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for Title 27 (27 CCR §20005, et seq.) and Part 258 (40 CFR 258)
August 1997

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES REGULATED BY TITLE 27 AND/OR PART 258
(27 CCR §20005 et seq. and 40 CFR 258 et. seq.)

AUGUST 1997

GENERAL PROVISIONS

1. The discharge shall neither cause nor contribute to the contamination, degradation, or **pollution of ground water** via the release of waste constituents in either liquid or gaseous phase.
2. The discharge shall neither cause nor contribute to any **surface water pollution**, contamination, or nuisance, including, but not limited to:
 - a. floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. increases in bottom deposits or aquatic growth;
 - c. an adverse change in temperature, turbidity, or apparent color beyond natural background levels;
 - d. the creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. the introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.
3. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the waste management unit if such waste constituents could migrate to waters of the State—in either the liquid or the gaseous phase—and cause **a condition of contamination, pollution, degradation, or nuisance**.
4. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, pollution, degradation, or nuisance to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method listed in the Monitoring and Reporting Program.
5. The discharger shall take **all reasonable steps to minimize any adverse impact** to the waters of the state resulting from noncompliance with this Order. (“Order,” as used throughout this document, means the Waste Discharge Requirements). Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and

impact of the noncompliance.

6. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the discharger from **liabilities** under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
7. The provisions of this Order are **severable**. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
8. If there is any conflicting or contradictory language between the Waste Discharge Requirements (WDRs), the Monitoring and Reporting Program (MRP), or the Standard Provisions and Reporting Requirements (SPRR), then language in the WDRs shall govern over either the MRP or the SPRR, and language in the MRP shall govern over the SPRR.
9. After notice and opportunity for a hearing, this Order may be **terminated or modified** for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
 - d. A material change in the character, location, or volume of discharge.
10. Before making a **material change** in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Water Quality Control Board (hereafter Board). A material change includes, but is not limited to, the following:
 - a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;
 - b. A significant change in disposal method, location or volume (e.g., change from land disposal to land treatment);
 - c. A change in the type of waste being accepted for disposal; or
 - d. The addition of a major industrial waste discharge to a discharge of essentially domestic waste, or the addition of a new process or product by an industrial facility resulting in a change in the character or type of waste being discharged.
11. The discharger shall, in a timely manner, **remove and relocate** any wastes discharged at this facility in violation of this Order.
12. The discharger shall maintain a **copy of this Order** at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to

regulatory agency personnel.

13. The discharger shall permit representatives of the Board and the State Water Resources Control Board, upon presentation of credentials, to have **access** during reasonable hours, to:
 - a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,
 - b. Copy any records required to be kept under terms and conditions of this Order,
 - c. Inspect, monitoring equipment required by this Order, and
 - d. Sample, photograph and video tape any discharge, waste, waste management unit or monitoring device.

14. Except for material determined to be **confidential** in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

REPORTING REQUIREMENTS

General Requirements

1. In the event the discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the discharger shall **notify the Board by telephone** at ~~(916) 255-3000~~ *[Note: Current phone numbers for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.]* as soon as it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within two weeks. The written notification shall state the nature, time and cause of **noncompliance**, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

2. The Discharger shall **immediately notify the Board** of any **evidence of a release**, or of any flooding, equipment failure, slope failure, or other **change in site conditions** which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

3. The discharger shall **mail a copy of each monitoring report** and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
~~3443 Routier Road, Suite A~~
~~Sacramento, CA 95827-3098~~

Note: Current addresses for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.

(or the current address if the office relocates)

4. The discharger shall **retain records of all monitoring information**, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board Executive Officer.

Such records shall show the following for each sample:

- a. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;
- b. Date, time, and manner of sampling;
- c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
- d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
- e. Calculation of results; and
- f. Results of analyses, and the MDL and PQL for each analysis.

Such records shall also include legible records of the volume and type of each waste discharged at each WMU and the manner and location of discharge. These waste discharge records shall be maintained at the facility until the beginning of the post-closure maintenance period, at which time copies of these records shall be sent to the Board.

5. **All reports and transmittal letters shall be signed** by persons identified below:
- a. *For a corporation:* by a principal executive officer of at least the level of senior vice-president.
 - b. *For a partnership or sole proprietorship:* by a general partner or the proprietor.
 - c. *For a municipality, state, federal or other public agency:* by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if;
 - i. the authorization is made in writing by a person described in a, b, or c of this provision;
 - ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus

- be either a named individual or any individual occupying a named position); and
- iii. the written authorization is submitted to the Board.

Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

6. In reporting the monitoring data, 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 lack thereof.
7. Unless otherwise required in the Monitoring and Reporting Program, monthly **monitoring reports shall be submitted** to the Board by the 15th day of the month following the month in which the samples were taken or observations made, and quarterly, semiannual, and annual monitoring reports shall be submitted to the Board by the 15th day of the month following the calendar quarter in which the samples were taken or observations made.
8. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board.

Reports to be Filed with the Board

1. A **transmittal letter** explaining the essential points in each report shall accompany each report. Such a letter shall include a discussion of any violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting the violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal.
2. Each monitoring report (e.g., Detection Monitoring Report, Constituents of Concern 5-Year Report) shall include a **compliance evaluation summary**. The summary shall contain at least:
 - a. For each monitored ground water body, a description and graphical presentation of the

- gradient and direction of **ground water flow** under/around the waste management unit, based upon water level elevations taken during the collection of the water quality data submitted in the report.
- b. For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for **purging** and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, the well recovery time, and the method of disposing of the purge water).
 - c. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump—or other device—used and its placement for **sampling**, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations).
 - d. For each monitoring well addressed by the report, a description of how the well was **purged to remove** all portions of the water that was in the well bore while the sample was being taken.
 - e. A **map or aerial photograph** showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.
 - f. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - g. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
 - h. A summary and certification of completion of all Standard Observations for the waste management unit, for the perimeter of the WMU, and for the receiving waters.
 - i. The quantity and types of wastes discharged and the locations in the WMU where waste has been placed since submittal of the last such report.
3. The Discharger shall report by telephone concerning any **seepage from the disposal area** immediately after it is discovered. A written report shall be filed with the Board within seven days, containing at least the following information:
 - a. A map showing the location(s) of seepage;

- b. An estimate of the flow rate;
 - c. A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
 - d. corrective measures underway or proposed, and corresponding time schedule.
- See **RESPONSE TO A RELEASE** below.
4. The Discharger shall submit an **Annual Monitoring Summary Report** to the Board covering the reporting period previous monitoring year. This report shall contain:
- a. For each Monitoring Point and Background Monitoring Point, submit in **graphical format** the laboratory analytical data for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on 3.50" **computer diskettes**, either in MS-DOS/ASCII format or in another file format acceptable to Board staff. Data sets too large to fit on a single 2 MB diskette may be submitted on disk in a commonly available compressed format (e.g. PKZIP or NORTON BACKUP). The Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis (§20420(h)), in that this facilitates periodic review by the Board's statistical consultant.
 - c. A **comprehensive discussion of the compliance record**, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
 - d. A **map** showing the area and elevations in which filling has been completed during the previous calendar year.
 - e. A **written summary** of the monitoring results, indicating any changes made or observed since the previous annual report.
 - f. An **evaluation** of the effectiveness of the leachate monitoring/control facilities.

PROVISIONS FOR MONITORING

General

1. The discharger shall maintain a **written sampling and analysis plan** sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling and analysis plan.
2. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and regularly **calibrated** to ensure their continued accuracy.
3. The discharger shall construct or abandon all **monitoring wells** to meet or exceed the standards stated in the State Department of Water Resources Bulletin 74-81 and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.
4. All sample analyses shall be conducted at a **laboratory accredited** for such analyses by the State Department of Health Services. The **Quality Assurance-Quality Control Program** must conform to EPA guidelines (e.g., "Laboratory Documentation Requirements for Data Validation," January 1990, USEPA Region 9) or to procedures approved by the Board.
5. The **director of the laboratory** whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
6. Unless samples are from water supply wells or unless otherwise specified by Board staff, all ground water samples to be analyzed for **metals** shall be field-filtered. Filtration methods shall minimize the entrainment of air into the sample (by using, for example, in-line pressure filtration).

Sampling and Analytical Methods

1. For any given monitored medium, the **samples taken** from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period shall all be taken **within a span not exceeding 30 days**, unless Board staff approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

2. Specific **methods of collection and analysis** must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) “Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater” (EPA 600 Series), (2) “Test Methods for Evaluating Solid Waste” (SW 846-latest edition), and (3) “Methods for Chemical Analysis of Water and Wastes,” and in accordance with an approved sampling and analysis plan.

If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by Board staff prior to use.

3. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from Background Monitoring Points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.
4. “**Trace**” results—results falling between the MDL and the practical quantitation limit (PQL)— shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
5. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent’s actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

6. All **QA/QC data** shall be reported, along with the sample results to which they apply,

including the method, equipment, and analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

7. **Unknown chromatographic peaks** shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

Analysis of Monitoring Data

Unless an alternate method has been approved by Board staff, the Discharger shall use one of the following methods, according to the method selection procedure below—

One-Way Parametric Analysis of Variance (ANOVA),
One-Way Non-Parametric ANOVA (Kruskal-Wallis Test),
Method of Proportions, or
non-statistical method

—to compare the downgradient concentration of each monitored constituent or parameter with its respective background concentration to determine if there has been a release from the WMU.

Upon receiving written approval from Board staff, alternate statistical procedures may be used for determining the significance of analytical results for **common laboratory contaminants** (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Board staff.

For any given data set, the Discharger should proceed sequentially down the list below of statistical analysis methods, followed by the non-statistical method, and use the first method for which the data qualify. If that analysis tentatively indicates the detection of a release, then the Discharger shall implement the retest procedure under Discrete Retest.

1. The Discharger shall use one of the following **statistical methods** to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations equal to or exceeding their respective MDL in at least ten percent of the background samples taken during the Reporting Period. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be one-tailed (i.e. testing only for statistically significant increase relative to background). If the data are log-normally distributed, then the data shall

be transformed, by replacing each data point with the natural log (ln) of the data point, prior to performing the statistical test.

- a. The **One-Way Parametric Analysis of Variance (ANOVA)**, followed by multiple comparisons, shall be used when the pooled background data for the parameter or constituent, obtained during a given sampling period, have not more than 15% of the data below the PQL.

This test requires at least four independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. Prior to analysis, replace all “trace” analytical results with a value halfway between the PQL and the MDL values reported for that sample run, and replace all “non-detect” results with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent.

- b. The **One-Way Non-Parametric ANOVA (Kruskal-Wallis Test)**, followed by multiple comparisons, shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, have not more than 50% of the data below the PQL.

This method requires at least nine independent samples from each Monitoring Point and Background Monitoring Point; therefore, the Discharger shall anticipate the need for taking more than four samples per Monitoring Point, based upon past monitoring results. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent.

- c. The **Method of Proportions** shall be used if the “combined data set”—the data from a given Monitoring Point in combination with the data from the Background Monitoring Points—has between 50% and 90% of the data below the MDL for the constituent or parameter in question.

This method requires—

- i. at least nine downgradient data points per Monitoring Point per Reporting Period,

- ii. at least thirty data points in the combined data set, and
- iii. that $n * P > 5$ [where n is the number of data points in the combined data set and P is the proportion of the combined set that equals or exceeds the MDL].

Therefore, the Discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis [i.e., that there is no release], the Discharger shall conclude that a release is tentatively indicated for that constituent or parameter.

2. The Discharger shall use the following **non-statistical method** for the VOC_{water} and VOC_{spg} Monitoring Parameters and for all Constituents of Concern which are not amenable to the statistical tests above (i.e., less than 10% of the data from background samples equal or exceed their respective MDL).

Each qualifying constituent at a Monitoring Point shall be determined based on either—

- (1) the data from a single sample for that constituent, taken during that Reporting Period from that Monitoring Point, or
- (2) (where several independent samples have been analyzed for that constituent at a given Monitoring Point) the data from the sample which contains the largest number of qualifying constituents.

Background shall be represented by the data from all samples taken from Background Monitoring Points during that Reporting Period (at least one sample from each Background Monitoring Point).

The method shall be implemented as follows:

- a. *For the Volatile Organics Monitoring Parameter For Water Samples [VOC_{water}]:*
For any given Monitoring Point, the VOC_{water} Monitoring Parameter is a composite parameter addressing all detectable VOCs.

The Discharger shall conclude that a release is tentatively indicated for the VOC_{water} Monitoring Parameter if the data for any Monitoring Point contain either

- i. two or more qualifying VOCs that equal or exceed their respective MDLs, or
- ii. one qualifying VOC that equals or exceeds its PQL.

- b. *For the Volatile Organics Monitoring Parameter For Soil Pore Gas Samples [VOC_{spg}]:*
The VOC_{spg} Monitoring Parameter is a composite parameter for soil pore gas addressing all VOCs detectable using either GC or GC/MS analysis of at least a ten liter sample of soil pore gas (e.g., collected in a vacuum canister). It involves the same scope of VOCs as does the VOC_{water} Monitoring Parameter.

The Discharger shall conclude that a release is tentatively indicated for the VOC_{spg} Monitoring Parameter if the data for any Monitoring Point contain either

- i. two or more qualifying VOCs that equal or exceed their respective MDLs, or
- ii. one qualifying VOC that equals or exceeds its PQL.

c. *For Constituents of Concern:*

The Discharger shall conclude that a release is tentatively indicated if the data for any Monitoring Point contain either

- i. two or more qualifying constituents that equal or exceed their respective MDLs, or
- ii. one qualifying constituent which exceeds its PQL.

RESPONSE TO A RELEASE

General

1. If the Discharger determines that there is significant **statistical evidence of a release** (i.e. the initial statistical comparison or non-statistical comparison indicates, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified), the Discharger shall immediately notify the Board verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination [§20420(1)], and shall carry out a **discrete retest** (*see below*).

If the retest confirms the existence of a release, the Discharger shall carry out the requirements of **3. below**. In any case, the Discharger shall inform the Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

2. If the Discharger determines that there is significant **physical evidence of a release**, the Discharger shall notify the Board of this fact by telephone within 24 hours and by certified mail within 7 days, and shall carry out the requirements of **3. below** for all potentially-affected monitored media.
3. If the Discharger concludes that a release has been discovered:
 - a. If this conclusion is not based upon “direct monitoring” of the Constituents of Concern, then the Discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points in the affected medium for the waste management unit and submit them for laboratory analysis. Within seven days of receiving the laboratory

analytical results, the Discharger shall notify the Regional Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point in the affected medium. Because this scan is not to be statistically tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point [§20420(k)(1)].

- b. The Discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of §20420(k)(5) and §20425 of Title 27, and, if Part 258 is applicable to the site, satisfying the requirements of 40 CFR 258.55 .
- c. The Discharger shall, within 180 days of discovering the release, submit to the Board a preliminary engineering feasibility study meeting the requirements of §20420(k)(6) of Title 27.

Discrete Retest

In the event that the Discharger concludes that a release has been tentatively indicated (under the statistical or nonstatistical methods above), the Discharger shall, within 30 days of this indication, collect two new suites of samples for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per suite as were used for the initial test. Resampling of the Background Monitoring Points is optional. Samples shall be analyzed using the same analytical methods which produced the original data which showed tentative evidence of a release. Sample data shall be analyzed using the same statistical procedure or non-statistical procedure which provided the tentative evidence of a release.

As soon as the data are available, the Discharger shall rerun the statistical method (or non-statistical comparison) separately upon each suite of retest data. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results of either (or both) of the retest data suites confirm the original indication, the Discharger shall conclude that a release has been discovered.

All retests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituents of Concern or Monitoring Parameters which triggered the indication there, as follows:

1. If an ANOVA method was used for the original data, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples taken from the indicating Monitoring Point;

2. If the Method of Proportions statistical test was used for the original data, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, performed separately on each of the new sample suites from the indicating Monitoring Point;
3. If the non-statistical method was used for the original data:
 - a. Because the VOC Monitoring Parameters [$\text{VOC}_{\text{water}}$ or VOC_{spg}] each address, as a single parameter, an entire family of constituents which are likely to be present in any landfill release, the scope of the laboratory analysis for each retest sample shall include all VOCs detectable in that retest sample. Therefore, a confirming retest for either parameter shall have validated the original indication even if the suite of constituents in the confirming retest sample(s) differs from that in the sample which initiated the retest;
 - b. Because all Constituents of Concern that are jointly addressed in the non-statistical testing remain as individual Constituents of Concern, the scope of the laboratory analysis for the nonstatistical retest samples shall be narrowed to involve only those constituents detected in the sample which initiated the retest.

Response to Detection in Background of VOCs
(or any other constituent which is expected to be “zero” in background
and thus not amenable to statistical analysis)

1. Except as provided in 3. below, any time the laboratory analysis of a sample from a Background Monitoring Point, sampled for VOCs, shows either
 - (1) two or more VOCs at or above their respective MDL, or
 - (2) one VOC at or above its respective PQL,then the Discharger shall:
 - a. immediately notify the Board by phone,
 - b. follow up with written notification by certified mail within seven days,
 - c. obtain two new independent VOC samples from that Background Monitoring Point
 - d. and send such samples for laboratory analysis of all detectable VOCs within thirty days.
2. If either or both the new samples validates the presence of VOC(s), using the above procedure, the Discharger shall:
 - a. immediately notify the Regional Board about the VOC(s) verified to be present at that Background Monitoring Point, and follow up with written notification submitted by certified mail within seven days of validation; and
 - b. within 180 days of validation, submit a report—acceptable to Board staff—which

examines the possibility that the detected VOC(s) originated from the Unit and proposing appropriate changes to the monitoring program.

3. If Board staff determines, after reviewing the report submitted under 2.b. above, that the VOC(s) detected originated from a source other than the WMU, the Executive Officer will make appropriate changes to the monitoring program.
4. If Board staff determines, after reviewing the report submitted under 2.b. above, that the detected VOC(s) most likely originated from the WMU, the Discharger shall assume that a release has been detected and shall immediately begin carrying out the applicable General requirements for Response to a Release, above.

Release beyond facility boundary

1. Any time the discharger concludes that a release from the waste management unit has proceeded beyond the facility boundary, the discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
2. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the discharger's current knowledge of the nature and extent of the release.
3. Subsequent to initial notification, the discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
4. Each time the discharger sends a notification to Affected Persons, the discharger shall provide the Board, within seven days of sending such notification, with both a copy of the notification and a current mailing list of Affected Persons.

STANDARD CONDITIONS

Supervision and Certification

1. All waste management units shall be **designed and constructed** under the direct supervision of a California registered civil engineer or a certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, and performance goals of Title 27 prior to waste discharge.

2. All ground water monitoring and corrective action required for MSWLF units pursuant to 40 CFR Part 258 shall be implemented and certified, as appropriate, by a qualified ground water scientist as specified in 40 CFR 258.50(f).
3. Designs of waste management units shall include a **Construction Quality Assurance Plan**, which shall:
 - a. be submitted for review and approval by the Board prior to construction;
 - b. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board; and
 - c. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
4. **Closure** of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or California certified engineering geologist.

Construction

1. Materials used to construct **liners** shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.
2. Materials used to construct **leachate collection and removal systems** (LCRSs) shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the WMUs and the post-closure maintenance period.
3. Hydraulic conductivities determined through laboratory methods shall be confirmed by appropriate **field testing**, and the results shall be submitted to the Board prior to construction.

Operations

1. The discharger shall maintain in **good working order** and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
2. For any **electrically** operated equipment at the site, the **failure** of which could cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

3. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be regarded as a defense for the discharger's violations of the Order.
4. The discharge shall remain within the designated disposal area at all times.
5. By the effective date of waste discharge requirements, the discharger shall have a plan for preventing and controlling **accidental discharges**, and for minimizing the effect of such events. This plan shall:
 - a. Identify the possible sources of accidental loss or leakage of wastes from each waste storage, treatment, or disposal unit.
 - b. Evaluate the effectiveness of present waste management units and operational procedures, and identify needed changes or contingency plans.
 - c. Predict the effectiveness of the proposed changes in waste management facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.The Board, after review of the plan, may establish conditions that it deems necessary to control leakage and minimize its effects.
6. Methane and other **landfill gases** shall be adequately vented, removed from landfill units, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.
7. During the rainy season a minimum one-foot thickness of low permeability **soil or alternative cover**, approved by the Board and by the California Integrated Waste Management Board, shall be maintained over all but the active disposal area of the landfill units. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste discharge and other waste management facility operations.
8. Any direct-line discharge to a surface impoundment shall have fail-safe equipment or operating procedures to prevent overfilling.
9. Surface impoundments shall be designed, constructed and maintained to prevent scouring and/or erosion of the liners and other containment features at points of discharge to the impoundments and by wave action at the waterline.
10. Leachate removed from a surface impoundment LCRS shall be discharged to the impoundment from which it originated. Leachate removed from a landfill shall not be discharged to any landfill.

11. Solids which accumulate in a surface impoundment shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for landfill and surface impoundment leachate and for the discharge of wastes. Prior to removal of these solids, sufficient samples shall be taken for their characterization and classification pursuant to Article 2, Subchapter 2 of Title 27. The rationale for the sampling protocol used, the results of this sampling, and a rationale for classification of the solids shall be submitted to the Board for review. The solids may be discharged to the Class III landfill units only if the Board determines that they qualify for classification as “nonhazardous solid waste” or “inert waste.”
12. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.

Siting

1. Waste management units shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period.

Class II surface impoundments and related containment structures shall be constructed and maintained to prevent, to the greatest extent possible, inundation, erosion, slope failure, washout, and overtopping under 1000-year, 24-hour precipitation conditions, and shall be designed to contain the 100-year wet season precipitation without using the required two feet of freeboard.

Class III landfill units and related containment structures shall be constructed and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under 100-year, 24-hour precipitation conditions.

2. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes, and shall either be contained on-site or be discharged in accordance with applicable storm water regulations.

Closure

1. Closed WMUs shall be provided with at least two **permanent monuments**, installed by a licensed land surveyor or by a registered civil engineer authorized to perform land surveying, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.
2. Areas with **slopes greater than ten percent**, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

Post-Closure

1. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all WMUs will not threaten water quality.
2. The owner of the waste management facility shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the WMUs and during subsequent use of the property for other purposes.

DEFINITIONS

Unless otherwise stated, all terms are as defined in Chapter 2, Division 7, of the California Water Code (Section 13050 et seq.), in Article 2, Chapter 2, Division 2, Title 27 of the California Code of Regulations (27 CCR §20005 et seq.), and in Section 258.2, and elsewhere in Part 258, Title 40 of the Code of Federal Regulations.

The following additional definitions apply to the Order:

1. “**Affected Persons**” means all individuals who either own or occupy land outside the boundaries of the parcel upon which the landfill is located that has been or may be affected by the release of leachate or waste constituents (in gas or liquid phase) from an MSW landfill.
2. “**Background Monitoring Point**” means a device (e.g., well) or location (e.g., a specific point along a lakeshore), upgradient or sidegradient from the waste management unit, or as otherwise approved by the Executive Officer, where water quality samples are taken that are not affected by any release from the waste management unit and that are used as a basis of comparison against samples taken from downgradient Monitoring Points.
3. “**Composite liner**” means a liner that consists of two or more components, which include a Synthetic Liner in direct and uniform contact with an underlying layer of prepared, low-permeability soil such that the net permeability of the resulting combination is significantly less than would be expected by reference to the permeability of the individual components layers.
4. Unless otherwise specified, “**composite sample**” means a combination of individual samples either collected over a specified sampling period or collected over an area at one time

(synoptically):

- a. at equal time intervals,
- b. at varying time intervals so that each sample represents an equal portion of the media to be sampled.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results.

5. “**Constituents of Concern (COC)**” means those constituents which are likely to be in the waste in the WMU or which are likely to be derived from waste constituents in the event of a release.
6. “**Daily maximum concentration**” means the highest measurement made on any single discrete sample or composite sample.
7. “**Existing Footprint**” means the portion of land covered by waste discharged to an MSWLF as of midnight on the day before the Federal Deadline. The term includes the area under the active face of the landfill as well as all portions of the landfill unit containing waste that is obscured from view by daily, intermediate, or permanent cover. The term includes only areas covered with waste that is discharged in a manner that is consistent either with past operating practices or with modifications thereof that ensure good management of the waste. The term has the same meaning as the area enclosed by the “waste boundaries of an existing MSWLF unit,” as used in the definition of the federal term of art “lateral expansion” in 40 CFR 258.2.
8. “**Federal Deadline**” means the date listed in 40 CFR 258(j)—currently October 9, 1993—when the majority of the provisions in the federal MSW regulations become effective.
9. “**Federal MSW regulations**” means the regulations promulgated by the United States Environmental Protection Agency on October 9, 1991 (Title 40, Code of Federal Regulations, Parts 257 and 258).
10. “**Grab sample**” means a discrete sample collected in less than 15 minutes.
11. “**Matrix effect**” means any change in the method detection limit or practical quantitation limit for a given analyte as a result of the presence of other constituents - either of natural origin or introduced by humans as a result of a release or spill - that are present in the sample of water or soil-pore gas being analyzed.
12. “**Method detection limit (MDL)**” means the lowest constituent concentration associated with a 99% reliability of a “non-zero” analytical result. The MDL shall reflect the detection capabilities of the specific analytical procedure and equipment used by the laboratory. MDLs reported by the laboratory shall not simply be restated from USEPA analytical method

manuals. In relatively interference-free water, laboratory-derived MDLs are expected to closely agree with published USEPA MDLs. If the lab suspects that, due to matrix or other effects, the detection limit for a particular analytical run differs significantly from the laboratory-derived MDL, the results should be flagged accordingly, along with an estimate of the detection limit achieved.

13. “**Monitoring Parameters**” means the short list of constituents and parameters used for the majority of monitoring activity at a given WMU. Monitoring for the short list of Monitoring Parameters constitutes “indirect monitoring,” in that the results are used to indicate indirectly the success or failure of adequate containment for the longer list of Constituents of Concern.
14. “**Monitored Media**” means those water-, solid-, or gas-bearing media that are monitored pursuant to the Monitoring and Reporting Program. The Monitored Media may include:
 - a. Ground water in the uppermost aquifer, in any other portion of the zone of saturation in which it would be reasonable to anticipate that waste constituents migrating from the WMU could be detected, and in any perched zones underlying the WMU,
 - b. Any bodies of surface water that could be measurably affected by a release,
 - c. Soil pore liquid beneath and/or adjacent to the WMU, and
 - d. Soil pore gas beneath and/or adjacent to the Unit.
15. “**Monitoring Point**” means a device (e.g., well) or location (e.g., a specific point along a lakeshore), downgradient from the landfill and that is assigned in this Order, at which samples are collected for the purpose of detecting a release by comparison with samples collected at Background Monitoring Points.
16. “**Monthly average concentration**” means the arithmetic mean of measurements made during the month.
17. “**Monthly average discharge**” means the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging (e.g. gallons per day, cubic feet per day).

Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges divided by the number of days during the month when the measurements were made.

18. “**MSWLF, or MSW landfill**” means a Class II or Class III landfill unit in this region that accepts, or has accepted, municipal solid wastes, and that is subject to regulation under either or both Title 27 and the federal MSW regulations.
19. “**Order**,” as used throughout this document, means the Waste Discharge Requirements. The

Monitoring and Reporting Program and Standard Provisions and Reporting Requirements are incorporated by reference into the Waste Discharge Requirements.

20. **“Practical quantitation limit (PQL)”** means the lowest constituent concentration at which a numerical concentration can be assigned with reasonable certainty that its value represents the constituent’s actual concentration in the sample. Normally PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure. The PQL shall reflect the quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. PQLs reported by the laboratory shall not simply be restated from U.S. EPA analytical method manuals. In relatively interference-free water, laboratory-derived PQLs are expected to closely agree with published U. S. EPA PQLs. If the lab suspects that, due to matrix or other effects, the quantitation limit for a particular analytical run differs significantly from the laboratory-derived PQL, the results should be flagged accordingly, along with an estimate of the quantitation limit achieved.
21. **“Reporting Period”** means the time interval during which samples are collected and analyzed, and the results then reported to the Board, to comply with a specified monitoring and reporting frequency. The maximum reporting period for analysis of all Constituents of Concern is five years; for Monitoring Parameters it is six months (generally, Spring/Summer = April 1 to September 30, and Fall/Winter = October 1 to March 31). The Reporting Period for the Annual Summary Report extends from April 1 of the previous year to March 31 of the current year. The due date for the submittal of any given report will be 15 days after the end of its Reporting Period, unless otherwise stated.
22. **“Receiving Waters”** refers to any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils.
23. **“Sample size”**:
 - a. For Monitoring Points, means the number of data points obtained from a given Monitoring Point during a given Reporting Period used for carrying out the statistical or non-statistical analysis of a given analyte during a given Reporting Period; or
 - b. For Background Monitoring Points, means the number of new and existing data points collected under §20415(e)(11 and 12) from all applicable Background Monitoring Points in a given monitored medium—used to collectively represent the background concentration and variability of a given analyte in carrying out statistical or non-statistical analysis of that analyte during a given Reporting Period.
24. **“Standard Observations”** means:
 - a. For Receiving Waters:

- i. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;
 - ii. Discoloration and turbidity: description of color, source, and size of affected area;
 - iii. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - iv. Evidence of water uses: presence of water-associated wildlife;
 - v. Flow rate; and
 - vi. Weather conditions: wind direction and estimated velocity, total precipitation during recent days and on the day of observation;
 - b. Along the perimeter of the WMU:
 - i. Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);
 - ii. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and
 - iii. Evidence of erosion and/or of daylighted refuse.
 - c. For the WMU:
 - i. Evidence of ponded water at any point on the waste management facility (show affected area on map);
 - ii. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - iii. Evidence of erosion and/or of daylighted refuse; and
25. **“Standard Analysis and Measurements”** means:
 - a. Turbidity, in NTU;
 - b. Water elevation to the nearest 1/100th foot above mean sea level; and
 - c. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.
26. **“Synthetic Liner”** means a layer of flexible, man-made material that is installed in accordance with the standard of the industry over an area of land prior to the discharge of waste there.
27. **“VOC_{water}”** (Volatile Organics Monitoring Parameter for Water) means the composite monitoring parameter encompassing all VOCs that are detectable in less than ten percent of applicable background samples from a monitored water-bearing medium (e.g., the unsaturated zone, the uppermost aquifer, a zone of perched ground water, or a surface water body). This parameter is analyzed via the non-statistical analytical method described elsewhere in this Order to identify a release to waters of the state of VOCs whose presence in background water is detected too infrequently to allow statistical analysis.

28. “**VOC_{spg}**” (Volatile Organics Monitoring Parameter for Soil Pore Gas) means Monitoring Parameters addressing all volatile organic constituents detectable in a sample of soil pore gas.
29. “**Volatile organic constituents (VOCs)**” means the suite of organic constituents having a high vapor pressure. The term includes at least the 47 organic constituents listed in Appendix I to 40 CFR Part 258.