



Linda S. Adams  
Secretary for  
Environmental Protection

# California Regional Water Quality Control Board San Diego Region



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9174 Sky Park Court, Suite 100, San Diego, California 92123-4353  
(858) 467-2952 • Fax (858) 571-6972  
[http:// www.waterboards.ca.gov/sandiego](http://www.waterboards.ca.gov/sandiego)

December 6, 2010

**CERTIFIED MAIL:**

7010 1060 0000 4952 5590

Ms. Michele Stress  
County of San Diego  
Department of Public Works  
Mail Stop O-383  
5201 Ruffin Road, Suite D  
San Diego, California 92123

**In reply refer to:**  
210029:cprowell

Dear Ms. Stress:

**SUBJECT: CLEANUP AND ABATEMENT ORDER NO. R9-2010-0067, AND MONITORING AND REPORTING PROGRAM NO. R9-2010-0068 FOR BONSALL SANITARY LANDFILL, SAN DIEGO COUNTY, CALIFORNIA**

I have reviewed and given full consideration to the written comments submitted by the County of San Diego (County), the responses to those comments prepared by the San Diego Water Board CAO Team, and revisions made to the draft Cleanup and Abatement Order (CAO) No. R9 2010-0067 and Monitoring and Reporting Program (M&RP) Order No. R9-2010-0068. Upon completing my review, I determined that the Orders should be issued with the recommended revisions. Enclosed with this letter are the Final CAO No. R9-2010-0067 and M&RP Order No. R9-2010-0068. The CAO and M&RP are now in effect. This constitutes a new action by the San Diego Water Board, so the County may petition the State Water Resources Control Board (the State Water Board). The procedures for appeal of this enforcement action to the State Water Board can be found in Section Q.3 of the CAO or Part IV provision C of the M&RP.

In the subject line of any response, please include the requested "in reply refer to" information located in the heading of this letter. For questions pertaining to the subject matter, please contact Ms. Catherine Hagan, Staff Counsel, at (916) 341-5168 or via email at [chagan@waterboards.ca.gov](mailto:chagan@waterboards.ca.gov).

Sincerely,

DAVID W. GIBSON  
Executive Officer

DG:js:jc:jro:clp

Enclosures: Cleanup and Abatement Order No. R9-2010-0067  
Monitoring and Reporting Program Order No. R9-2010-0068

cc w/encl: Ms. Pam Raptis, San Diego County Local Enforcement Agency,  
[Pam.Raptis@sdcounty.ca.gov](mailto:Pam.Raptis@sdcounty.ca.gov)

*California Environmental Protection Agency*

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

CLEANUP AND ABATEMENT ORDER NO. R9-2010-0067  
AN ORDER DIRECTING THE COUNTY OF SAN DIEGO TO CLEANUP AND ABATE  
THE EFFECTS OF POLLUTION AND NUISANCE AND SUBMIT TECHNICAL  
REPORTS PERTAINING TO CORRECTIVE ACTION AT THE  
BONSALL SANITARY LANDFILL  
TWIN OAKS VALLEY ROAD  
SAN DIEGO COUNTY  
CALIFORNIA

The California Regional Water Quality Control Board, San Diego Region  
(hereinafter San Diego Water Board) finds that:

- 1. Legal and Regulatory Authority:** This Monitoring and Reporting Program (M&RP) conforms to and implements (1) policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including section 13267; (2) applicable State and federal regulations (3) all applicable provisions of Statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Water Board) and the Water Quality Control Plan, San Diego Basin (Basin Plan) adopted by the San Diego Water Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies and regulations, including, including State Board Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California, Resolution No. 88-63 Sources of Drinking Water, and Resolution No. 92 49 Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under California Water Code Section 13304; California Code of Regulations (CCR) Titles 23 and 27; and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.
- 2. History of Waste Disposal:** The Bonsall Sanitary Landfill operated from 1968 to 1985 as a Class II landfill. Approximately 1.8 million tons of wastes, including a mixture of residential and commercial refuse, non-decomposable inert solids, sewage sludge, and dead animals were placed in the landfill. The landfill and the impacted environmental media (soil, groundwater, etc.) constitute the "Site."

3. **Water Quality Standards:** Background water quality was established as the water quality protection standard established pursuant to CCR Title 27 section 20390.<sup>1</sup> The Site is located within the Bonsall Hydrologic Subarea (HSA) (903.12) of the San Luis Rey Hydrologic Unit (901.00). Groundwater in the Bonsall HSA is designated in the Basin Plan as having existing beneficial uses for municipal and domestic supply (MUN),<sup>2</sup> agricultural supply (AGR), and industrial service supply (IND). The Basin Plan contains water quality objectives<sup>3</sup> for chemical constituents to protect groundwater designated for MUN use. The numeric objectives for the protection of public health are derived from primary MCLs<sup>4</sup> established by the California Department of Public Health (CDPH) in Title 22 of the California Code of Regulations.<sup>5</sup>
4. **Unauthorized Discharge of Waste Constituents:** Detectable concentrations of volatile organic compounds (VOCs) were reported in groundwater samples, collected in February 2008, from monitoring wells located downgradient of the Landfill. Perchloroethylene (PCE) was detected at a concentration of 12 micrograms per liter ( $\mu\text{g/L}$ ) in a groundwater sample collected from offsite well BOGW-7. The VOCs are not naturally occurring and are wastes, as defined in California Water Code section 13050, subdivision (d).<sup>6</sup>

The reported concentration of PCE exceeds the applicable Water Quality Objective and CDPH Maximum Contaminant Limit (MCL) of 5  $\mu\text{g/L}$  and has therefore created a condition of pollution in waters of the State as defined in Water Code section 13050, subdivision (I). The County of San Diego (County)

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<sup>1</sup> Presented in the 1995 Annual Groundwater Monitoring report, IT 1996.

<sup>2</sup> See Water Quality Control Plan for the San Diego Basin (Basin Plan), Page 2-3. The Basin Plan defines MUN as "uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."

<sup>3</sup> "Water quality objectives" are defined in Water Code section 13050(h) as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area."

<sup>4</sup> MCLs, maximum contaminant levels, are public health-protective drinking water standards to be met by public water systems. MCLs take into account not only chemicals' health risks but also factors such as their delectability and treatability, as well as the costs of treatment. Primary MCLs can be found in California Code of Regulations (CCR) Title 22 sections 64431 - 64444. Secondary MCLs address the taste, odor, or appearance of drinking water, and are found in 22 CCR section 64449.

<sup>5</sup> Basin Plan, footnote 1, supra. Page 3-24 and Table 3-5 at 3-25. The Basin Plan provides that "Water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in CCR Title 22 Table 64444-A of section 64444 (Organic Chemicals) which is incorporated by reference into this plan. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. (See Table 3-5.)"

<sup>6</sup> "Waste" is very broadly defined in Water Code section 13050(d) and includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

determined in 1999 that "landfill gas appears to be the primary source of VOCs detected in groundwater." Therefore, VOCs attributable to the wastes within the Bonsall Sanitary Landfill have discharged into waters of the State and created a condition of pollution impacting beneficial uses of the waters of the State. Groundwater concentrations of PCE are not in conformance with the water quality objectives needed to support MUN uses of the groundwater, creating a condition of pollution and nuisance in waters of the State. The adverse changes in groundwater quality caused by the discharges of waste to waters of the State are a contributing cause of interference with the Municipal and Domestic Supply (MUN)<sup>7</sup> designated beneficial use and are potentially injurious to the public health. This water quality condition caused by the discharge constitutes a nuisance condition because it potentially interferes with and complicates the use of groundwater for drinking water purposes for a considerable number of persons and can be considered an obstruction to the free use of property as provided in Water Code section 13050, subdivision (m).

The following table presents the highest concentration of selected compounds detected in groundwater samples collected in February 2010 to March 2010.

<b>Compound</b>	<b>Maximum Detected Groundwater Concentration (µg/L)</b>
1,1-Dichloroethane	3.1
1,2,4-Trimethylbenzene	0.32J
1,4-Dichlorobenzene	0.75J
Benzene	0.31J
Chlorobenzene	5.8
cis-1,2-dichloroethne	2.3
Dichlorodifluoromethane	1.1
Ethylbenzene	0.32J
p/m-xylenes	1.3
o-xylenes	0.54J
Tetrachloroethene	<b>6.0</b>
Toluene	2.5
Trichloroethene	2.4

J – Estimated concentration less than the reporting limit and greater than the method detection limit.  
 Bold concentrations exceed MCLs.

<sup>7</sup> See Basin Plan, page 2-3. The Basin Plan defines MUN as "uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."

5. **Persons Responsible for the Discharge of Waste:** The County is the party responsible for the release of VOCs and its discharge to waters of the State because it owned the property/landfill since it began landfill operations in 1968 and continues to own the property/landfill. The landfill has been operated by the County or companies under contract to the County throughout landfill operations, closure, and post closure maintenance.
6. **Impacts to Beneficial Uses:** There are 34 private supply wells within one mile of the Site. Seven of these wells are used for domestic water supply. The remaining wells are used for agricultural water supply. The property owner at 29484 Twin Oaks Valley Drive, which is located adjacent to the landfill, was denied a permit in 1999 to install a groundwater well on his property due to the detection of VOCs attributable to the landfill.<sup>8</sup>
7. **Violation of Waste Discharge Requirements:** Waste discharge requirements for post-closure maintenance of the Site were adopted in Order No. 97-15. Prohibition A.2 in Order No. 97-15 requires that the discharge of waste shall not cause the presence of toxic material in waters pumped from the basin; cause the San Diego Water Board's water quality objectives for groundwater or surface water, as established in the Basin Plan, to be exceeded; or cause pollution, contamination, or nuisance or adversely affect beneficial uses of the ground or surface waters as established in the Basin Plan. The discharge of wastes documented in Finding 4, is a violation of Waste Discharge Requirements Order No. 97-15, Prohibition A.2.
8. **Basis for Cleanup and Abatement Order:** Water Code section 13304 establishes the San Diego Water Board's cleanup and abatement authority. Water Code section 13304, subdivision (a) authorizes the San Diego Water Board to require a person to clean up waste and/or abate the effects of the waste discharge if so ordered by a regional board in the event there has been a discharge in violation of waste discharge requirements, or if a person has caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State and creates or threatens to create a condition of pollution or nuisance. The above findings establish both that the County has discharged waste in violation of waste discharge requirements and that the County has caused or permitted and threatens to cause or permit waste to be discharged or deposited where it is, or probably will be, discharged in the waters of the State and has created, or threatens to create, a condition of pollution or nuisance. Therefore, the San Diego Water Board is authorized to order the County to cleanup and abate the effects of the discharge of VOCs from the Bonsall Landfill.

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<sup>8</sup> U.S. Environmental Protection Agency Criminal Investigation Division, Information Worksheet, documenting phone conversation between Dr. John McRae and Tim Fidel. September 24, 2003.

9. **California Code of Regulations Title 27 Requirements:** As documented in Finding 2 of Addendum 1 to Order No. 97-15, Bonsall Sanitary Landfill is subject to the requirements for protection of water resources in California Code of Regulations, Title 27 (Title 27), section 20380 et seq. Applicable requirements of Title 27 include the following:
- a. Section 20385(a)(4) requires the discharger to institute a corrective action program under section 20430 when the San Diego Water Board determines that the assessment of the nature and extent of the release and the design of a Corrective Action Program have been satisfactorily completed and the San Diego Water Board approves the application for an amended report of waste discharge.
  - b. Section 20425(d) requires the submission of an Amended Report of Waste Discharge to establish a corrective action program meeting the requirements of section 20430.
  - c. Section 20430 requires the establishment of a corrective action program, which ensures that the constituents of concern (COCs) achieve their respective water quality protection standard (WQPS) concentration limits at all Monitoring Points and through the zone affected by the release, including any portions thereof that extend beyond the facility boundary.
10. **Corrective Action Plan:** In response to Investigative Order No. R9-2008-0097, the County submitted a Corrective Action Plan (CAP) in conjunction with an Amended Report of Waste Discharge (AROWD) to the San Diego Water Board on September 30, 2009. The CAP proposed corrective actions that included upgrades to the cover system, storm water conveyance, landfill gas system, and monitored natural attenuation. The CAP and AROWD are deemed complete and were approved by the San Diego Water Board in a letter dated December 23, 2009. In a series of discussions during March through June 2010, the County stated that it would provide a revised work plan, including technical specifications and construction plans, because the original schedule and scope of work, as presented in the County's December 2009 CAP, would not be met.
11. **Concentration Limits:** The County proposed concentration limits in the AROWD for each COC as follows:
- a. **Inorganic Constituents:** Background concentrations for all inorganic COCs are appropriate concentration limits. Background concentrations are determined by intrawell prediction limits for calcium, magnesium, sulfate and TDS, and interwell tolerance limits for all other inorganic constituents.
  - b. **Organic Constituents:** For organic COCs, the MCLs as promulgated by the CDPH may be used as Concentration Limits Greater than Background (CLGB) for evaluation of corrective action within the existing release. For

constituents with no established MCLs<sup>9</sup>, the Concentration Limit will be set at the concentrations as of first quarter 2010 (see Finding 4) to preserve the existing water quality and allow detections of future releases of waste constituents from the landfill.

MCLs are appropriate Concentration Limits at the Site because VOCs and their anticipated degradation products have the potential to naturally attenuate through dilution, dispersion, and metabolic processes of native microorganisms; and therefore will not pose a permanent impairment of water quality. As required by the Safe Drinking Water Act, MCLs are set as close to concentrations protective of human health as feasible considering the use of the best available technology, treatment techniques, and other means which the EPA finds are available.<sup>10</sup> Establishing concentration limits greater than background is consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of the water, and will not result in water quality less than that prescribed in the Basin Plan.

- c. **Factors Considered:** When setting CLGBs, the San Diego Water Board considered the following factors:<sup>11</sup> the physical and chemical characteristics of waste in the landfill, the hydrogeological characteristics of the facility and surrounding land, the quantity of groundwater and the direction of groundwater flow, the proximity and withdrawal rates of current groundwater users, the current and potential future uses of groundwater, the existing quality of groundwater, including other sources of contamination or pollution and their cumulative impact on the ground water quality, the potential for health risks caused by human exposure to waste constituents, and the potential damage to wildlife crops, vegetation, and physical structures caused by exposure to waste constituents; and the persistence and permanence of the potential adverse effects.

**12. Basis for Requiring Technical and Monitoring Reports:** Water Code section 13267 provides that the San Diego Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the San Diego Water Board may specify, provided that the burden, including costs, of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring the reports, the San Diego Water Board must provide the person with a written explanation with regard to the need for the reports, and identify the evidence that supports requiring that person to provide the reports.

**13. Need for Technical and Monitoring Reports:** Technical and Monitoring reports required by this Order are needed to provide information to the San Diego Water Board regarding (a) detailed plans and specifications for the

<sup>9</sup> This case was not originally addressed in the County's proposed concentration limits included in the AROWD.

<sup>10</sup> <http://water.epa.gov/lawsregs/rulesregs/regulatingcontaminants/basicinformation.cfm>

<sup>11</sup> Pursuant to Title 27 section 20400(c)

proposed corrective action measures, (b) progress of implementation of the cleanup and abatement measures proposed in the CAP, (c) the current nature and extent of the discharge, (d) evaluation of the effectiveness of the cleanup and abatement measures, and (e) any revisions to the cleanup and abatement measures needed to bring the Site into compliance with the applicable water quality objectives. The reports will enable the San Diego Water Board to determine the vertical and lateral extent of the discharge, ascertain if the condition of pollution poses a threat to human health in the vicinity of the Site, and provide technical information to determine what cleanup and abatement measures are necessary to bring the Site into compliance with applicable water quality standards. Based on the nature and possible consequences of the discharges (as described in Findings No. 2 through 8, above) the burden of providing the required reports bears a reasonable relationship to the need for the reports, the costs, and the benefits to be obtained from the reports.

14. **Cost Recovery:** Pursuant to California Water Code section 13304, subdivision (c) and consistent with other statutory and regulatory requirements, including not but limited to Water Code section 13365, the San Diego Water Board is entitled to, and will seek reimbursement for, all reasonable costs incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
15. **California Environmental Quality Act (CEQA) Compliance:** The issuance of this Order is an enforcement action taken by a regulatory agency and is categorically exempt from the provisions of CEQA pursuant to section 15321(a)(2), Title 14 of the California Code of Regulations.
16. **Qualified Professionals:** The County's reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals.

**IT IS HEREBY ORDERED** that, pursuant to sections 13267 and 13304 of the Water Code that the County must comply with the following Directives:

- A. **CLEANUP AND ABATE DISCHARGES:** The County shall take all corrective action necessary to cleanup and abate the effects of the discharge.
- B. **CORRECTIVE ACTION PROGRAM GOALS:** The County shall take corrective action to achieve the following goals:
  1. Cleanup and abate the effects upon water quality from releases of waste from the Site, and



2. Ensure that the County achieves compliance with the Water Quality Protection Standard adopted under Title 27 section 20390, as presented in Finding 11.

**C. CORRECTIVE ACTION PROGRAM MEASURES:** The County shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including portions thereof that extend beyond the facility boundary. The specific measures to be taken, as proposed in the CAP are as follows:

1. **Technical Specifications and Construction Plans:** On or before **April 29, 2011**, the County shall submit technical specifications and construction plans for the Corrective Action Measures not included in the Maintenance Work Plan.<sup>12</sup> The plans shall include a Construction Quality Assurance (CQA) Plan in accordance with CCR Title 27 section 20324 for the purpose of providing quality control on the material and construction practices used to implement the corrective action measures and prevent the use of inferior products, materials, or construction practices. The construction plans and technical specifications shall be approved for construction and signed by an appropriately licensed professional.
2. **Source Control:** The County shall design, construct and maintain improvements to the surface water conveyance system to reduce the potential for infiltration of precipitation and surface water into buried waste.
  - a. **Implementation Phase I:** On or before **December 30, 2010**, the County shall complete the implementation of all activities proposed in the Maintenance Work Plan. Phase I is anticipated to include measures for the areas labeled A, B, and C on Figure 1 of the Revised Cover Drainage and Corrective Action Work Plan<sup>13</sup> as follows:
    - i. **Area A, Entrance Road:** Re-grade road to correct grade reversals and ponding issues.
    - ii. **Area B, Northwest Access Road:** Re-grade portions of the access road to minimize grade reversals and ponding issues.
    - iii. **Area C, Northeast Access Road:** Re-grade road to correct grade reversals.

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<sup>12</sup> The Maintenance Work Plan described corrective action measures to be conducted as maintenance activities. Maintenance activities are defined as activities that do not involve disturbance of the landfill cap. The Maintenance Plan was submitted by the County on June 28, 2010 and amended on July 16, 2010.

<sup>13</sup> Geosyntec Consultants, May 2010.

- b. **Implementation Phase II:** On or before **October 31, 2011** the County shall complete all activities described in the Technical Specifications and Construction Plans. Phase II consists of the following measures:
- i. Area B, Northwest Access Road Side Slope: Re-grade side slope at the east side of the access road.
  - ii. Area B, Storm Drain #1: Abandon Storm Drain #1 due to the collapsed conditions of the conveyance system.
  - iii. Area B, Replacement Drainage for Storm Drain #1: Install drainage conveyance structure<sup>14</sup> to transmit surface water previously accepted by Storm Drain #1.
  - iv. Area B, Access road drainage: Restore the existing metal flume oriented parallel to the central access road (transmitting water to Storm Drain #1) or replace with an upgraded drainage conveyance feature.
  - v. Area D, Regrade the road and implement erosion control measures in the regarded area to establish drainage.
- c. **Maintenance:** The County shall maintain the landfill. Maintenance shall include but not be limited to the following:
- i. The County shall comply with applicable closure and post-closure maintenance requirements of CCR Title 27, Subchapter 5, Article 2.
  - ii. The drainage control system shall be designed and maintained to adequately convey runoff from a 100-year 24-hour storm.
  - iii. The drainage control system shall conform to the design drawings, or revisions thereto, for the system.
  - iv. The structural integrity and effectiveness of all containment structures and existing cover shall be maintained as necessary to correct the effects of settlement or other adverse factors.
  - v. Vegetation used at the site shall be selected and maintained to require minimum irrigation and maintenance, and shall not impair the integrity of containment structures including the existing cover.
  - vi. The migration of landfill gas from the site shall be controlled to ensure that landfill gases and gas condensate are not discharged to surface waters or groundwaters. Condensate shall be collected

<sup>14</sup> All drainage conveyance structures shall be designed by a California-Licensed Engineer. San Diego Water Board approval is needed prior to installing all drainage conveyance structure.

and removed from the site except as defined in CCR Title 27, section 20090(e).

- vii. Prior to October 31, the start of the rainy season, maintenance of the storm water control Best Management Practices (BMPs) shall be completed to prevent erosion, ponding, and flooding, and to prevent surface drainage from percolating through wastes. In addition, maintenance and repairs required by changing site conditions must be made as needed.
- viii. Structural and non-structural BMPs shall be used to prevent erosion of cover materials and in areas undergoing landfill containment system construction and/or maintenance.
- ix. All areas, including surface water drainage courses, shall be maintained to minimize erosion. The landfill cover shall be maintained to minimize percolation of liquids through wastes.
- x. Surface water runoff within the boundary of the landfill (i.e., precipitation that falls on the landfill cover) shall be collected by a system of berms, ditches, downchutes, swales and drainage channels, and shall be diverted off the landfill to either the detention basin or to the natural watercourses.
- xi. Surface water runoff from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through waste and shall be contained onsite or be discharged in accordance with all applicable storm water regulations.
- xii. Where surface water runoff results in erosive flow velocities, surface protection such as asphalt, concrete, riprap, silt fences or other erosion control material shall be used for protection of drainage conveyance features. Interim bench ditches shall be provided with erosion control material and riprap to control erosion where necessary.
- xiii. Where surface water runoff results in erosive flow velocities at terminal ends of downchutes or where downchutes cross the landfill cover access roads, erosion control material shall be applied to exposed soil surfaces.
- xiv. Energy dissipaters shall be installed to control erosion at locations where relatively high erosive flow velocities of surface water runoff are anticipated.

3. **Monitored Natural Attenuation:** On or before **April 29, 2011** the County shall implement corrective action Monitoring and Reporting Program, No. R9-2010-0068. The semi-annual monitoring reports shall include an evaluation of effectiveness of the existing remedy and a proposal, including a time schedule, for any necessary upgrades. In the absence any other direction by the San Diego Water Board, any proposed upgrades shall be completed on or before the dates proposed by the County.
  
4. **Maintenance Activities Summary Report:** Each semi-annual monitoring report shall include a summary of the maintenance work initiated or completed in the preceding 6-month reporting period. Documentation of all Phase I activities shall be provided no later than **April 29, 2011**. At a minimum the Summary Reports shall include:
  - a. A description of the work including figures showing the location of the work.
  - b. Copies of all inspection/tests conducted as part of the work.
  - c. A summary of all differences between the proposed and actual work.
  
5. **Corrective Action Completion Report and Construction Quality Assurance Report:** On or before **November 30, 2011** the County shall submit a technical report to the San Diego Water Board certifying that the corrective action measures have been fully implemented. The report shall contain all the final report elements and the results from laboratory and field testing referenced in CCR Title 27, sections 20320 and 20324 as they apply to corrective action measures, such as grading, that impact the final cover. The preparation of the final CQA Report, and supervision of the CQA Program, shall be performed by a licensed Civil Engineer or Certified Engineering Geologist as required by CCR Title 27, section 20324(b). The CQA Report shall be submitted upon completion of corrective action activities. The CQA Report at a minimum must include:
  - a. Description of the actions taken.
  - b. Discussion of any deviations from the proposed plan.
  - c. As built construction drawings.
  - d. Copies of all quality control documentation for the site, including daily field observation logs, of all test results required by the CQA plan, and other data to used to verify that the upgrades were performed properly.
  - e. Certification that all corrective actions were performed in accordance with all applicable plans and engineering specifications.

**D. COMPLETION OF CORRECTIVE ACTION PROGRAM:** Concentrations of all COCs shall be reduced to levels less than or equal to their respective concentration limits throughout the entire zone affected by the release by **September 30, 2015**. Concentration reduction shall be documented in the next semiannual report due no later than **October 30, 2015**. Any ongoing corrective action measures not otherwise required to comply with WDRs may be terminated after the San Diego Region Board determines that the required reductions have been achieved.

Corrective action monitoring shall continue until the County provides a technical report demonstrating that the concentrations of all COCs have remained less than their respective concentration limits for at least 3 years. If at any time during the 3-year proof period, a COC is detected at a concentration exceeding the respective concentration limit for that constituent, the County shall resume the corrective action program at the Site.

**E. COMPLIANCE DATES:** The following is a summary of the due dates for activities presented in the preceding directives.

<i>Directive</i>	<i>Activity</i>	<i>Due Date</i>
C	Surface Water Assessment	January 31, 2011
	Technical Specifications and Construction Plans	April 29, 2011
	Source Control Phase I	December 30, 2010
	Source Control Phase II	October 30, 2011
	Corrective Action Completion Report	November 30, 2011
	Corrective Action Monitoring and Reporting Program Semiannual Monitoring Reports	April 29, 2010 (and semiannually thereafter)
D	Reduction of concentrations to less than concentration limits	September 30, 2015
	CAP Completion Demonstration	October 30, 2015

**F. DOCUMENT SUBMITTALS:**

1. Transmittal Letter: A transmittal letter shall be included with all reports submitted in compliance with this Order. The transmittal letter shall include the following:
  - a. Content. The Transmittal Letter shall include a brief discussion of the findings, conclusion(s), and recommendation(s) presented in the Report.

- b. Certification Statement. The person signing the Transmittal Letter shall make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

2. Signatory Requirements: All reports required by this Order and other information required by the San Diego Water Board shall be signed:
- a. By a person certified as follows:
- i. For a corporation: A principal executive officer, at least a vice president of the corporation, or duly authorized representative.
  - ii. For a partnership or sole proprietorship: A general manager or the proprietor, respectively, or duly authorized representative.
  - iii. For a municipality, State, federal, or other public agency: Either a principle executive officer, ranking elected official, or duly authorized representative.
- b. An individual is a duly authorized representative only if:
- i. The authorization is made in writing by a person described in paragraph 2.a of this section.
  - ii. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity.
  - iii. The written authorization is submitted to the San Diego Water Board prior to submission of the Report.
3. The County shall submit both one paper and one electronic, searchable pdf copy of all documents required under this Order to:

California San Diego Water Quality Control Board, San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, California 92123  
Attn: Land Discharge Program Supervisor

Electronic pdf files shall be no larger than 150 mb in size. Larger documents shall be separated at logical places in the report to keep file sizes under 150 mb. All correspondence and documents submitted to the San Diego Water Board shall include the reference code "210029:cprowell" in the header or subject line.

- G. VIOLATION REPORTS:** If the County violates any requirement of this Order, the County shall notify the San Diego Water Board by telephone as soon as practicable once the County has knowledge of the violation and no more than one business day after the violation has occurred. The San Diego Water Board may, depending on violation severity, require the County to submit an additional *technical report on the violation within five working days of telephone notification.*
- H. OTHER REPORTS:** The County shall notify the San Diego Water Board in writing prior to any facility activities, such as grading activities which have the potential to cause or allow further migration of contaminants.
- I. NO POLLUTION, CONTAMINATION OR NUISANCE:** The storage, handling, treatment, or disposal waste such as polluted soil or groundwater shall not create a condition of pollution or nuisance as defined in Water Code section 13050. The County shall properly manage, treat and dispose of wastes in accordance with applicable federal, State and local regulations. Purge water collected from monitoring wells may be dispersed onto the landfill so long as it does not flow off of the site as surface water, collect in depressed areas, result in a condition of saturated waste, or otherwise adversely impact groundwater or surface water.
- J. GOOD OPERATION AND MAINTENANCE:** The County shall maintain in good working order and operate as efficiently as possible any monitoring system, waste management and control systems installed to achieve compliance with the requirements of this Order.
- K. CONTRACTOR/CONSULTANT QUALIFICATIONS:** All reports, plans and documents required under this Order shall be prepared under the responsible charge of appropriately qualified professionals. A statement of qualifications and license numbers, if applicable, of the responsible lead professional and all professionals making significant and/or substantive contributions shall be included in the CQA Plan required by Directive C.1. The lead professional performing engineering and geologic evaluations and judgments shall sign and affix their professional geologist or civil engineering registration stamp to all technical reports, plans or documents submitted to the San Diego Water Board.
- L. LABORATORY QUALIFICATIONS:** Unless otherwise permitted by the San Diego Water Board, all analyses shall be conducted at a laboratory certified for such analyses by the CDPH. The County must use a laboratory capable of producing and providing quality assurance/quality control (QA/QC) records for San Diego Water Board review. 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 submitted to the San Diego Water Board.

**M. LABORATORY ANALYTICAL REPORTS:** Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) must be signed by the laboratory director and contain:

1. A complete sample analytical report.
2. A complete laboratory quality assurance/quality control (QA/QC) report.
3. A discussion of the sample and QA/QC data.
4. A transmittal letter that shall indicate whether or not all the analytical work was supervised by the director of the laboratory, and contain the following statement, "All analyses were conducted at a laboratory certified for such analyses by the CDPH in accordance with current USEPA procedures."

**N. ANALYTICAL METHODS:** Specific methods of analysis must be in accordance with the Corrective Action Monitoring and Reporting Program included in the Amended Report of Waste Discharge. Any proposed changes shall be submitted to the San Diego Water Board as an amendment to the Corrective Action Monitoring and Reporting Program. If the County proposes to use methods or test procedures other than those included in the most current version of "Test Methods for Evaluations Solid Waste, Physical/Chemical Methods, SW-846" (USEPA) or 40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Procedures for Detection and Quantification," the exact methodology must be submitted for review and must be approved by the San Diego Water Board prior to use. The County shall provide documentation of the analytical methods that were used in each semiannual report.

**O. REPORTING OF CHANGED OWNER OR OPERATOR:** The County shall notify the San Diego Water Board at least 30-days in advance of any changes in Site occupancy or ownership associated with the property described in this Order.

**P. REGULATIONS:** All corrective actions shall be in accordance with the applicable provisions of CCR Title 27; the Cleanup and Abatement Policy in the Water Quality Control Plan for the San Diego Basin (9); and State Board Resolution No. 92-49.

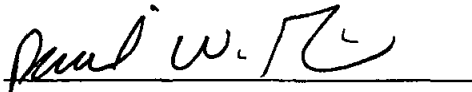
**Q. NOTIFICATIONS**

1. **COST RECOVERY:** Upon receipt of invoices, and in accordance with instructions therein, the County shall reimburse the San Diego Water Board for all reasonable costs actually incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.



December 6, 2010

2. **ENFORCEMENT NOTIFICATION:** Failure to comply with requirements of this Order may subject the County to enforcement action, including but not limited to: imposition of administrative civil liability in an amount not to exceed \$1,000 for each day the violation occurs under Water Code sections 13268, not to exceed \$5,000 for each day in which the violation occurs under Water Code section 13350, or referral to the Attorney General for injunctive relief or civil or criminal liability.<sup>15</sup>
  
3. **REQUESTING ADMINISTRATIVE REVIEW BY THE STATE WATER BOARD:** Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with section 13320 of the Water Code and CCR Title 23 section 2050. The petition must be received by the State Board (Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812) within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.



David W. Gibson  
Executive Officer

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<sup>15</sup> If an order establishing a time schedule is subsequently issued based upon a threatened or continuing violation of the CAO and is violated, the amount of the penalty for such violation may not to exceed \$10,000 for each day in which the violation occurs under Water Code Section 13308.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. R9-2010-0068  
FOR THE BONSTALL SANITARY LANDFILL  
TWIN OAKS VALLEY ROAD  
SAN DIEGO COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board), finds that:

- 1. Legal and Regulatory Authority:** This Monitoring and Reporting Program (M&RP) conforms to and implements (1) policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including section 13267; (2) applicable State and federal regulations (3) all applicable provisions of Statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Water Board) and the *Water Quality Control Plan, San Diego Basin* (Basin Plan) adopted by the San Diego Water Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies and regulations, including, including State Board Resolution No. 68-16 *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, Resolution No. 88-63 *Sources of Drinking Water*, and Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under California Water Code Section 13304*; California Code of Regulations (CCR) Titles 23 and 27; and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.
- 2. Purpose:** This M&RP is necessary to assess the compliance of the San Diego County Department of Public Works (hereinafter County) with Waste Discharge Requirements Order (WDR) No. 97-15, and Cleanup and Abatement Order (CAO) No. R9-2010-0067. CAO No. R9-2010-0067 was issued to address a release of volatile organic constituents (VOCs) from the Bonsall Sanitary Landfill (Landfill) discharging to waters of the State (groundwater). After the release is adequately addressed, this M&RP will be used to assess ongoing compliance with WDR No. 97-15 and determine if additional releases have occurred.
- 3. Basis for Groundwater Corrective Action Monitoring:** This M&RP requires the County to establish and implement a water quality monitoring program in accordance with CCR Title 27 section 20430(d) to demonstrate the effectiveness of the Corrective Action Program. The presence of waste constituents in groundwater triggered the requirements for an Evaluation Monitoring Program (EMP), under CCR Title 27 section 20425, for the Landfill. The County has completed the requirements for an EMP to the satisfaction of the San Diego Water Board.
- 4. Basis for Groundwater Monitoring System Requirements and Standards:** This M&RP prescribes performance requirements for monitoring systems and corrective

action, as set forth in CCR Title 27 sections 20415(b) and 20430(b), for cleanup and abatement of pollution and nuisance conditions from the release/discharge of waste constituents from the waste management unit into groundwater.

5. **Basis for Requiring Technical and Monitoring Reports:** Water Code section 13267 provides that the San Diego Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the San Diego Water Board may specify, provided that the burden, including costs, of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring the reports, the San Diego Water Board must provide the person with a written explanation with regard to the need for the reports, and identify the evidence that supports requiring that person to provide the reports.
6. **Need for Technical and Monitoring Reports:** The technical and monitoring reports are needed to ensure that the County complies with CCR Title 27 and to enable the San Diego Water Board to effectively assess the compliance by the County with WDR No.97-15 and CAO No. R9-2010-0067. The burden of providing the required reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
7. **Need for Surface Water Monitoring:** Pursuant to CCR Title 27 section 20415(c), the County must establish a surface water monitoring system to monitor each surface water body that could be affected by a release from the unit. Surface water hydrogeology for site is presented in the AROWD;<sup>1</sup> however, the AROWD does not assess whether the release could impact surface water.
8. **Qualified Professionals:** Qualified professionals are necessary for preparing the technical and monitoring reports required by this M&RP, to ensure that the collected data and interpretations are reliable and accurate. Professionals should be qualified, licensed where applicable, and competent and proficient in fields pertinent to the required activities. California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals.
9. **California Environmental Quality Act:** The Bonsall Sanitary Landfill is an existing Site and as such is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Code of Regulations, section 15301. The issuance of this M&RP is also exempt from CEQA because it can be seen with certainty that there is no reasonable possibility of a significant effect on the environment as a result of compliance with the M&RP. (CCR Title 14 section 15061(b).)

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<sup>1</sup> Geosyntec Consultants, Revised Amended Report of Waste Discharge and Engineering Feasibility Study, Bonsall Landfill, September 2009.

**IT IS HEREBY ORDERED** that, pursuant to section 13267 of the Water Code, the County shall comply with the following monitoring and reporting program requirements:

**PART I – COMPLIANCE REPORTING**

**A. REPORTS TO BE FILED WITH THE SAN DIEGO WATER BOARD**

1. **Semi-Annual Report:** The semi-annual report shall contain, at a minimum, the following information:
  - a. A list of monitoring parameters (MPars)<sup>2</sup> for each groundwater monitoring well and landfill gas (LFG) migration monitoring probe;
  - b. Detection limits of laboratory testing and monitoring equipment;
  - c. The concentrations of MPars of samples collected during the current sampling event;
  - d. A map (or copy of an aerial photograph) which indicates the locations of observation stations, monitoring points, background monitoring points, and groundwater flow rate/direction with a graphical presentation (e.g., arrow indicating flow direction on a map);
  - e. A map showing the groundwater elevation encountered at each groundwater monitoring well, and groundwater elevation contours with interpreted groundwater flow direction and gradient;
  - f. A map showing the location and concentration of all MPars that exceed their respective Water Quality Protection Standard;
  - g. Groundwater monitoring well construction information, method and time of groundwater elevation measurement, a description of the method used to purge the well and collect groundwater samples, and quality assurance/quality control (QA/QC) procedures used;
  - h. Field logs used during well purging and sampling. At a minimum the field logs should include the following:
    - i. The well number;
    - ii. Sampling date and time;
    - iii. The method of monitoring field parameters and calibration of equipment used to monitor field parameters;

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<sup>2</sup> MPars are "monitoring parameters" that make up the subset of Constituents of Concern that are monitored in groundwater either to detect a release, or evaluate the effectiveness of corrective actions.

- iv. Purge method (if a pump is used, include pump placement and pumping rate);
  - v. Purging and sampling information such as: date each well was purged, well recovery time, method of disposal of the purged water, an estimate of volume of water purged from each well, the results of all field analyses, depth to groundwater prior to purging, at the conclusion of purging, and when the sample was collected, method of measuring the water level, and field personnel names and signatures;
  - i. A discussion of the condition and performance of the storm water control;
  - j. Site inspection reports;
  - k. Inspection results for temporary soil stockpiles;
  - l. A graphical representation of concentration data versus time, using semi-log plots, covering all available monitoring data for each MPar for at least the previous five years;
  - m. Landfill gas (LFG) monitoring reports, including method and time of landfill gas measurement, quality assurance/quality control (QA/QC) procedures, and measured concentrations of methane and volatile organic compounds (VOCs) in LFG monitoring points;
  - n. Corrective action operational parameters, including natural attenuation parameters for groundwater; LFG extraction rates; and concentrations of methane, carbon dioxide, and oxygen for each LFG extraction well;
  - o. Correlation of dissolved oxygen (DO) and oxidation reduction potential (ORP). Include a plot of dissolved oxygen and ORP data from each sampling event including the  $r^2$  value for the best fit correlation. This is a data QA/QC test for field measured parameters. If the correlation is low, the DO and ORP data should not be used to interpret subsurface conditions, and the monitoring procedures should be further evaluated; and
  - p. An evaluation of corrective action measures (upgrades to the cover, storm water conveyance, and landfill gas extraction system; and monitored natural attenuation) in accordance with CCR Title 27, section 20430(h). If the County or San Diego Water Board determines that the corrective action measures are ineffective, the evaluation shall also document how the Corrective Action Measures will be revised to improve their effectiveness.
2. **Annual Summary Report:** The annual summary report, covering the previous monitoring year, shall contain the following information:

- a. For each monitoring point and background monitoring point, the County shall submit a graphical display per CCR Title 27 section 20415(e)(14) for all data collected within at least the previous five calendar years. Each graph shall plot the concentration of one or more constituents over time for a given monitoring point. For any given constituent, the scale on the concentration axes for all plots should be the same semi-log scale to facilitate comparison and identification of trends. Based on the trend analysis the San Diego Water Board may direct the County to carry out a preliminary investigation to determine whether or not a release is indicated.
- b. For each monitoring point, trend analyses shall include identification of current trends, a comparison to previously identified trends, and a discussion of any significant changes in the trends. A trend analysis shall be prepared for groundwater and landfill gas data.
- c. Documentation of a statistical or non-statistical data analysis at each monitoring well for those MPars that have not previously been detected at that well (Detection Mode).
- d. Updates to the background data set or statistical analysis methods as required by **Part IV.A.2 - Statistical Analysis**.
- e. A written summary of the monitoring results and monitoring system(s), indicating any changes made or observed since the previous Annual Summary Report.
- f. All analytical data obtained during the previous annual reporting period presented in a tabular format. The data shall be provided electronically on compact disks (CDs) or other media as GeoTracker Electronic Data Files (EDFs) with pdfs of the summary table and original laboratory data.
- g. A comprehensive discussion of the compliance record and of all corrective actions taken or planned which may be needed to bring the County into full compliance with WDR No. 97-15, CAO No. R9-2010-0067 or this M&RP. The discussion of the compliance record shall identify any conditions that have failed to comply with any requirements of WDR No. 97-15, CAO No. R9-2010-0067 or this M&RP during the previous annual reporting period. For each condition identified, the actions taken to correct the condition over the previous annual reporting period shall be documented. Activities planned for the reporting period of the next annual report shall be presented with a schedule for completion.
- h. A topographic map at appropriate scale, showing the direction of groundwater flow at the Landfill.

- i. A copy of any amendments made to the Storm Water Pollution Prevention Plan, required by Order No. 97-03-DWQ. If no amendments were made since the previous year, the County shall provide a statement to that effect.
  - j. A summary of all maintenance activities conducted during the reporting period.
  - k. All modifications to the landfill maintenance plan. If no modifications were made since the previous reporting period, the County shall provide a statement to that effect.
  - l. A copy of the entries over the reporting period to the Permanent Log, listing all deficiencies and the actions taken to correct them (See section Part I.A.3.b).
  - m. An assessment of potential surface water impacts by a release of waste constituents from the landfill. If the County determines that a release may affect surface water, the County must propose and implement a Surface Water Monitoring System to monitor each water body that could be affected. Monitoring data should be provided in the Annual Summary Report.
- 3. Site Inspection Reports:** Site inspections shall be completed at least once each quarter and reported to the San Diego Water Board. The Site Inspection Reports shall include all observations and monitoring activities to document compliance with performance standards set forth in CCR Title 27, section 21090(c).
- a. Site Inspection Reports shall be included in an Appendix to each Semi-Annual Report and at a minimum, include the following information: an evaluation of all systems, including the landfill gas collection/ monitoring system, condensate and leachate containment structures, sumps, groundwater monitoring wells, and drainage control structures. The inspection reports shall include the date and time of inspections, and contain information on site conditions and at a minimum a discussion of any significant finding concerning:
    - i. General site conditions;
    - ii. The condition of the storm water conveyance system;
    - iii. The effectiveness of erosion control BMPs;
    - iv. The condition of the water quality monitoring points;
    - v. The status/condition of the landfill gas control system;

- vi. Maintenance activities performed at the site;
  - vii. The condition of temporary soil stockpiles at the site;
  - viii. Identification of all areas that require maintenance work; and
  - ix. A summary of all maintenance activities conducted at the site since the last site inspection.
- b. All observed deficiencies shall be photographed and recorded in the Site Inspection Report and a permanent log that is kept on site or at the County office, and made available for review upon request. Documentation of the actions taken to correct each deficiency and a photograph showing the area after corrective actions should be included in a Site Inspection Report and the permanent site log. The permanent site log must list all inspections conducted by County staff and all federal, State, and local agencies, the results of the inspection, and corrective actions taken to correct all noted deficiencies.
- c. The Site Inspection Reports shall document compliance with the maintenance requirements listed in maintenance specification B.1. of Order No. 97-15 and directive C.4.c of Order No. R9-2010-0067:
- 4. Landfill Gas Monitoring Reports:** Because LFG control is part of the corrective action, the County shall monitor the LFG control system as described in **Part II.C - LANDFILL GAS MONITORING** and report to the San Diego Water Board.
- a. LFG Monitoring Reports shall be included in an Appendix to each Semi-Annual Report and include the following minimum information:
    - i. Maps showing the location of all LFG extraction wells and LFG monitoring probes;
    - ii. Tables of monitoring results listing the date and time of the measurement, the individual taking the measurement, and at a minimum the following information:
      - 1. Pressure drop at each LFG extraction well; and
      - 2. Methane and Oxygen concentration of extracted LFG.
    - iii. Field monitoring calibration documentation; and
    - iv. Any additional information needed to determine whether or not the LFG control system is operating effectively as part of the corrective action at the Landfill.



- b. LFG data shall be evaluated as described in **Part I.A.1.p – Semi-Annual Report** to determine if the upgrades to the LFG system are functioning effectively as corrective action measures and recommend any upgrades needed.
5. **Constituents of Concern Report:** The County shall monitor all potential constituents of concern (COCs) and submit a COC Report as follows:
  - a. Every five years the County shall sample all monitoring points and background monitoring points for each monitored medium (excluding landfill gas) for all COCs identified in Table 5 of the AROWD and constituents listed in Appendix II to 40 CFR Part 258 (Appendix II). The first COC report shall be submitted no later than **April 30, 2011** and subsequent COC reports shall be due every fifth year thereafter alternately in the Fall (Reporting Period ends September 30) and Spring (Reporting Period ends March 31). The COC report may be combined with the Semi-Annual Report or any Annual Summary Report having a reporting period that ends at the same time.
  - b. The County shall monitor for all COCs in accordance with this Section, provided that such monitoring need only encompass those COCs that do not also serve as monitoring parameters.
  - c. The MPar list and COC list shall be updated as described in **Part IV.E Five-Year COC Scan**. The updates to the MPar and COC list shall be documented in the Constituents of Concern Report.
6. **Violation Reports:** If the County determines there has been a violation<sup>3</sup> of any requirement in WDR No. 97-15, or directive of CAO No. R9-2010-0068, or this M&RP; then the County must notify the San Diego Water Board office by telephone as soon as practicable once the County has knowledge of the violation. The San Diego Water Board staff may, depending on violation severity, require the County to submit a separate technical report on the violation within five working days of telephone notification.

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<sup>3</sup> A violation includes any violation of a requirement issued by a regulatory agency relative to requirement of applicable State, federal, or local storm water control permits, or an exceedance of any Water Quality Control Protection Standard.

- B. REPORTING SCHEDULE:** Reports shall be submitted to the San Diego Water Board Office by 5:00 pm on or before the due date, in accordance with the following schedule:

**Table B.1: Reporting Schedule**

Report Type	Report Frequency	Report Period	Report Due
Semi-Annual Report	Semi-Annual	October - March	April 30
Semi-Annual Report	Semi-Annual	April - September	October 30
Annual Summary Report	Annual	April - March	April 30
COC Report	Five Years	Varies <sup>1</sup>	April 30 or October 30 <sup>1</sup>

<sup>1</sup> COC Reports are due at alternating intervals to account for potential seasonal variations in these data (i.e., every other report is due in April of the reporting year).

**C. STANDARD REPORTING REQUIREMENTS**

- 1. Submission Procedures.** The County must submit one paper and one electronic, searchable PDF copy of all documents required under this M&RP to:

California Regional Water Quality Control Board, San Diego Region  
 9174 Sky Park Court, Suite 100  
 San Diego, California 92123  
 Attn: Land Discharge Program Supervisor

Larger documents shall be separated at logical places in the report to keep file sizes under 150 mb. The County shall also continue to provide a paper transmittal letter, a paper copy of all figures larger than 11 inches by 17 inches, and an electronic copy (on a CD or other appropriate media) of all reports to the San Diego Water Board. All correspondence and documents submitted to the San Diego Water Board shall include the reference code "210029:cprowell" in the header or subject line.

- 2. Use of Licensed Professionals.** All reports, plans, and documents required under this M&RP must be prepared under the direction of appropriately qualified professionals. California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals. A statement of qualifications and license numbers of the responsible lead professionals shall be included in all plans and reports submitted by the County. The lead professional shall sign and affix their license stamp to the report, plan, or document.

3. **ELECTRONIC DATA SUBMITTALS:** The State's Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 CCR) <sup>4</sup> require electronic submission of any report or data required by a regulatory agency from a cleanup site. All information submitted to the San Diego Water Board in compliance with this M&RP is also required to be submitted electronically via the Internet into the Geotracker database <http://geotracker.waterboards.ca.gov/> (Geotracker Site ID: L10001753716). The electronic data must be uploaded on or prior to the regulatory due dates set forth in the M&RP or addenda thereto. To comply with these requirements, the County must upload to the Geotracker database the following minimum information: <sup>5</sup>
- a. **Laboratory Analytical Data:** Analytical data (including geochemical data) for all soil, vapor, and water samples in Electronic Data File (EDF) format. Water, soil, and vapor data include analytical results of samples collected from monitoring wells, boreholes, LFG probes, LFG extraction wells, soil vapor wells, piezometers, surface water, stockpiles, and drinking water wells.
  - b. **Location Data:** The latitude and longitude of any permanent monitoring well for which data is reported in EDF format, accurate to within 1 meter and referenced to a minimum of two reference points from the California Spatial Reference System (CSRS-H), if available.
  - c. **Monitoring Well Elevation Data:** The surveyed elevation relative to a geodetic datum of any permanent monitoring well. Elevation measurements shall be made at the top of groundwater well casings for all groundwater monitoring wells.
  - d. **Depth-to-Water Data:** The depth-to-water in monitoring wells even if groundwater samples are not actually collected during the sampling event.
  - e. **Monitoring Well Screen Intervals:** The depth to the top of the screened interval and the length of screened interval for any permanent monitoring well.
  - f. **Site Map:** Site map or maps which display discharge locations, streets bordering the facility, and sampling locations for all soil, water, and vapor samples. The site map is a stand-alone document that may be submitted in various electronic formats. A site map must also be uploaded to show the maximum extent of any waste constituent in groundwater. An updated site map may be submitted at any time.

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<sup>4</sup> As required by California Code of Regulations, Title 23, section 3890 et seq.

<sup>5</sup> Reporting requirements per California Code of Regulations, Title 23, section 3893(b).

- g. **Boring logs:** Boring logs (in searchable PDF format) prepared by an appropriately licensed professional.
  - h. **Electronic Report:** A complete copy (in searchable PDF format) of all work plans, assessment, cleanup, and monitoring reports including the signed transmittal letters, professional certifications, and all data presented in the reports.
4. **Transmittal Letter.** A letter summarizing significant findings shall be submitted as part of each report. The transmittal letter shall include:
- a. A summary of all violations incurred since the last report. Violations include verbal and written notices of violation from federal, State, and local regulatory agencies, and violations noted by the County, such as exceedance of the Water Quality Protection Standard, failure to conduct monitoring as required by this M&RP, or any other violation of WDR No. 97-15, CAO No. R9-2010-0067, or this M&RP.
  - b. A discussion of any condition identified since the last report was submitted that does not comply with WDR No. 97-15, CAO No. R9-2010-0067, or this M&RP, and a description of all actions taken or planned to correct the violation(s). The County shall describe any actions taken to address previously identified violations and the status of any ongoing violations. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter.
  - c. A statement certifying that the County shall conduct corrective actions during the next annual reporting period to address all deficiencies listed in the Annual Report (See **Part I.A.2.g - Reporting Requirement**) and that funding and other resources as required will be allocated to conduct the activities according to the proposed schedule.
  - d. The person signing the Transmittal Letter must make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

- e. All documents submitted to the San Diego Water Board shall be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:
  - i. The authorization is made in writing by an authorized representative of the County;
  - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
  - iii. The authorization is submitted to the Executive Officer prior to submission of the document.

## **PART II – CORRECTIVE ACTION MONITORING SPECIFICATIONS**

**A. WATER QUALITY PROTECTION STANDARD:** The Bonsall Sanitary Landfill is in violation of its water quality protection standard (WQPS) any time a given detection mode well/MPar pair exhibits a measurably significant increase over the applicable WQPS [per CCR Title 27, section 20415(e)(7)]. All well/MPar pairs in corrective action monitoring remain in violation of the WQPS until completion of a successful proof period that ends the CAP [see CCR Title 27, section 20430(g)]. Pursuant to criteria established by CCR Title 27, section 20390, the WQPS for groundwater at the Bonsall Sanitary Landfill consists of the following components:

1. **Constituents of Concern (COC)** [CCR Title 27, section 20395]

The COCs for the Bonsall Landfill are listed in Table 5 of the AROWD. Updates to the COC list will be made pursuant to **Part I.A.5 – Constituents of Concern Report**. Statistical and non-statistical data analysis is limited to only those COCs that are on the current MPar list.

2. **Concentration Limits** [CCR Title 27, section 20400(b) and (c)]

As established in Order No. R9-2010-0067, the concentration limit of a given well/MPar pair is its applicable background data set, as determined or updated pursuant to **Part IV.A.2 – Background Data Set** and **Part IV.D – Ongoing Background Well Testing**. For organic constituents, the Maximum Contaminant Levels or (MCLs) as promulgated by the California Department of Public Health may be used as a Concentration Limit Greater than Background (CLGB) for evaluation of corrective action within the existing release. For constituents with no established MCL, the Concentration Limit will be set at the concentrations as of first quarter 2010 (see Finding 4) to preserve the existing water quality and allow detections of future releases of waste constituents from the landfill. CLGBs are not established for new releases.

3. **Point of Compliance And Monitoring Wells** [CCR Title 27, section 20405]

*Compliance wells* for the Bonsall Landfill include wells: BOGW-3, BOGW-7, BOGW-8, BOGW-10, BOGW-11, BOGW-12S, BOGW-12D, ITBO-1 and OFBO-1. *Background wells* for the Bonsall Landfill include wells BOGW-1 and BOGW-9. As conditions warrant, additional wells shall be installed such that the groundwater monitoring system meets the performance requirements of CCR Title 27, section 20415(b). Any additional wells shall be proposed by the County in the next Semi-Annual Report, and automatically added to the list of compliance or background wells unless rejected by the San Diego Water Board.

4. **Compliance Period** [CCR Title 27, section 20410]

The compliance period for this Landfill, at a minimum, is 30 years and started with the initiation of the evaluation monitoring program. Compliance monitoring shall continue through 2038 or until the site has been in continuous compliance with its WQPS for a period of three consecutive years, whichever is later.

**B. GROUNDWATER MONITORING:** The specific requirements for the applicable groundwater monitoring programs are defined by performance standards given in CCR Title 27, section 20415(b) and (e).

1. The monitoring program shall include a sufficient number of Monitoring Points, installed at appropriate depths and locations to provide:
  - a. The best assurance of the earliest possible detection of a release from the landfill (Detection Monitoring Program);
  - b. The data needed to evaluate changes in water quality due to the release from the Unit (Evaluation Monitoring Program); and
  - c. The data needed to evaluate the effectiveness of the Corrective Action Program.
2. The County shall implement a groundwater monitoring program that at a minimum includes the following:
  - a. The County shall use and maintain groundwater monitoring wells listed in **Part II.A.3 - Point of Compliance and Monitoring Wells** to implement the groundwater monitoring programs.

- b. Groundwater samples shall be collected, analyzed and reported for the MPars shown in the following table:

<b>MONITORING PARAMETERS</b>	<b>UNITS</b>	<b>SAMPLING AND REPORTING FREQUENCY</b>
pH	pH	Semi-annually
Field Conductivity	µS/cm	Semi-annually
Turbidity	NTU	Semi-annually
Total Dissolved Solids	mg/L	Semi-annually
Chloride	mg/L	Semi-annually
Sulfate	mg/L	Semi-annually
Nitrate as Nitrogen	mg/L	Semi-annually
Bicarbonate	mg/L	Semi-annually
Carbonate	mg/L	Semi-annually
Chemical Oxygen Demand	mg/L	Semi-annually
Calcium	mg/L	Semi-annually
Potassium	mg/L	Semi-annually
Magnesium	mg/L	Semi-annually
Sodium	mg/L	Semi-annually
Volatile Organic Compounds	µg/l	Semi-annually
Semi Volatile Organic Compounds (BOGW -3 and BOGW-8 only)	µg/l	Semi-annually

Note: mg/l = milligrams/liter and µg/l = micrograms/liter

- c. Groundwater samples shall be collected, analyzed, and reported for the Monitored Natural Attenuation Parameters shown on the following table.

<b>MONITORED NATURAL ATTENUATION PARAMETER</b>	<b>METHOD</b>	<b>SAMPLING AND REPORTING FREQUENCY</b>
Dissolved Oxygen	Field Method	Semi-annually
Oxidation Reduction Potential	Field Method	Semi-annually
Ethene	RSK-175M	Semi-annually

- d. Prior to pumping monitoring wells for sampling, the static water elevation shall be measured to the nearest 0.01 foot in each well.
- e. For any given monitored medium, samples shall be collected:
  - i. From all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period;
  - ii. In a manner that ensures sample integrity to the greatest extent feasible; and
  - iii. Samples shall be collected as late in the Reporting Period as feasible, considering the time needed to analyze the samples, analyze the resulting data, and to prepare and submit the monitoring report to the San Diego Water Board within **30 days** after the end of the Reporting Period.
- f. Prior to purging and sampling monitoring wells, the County shall assess the well for the presence of a floating immiscible layer. If an immiscible layer is found, the County shall notify the San Diego Water Board within **24 hours** of the discovery.
- g. Groundwater elevations shall be monitored at least once during the monitoring period at the times of expected highest and lowest elevations of the water level for the respective groundwater body [CCR Title 27, section 20415(e)(15)]. Groundwater elevations shall be measured within a period of time short enough to avoid temporal variations in groundwater elevation.
- h. Groundwater sampling shall also include an accurate determination of field parameters (pH, temperature, electrical conductivity, and turbidity) [CCR Title 27, section 20415(e)(13)].

**C. LANDFILL GAS MONITORING:** The County shall implement a LFG monitoring program, as described in the AROWD, and meets the following minimum requirements:

- 1. **Monthly Landfill Gas Monitoring:** Once a month all LFG extraction wells and perimeter probes shall be monitored as follows:
  - a. LFG Extraction Wells
    - i. Methane
    - ii. Carbon Dioxide
    - iii. Oxygen



- iv. Static Pressure
    - v. Flow Rate
  - b. LFG Perimeter Probes
    - i. Methane
    - ii. Carbon Dioxide
    - iii. Oxygen
- 2. **Annual Perimeter Probe Monitoring:** Once a year perimeter probes MP-1, MP-2, MP-3, MP-5, and MP-9 shall be monitored for:
  - a. VOCs
  - b. Fixes Gases
    - i. Oxygen
    - ii. Carbon Dioxide
    - iii. Methane
    - iv. Nitrogen
    - v. Helium
    - vi. Ethane
    - vii. Ethene
    - viii. Propane
- 3. **Monitoring Locations:** Additional probes may be included in the annual monitoring if required to detect a release or to monitor the progress of corrective action measures. The County may propose, or the San Diego Water Board may require additional perimeter probes to be included.
- 4. **Replacement of Previous Order:** Upon issuance by the Executive Officer, this Monitoring and Reporting Program Order No. R9-2010-0068 supersedes Monitoring and Reporting Program Order No. 97-15 and all addenda thereto.

### **PART III – SAMPLING AND ANALYSIS**

#### **A. STANDARD MONITORING PROVISIONS**

1. The County shall comply with the requirements of CCR Title 27, sections 20385 through 20430.
2. Unless otherwise permitted by the San Diego Water Board, all analyses shall be conducted at a laboratory accredited for such analyses by the California Department of Public Health.
3. Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) shall be signed by the laboratory director and contain:
  - a. A complete sample analytical report.
  - b. A complete laboratory QA/QC report.
  - c. A discussion of the sample and QA/QC data.
  - d. A properly completed Chain of Custody form for the analyzed samples.
  - e. A transmittal letter stating whether or not all the analytical work was supervised by the director of the laboratory, and contain the following statement, "All analyses were conducted at a laboratory accredited for such analyses by the California Department of Public Health in accordance with current USEPA procedures."
4. Specific methods of analysis shall be identified in monitoring program reports. If the County proposes to use methods or test procedures other than those included in the most current version of "Test Methods for Evaluations of Solid Waste, Physical/Chemical Methods, SW-846" (USEPA) or 40 CFR, Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Procedures for Detection and Quantification," a Sampling and Analysis Plan must be submitted, with the rationale for the change, to the San Diego Water Board for review for approval prior to implementing the requested change.
5. If the County monitors sampling point or MPar more frequently than required by this M&RP, the results shall be included in the monitoring reports. The County shall also report the increased frequency of monitoring and specific monitoring locations to the San Diego Water Board.

6. Sample collection, storage, and analysis shall be performed according to the protocols included in the USEPA's "SW-846: Test Methods for Evaluating Solid wastes, Physical/Chemical Methods" (available online at <http://www.epa.gov/epawaste/hazard/testmethods/index.htm>) and in accordance with a written sampling and analysis plan, approved by the San Diego Water Board.
7. All monitoring instruments and equipment shall be properly calibrated and maintained as necessary to ensure accuracy of measurements.
8. The County shall retain records of all monitoring information, including all calibration and maintenance records, and copies of all reports required by this M&RP. Records shall be maintained for a minimum of five years from the date of the sample, measurements, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the San Diego Water Board.
9. Records of monitoring information shall include:
  - a. The date, identity of sample, Monitoring Point from which the sample was collected, and time of sampling or measurement;
  - b. The name of the individual(s) who performed the sampling or measurements;
  - c. Date and time that analyses were started and completed, and the names of the individuals performing each analysis;
  - d. The analytical techniques or method used, including method of preserving the sample and the identity and volumes of reagents used;
  - e. Results of analyses and the method detection limit (MDL) for each parameter;
  - f. Laboratory quality assurance results (e.g., percent recovery, response factor, etc.); and
  - g. Chain of Custody forms.
10. The County shall comply with the following:
  - a. The methods of analysis shall be appropriate for the expected concentrations.
  - b. The method of analysis with the lowest MDL shall be used.

- c. Analytical results falling between the MDL and the practical quantitation limit (PQL) shall be reported as "trace" and shall be accompanied by documents reporting both by the MDL and PQL values for that analytical run.
- d. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. In a relatively interference-free laboratory derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

If the laboratory suspects that, due to a change in matrix or other effects, the MDL or PQL for a particular analytical run differs significantly from historic MDL or PQL values the results shall be flagged and reported in the QA/QC report.

- e. The MDL shall always be calculated such that it represents a concentration associated with a 99 percent reliability of a non-zero result.
- f. The PQL shall represent the lowest concentration at which a numerical value can be assigned with reasonable certainty.
- g. All Quality Assurance/Quality Control (QA/QC) data shall be reported, along with the sample results to which it applies. The QA/QC information shall include the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80 percent, 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. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or laboratory blanks), the accompanying sample results shall be appropriately flagged.
- h. Upon receiving written approval from the San Diego Water Board, a proposed alternative statistical or non-statistical procedure may be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (e.g., 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 the San Diego Water Board.

- i. 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.

## **PART IV – STATISTICAL ANALYSIS**

### **A. STATISTICAL DATA ANALYSIS METHODOLOGY**

1. **Water Quality Monitoring Objective:** The objectives of the corrective monitoring program are to monitor the effectiveness of the corrective action measures and determine whether any MPar has exhibited a new measurably significant increase at any well. Therefore, the County shall monitor each well/MPar pair in one of the three following modes:
  - a. **Detection Mode:** The purpose of the Detection Mode monitoring, for any well/MPar pair is to detect the arrival of an MPar at that well in a concentration high enough to trigger a measurably significant indication using an appropriate statistical or non-statistical data analysis method.
  - b. **Tracking Mode:** For an MPar that has produced a measurably significant increase at any well, the purpose of tracking monitoring, for that well/MPar pair, is to verify the suitability and effectiveness of the existing or proposed corrective measures by tracking changes in the MPar's concentration at that location via regular updates to concentration-versus-time plot.
  - c. **Proof Mode:** For an MPar that has successfully undergone corrective action in a given well, the purpose of monitoring, for that well/MPar pair is to verify that the concentrations of the MPar remain below the concentration limit for a period of three years. Any constituent that remains at concentrations less than the concentration limit for all samples within a three-year period may be removed from the MPar list upon recommendation by the County and approval by the San Diego Water Board.
2. **Background Data Set** – The initial background data set for each MPar at a given compliance well (well/MPar pair), shall include all validated data obtained between 1991 and 2009, as presented in Appendix H of the AROWD. Every two years the County shall update the background data set with the new data from that well, providing that the new data do not indicate a statistically significant increase over the previous background dataset. The County may retire the well/MPar's oldest two years of background data. The new background dataset shall be presented and discussed in the appropriate annual report (CCR Title 27, section 20415(e)(14)).

The County shall validate the proposed intra-well background dataset for each MPar at each existing well, and for each new well. The County shall report the validated background dataset, for each affected well/MPar pair, in the next scheduled monitoring report. Initial background data validation shall be as follows:

- a. **Accelerated Background Data Procurement:** If there are *less than ten sampling events* for a given MPar at any well, the County shall implement the accelerated data procedure described in **Part IV.A.2.c – Intra-Well Background Validation for New Well/MPar Pairs** prior to initiating the intra-well background data set validation procedure described below.
- b. **Validate Upgradient Data for Organic Appendix II MPars:** For any Appendix II organic compound that is an MPar, the initial intra-well data validation, shall only utilize data from background wells that do not exceed the constituent's method detection limit for 90 percent of the analyses. Such organic constituents should not be detectable at background wells except in error (around 1 percent of the time) or because the constituent comes either from the Unit or from another source. If organic constituents are detected in more than 10 percent of analyses in background wells the MPar should be rejected. If the County cannot adequately explain the reason for the constituent's presence, the County shall conduct an investigation under **Part IV.C - Statistical Analysis**.
- c. **Intra-Well Background Validation for New Well/MPar Pairs:** For new wells, or a new MPar at an existing well, the County shall establish the background concentration for each MPar by collecting and analyzing samples monthly from each well with insufficient background data until each well has at least 10 data points. If monthly sampling would not provide representative data, the County shall submit an alternate sampling plan to the San Diego Water Board for approval. Once ten data points are available the following intra-well comparison background dataset the following methods shall be used:
  - i. **Commonly Qualified Constituents:** For any MPar that, absent the Landfill's existence, would usually be detected in groundwater at concentrations exceeding the constituent's PQL, the County shall validate the proposed intra-well background data at each compliance well by comparing it to a pooled box-and-whiskers (pooled data) plot from all "background" (upgradient or cross-gradient background) wells completed in the same groundwater aquifer. A compliance well's data cannot be used for an intra-well comparison if constituent's median concentration exceeds the 75th percentile of the pooled data. Inter-well comparisons shall be used for these wells. Data sets from a well/MPar pair whose existing data's median is less than the pooled

background plot's 75th percentile shall be used as the initial background dataset for intra-well comparisons for that well/MPar pair.

- ii. **Rarely Quantified Constituents:** For an MPar that, absent the Landfill's existence, would seldom be detected in groundwater (e.g., synthetic constituents), the County shall identify the highest value from the pooled dataset from all background wells that have passed validation under ***Statistical Analysis Part IV.A.2.b*** or, in a case where all applicable upgradient well data is non-detect, the MDL. The County shall use this value as a basis of comparison to validate the data points in the proposed intra-well background dataset. The initial intra-well background dataset for that downgradient well shall consist of all data points in the proposed intra-well background dataset that are less than this value.
3. **Performance Standards:** All data analysis methods (statistical or non statistical) shall meet the requirements of CCR Title 27, section 20415(e)(9).
4. **Retest is Part of the Method:** The County shall conduct two re-tests whenever test results indicate that a MPar has an increased concentration to verify the initial data (CCR Title 27, section 20415(e)(8)(E)). A measurably significant increase exists if either or both the retest samples validate the preliminary indication.
5. **Limited Retest Scope:** For any given groundwater monitoring point, the County may perform the verification procedure only for those MPars that have shown a preliminary indication from that well for that reporting period.
6. **Detection Mode Data Analyses:** The County shall comply with the following when conducting detection mode sampling:
  - a. **MPars Readily Detectable in Background:** To determine if a new release has occurred the County shall use the intrawell prediction limits for calcium, magnesium, sulfate, and TDS, and interwell tolerance limits for all other constituents as presented in the AROWD. The County shall recalculate these limits every two years as described in the following sections. For any new MPar or monitoring well, the County shall propose and substantiate an appropriate statistical method for that well/MPar pair.
  - b. **MPars Not Readily Detectable in Background:** The County shall use the California Non-Statistical Data Analysis Method test described in ***Part IV.B Statistical Analysis*** for any monitoring point in which one or more MPars exceed their respective MDL in less than 10 percent of the applicable background dataset.

## B. CALIFORNIA NON-STATISTICAL DATA ANALYSIS METHOD

1. **Non-Statistical Method for Detection Mode MParS Seldom Found in Background:** The County shall use this data analysis for all constituents on the "scope list", for each retest sample, or for the modified scope list.
  - a. **Scope List:** Every MPar that exceeds its MDL in less than 10 percent of its background data set shall be placed on the "scope list."
  - b. **Two Triggers:** A measurably significant indication of a release occurs when:
    - i. Two or more of the MParS exceed their respective MDL; or
    - ii. One or more of the MParS equals or exceeds its respective PQL.
2. **Discrete Retest [CCR Title 27, section 20415(e)(8)(E)]:**
  - a. In the event that the County concludes (pursuant to paragraph b.ii above) that there is a tentative indication of a release, then the County shall immediately notify the San Diego Water Board by phone or e-mail and, within **60 days** of the original sampling event, shall collect two new retest samples from the indicating compliance well.
  - b. For any given compliance well retest sample, the County shall include, in the retest analysis, only the laboratory analytical results for those constituents indicated in that well's original test and those indicated constituents shall comprise the well's "modified scope list." As soon as the retest data are available, the County shall apply the same test [under paragraph C.1.b above, but using the modified scope list] to separately analyze each of the two suites of retest data at that compliance well.
  - c. If either or both of the retest samples trips either or both of the triggers under paragraph C.1.b above, then the County shall conclude that there is a measurably significant increase at that well for the constituent(s) indicated in the validating retest sample(s). Furthermore, thereafter, the County shall monitor the indicated constituent(s) in tracking mode instead of detection mode (see **Statistical Analysis Part VI.A.1.b**) at that well, and shall highlight this conclusion and these changes in the next scheduled monitoring report.

## C. FREQUENT DETECTIONS OF AN ORGANIC CONSTITUENT IN A

**BACKGROUND WELL:** An "excessive proportion" of an MPar or a COC exists when 10 percent or more of the MPar data collected from a given background well are reported to have concentrations equal to or greater than the MDL. An "excessive frequency" exists when either a MPar or COC are reported to have concentrations equal to or greater than the MDL for two consecutive sampling events. The County shall notify the San Diego Water Board within **30 days** of the



determination that either an "excessive proportion" or "excessive frequency" exists. Furthermore, within **180 days** the County shall submit a report to the San Diego Water Board that evaluates if the MPar is from the site and proposes appropriate changes to the monitoring program. Based on the evaluation the San Diego Water Board may:

1. Conclude that the organic constituent originated from a source other than the Unit and require the County to make appropriate changes to the monitoring program, such as using an appropriate statistical inter-well comparison procedure with a suite of background data that reflects the expected concentration for that constituent; or
  2. Conclude that the organic compound originated from the site and require the County to:
    - a. list the constituent as an MPar in the next scheduled monitoring report, if it is not already so listed, and shall note this change in the Transmittal Letter;
    - b. include this background well as part of the release for that MPar and consider this well as a compliance well as part of the Evaluation Monitoring Program; and
    - c. within 120 days, install a new upgradient or cross-gradient background well in a portion of the aquifer that will provide data representative of background conditions for the Unit's Compliance Wells.
- D. ONGOING BACKGROUND WELL TESTING.** The County shall continue to monitor background wells, for each MPar and COC, each time that MPar or COC is monitored at downgradient wells. New background well data shall be included in the semi-annual report [see **CCR Title 27, section 20415(e)(14)**] as a time-versus-concentration plot for that "background" well and constituent. Any time such a plot for a given well and constituent shows two successive data points in excess of the MDL for any organic constituent that has not already been investigated at that well, in **Part IV.C - Statistical Analysis**, the County shall notify the San Diego Water Board within **30 days** of the sampling event by phone or e-mail and shall initiate an investigation within **180 days** of noting this condition.
- E. FIVE-YEAR COC SCAN.** Every five years, subsequent to the initial Appendix II scan per **Part I.A.5 - Constituents of Concern Report**, the County shall analyze a sample from every groundwater monitoring well for all COCs not yet known to be part of the release, including all Appendix II constituents.
1. If a COC is detected (including trace value) that is not yet on the MPar list, the County shall, within **30 days**, resample the well and reanalyze the sample for the newly-detected constituent(s).

2. All COCs verified by a retest becomes part of the MPar list for the Site. The County shall notify the San Diego Water Board of any such change within **30 days** of the retest, via phone, facsimile or e-mail and shall list the constituent(s) added to the MPar list in the next scheduled monitoring report, along with a listing of which well(s) were involved in this detection and verification.

## **PART V – CONTINGENCY REPORTING**

### **A. NOTIFICATION OF A RELEASE**

1. The County shall notify the San Diego Water Board by telephone or e-mail within **24 hours**, and by mail within **seven days** when the County determines that there is significant physical evidence of a release.
2. The County shall notify the San Diego Water Board by telephone or e-mail within **30 days** of a sampling event when they determine that there is significant statistical evidence of a release. The County shall provide written notification by certified mail within **seven days** of the initial notification, and conduct a discrete test per **Part IV.A.4** (statistical method) or **Part IV.B.2** (non-statistical method).

### **B. EVALUATION OF A RELEASE.** If the County determines that a release has been discovered it shall :

1. within **90 days** of determining there is measurably significant evidence of a release, submit an Amended Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of CCR Title 27, sections 20420(k)(5) and 20425.
2. within **180 days** of discovering the release, submit to the San Diego Water Board a preliminary engineering feasibility study report meeting the requirements of CCR Title 27, section 20420(k)(6).

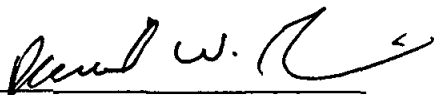
### **C. RELEASE BEYOND THE FACILITY BOUNDARY**

1. The County shall implement the Public Participation Plan included in the AROWD.
2. Within **14 days** of concluding that a release has migrated beyond the facility boundary the County shall notify all affected persons (i.e., individuals and private and public entities who either own or occupy property that overlies the release).
3. The initial notification shall include a description of the County's current knowledge of the nature and extent of the release.
4. The County shall provide updates to all affected persons.

5. The County shall provide the San Diego Water Board a copy of the current mailing list of affected persons and copies of the notification and updates with **seven days** of sending such notifications.

#### **PART VI – PROVISIONS**

- A. ENFORCEMENT DISCRETION:** The San Diego Water Board reserves its right to take any enforcement action authorized by law for violations of the terms and conditions of this Order.
- B. ENFORCEMENT NOTIFICATION:** Failure to comply with requirements of this Order may subject the County to enforcement action, including but not limited to: imposition of administrative civil liability in an amount not to exceed \$1,000 for each day the violation occurs under Water Code section 13268, not to exceed \$5,000 for each day in which the violation occurs under Water Code section 13350, not to exceed \$10,000 for each day in which the violation occurs under Water Code Section 13308 or referral to the Attorney General for injunctive relief or civil or criminal liability.
- C. REQUESTING ADMINISTRATIVE REVIEW BY THE STATE WATER BOARD:** Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with section 13320 of the Water Code and CCR Title 23 section 2050. The petition must be received by the State Board (Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812) within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.



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David W. Gibson  
Executive Officer

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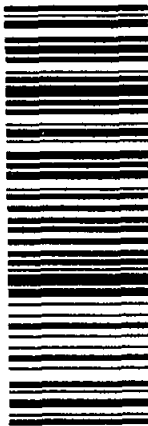
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