CHAPTER 15 PROGRAM NOTE #7:
SUGGESTED LABORATORY METHODS
FOR ANALYZING APPENDIX I AND
APPENDIX II CONSTITUENTS

August 2, 1993
Updated December 11, 1998

The State Water Resources Control Board’s Resolution No. 93-62 (Policy) was approved by the Office of Administrative Law and became effective on July 28, 1993. The Policy directs Regional Water Boards to implement the USEPA’s municipal solid waste landfill regulations (40 CFR Part 258, “federal MSW regulations”) throughout the state by revising the waste discharge requirements (WDRs) of all dischargers having landfills subject to those regulations. One aspect of the federal MSW regulations that has caused considerable confusion is the requirement to monitor and analyze for certain constituents listed in Appendices I and II to Part 258. (Appendix I is a subset of the Appendix II constituents used for monitoring.)

Ms. May Hoe, Public Health Chemist for the Central Valley Regional Water Board, has compiled the following list of suggested USEPA analytical methods from SW-846 (through Update III) and Standard Methods, with an eye toward controlling cost by using the least number of methods while at the same time maintaining low detection limits and high reliability. May has also suggested additional recommended monitoring constituents (indicated in the following table with an asterisk “*”) based on knowledge of wastes that are commonly discharged to MSW landfills. If you have any questions, please call May Hoe at (916) 255-3034 or CalNet 8-494-3034.

### Volatile Organics (USEPA Method 8260B):

<table>
<thead>
<tr>
<th>Compound</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td></td>
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<tr>
<td>Acetonitrile</td>
<td></td>
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<tr>
<td>Acrolein</td>
<td></td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td></td>
</tr>
<tr>
<td>Allyl chloride (3-Chloropropene)</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl methyl ether*</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl alcohol*</td>
<td></td>
</tr>
<tr>
<td>n-Butylbenzene*</td>
<td></td>
</tr>
<tr>
<td>sec-Butylbenzene*</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl benzene*</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl ethyl ether*</td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td></td>
</tr>
<tr>
<td>Bromobenzene</td>
<td></td>
</tr>
<tr>
<td>Bromochloromethane</td>
<td></td>
</tr>
<tr>
<td>Bromodichloromethane</td>
<td></td>
</tr>
<tr>
<td>Bromoform</td>
<td></td>
</tr>
<tr>
<td>Bromomethane</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl alcohol*</td>
<td></td>
</tr>
<tr>
<td>n-Butylbenzene*</td>
<td></td>
</tr>
<tr>
<td>sec-Butylbenzene*</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl benzene*</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl ethyl ether*</td>
<td></td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td></td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td></td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td></td>
</tr>
<tr>
<td>Chloroethane</td>
<td></td>
</tr>
<tr>
<td>Chloroform</td>
<td></td>
</tr>
<tr>
<td>Chloromethane</td>
<td></td>
</tr>
<tr>
<td>Chloroprene</td>
<td></td>
</tr>
<tr>
<td>Dibromochloromethane</td>
<td></td>
</tr>
<tr>
<td>1,2-Dibromo-3-chloropropane (DBCP)</td>
<td></td>
</tr>
<tr>
<td>Dibromomethane</td>
<td></td>
</tr>
<tr>
<td>1,2-Dibromoethane (Ethylene dibromide; EDB)</td>
<td></td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
<td></td>
</tr>
<tr>
<td>1,3-Dichlorobenzene</td>
<td></td>
</tr>
<tr>
<td>1,4-Dichlorobenzene</td>
<td></td>
</tr>
<tr>
<td>trans-1,4-Dichloro-2-butene</td>
<td></td>
</tr>
<tr>
<td>Dichlorodifluoromethane</td>
<td></td>
</tr>
<tr>
<td>1,1-Dichlorethene</td>
<td></td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td></td>
</tr>
</tbody>
</table>
Volatile Organics (USEPA Method 8260B) continued:

1,1-Dichloroethene
 cis-1,2-Dichloroethene
 trans-1,2-Dichloroethene
 Dichloromethane
 1,2-Dichloropropane
 1,3-Dichloropropane
 2,2-Dichloropropane
 1,1-Dichloropropene
 cis-1,3-Dichloropropene
 trans-1,3-Dichloropropene
 1,4-Dioxane*
 Ethylbenzene
 Ethyl methacrylate
 Hexachlorobutadiene
 Hexachloroethane
 2-Hexanone
 Iodomethane
 Isobutyl alcohol
 Di-Isopropyl ether*
 Methacrylonitrile
 Methyl ethyl ketone
 4-Methyl-2-pentanone
 Methyl tert-butyl ether (MtBE)*
 Naphthalene
 2-Nitropropane
 n-Propylbenzene*
 Propionitrile
 Styrene
 1,1,1,2-Tetrachloroethane
 1,1,2,2-Tetrachloroethane
 Tetrachloroethene (PCE)
 Toluene
 1,2,4-Trichlorobenzene
 1,1,1,2-Tetrachloroethane
 1,1,2,2-Tetrachloroethane
 Trichloroethene (TCE)
 Trichlorofluoromethane
 1,2,3-Trichloropropane
 1,3,5-Trimethylbenzene*
 Vinyl chloride
 Xylene (total)

Semivolatile Organics (USEPA Method 8270C):
 Acenaphthene
 Acenaphthylene
 Acetophenone
 Acetonitrile
 2-Acetylaminofluorene
 Ametryn*
 4-Aminobiphenyl
 Anthracene
 Atrazine*
 Benzo(a)anthracene
 Benzo(b)fluoranthenes
 Benzo(k)fluoranthenes
 Benzo(a)pyrene
 Benzyl alcohol
 Bis(2-chloroethoxy) methane
 Bis(2-chloroethyl) ether
 Bis(2-ethylhexyl) phthalate
 Bis(2-chloro-1-methylether) ether
 Bis(4-bromophenyl phenyl) ether
 Bromacil*
 Butyl benzyl phthalate
 4-Chlorobenzenamine
 4-Chloro-3-methyl phenol
 2-Chloronaphthalene
 2-Chlorophenol
 4-Chlorophenyl phenyl ether
 Chrysene
 Dacthal*
 Dibenzo(a,h)anthracene
 Di-n-butyl phthalate
 3,3'-Dichlorobenzidine
 2,4-Dichlorophenol
 2,6-Dichlorophenol
 Diethyl phthalate
 2,4-Dichlorophenol
 2,6-Dichlorophenol
 Diethyl phthalate
 O,O-Diethylphosphorothioate
 p-(Dimethylamino)azobenzene
 7,12-Dimethylbenz(a)anthracene
 3,3-Dimethylbenzidine
 2,4-Dimethylphenol
 2,4-Dimethylphenol
 Dimethyl phthalate
 1,2-Dinitrobenzene
 1,3-Dinitrobenzene
 1,4-Dinitrobenzene
 4,6-Dinitro-2-methylphenol
 2,4-Dinitrophenol
 2,4-Dinitrophenol
 2,4-Dinitrotoluene
 2,6-Dinitrotoluene
 Di-n-octyl phthalate
 Diphenylamine
 EPTC*
Semivolatile Organics (USEPA Method 8270C) continued:
- Ethyl methanesulfonate
- Fluorene
- Fluoranthene
- Hexachlorobenzene
- Hexachloropropene
- Indeno(1,2,3-cd)pyrene
- Indeno(1,2,3-cd)anthracene
- Isophorone
- Kepone
- Lindane
- Methapyrilene
- 3-Methylchloroanthrene
- Methylmethanesulfonate
- Methyl methacrylate
- 2-Methylnaphthalene
- 2-Methylphenol
- 3-Methylphenol
- 4-Methylphenol
- Molinate*
- 1,4-Naphthoquinone
- 1-Naphthylamine
- 2-Naphthylamine
- 2-Nitroaniline
- 3-Nitroaniline
- 4-Nitroaniline
- Nitrobenzene
- 2-Nitrophenol
- 4-Nitrophenol
- N-Nitrosodi-n-butylamine
- N-Nitrosodiethylamine
- N-Nitrosodimethylamine
- N-Nitrosodiphenylamine
- N-Nitrosodipropylamine
- N-Nitrosopiperidine
- 5-Nitro-o-toluidine
- Pentachlorobenzene
- Pentachloronitrobenzene
- Pentachlorphenol
- Phenacelin
- Phenanthrene
- Phenol
- 1,4-Phenylenediamine
- Prometon*
- Pronamide
- Pyrene
- Safrone
- Simazine*
- 2,4,5-Trichlorophenoxyacetic acid
- 1,2,4,5-Tetrachlorobenzene
- 2,3,4,6-Tetrachlorophenol
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol
- O,O,O-Triethyl Phosphorothioate
- sym-Trinitrobenzene
- Vinyl acetate

Organochlorine Pesticides (USEPA Method 8081A):
- Aldrin
- α-BHC
- β-BHC
- γ-BHC (Lindane)
- δ-BHC
- Chlorobenzilate
- α-Chlordane
- γ-Chlordane
- Chlordane - not otherwise specified
- DBCP
- 4,4’-DDD
- 4,4’-DDE
- 4,4’-DDT
- Diallate
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Endrin ketone
- Heptachlor
- Heptachlor epoxide
- Hexachlorocyclopentadiene
- Isodrin
- Methoxychlor
- Toxaphene
Polychlorinated Biphenyls (PCBs) (USEPA Method 8082):

- Aroclor 1016
- Aroclor 1221
- Aroclor 1232
- Aroclor 1242
- Aroclor 1248
- Aroclor 1254
- Aroclor 1260
- 2-Chlorobiphenyl*
- 2,3-Dichlorobiphenyl*
- 2,2',5-Trichlorobiphenyl*
- 2,4',5-Trichlorobiphenyl*
- 2,2',3,5'-Tetrachlorobiphenyl*
- 2,2',5,5'-Tetrachlorobiphenyl*
- 2,3',4,4'-Tetrachlorobiphenyl*
- 2,2',3,4,5'-Pentachlorobiphenyl*
- 2,2',4,5,5'-Pentachlorobiphenyl*
- 2,3,3',4,4',5'-Hexachlorobiphenyl*
- 2,2',3,5,5',6-Hexachlorobiphenyl*
- 2,2',4,4',5,5'-Hexachlorobiphenyl*
- 2,2',3,3',4,4',5,5'-Heptachlorobiphenyl*
- 2,2',3,4,4',5,5',6-Heptachlorobiphenyl*
- 2,2',3,4,4',5',6-Heptachlorobiphenyl*
- 2,2',3,4',5,5',6-Heptachlorobiphenyl*
- 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl*

Organophosphorus Compounds (USEPA 8141A):

- Chlorpyrifos
- Diazinon
- Dimethioate
- Disulfoton
- Ethion
- Famphur
- Malathion
- Parathion
- Parathion-ethyl
- Parathion-methyl
- Phorate

Total Purgeable Petroleum Hydrocarbons* USEPA Method M8015/5030 or 5035

Total Extractable Petroleum Hydrocarbons* USEPA Method M8015/3510

Extractable Oil and Grease* USEPA Method 1664 or SM 5520 series

Anion Scan (USEPA Method 300):

- Bromide*
- Chloride*
- Nitrate*
- Nitrite*
- Phosphate*
- Sulfate*
- Sulfite*

Trace Metal Scan (USEPA Method 6010 B):

- Barium
- Beryllium
- Chromium
- Cobalt
- Copper
- Silver
- Tin
- Vanadium
- Zinc

Low Level Metals USEPA Method 7062 Antimony & Arsenic

USEPA Method 7131A Cadmium

USEPA Method 7421 Lead

USEPA Method 7471A Mercury

USEPA Method 7521 Nickel

USEPA Method 7742 Selenium

USEPA Method 7841 Thallium
<table>
<thead>
<tr>
<th>Other</th>
<th>USEPA Method 9030B</th>
<th>Sulfide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Method 4500-NH</td>
<td>Ammonia Nitrogen*</td>
<td></td>
</tr>
<tr>
<td>Standard Method 4500-Org</td>
<td>Total Kjeldhal Nitrogen*</td>
<td></td>
</tr>
<tr>
<td>USEPA Method 9010</td>
<td>Cyanide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96-Hour Acute % Survival*</td>
<td>USEPA Method 600/4-90-027F</td>
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</tbody>
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