CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. R7-2003-0046
AND CLOSURE AND POST-CLOSURE MAINTENANCE
FOR
COUNTY OF SAN BERNARDINO, OWNER/OPERATOR
NEEDLES WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
South of Needles – San Bernardino County

CONSISTS OF

PART I, PART II AND PART III

PART I

A. GENERAL

Responsibilities of waste dischargers are specified in Section 13225(a), 13267(b), and 13387(b) of the California Water Code, and the State Water Resources Control Board's Resolution No. 93-062. This self-monitoring program is issued pursuant to Provision No. 1 of Regional Board Order No. R7-2003-0046. The principal purposes of a self-monitoring program by a waste discharger are:

1. To document compliance with WDRs and prohibitions established by the Regional Board;

2. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;

3. To prepare water quality analyses;

4. To prepare vadose zone (unsaturated zone) gas, if applicable, and liquid quality analyses.

B. DEFINITION OF TERMS

1. The "Monitored Media" are those water- or gas-bearing media that are monitored pursuant to this Monitoring and Reporting Program. The Monitored Media may include: (1) ground water in the uppermost aquifer, in any other portion of the zone of saturation (Title 27, Section 20164) in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, and in any perched zones underlying the Unit, (2) any bodies of surface water that could be measurably affected by a release, (3) soil-pore liquid beneath and/or adjacent to the Unit, and (4) soil-pore gas beneath and/or adjacent to the Unit.

2. The "Constituents of Concern (COC)" are those constituents which are likely to be in the waste in the landfill or which are likely to be derived from waste constituents, in the event of a release.

3. The "Monitoring Parameters" consists of a short list of constituents and parameters used for the majority of monitoring activity.

4. The "Volatile Organics Composite Monitoring Parameter for Water (VOC_{water})" and the "Volatile Organics Composite Monitoring Parameter for Soil-Pore Gas (VOC_{spg}) are composite Monitoring Parameters addressing all volatile organic constituents detectable in a sample of water or soil-pore gas, respectively. (See Part III.A.2. of this Program for additional discussion of these Monitoring Parameters).

5. "Standard Observations" refers to:

    a. For Receiving Waters:

        1. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;

        2. Discoloration and turbidity: description of color, source, and size of affected area;

        3. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

        4. Evidence of beneficial use: presence of water-associated wildlife;

        5. Flow Rate; and

6. Weather conditions: wind direction and estimated velocity, total precipitation during the previous five (5) days and on the day of observation.

b. Along the perimeter of the Landfill:

1. Evidence of liquid leaving or entering the Landfill, estimated size of affected area, and flow rate (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and

3. Evidence of erosion and/or of exposed refuse.

c. For the Landfill:

1. Evidence of ponded water at any point on the waste management facility (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

3. Evidence of erosion and/or of day lighted refuse; and

4. "Standard Analysis and Measurements", which refers to:

a. Turbidity (only for water samples) in NTU:

b. Water elevation to the nearest 1/100th foot above mean sea level (only for ground water monitoring); and

c. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.

6. "Matrix Effect" refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents - either of natural origin or introduced through a release - that are present in the sample of water or soil-pore gas being analyzed.

7. "Facility-Specific Method Detection Limit (MDL)", for a given analytical laboratory using a given analytical method to detect a given constituent (in spite of any Matrix Effect) means the lowest concentration at which the laboratory can regularly differentiate - with 99% reliability - between a sample which contains the constituent and one (1) which does not.

8. "Facility-Specific Practical Quantitation Limit (PQL)", for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent (in spite of any Matrix Effect) means the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board's Executive Officer.

9. "Reporting period" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal. Therefore, the reporting period for monitoring parameters is annually, and the reporting period for Constituents of Concern is every five (5) years. An annual report, which is a summary of all the monitoring during the previous years, shall also be submitted to the Regional Board. The submittal dates for each reporting period shall be as follows:

a. Annual Summary Report

January 1 through December 31 - report due by February 15

b. Five (5) Year Report

Testing for Constituents of Concern (COC's) shall take place every five (5) years. Testing for COC's took place at Needles Sanitary Landfill in the Fall of 2000. Therefore, the next five year testing shall be completed by the Spring of 2005 (reporting period ends June 30, 2005), with testing to continue every five (5) years thereafter, alternating between Spring and Fall, as long as the WMF is in operation and throughout the closure/post-closure monitoring period, with reports due by June 30 for testing done in the Spring, and by December 31 for testing done in the Fall.

C. SAMPLING AND ANALYTICAL METHODS

Sampling collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. 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 the Regional Board's Executive Officer prior to use. 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. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

a. The methods and 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 methods having the lowest "facility-specific method detection limit (MDL)", defined in Part I.B.7., shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" (defined in Part I.B.6.) involved.

b. "Trace" results; results falling between the MDL and the facility-specific 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 and by an estimate of the constituents concentration.

c. 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. 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 an estimate of the detection limit and quantitation limit actually achieved.

d. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, an explanation of any recovery rate 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 recovery.

e. Upon receiving written approval from the Regional Board's Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical

results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

f. 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.

g. 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.

h. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five (5) years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. 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;

2. Date and time of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

5. Calculations of results; and

6. Results of analyses, and the MDL and PQL for each analysis.

E. REPORTS TO BE FILED WITH THE BOARD

1. A written "Detection Monitoring Report" shall be submitted annually (Part II.A.2.), in addition to an "Annual Summary Report" (Part I.E.3.). Every five (5) years, the discharger shall submit a report concerning the direct analysis of all Constituents of Concern as indicated in Part II.A.3. ("COC Report"). The reports shall be comprised of at least the following:

   a. Letter of Transmittal

      A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement 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 said requirement 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. Monitoring reports and the letter transmitting the monitoring reports shall be signed

by a principal executive officer at the level of vice-president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct;

b. Each Detection Monitoring Report and each COC Report shall include a compliance evaluation summary. The summary shall contain at least:

   i. For each monitored ground water body, a description and graphical presentation of the velocity and direction of the ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report;

   ii. Pre-Sampling Purge for Samples Obtained From Wells: 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);

   iii. Sampling: 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);

c. A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points;

d. For each Detection Monitoring Report and each COC Report, include laboratory statements of results of all analyses demonstrating compliance with Part I.C.;

e. An evaluation of the effectiveness of the run-off/run-on control facilities;

f. A summary and certification of completion of all Standard Observations (Part I.C.5.) for the Unit, for the perimeter of the Unit, and for the Receiving Waters.

2. CONTINGENCY REPORTING

a. 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 Regional Board within seven (7) days, containing at least the following information:

   1. A map showing the location(s) of seepage;

   2. An estimate of the flow rate;

   3. A description of the nature of the discharge (e.g., all pertinent observations and analyses); and

   4. Corrective measures underway or proposed.

b. Should the initial statistical comparison (Part III.A.1.) or non-statistical comparison (Part III.A.2.) indicate, for any Constituent or Concern or Monitoring Parameter, that a release is tentatively identified, the discharger shall immediately notify the Regional Board verbally as to the

Monitoring Point(s) and constituents(s) or parameter(s) involved, shall provide written notification by certified mail within seven (7) days of such determination (Title 27, Section 20420(j)(l)), and shall carry out a discrete retest in accordance with Parts II.A.1., and III.A.3. If the retest confirms the existence of a release, the discharger shall carry out the requirements of Part I.E.2.d. In any case, the discharger shall inform the Regional 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 (7) days of completing the retest.

c. If either the discharger or the Regional Board determines that there is significant physical evidence of a release (Title 27, Section 20385(3)), the discharger shall immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination) and shall carry out the requirements of Part I.E.2.d. for all potentially-affected monitored media.

d. If the discharger concludes that a release has been discovered:

   i. If this conclusion is <u>not</u> based upon "direct monitoring" of the Constituents of Concern, pursuant to Part II.A.3., then the discharger shall, within 30 days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven (7) 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. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point (Title 27, Section 20420(k)(l));

   ii. 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 Title 27, Section 20420(k)(5) and Section 20425; and

   iii. The discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of Title 27, Section 20420(k)(6).

e. Any time the discharger concludes - or the Regional Board Executive Officer directs the discharger to conclude - that a liquid- or gaseous-phase release from the 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).

   i. 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; and

   ii. Subsequent to initial notification, the discharger shall provide updates to all Affected Persons - including any newly Affected Persons - within 14 days of concluding there has been any material change in the nature or extent of the release.

3. ANNUAL SUMMARY REPORT

The discharger shall submit an annual report to the Regional Board covering the previous monitoring year. The Reporting Period ends on February 15 of the following year. This report shall contain:

a. <u>A Graphical Presentation of Analytical Data</u> (Title 27, Section 20415(e)(14)). 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 (5) calendar years. Each such graph shall plot the concentration of one (1) or more constituents over time for a given Monitoring Point and 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. On the basis of any aberrations noted in the plotted date, the Regional Board's Executive Officer may direct the discharger to carry out a preliminary investigation (Title 27, Section 20080(d)(2)), the results of which will determine whether or not a release is indicated;

b. All monitoring analytical data obtained during the previous two (2) six (6)-month Reporting Periods, presented in tabular form as well as on 3.5" diskettes, either in MS-DOS/ASCII format or in any other file format acceptable to the Regional Board's Executive Officer. Data sets too large to fit on a single 360 K.B. diskette may be submitted on disk in a commonly available compressed format (e.g., PK-ZIP or NORTON BACKUP). The Regional Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis (Section 20420(h) of Title 27) in that this facilitates periodic review by the Regional Board's statistical consultant;

c. A comprehensive discussion of the compliance record, and the result of any correction actions taken or planned which may be needed to bring the discharger into full compliance with the WDRs;

d. A written summary of the ground water and soil-pore gas analyses, indicating any changes made since the previous annual report; and

e. An evaluation of the effectiveness of the run-on/run-off control facilities, pursuant to Title 27, Section 20340 (b, c & d).

PART II: MONITORING AND OBSERVATION SCHEDULE

A. WATER SAMPLING/ANALYSIS FOR DETECTION MONITORING

Monitoring parameters report due annually, constituents of concern reports due every five (5) years (details below):

1. Thirty-Day Sample Procurement Limitation. 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, and shall be taken in a manner that insures sample independence to the greatest extent feasible (Title 27, Section 20415(e)(12)(B)). Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point (Title 27, Section 20415(e)(13)); ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the quarterly ground water flow rate/direction analyses required under Part II.B.6. Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with Part III of this program.

2. "Indirect Monitoring" for Monitoring Parameters Done Annually. For each monitoring medium, all Monitoring Points assigned to detection monitoring (Part II.A.4 below) and all Background Monitoring Points shall be sampled annually during March and September. Monitoring for Monitoring Parameters shall be carried out in accordance with part II.A.1 and part III of this program.

3. "Direct Monitoring" of all Constituents of Concern Every Five (5) Years. In the absence of a release being indicated (1) pursuant to Parts II.A.2. and III.A.3. for a Monitoring Parameter, (2) based upon physical evidence, pursuant to Part I.E.2.c., or (3) by a study required by the Regional Board's Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data (Part I.E.3.a.), then the discharger shall sample all Monitoring Points and Background Monitoring Points of water-bearing media, not including soil-pore gas, for all Constituents of Concern every fifth year, beginning in the year 2000, with successive direct monitoring efforts being carried out alternately in the Spring of one (1) year (Reporting Period June 30) and the Fall of the fifth year thereafter (Reporting Period ends December 31). Direct monitoring for Constituents of Concern shall be carried out in accordance with Parts II.A.1 and III of this program, and shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

4. "Monitoring Points and Background Monitoring Points for Each Monitored Medium".: The discharger shall sample the following Monitoring Points and Background Monitoring Points in accordance with the sampling schedule given under Parts II.A.2. and II.A.3 (immediately foregoing), taking enough samples to qualify for the most appropriate test under Part III.

    a. For ground water in the uppermost aquifer, Monitoring Points N-2A, N-5 shall be considered Point of Compliance monitoring wells (downgradient); and

    b. Monitoring Points N-1, N-4 shall be considered Background Monitoring Points (upgradient).

5. Initial Background Determination: For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium (Title 27, Section 25415 (e)(6)):

    a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Board Order, the discharger shall collect at least

one (1) sample quarterly for at least one (1) year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

b. Whenever a new Background Monitoring Point is added, including any added by this Board Order, the discharger shall sample it at least quarterly for at least one (1) year, analyzing for all Constituents of Concern and Monitoring Parameters.

6. Annual Determination of Ground Water Flow Rate/Direction (Title 27, Section 25415): The discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.A.4., annually, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the annual monitoring reports required under Part I.A.3

PART III: STATISTICAL AND NON-STATISTICAL ANALYSES OF SAMPLE DATA DURING A DETECTION MONITORING PROGRAM

A. The discharger shall use the following methods 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 Unit. For any given data set, proceed sequentially down the list of statistical analysis methods listed in Part III.A.1., followed by the non-statistical method in Part III.A.2., using the first method for which the data qualifies. If that analysis tentatively indicates the detection of a release, implement the retest procedure under Part III.A.3.

1. Statistical Methods. The discharger shall use one (1) of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations exceeding their respective MDL in at least 10 percent of the background samples taken during that Reporting Period. Each of these statistical methods is more fully described in the Statistical Methods Discussion, which is attached to this Program and is hereby incorporated by reference. Except for pH, which uses a two (2)-tailed approach, the statistical analysis for all constituents and parameters shall be one (1)-tailed (testing only for statistically significant increase relative to background):

   a. One (1)-Way Parametric Analysis of Variance ANOVA followed by multiple comparisons (Section 20415(e)(8)(A)). This method requires at least four (4) independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the background data from the parameter of constituent, obtained during a given sampling period, has not more than 15% of the data below PQL. Prior to analysis, replace all 'trace' determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations 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 from that parameter or constituent;

   b. One (1)-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons. This method requires at least nine (9) independent samples from each Monitoring Point and Background Monitoring Point, therefore, the discharger shall anticipate the need for taking more than four (4) samples per Monitoring Point, based upon past monitoring results. This method shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, has not more than 50% of the data below the PQL. The ANOVA shall be carried out 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at 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; or

   c. Method of Proportions. This method 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 (1) requires at least nine (9) downgradient data points per Monitoring Point per Reporting Period, (2) requires at least 30 data points in the combined data set, and (3) requires 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 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; or

2. Non-Statistical Method. The discharger shall use the following non-statistical method for the VOC_{water} and VOC_{spg} Composite Monitoring Parameters and for all Constituents of Concern which are not amenable to the statistical tests under Part III.A.1.; each of these groupings of constituents utilizes a separate variant of the test, as listed below. Regardless of the variant used, the method involves a two (2)-step process: (1) from all constituents to which the variant applies, compile a list of those constituents which exceed their respective MDL in the downgradient sample, yet do so in less than 10 percent of the applicable background samples; and (2) (where several independent samples have been analyzed for that constituent at a given Monitoring Point) from the sample which contains the largest number of constituents. Background shall be represented by the data from all samples taken from the appropriate Background Monitoring Points during that Reporting Period (at least one (1) sample from each Background Monitoring Point). The method shall be implemented as follows:

   a. For the Volatile Organics Composite Monitoring Parameter for Water Samples (VOC_{water}): For any given Monitoring Point, the VOC_{water} Monitoring Parameter is a composite parameter addressing all VOCs detectable using USEPA Method (NOTE: See Discussion and insert most appropriate method), including at least all 47 VOCs listed in Appendix I to 40 CFR 258, and all unidentified peaks. Compile a list of each VOC which (1) exceeds its MDL in the Monitoring Point sample (an unidentified peak is compared to its presumed (MDL), and also (2) exceeds its MDL in less than 10 percent of the samples taken during that Reporting Period from that medium's Background Monitoring Points. The discharger shall conclude that a release is tentatively indicated for the VOC_{water} Composite Monitoring Parameter if the list either (1) contains two (2) or more constituents, or (2) contains one (1) constituent that exceeds its PQL;

   b. For Constituents of Concern: Compile a list of constituents that exceed their respective MDL at the Monitoring Point yet do so in less than 10 percent of the background samples taken during that Reporting Period. The discharger shall conclude that a release is tentatively indicated if the list either (1) contains two (2) or more constituents, or (2) contains one (1) constituent which exceeds its PQL.

3. Discrete Retest (Title 27, Section 25415(e)(8)(E)). In the event that the discharger concludes that a release has been tentatively indicated (under Parts III.A.1. or III.A.2.), the discharger shall, within 30 days of this indication, collect two (2) 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. Re-sampling of the Background Monitoring Points is optional. As soon as the data is 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 confirms 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 Constituent of Concern or Monitoring Parameter which triggered the indication there, as follows:

   a. If an ANOVA method was used, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two (2) new suites of samples taken from the indicating Monitoring Point;

   b. If the Method of Proportions statistical test was used, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, using the new sample suites from the indicating Monitoring Point;

   c. If the non-statistical method was used:

      1. Because the VOC Composite Monitoring parameters (VOC_{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;

2. Because all Constituents of Concern that are jointly addressed in the non-statistical testing under Part III.A.2.c. remain as individual Constituents of Concern, the scope of the laboratory analysis for the non-statistical retest samples shall be narrowed to involve only those constituents detected in the sample which initiated the retest.

B. RESPONSES TO VOC DETECTION IN BACKGROUND

1. Except as indicated in Part III.B.2., any time the laboratory analysis of a sample from a Background Monitoring Point, sampled for VOCs under Part III.A., shows either (1) two (2) or more VOCs above their respective MDL, or (2) one (1) VOC above its respective PQL, then the discharger shall immediately notify the Regional Board by phone that possible background contamination has occurred, shall follow up with written notification by certified mail within seven (7) days, and shall obtain two (2) new independent VOC samples from that Background Monitoring Point and send them for laboratory analysis of all detectable VOCs within 30 days. If either or both the new samples validates the presence of VOC(s) at that Background Monitoring Point, 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 (7) days of validation; and

   b. Within 180 days of validation, submit a report, acceptable to the Regional Board's Executive Officer, which examines the possibility that the detected VOC(s) originated from the Unit and proposing appropriate changes to the Monitoring Program.

2. If the Regional Board's Executive Officer determines, after reviewing the report submitted under Part III.B.1.b., that the detected VOC(s) most likely originated from the Unit, the discharger shall assume that a release has been detected and shall immediately begin carrying out the requirements of Part I.E.2.d.

SUMMARY OF SELF-MONITORING AND REPORTING PROGRAMS

A. GROUND WATER MONITORING

1. The ground water monitoring wells shall be sampled annually. The samples shall be analyzed for the following:

Parameter & Constituents	Unit	Type of Samples	Reporting Frequency
1. pH		Grab	Annually
2. Total Dissolved Solids	mg/l[1]	Grab	Annually
3. Ground Water Elevation	feet	Measurement	Annually
4. Nitrate as Nitrogen	mg/L	Grab	Annually
5. Organic Nitrogen	mg/L	Grab	Annually
6. Volatile Organics (U.S. EPA method 8260)	μg/L[2]	Grab	Annually
7. Lead	mg/L	Grab	Annually
8. Chromium*	mg/L	Grab	Annually
9. Chloride	mg/L	Grab	Annually
10. Sulfate	mg/L	Grab	Annually
11. Dissolved Oxygen	mg/L	Field Measurement	Annually
12. Specific Conductance	Microhms/cm	Field Measurement	Annually
13. Temperature	^{o}F	Field Measurement	Annually
14. Turbidity	NTU	Field Measurement	Annually

Note:* If any chromium is detected, the well should be retested for chromium VI and the results should be submitted with the annual monitoring report.

2. The Groundwater shall be sampled every five (5) years, commencing in the Spring of 2005, and alternating between Fall and Spring of each five year reporting period, for the following:

Constituents of Concern

1. Total Dissolved Solids
2. Bicarbonate (HCO3)
3. Carbonate(CaCO3)
4. Total Alkalinity
5. Hydroxide
6. Fluoride
7. Dissolved Oxygen
8. Phosphate
9. Total Phosphate
10. Chemical Oxygen Demand
11. Total Hardness
12. Boron
13. Calcium
14. Magnesium
15. Potassium
16. Sodium
17. Iron
18. Manganese
19. Zinc
20. Antimony, Total
21. Arsenic, Total

[1] mg/L – milligrams-per-Liter
[2] μg/L – micrograms-per-Liter

22. Barium, Total
23. Beryllium, Total
24. Cadmium, Total
25. Chromium, Total
26. Cobalt, Total
27. Lead, Total
28. Mercury, Total
29. Nickel
30. Selenium, Total
31. Silver, Total
32. Thallium, Total
33. Tin, Total
34. Vanadium, Total
35. Zinc, Total
36. Chromium, hexavalent
37. 40 CFR, Appendix II Pesticides
38. 40 CFR, Appendix II Herbicides
39. Volatiles (using USEPA Method 8260)
40. 40 CFR Appendix II Semi-volatiles
41. Sulfide
42. pH
45. Specific Conductance
46. Chloride
47. Nitrate (as Nitrogen)
48. Phenols (using USEPA Method 8270)
49. cyanide

The collection, preservation and holding times of all samples shall be in accordance with U.S. Environmental Protection Agency approved procedures. All analyses shall be conducted by a laboratory certified by the State Department of Health Services to perform the required analyses.

B. REPORTING

1. The discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with WDRs.

2. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurement(s);
   b. The individual(s) who performed the sampling or measurement(s);
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or method used; and
   f. The results of such analyses.

3. Each report shall contain the following statement:

   I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, 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 a fine and imprisonment for knowing violations."

4. A duly authorized representative of the discharger may sign the documents if:

   a. The authorization is made in writing by the person described above;

   b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and

   c. The written authorization is submitted to the Regional Board's Executive Officer.

5. Report immediately any failure in the waste disposal system to the Regional Board's Executive Officer and the Director of the County Environmental Health Department by telephone with follow-up letter.

6. Monitoring reports shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this monitoring report.

7. Annual monitoring reports shall be submitted to the Regional Board by February 15 of each year.

8. Five (5)-year report: Commencing with testing previously done in the year 2000, January of the first year through December of the fifth year and every five (5) years after that, as long as the WMF is in operation and through the closure and post-closure period. Report due by June 30 for testing done in the Spring and by December 31 for testing done in the fall.

9. During the post-closure maintenance period, the discharger shall report annually to the Regional Board the following, to be included in the Annual Report:

   a. The physical status of all drainage features including surrounding embankments, roadway, and drainage channels.

   b. The physical integrity of the final cover and all graded surfaces within the WMF which includes cracks, irritability, and settlement.

   c. A survey of the horizontal and vertical locations of the installed monuments and a calculation of the annual settlement

   d. Physical inspection records of all monitoring wells.

Submit monitoring reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Ordered by: _____
Executive Officer

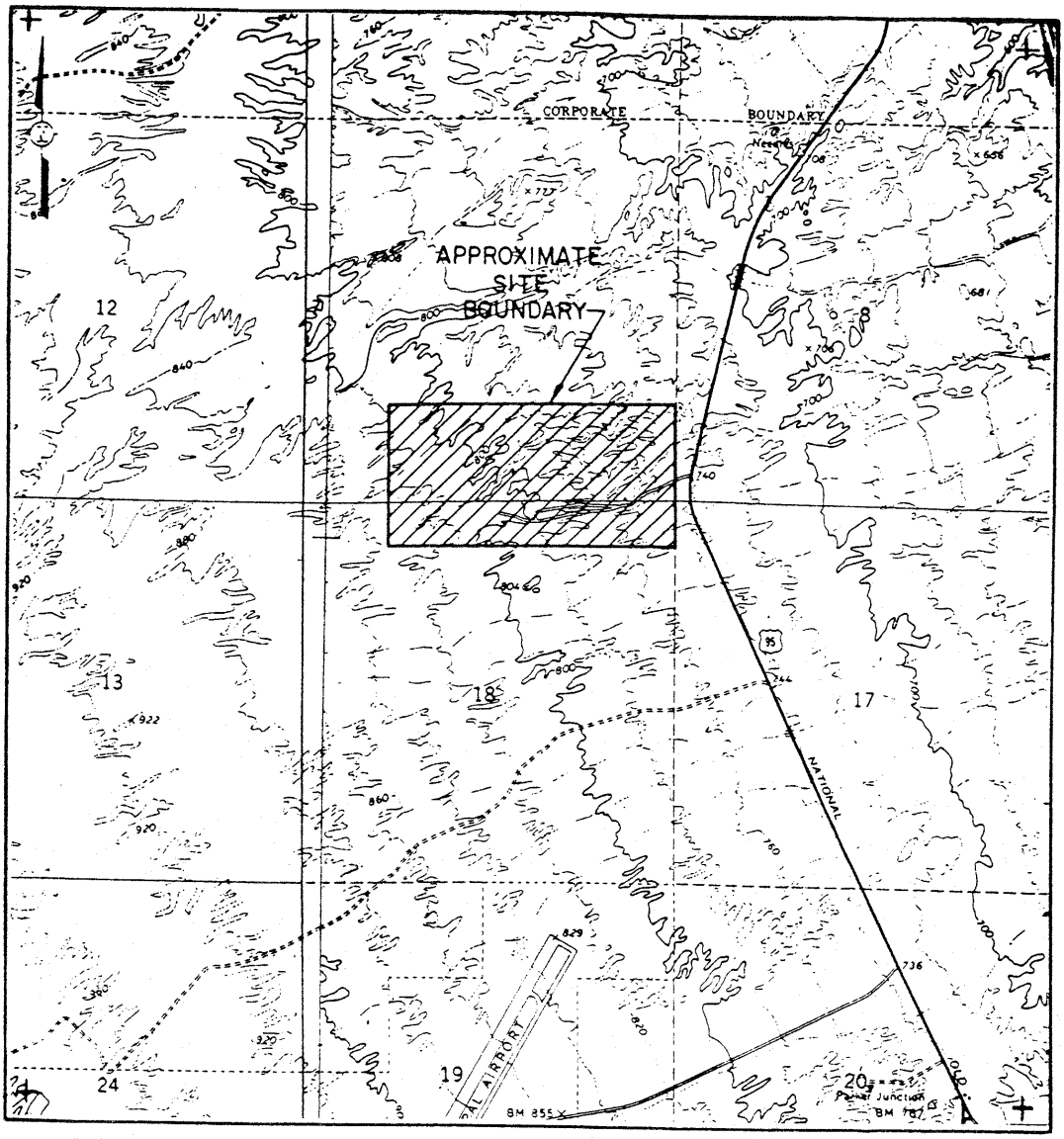
_____
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ATTACHMENT A

COUNTY OF SAN BERNARDINO, OWNER/OPERATOR
NEEDLES WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
South of Needles – San Bernardino County
SE ¼ of the SW ¼ and S ½ of the SE ¼ of Section 7; and the N ½ of the NE ¼ of the NW ¼ and N ½ of the NE ¼ of Section 18, T8N, R23E, SBB&M

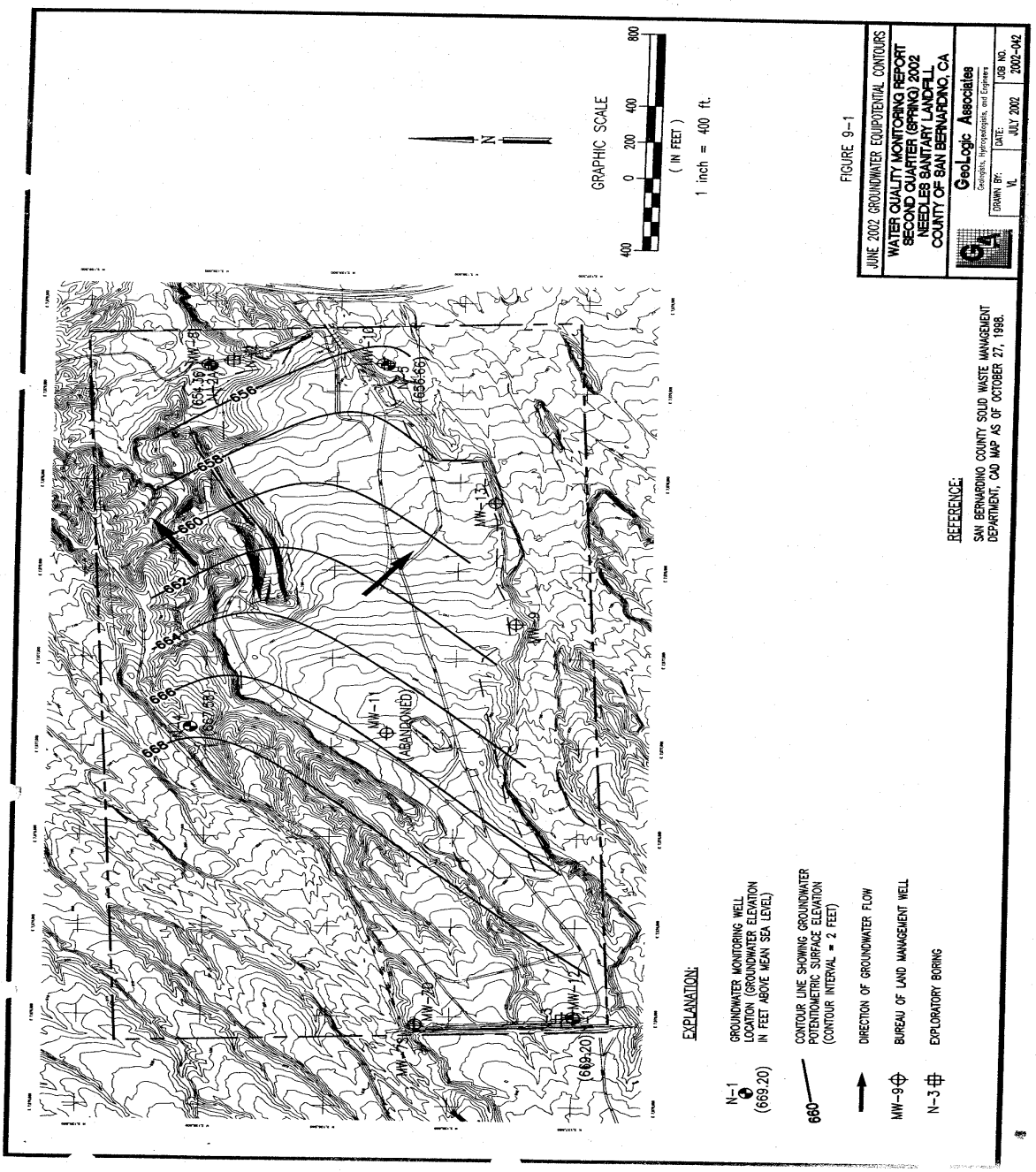
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION



ATTACHMENT B

SCALE
0 2000 4000 FEET
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

COUNTY OF SAN BERNARDINO, OWNER/OPERATOR
NEEDLES WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
South of Needles - San Bernardino County
SE ¼ of the SW ¼ and S ½ of the SE ¼ of Section 7; and the N ½ of the NE ¼ of the NW ¼ and N ½ of the NE ¼ of Section 18, T8N, R23E, SBB&M



ATTACHMENT C

COUNTY OF SAN BERNARDINO, OWNER/OPERATOR
NEEDLES WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
South of Needles – San Bernardino County
SE ¼ of the SW ¼ and S ½ of the SE ¼ of Section 7; and the N ½ of the NE ¼ of the NW ¼ and N ½ of the NE ¼ of Section 18, T8N, R23E, SBB&M

Board Order No. R7-2003-0046