

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO.
FOR
CALAVERAS COUNTY
POST-CLOSURE MAINTENANCE OF
RED HILL LANDFILL FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
CALAVERAS COUNTY

The Discharger shall maintain water quality monitoring systems that are appropriate for detection and corrective action monitoring that comply with the provisions of Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Chapter 3, Subchapter 3.

Compliance with this Monitoring and Reporting Program, and with the Standard Provisions and Reporting Requirements, is ordered by Waste Discharge Requirements Order No. _____. Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes non-compliance with Waste Discharge Requirement Order No. and with the California Water Code, which can result in the imposition of civil monetary liability.

A. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. _____ and the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in F. Reporting Requirements, of Order No. _____.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, and annual monitoring reports shall be submitted to the Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

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<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Monthly	Semi Annual	Last Day of Month	30 July 31 January
Semi Annual	Semi Annual	30 June 31 December	30 July 31 January
Annually	Annually	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Board covering the previous monitoring year. The annual report shall contain the information specified in F. Reporting Requirements, of Order No. _____, and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall reported to the Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

B. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

Provision G.12.d requires the Discharger to submit an updated Water Quality Protection Standard Report. This report shall include the proposed limit for each detection and corrective action monitoring well. The revised WQPS is due to the Regional Board in the 2007 Annual Report.

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the constituents of concern, the concentration limits, and the point of compliance and all monitoring points. The Water Quality Protection Standard shall be submitted for review and approval.

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The Water Quality Protection Standard report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program and groundwater monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

The Discharger calculates intrawell concentration limits using tolerance limits at 95% confidence and 95% coverage for monitoring wells HMW-3, HMW-6R and MC-7.

2. **Constituents of Concern**

The constituents of concern (COC) include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The COCs for all Units at the facility are those listed in Tables I through V.

The Discharger shall monitor all COCs every five years beginning with the quarter ending **30 June 2006** with subsequent COC monitoring efforts being carried out every fifth year thereafter alternately in the Summer (Reporting period ends 30 June) and Winter (Reporting Period ends 31 December). The COC Report may be combined with a Detection Monitoring Report or an Annual Summary Report having a Reporting Period that ends at the same time.

- a. Monitoring Parameters

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Monitoring parameters are COCs that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for all Units are those listed in Tables I through V.

3. Concentration Limits

For a naturally occurring COC, the concentration limit for each COC shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to Title 27 CCR Section 20415; or
- b. By an alternative statistical method acceptable to the Executive Officer in accordance with Title 27 CCR Section 20415.

4. Points of Compliance

Compliance wells for the Facility consist of monitoring wells HMW-1, HMW-2, HMW-3, HP-2, HMW-6, HMW-6R and MC-7. Corrective Action wells consist of HMW-1, HMW-2, HMW-6 and HMW-6R. Monitoring well HMW-5 serves as the background well.

5. Compliance Period

The compliance period for each Unit equals the closure period for this Facility. The closure period shall continue until the Water Board determines that remaining wastes in the landfill will not threaten water quality. The compliance period is the minimum period that the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation program.

6. Monitoring Points

A monitoring point is a well, device or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points consist of the following:

Surface Water: C1, C4 and C5

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Groundwater: HMW-1, HMW-2, HMW-3, HP-2, HMW-5, HMW-6, HMW-6R
and MC-7 (plus any new wells that are constructed, if applicable)

C. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and surface water in accordance with Section E. Detection and Evaluation Monitoring Specifications of Waste Discharge Requirements Order No. _____. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards.

All points of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, leachate and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Table I through V.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those, which cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table V.

The Discharger may, upon approval, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

If the Discharger, through an evaluation monitoring program, or the Regional Board verify that an additional release has occurred the Discharger shall notify the Regional Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Regional Board an amended Report of Waste Discharge for review under the corrective action program, which is designed to remediate releases from the landfill and to achieve compliance with the water quality protection standards.

The Discharger shall use a Regional Board approved statistical (or non-statistical) procedure to determine whether there has been a measurable (statistically significant) increase in a constituent over the historical mean concentration at a given monitoring point as set forth in Title 27 CCR Section 20415(e)(7). The historical mean concentration of any COC or monitoring parameter that has been detected historically at

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a given monitoring point shall be the mean (or median as appropriate) and the standard deviation as calculated from the previous 5-years of monitoring data.

1. Groundwater

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semi-annual, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing the elevation of groundwater with the respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

Groundwater samples shall be collected from the point of compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I.

Groundwater sampling shall include an accurate determination of the groundwater surface elevation and field parameters (pH, temperature, electrical conductivity, turbidity) for that Monitoring Point. Groundwater elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the groundwater gradient/direction analyses required. For each monitored groundwater body, the Discharger shall measure the water level in each well and determine groundwater gradient and direction at least quarterly. Groundwater elevations for all wells in a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater gradient and direction. This information shall be included in the monitoring reports.

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The detection and corrective action groundwater monitoring network consists of the following eight monitoring wells:

Background	HMW-5
Detection	HMW-1, HMW-2, HMW-3, HMW-6, HMW-6R, HMW-2 and HP-2 (replacing HMW-4)
Corrective Action	HMW-1, HMW-2, HMW-6, HMW-6R

Monitoring wells HMW-1, HMW-2 and HMW-6 are considered corrective action wells due to historical detections of VOCs. Monitoring wells HMW-6R is considered a corrective action monitoring well due to the increased trend of inorganics, mainly dissolved iron, dissolved manganese, TDS and chloride.

Ground water levels will be measured at all existing and any future monitoring wells. In addition, groundwater levels are monitored in the following piezometers: MC-1, MC-2, MC-3, MC-4, MC-5, MC-7, MC-8, HP-1, HP-3 and HP-3.

2. **Leachate and Surface Impoundment Monitoring**

All Unit leachate collection and removal system sumps shall be inspected monthly for leachate generation. The leachate monitoring program shall include the collection and analysis of leachate or potential leachate bearing waters from the LCRS traps and the surface impoundments. The LCRS sites are Trap A, Trap B and the outfall. The surface impoundments sampling locations are identified as SI-A and SI-B. The landfill leachate sumps shall be inspected weekly for leachate generation. Leachate and surface impoundment analysis shall be conducted as specified on Table II.

Any leachate that seeps to the surface from the Unit shall be sampled and analyzed for the constituents listed in Table II. The quantity of leachate shall be estimated and reported as leachate flow rate (gallons/day).

All visible portions of the surface impoundment liners shall be inspected on a quarterly basis and their conditions reported in the quarterly report.

Once SI-B has been decontaminated and is used solely for non-contact storm water, the Discharger shall notify the Regional Board when stormwater is

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discharged through the weir to Indian Creek. In addition, if SI-B is used for emergency leachate storage, the Discharger shall notify the Regional Board.

3. Surface Water Monitoring

Three surface water sample locations are established on Indian Creek: C1 (upstream), C4 (mid-landfill) and C5 (downstream). These locations shall be sampled quarterly when water is present. In addition, two runoff sampling points (ASW-1 and ASW-2) shall be sampled during the first storm of the wet season. Surface water analysis shall be conducted as specified on Table III.

Surface water monitoring data shall be submitted with the corresponding quarterly monitoring report and shall include evaluation of potential impacts of the facility on surface water quality and compliance with the water quality protection standards.

4. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated wet weather season, but no later than 30 September, the Discharger shall conduct an inspection of the Facility. The inspection shall assess the drainage control system, groundwater monitoring equipment (including wells, etc.). Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of the problems and the repairs.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage within 7 days following a major storm event. Necessary repairs shall be completed within 30 days of the inspection. The inspection shall include the Standard Observations contained in Section F.4.f of Order No. __. The Discharger shall include photographs of the problem and the repairs. The Discharger shall report any damage and subsequent repairs within 45 days and also include photographs of the problems and repair.

The Discharger shall implement the above monitoring program on the effective date of this Order.

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Ordered by: _____
PAMELA C. CREEDON, Executive Officer

MMW: 4/4/06

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TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Semi Annual
Temperature	°C	Semi Annual
Electrical Conductivity	µmhos/cm	Semi Annual
pH	pH units	Semi Annual
Turbidity	Turbidity units	Semi Annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi Annual
Chloride	mg/L	Semi Annual
Carbonate	mg/L	Semi Annual
Bicarbonate	mg/L	Semi Annual
Nitrate - Nitrogen	mg/L	Semi Annual
Sulfate	mg/L	Semi Annual
Calcium	mg/L	Semi Annual
Magnesium	mg/L	Semi Annual
Potassium	mg/L	Semi Annual
Sodium	mg/L	Semi Annual
Dissolved Iron	mg/L	Semi Annual
Dissolved Manganese	mg/L	Semi Annual
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Semi Annual
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE II
LEACHATE DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Total Flow	Gallons	Monthly
Flow Rate	Gallons/Day	Monthly
Freeboard	± 0.1 foot	Monthly
Electrical Conductivity	µmhos/cm	Semi Annual
pH	pH units	Semi Annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Annually
Chloride	mg/L	Annually
Carbonate	mg/L	Annually
Bicarbonate	mg/L	Annually
Nitrate - Nitrogen	mg/L	Annually
Sulfate	mg/L	Annually
Calcium	mg/L	Annually
Magnesium	mg/L	Annually
Potassium	mg/L	Annually
Sodium	mg/L	Annually
Dissolved Iron	mg/L	Annually
Dissolve Manganese	mg/L	Annually
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Annually
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

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TABLE III
SURFACE WATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Temperature	°C	Semi Annual
Electrical Conductivity	µmhos/cm	Semi Annual
pH	pH units	Semi Annual
Turbidity	Turbidity units	Semi Annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi Annual
Carbonate	mg/L	Semi Annual
Bicarbonate	mg/L	Semi Annual
Chloride	mg/L	Semi Annual
Nitrate - Nitrogen	mg/L	Semi Annual
Sulfate	mg/L	Semi Annual
Calcium	mg/L	Semi Annual
Magnesium	mg/L	Semi Annual
Potassium	mg/L	Semi Annual
Sodium	mg/L	Semi Annual
Dissolved Iron	mg/L	Semi Annual
Dissolve Manganese	mg/L	Semi Annual
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Annually
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE IV
MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC:

USEPA Method 8260B

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene

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2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene
Hexachloroethane
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

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TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

<u>Inorganics (dissolved):</u>	<u>USEPA Method</u>
Aluminum	6010
Antimony	7041
Barium	6010
Beryllium	6010
Cadmium	7131A
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7062
Lead	7421
Mercury	7470A
Nickel	7521
Selenium	7742
Thallium	7841
Cyanide	9010B
Sulfide	9030B

Volatile Organic Compounds:

USEPA Method 8260

- Acetone
- Acetonitrile (Methyl cyanide)
- Acrolein
- Acrylonitrile
- Allyl chloride (3-Chloropropene)
- Benzene
- Bromochloromethane (Chlorobromomethane)
- Bromodichloromethane (Dibromochloromethane)
- Bromoform (Tribromomethane)
- Carbon disulfide
- Carbon tetrachloride
- Chlorobenzene
- Chloroethane (Ethyl chloride)

TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
Continued

Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)

TABLE V
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Continued

Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270 - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)

TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
Continued

Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin

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TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
Continued

Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin

TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
Continued

Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

Chlorophenoxy Herbicides:

USEPA Method 8151A

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:

USEPA Method 8141A

Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine