Methanamine, N-methyl-N-nitroso-	8270
N-Nitrosodiphenylamine	34433	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8270
N-Nitrosodipropylamine	34428	621-64-7	Di-n-propylnitrosamine	8270
N-Nitrosomethylethylamine	73613	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270
N-Nitrosopiperidine	73619	100-75-4	Piperidine, 1-nitroso-	8270
N-Nitrosopyrrolidine	78206	930-55-2	Pyrrolidine, 1-nitroso-	8270
5-Nitro-o-toluidine	73622	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270
Parathion	39540	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270
Pentachlorobenzene	77793	608-93-5		8270
Pentachloronitrobenzene	81316	82-68-8		8270
Pentachlorophenol	39032	87-86-5		8040*, 8041, 8270
Phenacetin	73626	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270
Phenanthrene	34461	85-01-8		8100, 8270
Phenol	34694	108-95-2		8040*, 8041, 8270
p-Phenylenediamine	73628	106-50-3	1,4-Benzenediamine	8270
Phorate	46313	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8041, 8140*, 8270
Polychlorinated biphenyls		See Note 8	PCBs; 1,1'-Biphenyl, chloro derivatives, Arochlors	8081, 8270, 8080, 8250*
Pronamide	39080	23950-58-5	Benzamide, 3,5-dichloro-N- (1,1-dimethyl-2-propynyl)-	8270
Propionitrile	77007	107-12-0	Ethyl cyanide; Propanenitrile	8015, 8260
Pyrene	34469	129-00-0		8100, 8270
Safrole	77545	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270
Selenium	01147	7782-49-2		6010, 7740, 7741
Silver	01077	7440-22-4		6010, 7760*, 7761
Silvex	39760	93-72-1	2,4,5-TP; Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150, 8151
Styrene	77128	100-42-5	Ethenylbenzene	8021, 8260
Sulfide	00745	18496-25-8		9030
2,4,5-T	39740	93-76-5	2,4,5-Trichloro-phenoxyacetic acid	8150, 8151
1,2,4,5-Tetrachlorobenzene	77734	95-94-3		8270

1,1,1,2-Tetrachloroethane	77562	630-20-6		8021, 8260
1,1,2,2-Tetrachloroethane	34516	79-34-5		8021, 8260
Tetrachloroéthylène	34475	127-18-4	Perchloroethylene; Tetrachloroethene; PCE	8021, 8260
2,3,4,6-Tetrachlorophenol	77770	58-90-2		8270
Thallium	01059	7440-28-0		6010, 7840, 7841
Tin	01102	7440-31-5		6010, 7870
Toluene	78131	108-88-3	Methylbenzene	8021, 8260
o-Toluidine	77142	95-53-4	2-Methylbenzenamine	8270
Toxaphene	39400	See note 9		8081, 8270, 8080, 8250*
1,2,4-Trichlorobenzene	34551	120-82-1		8270
1,1,1-Trichloroethane	34506	71-55-6	Methylchloroform	8021, 8260
1,1,2-Trichloroethane	34511	79-00-5		8021, 8260
Trichloroethylene	39180	79-01-6	Trichloroethene; TCE	8021, 8260
Trichlorofluoromethane	34488	75-69-4	Freon 11, Fluorotrichloromethane, CFC-11	8021, 8260
2,4,5-Trichlorophenol	77687	95-95-4		8270
2,4,6-Trichlorophenol	34621	88-06-2		8040*, 8041, 8270
1,2,3-Trichloropropane	77443	96-18-4		8021, 8260
O,O,O-Triethyl phosphorothioate	73652	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270
sym-Trinitrobenzene	73653	99-35-4	Benzene, 1,3,5-trinitro-	8270
Vanadium	01087	7440-62-2		6010, 7910, 7911
Vinyl acetate	77057	108-05-4	Ethenyl ester acetic acid	8260
Vinyl chloride	39175	75-01-4	Chloroethene	8021, 8260
Xylene (total) [see note 10]	81551	1330-20-7	Dimethylbenzene	8021, 8260
Zinc	01092	7440-66-6		6010, 7950, 7951

1 This list includes all the substances required for assessment monitoring under EPA RCRA Subtitle D (40 CFR Part 258 Appendix II).

2 Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

3 Parameter No. refers to the Wisconsin identification number and the EPA Storet number for each parameter. The parameter code number refers to a specific parameter, the medium of concentration, and the units of concentration.

4 Chemical Abstracts Service registry number.

5 For Analytical Methods, refer to the analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, Final Update 2B, January 1995. For the appropriate extraction procedure refer, in the same document, to Table 2-37 "Preparation Methods for Organic Analytes," and refer to Table 2-36 for the "Required Containers, Preservation Techniques, and Holding Times for Aqueous Matrices."

Note: Analytical details can be found in SW-846 and in documentation on file with EPA. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable methods for monitoring an analyte under the regulations. The publication SW-846 may be obtained from:

National Technical Information Service
5285 Port Royal Road
(703) 487-4650
Springfield, VA 22161

6 This substance is often called Bis(2-chloroisopropyl) ether, the name the Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxy-bis[2-chloro- (CAS RN 39638-32-9).

7 Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

8 Polychlorinated biphenyls (CAS RN 01336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1) and Aroclor-1260 (CAS RN 11096-82-5).

9 Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

10 Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

* This method incorporates outdated analytical technology and is scheduled to be removed from EPA approved lists.

Note: Copies of the test procedures are available for inspection at the offices the department of natural resources, the secretary of state, and the revisor of statutes.

Appendix III
VOLATILE ORGANIC COMPOUNDS FOR DETECTION MONITORING¹
AT MUNICIPAL SOLID WASTE LANDFILLS

Common name ²	Parameter No. ³	CAS RN ⁴	Synonyms	Analytical methods ⁵
Acetone ¹	81552	67-64-1	2-Propanone	8260
Benzene	34030	71-43-2		8021, 8260
Bromodichloromethane	32101	75-27-4	Dichlorobromomethane	8021, 8260
Bromoform	32104	75-25-2	Tribromomethane	8021, 8260
Carbon disulfide ¹	77041	75-15-0		8260
Carbon tetrachloride	32102	56-23-5	Tetrachloromethane	8021, 8260
Chlorobenzene	34301	108-90-7	Monochlorobenzene	8021, 8260
Chloroethane	34311	75-00-3	Ethyl chloride	8021, 8260
Chloroform	32106	67-66-3	Trichloromethane	8021, 8260
Dibromochloromethane	32105	124-48-1	Chlorodibromomethane	8021, 8260
1,2-Dibromo-3-chloropropane	38437	96-12-8	DBCP	8021, 8260
1,2-Dibromoethane	77651	106-93-4	EDB; Ethylene dibromide	8021, 8260
o-Dichlorobenzene	34536	95-50-1	1,2-Dichlorobenzene	8021, 8260
m-Dichlorobenzene	34566	541-73-1	1,3-Dichlorobenzene	8021, 8260
p-Dichlorobenzene	34571	106-46-7	1,4-Dichlorobenzene	8021, 8260
Dichlorodifluoromethane	34668	75-71-8	Freon 12, Difluorodichloromethane	8021, 8260
1,1-Dichloroethane	34496	75-34-3		8021, 8260
1,2-Dichloroethane	32103	107-06-2	Ethylene dichloride	8021, 8260
1,1-Dichloroethylene	34501	75-35-4	Vinylidene chloride	8021, 8260
cis-1,2-Dichloroethylene	77093	156-59-2	cis-1,2-Dichloroethene	8021, 8260
trans-1,2-Dichloroethylene	34546	156-60-5	trans-1,2-Dichloroethene	8021, 8260
1,2-Dichloropropane	34541	78-87-5		8021, 8260
cis-1,3-Dichloropropylene	34704	10061-01-5	cis-1,3-Dichloropropene, Z-Dichloropropylene	8021, 8260
trans-1,3-Dichloropropylene	34699	10061-02-6	trans-1,3-Dichloropropene, E-Dichloropropylene	8021, 8260
Ethylbenzene	78113	100-41-4		8021, 8260
Methyl bromide	34413	74-83-9	Bromomethane	8021, 8260
Methyl chloride	34418	74-87-3	Chloromethane	8021, 8260
Methylene bromide	77596	74-95-3	Dibromomethane	8021, 8260
Methylene chloride	34423	75-09-2	Dichloromethane	8021, 8260
Methyl ethyl ketone ¹	81595	78-93-3	2-Butanone; MEK	8260
Methyl tert-butyl ether	78032	1634-04-4	MTBE	8021, 8260
Naphthalene	34696	91-20-3		8021, 8260
Styrene	77128	100-42-5	Ethenylbenzene	8021, 8260
Tetrachloroethylene	34475	127-18-4	Perchloroethylene; Tetrachloroethene; PCE	8021, 8260
Tetrahydrofuran ¹	81607	109-99-9	THF	8260

Toluene	78131	108-88-3	Methylbenzene	8021, 8260
1,1,1-Trichloroethane	34506	71-55-6	Methylchloroform	8021, 8260
1,1,2-Trichloroethane	34511	79-00-5		8021, 8260
Trichloroethylene	39180	79-01-6	Trichloroethene; TCE	8021, 8260
Trichlorofluoromethane	34488	75-69-4	Fluorotrichloromethane, Freon 11	8021, 8260
Vinyl chloride	39175	75-01-4	Chloroethene	8021, 8260
Xylene (total) [see note 6]	81551	1330-20-7	Dimethylbenzene	8021, 8260

1 Includes the Volatile Organic Compounds (VOCs) necessary when a "VOC Scan" is required under s. NR 507 Wis. Adm. Code Appendix I Table 1, Table 4 and Table 5. Acetone, Carbon disulfide, Methyl ethyl ketone, and Tetrahydrofuran are exempted if EPA Method 8021 is used for the analysis.

2 Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

3 Parameter No. refers to the Wisconsin identification number and the EPA Storet number for each parameter. The parameter code number refers to a specific parameter, the medium of concentration, and the units of concentration.

4 Chemical Abstracts Service registry number.

5 For Analytical Methods, refer to the analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, Final Update 2B, January 1995. For the appropriate extraction procedure refer, in the same document, to Table 2-37 "Preparation Methods for Organic Analytes," and refer to Table 2-36 for the "Required Containers, Preservation Techniques, and

Holding Times for Aqueous Matrices."

Note: Note: Analytical details can be found in SW-846 and in documentation on file with EPA. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable methods for monitoring an analyte under the regulations. The publication SW-846 may be obtained from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650.

Note: Copies of the test procedures are available for inspection at the offices of the department of natural resources, the secretary of state, and the revisor of statutes.

6 Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

APPENDIX IV
LIST OF METALS AND INDICATOR PARAMETERS¹
FOR MUNICIPAL AND INDUSTRIAL SOLID WASTE LANDFILLS

Parameter	Parameter Number ² (Total or unfiltered)	Parameter Number ² (Dissolved or Filtered)	Regulatory Category ⁴	Analytical methods ^{3,5,6}
Alkalinity	00410	39036	A,B	301.1 ⁵ 301.2 ⁵ 2320 B ⁶
Antimony	01097	01095	D	6010, 7040*, 7041
Arsenic	01002	01000	C,D	6010, 7060, 7061
Barium	01007	01005	C,D	6010, 7080*
Beryllium	01012	01010	D	6010, 7090, 7091
Biochemical oxygen demand, BOD ₅	00310	00311	B	405.1 ^{5*} 5210 ⁶
Boron	01022	01020	B	6010
Cadmium	01027	01025	B,C,D	6010, 7130*, 7131
Calcium	00916	00915	E	6010, 7140
Chemical oxygen demand, COD	00340	00341	A,B	410.1 ⁵ 410.2 ⁵ 410.3 ⁵ 410.4 ⁵ 5220 B ⁶
Chloride	00940	82295	A,B,C	9250
Chromium	01034	01030	C,D	6010, 7190*, 7191
Cobalt	01037	01035	D	6010, 7200*, 7201
Copper	01042	01040	C,D	6010, 7210
Cyanide	00720	00723	E	9010
Fluoride	00951	00950	B,C	300.0 ⁵ 340.2 ⁵ 340.1 ⁵ 4500-F-B ⁶ 4500-F-C ⁶ 4500-F-D ⁶ 4500-F-E ⁶
Hardness	00900	22413	A,B	130.1 ⁵ 130.2 ⁵ 2340 C ⁶
Iron	74010	01046	A,B,C	6010, 7380, 7381
Lead	01051	01049	B,C,D	6010, 7420*, 7421
Magnesium	00927	00925	E	6010, 7450

Manganese	01055	01056	C	6010, 7460, 7461
Mercury	71900	71890	C	7470
Nickel	01067	01065	D	6010, 7520*, 7521
Nitrate (NO ₃ -N)	00620	00618	E	9200
Nitrate + Nitrite (NO ₃ +NO ₂)	00630	00631	C	353.3 ⁵ 353.2 ⁵ 353.4 ⁵ 4500-NO ₃ E ⁶ 4500-NO ₃ F ⁶ 4500-NO ₃ G ⁶
Nitrite (NO ₂ -N)	00615	00613	E	345.1 ⁵ 4400-NO ₂ B ⁶
Ammonia nitrogen	00610	00608	B	350.2 ⁵ 350.3 ⁵ 350.1 ⁵ 4500-NH ₃ B ⁶ 4500-NH ₃ C ⁶ 4500-NH ₃ E ⁶ 4500-NH ₃ F ⁶ 4500-NH ₃ H ⁶
Kjeldahl nitrogen	00625	00623	E	351.3 ⁵ 351.1 ⁵ 351.2 ⁵ 351.4 ⁵ 4500-N-B ⁶ 4500-NH ₃ E ⁶ 4500-NH ₃ C ⁶ 4500-NH ₃ F ⁶ 4500-NH ₃ H ⁶
Organic nitrogen	00605	00607	E	
Total nitrogen	00600	00601	E	
pH (Lab)	00403	00403	E	9040
pH (Field)	00400	00400	A,B	
Potassium	00937	00935	E	258.1 ⁵ 200.7 ⁵ 3111 B ⁶ 3120 B ⁶ 3500-KD ⁶
Selenium	01147	01145	B,C,D	6010, 7740, 7741
Silver	01077	01075	C,D	6010, 7760*, 7761
Sodium	00929	00930	B	7770
Solids, Total Dissolved	00247	00360	A,B,C	
Specific Conductance (Lab)	00095	00095	E	9050
Specific Conductance (Field)	00094	00094	A,B	9050
Sulfate	00945	00946	B,C	9035
Sulfide	00745	00746	E	9030
Temperature (Field)	00010	00010	A,B	170.1 ⁵ 2550 B ⁶
Thallium	01059	01057	D	6010, 7840, 7841

Tin	01102	01100	E	6010, 7870
Vanadium	01087	01085	D	6010, 7910, 7911
Zinc	01092	01090	C,D	6010, 7950 7951

1 This list includes all the metals and inorganic indicator parameters required for groundwater monitoring as part of the Wisconsin Solid Waste Program. Some solid waste facilities may require monitoring under other regulatory programs. Refer to tables in the text for the specific parameter categories required.

2 Parameter Number refers to the Wisconsin identification number and the EPA Storet number for each parameter. The parameter code number refers to a specific parameter, the medium of concentration, and the units of concentration.

3 For Analytical Methods, refer to the analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, Final Update 2B, January 1995. Refer to Table 2-36 for the "Required Containers, Preservation Techniques, and Holding Times for Aqueous Matrices."

Note: Analytical details can be found in SW-846 and in documentation on file with EPA. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable methods for monitoring an analyte under the regulations. The publication SW-846 may be obtained from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650.

Note: Copies of the test procedures are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

4 Regulatory categories:

A. Municipal Solid Waste Detection Monitoring Parameter (see Appendix I, Tables 1, 4, and 5 c. NR 507 Wis. Adm. Code)

B. Special Waste Detection Monitoring Parameter (see Appendix I, Tables 2, 4, and 5, c. NR 507 Wis. Adm. Code)

C. Public Health and Welfare Parameter for Background Water Quality Monitoring (see Appendix I, Table 3, c. NR 507 Wis. Adm. Code)

D. EPA Subtitle D Metal for Background and Detection Monitoring (40 CFR Part 258 Appendix I)

E. Site Specific Monitoring Parameter

5 "Methods for Chemical Analysis of Water and Waste", EPA-600/4-79-020 United States Environmental Protection Agency, Revised March 1983 and 1979 where applicable. Available from National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

Note: Copies of the test procedures are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

6 "Standard Methods for the Examination of Water and Wastewater", Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Pollution Control Federation, 17th Edition, 1989. Available from American Public Health Association, 1015 15th Street NW, Washington D.C. 20005.

Note: Copies of the test procedures are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

* This method incorporates outdated analytical technology and is scheduled to be removed from EPA approved lists.

Appendix V Form A - GROUNDWATER MONITORING WELL INFORMATION FORM

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION FORM
Chapter T44, Wis. Stats.
Form 4500-59
Rev. 1-90

Facility Name			Facility ID Number		Date			Completed By (Name and Firm)												
Well Name	DNR Well ID Number	Well Location	N	S	E	W	Well Casing		Elevations		Reference	Screen Length	Well Depth	Type of Well (✓)			Gradient U, S, D or N			
							Drain. Type	Type	Top of Well Casing	Ground Surface				MST (✓)	Site Permit (✓)	Artes. (✓)		Other	Artes. (✓)	Perit. State Apply

Location Coordinates Ave: Local Grid System (preferred) State Plane Coordinate Northern Central

Remarks:

PSS Use: File Maint. Completed: Other:

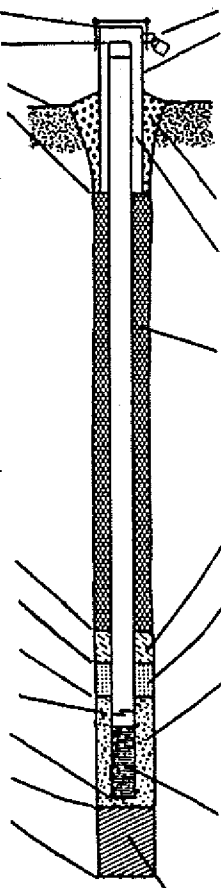
Form B - MONITORING WELL CONSTRUCTION FORM

State of Wisconsin Route to: Solid Waste [] Haz. Waste [] Wastewater [] MONITORING WELL CONSTRUCTION
Department of Natural Resources Env. Response & Repair [] Underground Tanks [] Other [] Form 4400-113A Rev. 4-90

Facility/Project Name, Local Grid Location of Well, Well Name, Facility License, Permit or Monitoring Number, Grid Origin Location, Wis. Unique Well Number, DNR Well Number, Type of Well, Section Location of Waste/Source, Date Well Installed, Distance Well is From Waste/Source Boundary, Location of Well Relative to Waste/Source, Is Well A Point of Enforcement Std. Application?

- A. Protective pipe, top elevation
B. Well casing, top elevation
C. Land surface elevation
D. Surface seal, bottom

12. USCS classification of soil near screen: GP, GM, GC, GW, SW, SP, SM, SC, ML, MH, CL, CH
13. Sieve analysis attached?
14. Drilling method used: Rotary, Hollow Stem Auger, Other
15. Drilling fluid used: Water, Air, Drilling Mud, None
16. Drilling additives used?
17. Source of water (attach analysis):



- 1. Cap and lock?
2. Protective cover pipe: a. Inside diameter, b. Length, c. Material, d. Additional protection?
3. Surface seal: Bentonite, Concrete, Other
4. Material between well casing and protective pipe: Bentonite, Annular space seal, Other
5. Annular space seal: a. Granular Bentonite, b. Lbs/gal mud weight, c. Lbs/gal mud weight, d. % Bentonite, e. Ft volume added, f. How installed: Tremie, Tremie pumped, Gravity
6. Bentonite seal: a. Bentonite granules, b. 1/4 in, 3/8 in, 1/2 in, c. Other
7. Fine sand material: Manufacturer, product name, mesh size
8. Filter pack material: Manufacturer, product, mesh size
9. Well casing: Flush threaded PVC schedule 40, Flush threaded PVC schedule 80, Other
10. Screen Material: a. Screen type: Factory cut, Continuous slot, Other, b. Manufacturer, c. Slot size, d. Slotted length
11. Backfill material (below filter pack): None, Other

- E. Bentonite seal, top
F. Fine sand, top
G. Filter pack, top
H. Screen joint, top
I. Well bottom
J. Filter pack, bottom
K. Borehole, bottom
L. Borehole, diameter
M. O.D. well casing
N. I.D. well casing

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature Firm

Form C - MONITORING WELL DEVELOPMENT FORM

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste [] Haz. Waste [] Wastewater []
Env. Response & Repair [] Underground Tanks [] Other []

Facility/Project Name, County Name, Well Name, Facility License, Permit or Monitoring Number, County Code, Wis. Unique Well Number, DNR Well Number.
1. Can this well be purged dry? [] Yes [] No
2. Well development method: surged with bailer and bailed, surged with bailer and pumped, surged with block and bailed, surged with block and pumped, surged with block, bailed and pumped, compressed air, bailed only, pumped only, pumped slowly, other.
3. Time spent developing well ___ min.
4. Depth of well (from top of well casing) ___ ft.
5. Inside diameter of well ___ in.
6. Volume of water in filter pack and well casing ___ gal.
7. Volume of water removed from well ___ gal.
8. Volume of water added (if any) ___ gal.
9. Source of water added:
10. Analysis performed on water added? [] Yes [] No (If yes, attach results)
11. Depth to Water (from top of well casing) a. ___ ft. Date b. ___/___/___ mm dd yy Time c. ___:___ [] a.m. [] p.m.
12. Sediments in well bottom ___ inches
13. Water clarity: Clear [] 10 Turbid [] 15 (Describe)
14. Total suspended solids ___ mg/l
15. COD ___ mg/l
16. Additional comments on development:

Well developed by: Person's Name and Firm
Name:
Firm:
I hereby certify that the above information is true and correct to the best of my knowledge.
Signature:
Print Initials:
Firm:

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

Form D - WELL/DRILLHOLE/BOREHOLE ABANDONMENT FORM

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION (2) FACILITY NAME
Well/Drillhole/Borehole Location County
Original Well Owner (If Known)
Present Well Owner
Street or Route
City, State, Zip Code
Facility Well No. and/or Name (If Applicable) WI Unique Well No.
Reason For Abandonment
Date of Abandonment

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date)
(4) Depth to Water (Feet)
Pump & Piping Removed?
Liner(s) Removed?
Screen Removed?
Casing Left in Place?
If No, Explain
Was Casing Cut Off Below Surface?
Did Sealing Material Rise to Surface?
Did Material Settle After 24 Hours?
If Yes, Was Hole Retopped?
(5) Required Method of Placing Sealing Material
(6) Sealing Materials

Table with 5 columns: Sealing Material Used, From (Ft.), To (Ft.), No. Yards, Sacks Sealant or Volume, Mix Ratio or Mud Weight

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work
Signature of Person Doing Work Date Signed
Street or Route Telephone Number
City, State, Zip Code

Form D - WELL/DRILLHOLE/BOREHOLE ABANDONMENT FORM

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location	County	Original Well Owner (If Known)	
1/4 of 1/4 of Sec. ; T. N; R. <input type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner	
(if applicable) Gov't Lot	Grid Number	Street or Route	
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S., <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code	
Civil Town Name		Facility Well No. and/or Name (If Applicable)	WI Unique Well No.
Street Address of Well		Reason For Abandonment	
City, Village		Date of Abandonment	

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On		(4) Depth to Water (Feet)	
(Date)	Construction Report Available? <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable If No, Explain	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input type="checkbox"/> Borehole		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify)		(5) Required Method of Placing Sealing Material	
Formation Type: <input type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)	
Total Well Depth (ft.) (From ground surface) Casing Diameter (ins.) Casing Depth (ft.) Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? Feet		(6) Sealing Materials	
		For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input type="checkbox"/> Chipped Bentonite <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Cement Grout	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	(Circle One)	Mix Ratio or Mud Weight
	Surface				

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work	
Signature of Person Doing Work	Date Signed
Street or Route	Telephone Number
City, State, Zip Code	

Form E - SOIL BORING LOG INFORMATION FORM

State of Wisconsin
Department of Natural Resources

- Route To:
- Solid Waste
 - Emergency Response
 - Wastewater
 - Superfund
 - Haz. Waste
 - Underground Tanks
 - Water Resources
 - Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Page _____ of _____

Facility/Project Name		License/Permit/Monitoring Number	Boring Number
Boring Drilled By (Firm name and name of crew chief)		Date Drilling Started MM/DD/YY	Date Drilling Completed MM/DD/YY
DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level _____ Feet MSL
Boring Location		Surface Elevation _____ Feet MSL	Borehole Diameter _____ inches
State Plane	N. _____ E S/C/N	Lat. 0' . '	Local Grid Location (If applicable)
_____ 1/4 of _____ 1/4 of Section _____	T. _____ N. R. _____ E/W	Long 0' . '	_____ Feet <input type="checkbox"/> N _____ Feet <input type="checkbox"/> E _____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W
County	DNR County Code	Civil Town/City/ or Village	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					P 200	RDY Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index			

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm _____

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$5,000 for each violation. Fined not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

Form F - GROUNDWATER MONITORING INVENTORY FORM

Department of Natural Resources

GROUNDWATER MONITORING INVENTORY FORM
Form 3300-67 Rev. 8-93

Wisconsin Unique Well Number _____	<input type="checkbox"/> Add	<input type="checkbox"/> Change	
Inventory Completed By (Last Name, First, MI) _____	Date _____	With _____	<input type="checkbox"/> DNR
			<input type="checkbox"/>

Facility Name _____	Facility ID # _____
	Local Well ID _____
	High Cap Well # _____

Primary Contact Name (Last, First, MI) _____	<input type="checkbox"/> Owner	<input type="checkbox"/> Driller
Telephone Number _____	<input type="checkbox"/> Operator	<input type="checkbox"/> Business
Mailing Address _____	<input type="checkbox"/> Occupant	<input type="checkbox"/> Facility
City _____ State _____ Zip Code _____	<input type="checkbox"/> Consultant	<input type="checkbox"/> Sampler
	<input type="checkbox"/> Manager	<input type="checkbox"/> Other
	<input type="checkbox"/> Contractor	

Other Contact Name (Last, First, MI) _____	<input type="checkbox"/> Owner	<input type="checkbox"/> Driller
Telephone Number _____	<input type="checkbox"/> Operator	<input type="checkbox"/> Business
Mailing Address _____	<input type="checkbox"/> Occupant	<input type="checkbox"/> Facility
City _____ State _____ Zip Code _____	<input type="checkbox"/> Consultant	<input type="checkbox"/> Sampler
	<input type="checkbox"/> Manager	<input type="checkbox"/> Other
	<input type="checkbox"/> Contractor	

Well Location			(X) 1/4 1/4 Sec.
<input type="checkbox"/> Town <input type="checkbox"/> City <input type="checkbox"/> Village	Fire # (If avail.) _____	County _____	
Grid or Street Address or Road (If avail.) _____		Govt. Lot # _____	
		OR _____ 1/4 of _____ 1/4 of Section _____	
Subdivision Name _____	Lot _____	Block _____	
Construction Type <input type="checkbox"/> Drilled <input type="checkbox"/> Dug <input type="checkbox"/> Driven Point <input type="checkbox"/> Spring <input type="checkbox"/> Jetted <input type="checkbox"/> Other		OR Latitude _____ Deg. Min. Sec. Longitude _____ Land Surface Elevation _____ ft. MSL	
Construction Date _____		Number of Wells on Property _____	

Construction Date _____ _____ / _____ / _____ m m d d y y y y	Well Use <input type="checkbox"/> Private Potable <input type="checkbox"/> Community-Municipal <input type="checkbox"/> Priv. Non-Potable <input type="checkbox"/> Community OTM <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Non-Transient Non-Com. <input type="checkbox"/> Transient Non-Com.
Constructor _____	

Source of Well Data			Well Status <input type="checkbox"/> Active Use <input type="checkbox"/> Inactive <input type="checkbox"/> Perm Filled
<input type="checkbox"/> Well Report	<input type="checkbox"/> Owner/Occupant	<input type="checkbox"/> Other*	
Depth From Land Surface To:	Casing Diameter _____ in.	Water Bearing Formation	
Bedrock _____ ft.		<input type="checkbox"/> Sandstone	
Well Bottom _____ ft.		<input type="checkbox"/> Unconsolidated <input type="checkbox"/> Shale	
Static Water _____ ft.		<input type="checkbox"/> Limestone <input type="checkbox"/> Crystalline	
Casing Bottom _____ ft.			

Comments: eg. Reason for inventory, Samples taken, Directions to property, Details of well location on property.

*For "Other", enter a description in the comment area if needed.