

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. \_\_\_\_\_  
FOR

SHASTA COUNTY  
WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL  
AND  
CLASS II SURFACE IMPOUNDMENT  
SHASTA COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000 (hereafter Standard Provisions), is ordered by Waste Discharge Requirements Order No. \_\_\_\_\_.

**A. REQUIRED MONITORING REPORTS**

| <u>Report</u>  | <u>Due</u>           |
|--|----------------------|
| 1. Groundwater Monitoring (Section D.1)                                      | <b>See Table I</b>   |
| 2. Annual Monitoring Summary Report<br>(Order No. _____, I.6.)               | <b>31 January</b>    |
| 3. Unsaturated Zone Monitoring (Section D.2)                                 | <b>See Table II</b>  |
| 4. Leachate Monitoring (Section E.)  | <b>See Table III</b> |
| 5. Class II Surface Impoundment Monitoring (Section F.)                      | <b>Quarterly</b>     |
| 6. Storm Event Monitoring (Section G.)                                       | <b>As indicated</b>  |
| 7. Surface Water Monitoring (Section H.)                                     | <b>Table IV</b>      |
| 8. Response to a Release<br>(Standard Provisions and Reporting Requirements) | <b>As necessary</b>  |

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND  
CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

**B. 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 I. Reporting Requirements, of Order No. \_\_\_\_\_.

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

| <u>Sampling Frequency</u> | <u>Reporting Frequency</u> | <u>Reporting Periods End</u> | <u>Report Date Due</u> |
|---------------------------|----------------------------|------------------------------|------------------------|
| Monthly                   | Quarterly                  | 31 March                     | <b>30 April</b>        |
|                           |                            | 30 June                      | <b>31 July</b>         |
|                           |                            | 30 September                 | <b>31 October</b>      |
|                           |                            | 31 December                  | <b>31 January</b>      |
| Quarterly                 | Quarterly                  | 31 March                     | <b>30 April</b>        |
|                           |                            | 30 June                      | <b>31 July</b>         |
|                           |                            | 30 September                 | <b>31 October</b>      |
|                           |                            | 31 December                  | <b>31 January</b>      |
| Semiannually              | Semiannually               | 30 June                      | <b>31 July</b>         |
|                           |                            | 31 December                  | <b>31 January</b>      |
| Annually                  | Annually                   | 31 December                  | <b>31 January</b>      |

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall contain the information specified in I. 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 be reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

## **C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD**

### **1. Water Quality Protection Standard Report (Report)**

For each waste management unit (WMU), 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 Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

- a. Identify **all distinct bodies of surface and groundwater** that could be affected in the event of a release from a WMU or portion of a WMU. 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 groundwater monitoring program and the unsaturated zone 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.

### **2. Constituents of Concern**

The Constituents of Concern 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 WMU. The Constituents of Concern for all WMUs at the facility are listed in Tables I through IV for groundwater, unsaturated zone, leachate, and surface water monitoring, respectively. Tables V and VI are incorporated by reference into Tables I through IV. Table V is a list of specific volatile organic compounds referred to by analytical method but not listed in Tables I through III. Table V also contains inorganic "surrogates for metallic constituents," required by Subtitle D if the metallic constituents are not

included in detection monitoring. **Table VI contains specific inorganic and organic parameters, referred to but not listed in Tables I through III, that are required to be monitored under 5-Year Constituents of Concern monitoring.**

### **3. Monitoring Parameters**

Monitoring parameters are Constituents of Concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a WMU. The monitoring parameters for all WMUs are those listed in Tables I through IV for the specified monitored medium.

### **4. Concentration Limits**

For naturally occurring Constituents of Concern or non-naturally occurring Constituents of Concern that have background values, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or
- b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

For non-naturally occurring Constituents of Concern that do not have background values, the concentration limit for each constituent of concern shall be determined in accordance with *G. Detection Monitoring Specifications* of Waste Discharge Requirements Order No. \_\_\_\_\_.

### **5. Point of Compliance**

The point of compliance for the water standard at each WMU is a vertical surface located at the hydraulically downgradient limit of the WMU that extends through the uppermost aquifer underlying the WMU.

### **6. Compliance Period**

The compliance period for each WMU shall be the number of years equal to the active life of the WMU plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the WMU. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

#### **D. DETECTION MONITORING**

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and the unsaturated zone, in accordance with Detection Monitoring Specifications G.3 and G.5 of Waste Discharge Requirements, Order No.

\_\_\_\_\_. All monitoring shall be conducted in accordance with an approved Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point 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, unsaturated zone monitoring devices, and leachate monitoring points shall be sampled and analyzed as indicated and listed in Tables I through III.

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.

The Discharger may, with the approval of the Executive Officer, 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.

##### **1. Groundwater**

The Discharger shall install and operate 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.

Semiannually, 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 semiannually, 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 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, based on quarterly measurements, 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 collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I. All monitoring parameters shall be graphed so as to show historical trends at each monitoring point.

Applicable inorganic parameters (minerals) shall also be evaluated each reporting period with regards to the cation/anion balance, and the results shall be graphically presented using Piper and Stiff diagrams. Stiff diagrams shall be plotted on a site map having the current quarter's groundwater elevation contours and other pertinent information. Each Stiff diagram shall be placed next to the corresponding monitoring point.

## **2. Unsaturated Zone Monitoring**

For new WMUs and lateral expansions, the Discharger shall install and operate an unsaturated zone detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in the approved Sample Collection and Analysis Plan.

### **a. Lysimeters**

Unsaturated zone samples shall be collected from the monitoring devices and background monitoring devices of the approved unsaturated zone monitoring system, including the suction lysimeter is installed under the Class II surface impoundment. If sufficient sample is obtained from the lysimeters, the collected samples shall be analyzed for the listed constituents in accordance with the methods and frequency specified in Table II. All monitoring parameters shall be graphed so as to show historical trends at each monitoring point.

### **b. Landfill Underdrain System**

Samples shall be collected from the underdrain system and be analyzed for the listed constituents in accordance with the methods and frequency specified in Table II.

## **E. LEACHATE MONITORING**

All WMU leachate collection and removal system sumps shall be inspected monthly for leachate generation. Upon detection of leachate in a previously dry leachate collection and removal system, leachate shall be sampled **immediately** and analyzed for the constituents listed in Table III. Leachate shall then be sampled and analyzed annually

during the fourth quarter thereafter, with a retest during the following second quarter if constituents are detected that have not been previously detected. Leachate samples shall be collected and analyzed for the listed constituents in accordance with the methods and frequency specified in Table III. The quantity of leachate pumped from each sump shall be measured daily, summarized monthly, and reported quarterly as Leachate Flow Rate (in gallons).

The quantity of leachate which seeps to the surface from the WMU shall be estimated and reported separately as Seepage Flow Rate (in gallons/day).

#### **F. CLASS II SURFACE IMPOUNDMENT MONITORING**

Each Class II surface impoundment shall be monitored monthly and the results reported quarterly according to the schedule in Section B. Monitoring parameters shall include freeboard, fluid depth, total capacity, and capacity remaining.

#### **G. STORM EVENT MONITORING**

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

#### **H. SURFACE WATER MONITORING**

The Discharger shall install and operate a surface water detection monitoring system downstream of the landfill WMUs that complies with the applicable provisions of §20415 and §20420 of Title 27 and has been approved by the Executive Officer.

For all monitoring points and background monitoring points assigned to surface water detection monitoring, samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table IV. All surface water monitoring samples shall be collected and analyzed for the constituents of concern specified in Table IV every five years. All monitoring parameters shall be graphed so as to show historical trends at each sample location.

MONITORING AND REPORTING PROGRAM NO. \_\_\_\_\_

- 8 -

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND

CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

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

Ordered by: \_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

\_\_\_\_\_  
(Date)

KB/KLC: sae  
25 March 2005

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND

CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

**TABLE I**  
**GROUNDWATER DETECTION MONITORING PROGRAM**

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

**TABLE II**  
**UNSATURATED ZONE DETECTION MONITORING PROGRAM**

**SOIL-PORE GAS**

| <u>Parameter</u>                                   | <u>Units</u>       | <u>Frequency</u> |
|--|--------------------|------------------|
| <b>Monitoring Parameters</b>                       |                    |                  |
| Volatile Organic Compounds<br>(USEPA Method TO-14) | µg/cm <sup>3</sup> | Semiannual       |
| Methane  | %                  | Semiannual       |

**PAN LYSIMETERS (or other vadose zone monitoring device)**

| <u>Parameter</u>        | <u>Units</u> | <u>Frequency</u> |
|-------------------------|--------------|------------------|
| <b>Field Parameters</b> |              |                  |
| Electrical Conductivity | µmhos/cm     | Semiannual       |
| pH                      | pH units     | Semiannual       |

**Monitoring Parameters**

|  |      |            |
|--|------|------------|
| Total Dissolved Solids (TDS)                                     | mg/L | Semiannual |
| Chloride   | mg/L | Semiannual |
| Carbonate  | mg/L | Semiannual |
| Bicarbonate  | mg/L | Semiannual |
| Nitrate - Nitrogen   | mg/L | Semiannual |
| Sulfate  | mg/L | Semiannual |
| Calcium  | mg/L | Semiannual |
| Magnesium  | mg/L | Semiannual |
| Potassium  | mg/L | Semiannual |
| Sodium   | mg/L | Semiannual |
| Volatile Organic Compounds<br>(USEPA Method 8260B, see Table IV) | µg/L | Semiannual |

**5-Year Constituents of Concern (see Table V)**

|   |      |         |
|---|------|---------|
| Total Organic Carbon  | mg/L | 5 years |
| Inorganics (dissolved)  | mg/L | 5 years |
| Volatile Organic Compounds<br>(USEPA Method 8260B, extended list) | µg/L | 5 years |
| Semi-Volatile Organic Compounds<br>(USEPA Method 8270C)           | µg/L | 5 years |
| Chlorophenoxy Herbicides<br>(USEPA Method 8151A)                  | µg/L | 5 years |
| Organophosphorus Compounds<br>(USEPA Method 8141A)                | µg/L | 5 years |

**TABLE III**  
**LEACHATE MONITORING PROGRAM**

| <u>Parameter</u>  | <u>Units</u> | <u>Frequency</u> |
|---|--------------|------------------|
| <b>Field Parameters</b>   |              |                  |
| Total Flow  | Gallons      | Monthly          |
| Flow Rate   | Gallons/Day  | Monthly          |
| <b>Monitoring Parameters</b>                                      |              |                  |
| Electrical Conductivity   | µmhos/cm     | Annually         |
| pH  | pH units     | Annually         |
| 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         |
| Volatile Organic Compounds<br>(USEPA Method 8260B, see Table IV)  | µg/L         | Annually         |
| <b>5-Year Constituents of Concern (see Table V)</b>               |              |                  |
| Total Organic Carbon  | mg/L         | 5 years          |
| Inorganics (dissolved)  | mg/L         | 5 years          |
| Volatile Organic Compounds<br>(USEPA Method 8260B, extended list) | µg/L         | 5 years          |
| Semi-Volatile Organic Compounds<br>(USEPA Method 8270C)           | µg/L         | 5 years          |
| Chlorophenoxy Herbicides<br>(USEPA Method 8151A)                  | µg/L         | 5 years          |
| Organophosphorus Compounds<br>(USEPA Method 8141A)                | µg/L         | 5 years          |

**TABLE IV**  
**SURFACE WATER DETECTION MONITORING PROGRAM**

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

TABLE V

**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  
tert-Amyl methyl ether (TAME)  
Benzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform (Tribromomethane)  
tert-Butyl alcohol (TBA)  
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)  
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  
Ethyl tert-butyl ether (ETBE)  
Ethylbenzene  
2-Hexanone (Methyl butyl ketone)  
di-Isopropyl ether (DIPE)  
Methyl bromide (Bromomethene)

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND

CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

**TABLE V**

**MONITORING PARAMETERS FOR DETECTION MONITORING**

**Continued**

Methyl chloride (Chloromethane)  
Methylene bromide (Dibromomethane)  
Methyl tert-butyl ether (MTBE)  
Methylene chloride (Dichloromethane)  
Methyl ethyl ketone (MEK: 2-Butanone)  
Methyl iodide (Iodomethane)  
4-Methyl-2-pentanone (Methyl isobutylketone)  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)  
Toluene  
1,1,1-Trichloroethane (Methylchloroform)  
1,1,2-Trichloroethane  
Trichloroethylene (Trichloroethene)  
Trichlorofluoromethane (CFC- 11)  
1,2,3-Trichloropropane  
Vinyl acetate  
Vinyl chloride  
Xylenes

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND

CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

**TABLE VI****5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS****Inorganics (dissolved):****USEPA Method**

|                       |       |
|-----------------------|-------|
| Aluminum              | 6010  |
| Antimony              | 7041  |
| Barium                | 6010  |
| Beryllium             | 6010  |
| Cadmium               | 7131A |
| Chromium (total)      | 6010  |
| Chromium (hexavalent) | 7199  |
| 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 8260B**

Acetone  
 Acetonitrile (Methyl cyanide)  
 Acrolein  
 Acrylonitrile  
 Allyl chloride (3-Chloropropene)  
 tert-Amyl methyl ether (TAME)  
 Benzene  
 Bromochloromethane (Chlorobromomethane)  
 Bromodichloromethane (Dibromochloromethane)  
 Bromoform (Tribromomethane)  
 tert-Butyl alcohol (TBA)  
 Carbon disulfide  
 Carbon tetrachloride  
 Chlorobenzene  
 Chloroethane (Ethyl chloride)  
 Chloroform (Trichloromethane)  
 Chloroprene

**TABLE VI**

**5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS**

**Continued**

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  
Ethylbenzene  
Ethyl tert-butyl ether (ETBE)  
Ethyl methacrylate  
Hexachlorobutadiene  
Hexachloroethane  
2-Hexanone (Methyl butyl ketone)  
Isobutyl alcohol  
di-Isopropyl ether (DIPE)  
Methacrylonitrile  
Methyl bromide (Bromomethane)  
Methyl tert-butyl ether (MTBE)  
Methyl chloride (Chloromethane)  
Methyl ethyl ketone (MEK; 2-Butanone)  
Methyl iodide (Iodomethane)  
Methyl methacrylate  
4-Methyl-2-pentanone (Methyl isobutyl ketone)  
Methylene bromide (Dibromomethane)  
Methylene chloride (Dichloromethane)  
Naphthalene  
Propionitrile (Ethyl cyanide)  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane

**TABLE VI**

**5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS  
Continued**

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 8270C - 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)  
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

**TABLE VI**

**5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS**

**Continued**

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  
Endrin aldehyde  
Ethyl methanesulfonate  
Famphur  
Fluoranthene  
Fluorene  
Heptachlor  
Heptachlor epoxide  
Hexachlorobenzene

**TABLE VI**

**5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS**

**Continued**

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  
Phenanthrene  
Phenol  
p-Phenylenediamine  
Polychlorinated biphenyls (PCBs; Aroclors)  
Pronamide  
Pyrene  
Safrole

SHASTA COUNTY

WEST CENTRAL CLASS III MUNICIPAL SOLID WASTE LANDFILL AND

CLASS II SURFACE IMPOUNDMENT

SHASTA COUNTY

**TABLE VI**

**5-YEAR CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS**

**Continued**

1,2,4,5-Tetrachlorobenzene  
2,3,4,6-Tetrachlorophenol  
o-Toluidine  
Toxaphene  
1,2,4-Trichlorobenzene  
2,4,5-Trichlorophenol  
2,4,6-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**

0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)  
Dimethoate  
Disulfoton  
Methyl parathion (Parathion methyl)  
Parathion  
Phorate