California Regional Water Quality Control Board
Santa Ana Region

January 29, 2010

STAFF REPORT

ITEM: ***7**

SUBJECT: Revision of Waste Discharge Requirements for Orange County Waste & Recycling, Olinda Alpha Landfill, Order No.R8-2010-0006

DISCUSSION:

Orange County Waste & Recycling (hereinafter Discharger) owns and operates the Olinda Alpha Landfill (OAL) located at 1942 North Valencia Avenue, Brea California. The OAL is a Class III landfill that accepts non-hazardous municipal solid waste (MSW).

The Discharger is currently regulated under Waste Discharge Requirements Order No. 99-33. On December 4, 2008, the Discharger submitted a complete Joint Technical Document requesting a waiver from the liner requirements for a 33-acre expansion area on the northwest side of OAL. The footprint of the entire expanded landfill will cover approximately 486 acres. The landfill site has a present capacity of approximately 148.8 million cubic yards of MSW. The planned lateral and vertical expansion phases will accommodate a planned closure date of December of 2021 (vertical expansions are regulated by the Department of Resource Recovery and Recycling [formerly the California Integrated Waste Management Board]). The landfill expansion will be constructed in accordance with the liner waiver requirements specified in California Code of Regulations, Title 27; Resolution 93-62; and 40 CFR Part 258.

Proposed Order R8-2010-0006 replaces WDR Order No. 99-33, and incorporates the expansion of the existing footprint at the landfill.

Regional Board staff have reviewed the expansion area design and construction plans, and finds them to be consistent with the requirements of all applicable regulations. This expansion should not result in any adverse impacts to either the present or potential beneficial uses of the waters of the State if conducted in accordance with the terms and conditions of this order.

RECOMMENDATION:

Adopt Order No. R8-2010-0006, as presented.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2010-0006

REVISED WASTE DISCHARGE REQUIREMENTS
FOR
ORANGE COUNTY WASTE & RECYCLING

OLINDA ALPHA LANDFILL
CLASS III SOLID WASTE DISPOSAL SITE
ORANGE COUNTY

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board), finds that:

1. Orange County Waste & Recycling (hereinafter Discharger) owns and operates the Class III Olinda Alpha Landfill (OAL). OAL is a Class III landfill that accepts non-hazardous municipal solid waste (MSW). The site is located within the Chino Hills in an unincorporated area of northeast Orange County, adjacent to the City of Brea, and immediately south of the Los Angeles County Line. The street address is 1942 North Valencia Avenue, Brea, California, 92823. The map projection shows the site outside the 100-year floodplain in an unincorporated area of the County, north of the City of Brea in the Puente/Chino Hills (Sections 4, 5, 8, and 9, T3S, R9W, SBB&M) as shown on **Attachment A**, which is hereby made a part of this order.

2. On July 18, 1997, the State Water Resources Control Board and the California Integrated Waste Management Board enacted the Solid Waste Requirements, Subdivision 1 of new Division 2, Title 27, California Code of Regulations (CCR). Title 27 replaced the non-hazardous waste portion of CCR, Title 23, Division 3, Chapter 15.

3. The terms used in this order are contained in Title 27, §20150, §20163, §20164, and §20415.

4. Prior to 1959, OAL comprised two separate but adjacent canyon fill areas, Olinda disposal stations 20 and 23. On Sept. 25, 1959, the Regional Board adopted requirements for Olinda disposal station No. 20, Resolution No. 59-2, which was amended by Waste Discharge Requirements (WDR) Order No. 81-48, adopted April 10, 1981. On February 10, 1978, the Regional Board adopted WDR Order No. 78-29 for Olinda disposal Station No. 23.

5. Requirements for both landfills were amended by WDR Order Nos. 93-57 and 94-17, adopted on September 10, 1993 and March 11, 1994, respectively. Order No. 93-57 incorporates revised portions of Title 40, Code of Federal Regulations (CFR), Part 258 (commonly referred to as Subtitle D) as directed by SWRCB Resolution No. 93-62, "Policy for Regulation of Discharges of MSW" (see Finding 27). Order No. 94-17 prescribes uniform drainage and erosion control system requirements for municipal solid waste (MSW) landfills in the Santa Ana Region.

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6. On June 6, 1997, the Regional Board adopted WDR Order No. 97-55, further amending waste discharge requirements for both Olinda disposal stations 20 and 23. The amendment allowed for a waiver of the liner requirements for a 64-acre center ridge expansion area, which joined the two separate landfills into one.

7. On November 20, 1998, the Regional Board adopted WDR Order No. 98-99 Order, which replaced WDR Order Nos. 93-57 and 94-17. This Order contains additional discharge, monitoring, and reporting requirements which require the Discharger to maintain the landfill in accordance with Title 27, Division 2, Subdivision 1 (formerly Title 23, Division 3, Chapter 15) of the California Code of Regulations (CCR), and with State Water Resources Control Board (SWRCB) Resolution 93-62, Policy for Regulation of Discharges of Municipal Solid Waste.

8. On August 20, 1999, the Regional Board adopted Order No. 99-33. This order allowed for the waiver of liner requirements for a one-acre expansion north of the Olinda fill area. This order also merged the two separate landfills, Olinda stations 20 and 23, into one landfill, which is currently known as the OAL.

9. Revised state and federal landfill regulations require that all new landfills and lateral expansions of existing landfills must be underlain by composite liners. These liners are required in order to minimize groundwater contamination caused by the migration of leachate and landfill gas. A composite liner consists of a thick geosynthetic (plastic) liner underlain by compacted clay. The need for composite landfill liners for the protection of water quality is indicated by the results of Solid Waste Assessment Test reports and groundwater monitoring data from landfills.

10. The entire OAL is underlain by a low permeability bedrock aquitard composed predominantly of sandstone and silty sandstone interbedded with siltstone and shale. The entire landfill, including the center ridge and the one-acre expansion area, is deemed to overlie a non-water bearing area as identified by the California Department of Water Resources and as shown in the Water Quality Control Plan – Santa Ana River Basin (Basin Plan), which therefore has no beneficial uses. (See also Finding 24.)

11. Studies indicate that the Whittier fault zone acts as a geological barrier to the movement of groundwater into the La Habra and Orange County Groundwater Management Zones, which is located south of the fault. The area immediately south of the OAL portion of the fault zone is an oil producing area that has naturally occurring petroleum hydrocarbons, and tar seeps present at ground surface. As a result, the water quality in this area is severely impaired by naturally occurring hydrocarbons.

12. Because the landfill areas originally regulated under Resolution 59-21 and WDR Order No. 78-29 were not required to be lined prior to waste disposal, these portions of the landfill do not have a leachate collection and removal system (LCRS), and may be contributing contaminants to the groundwater. A Corrective Action System (CAS) was installed at the site in March 1997 to intercept contaminated groundwater migrating downgradient from the landfill. The CAS consists of a series of groundwater extraction wells and a treatment system upgradient of the Whittier fault zone.

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13. On February 18, 1997, the Discharger submitted a request to the Regional Board to consider waiving the liner requirements for the 64-acre center ridge expansion affected by the new regulations. Subtitle D, Title 27, and SWRCB Resolution No. 93-62 make provisions for alternatives to the composite liner requirement, provided that certain conditions can be met. The resolution sets forth specific criteria which, if successfully addressed, allow the Regional Board to prescribe the requirements for containment systems that are less stringent than the design standard set forth in the Resolution policy.

14. The Discharger believed that their request for a waiver from the liner requirements for the center ridge was appropriate based on existing site conditions, data gathered from groundwater flow modeling, and the in-place CAS. Regional Board staff reviewed the data presented and agreed that all the conditions set forth in Title 27, Subtitle D, and Resolution 93-62 were met. The Discharger's request for a waiver of liner requirements was approved with the Regional Board's adoption of WDR Order No. 97-55.

15. On August 16, 1999, the Discharger submitted a similar request to waive liner requirements for a one-acre expansion north of the Olinda fill area. Since this one-acre expansion area also met the liner waiver criteria, liner requirements were waived for this expansion, with the Regional Board's adoption of WDR Order No. 99-33.

16. On December 3, 2008, the Discharger submitted a complete Joint Technical Document (JTD) requesting a waiver from the liner requirements for a 33-acre expansion area on the northeast side of OAL, as shown on the map in **Attachment B** of this order.

17. The Regional Board believes that the request for a waiver from the liner requirements is appropriate based on the existing site conditions, data gathered from groundwater flow modeling, and an in-place corrective action system. For these reasons, a waiver meets all the conditions set forth in Subtitle D and Resolution 93-62, as detailed in findings 18 through 29 below.

18. Two groundwater flow models were used to support the Discharger's request. The first was the Hydrologic Evaluation of Landfill Performance, Version 3 (HELP3). This model utilizes rainfall and evapotranspiration data to determine the volume of leachate that might be generated by municipal solid waste landfills, and the rate of leachate leakage. The results from the HELP3 model indicate that the volume of leachate generated in the center ridge area is estimated to be approximately 7.0 percent of that generated by the total expanded landfill. In addition, relevant site-specific data were used as input for the computer model, MULTIMED, to estimate the concentration of chemical contaminants at the point of compliance.

19. The Discharger has proposed that, in addition to the geologic and hydrogeologic factors that offer protection to the site, the combined corrective systems at the landfill are more than sufficient to prevent offsite migration of any contaminant contributions from the 33-acre expansion area. The corrective action system is composed of three components: a groundwater extraction and treatment system

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that utilizes UV-oxidation to treat VOC-contaminated groundwater; a landfill gas collection and destruction system to control landfill gas migration; and a leachate collection and removal system (LCRS) beneath the center ridge fill area, which is designed to collect any leachate that may be generated and transport it to the groundwater treatment system.

20. The groundwater extraction and treatment system, currently in operation at the landfill, is the primary component of groundwater contamination control. The groundwater treatment system utilizes barrier wells placed downgradient of the landfill to intercept and treat any contaminated groundwater that would otherwise migrate offsite.

21. Resolution No. 93-62, §I.C - Applicability in the absence of useable waters, provides that the Regional Board shall have the discretion to prescribe less stringent requirements for containment systems than are set forth in state and federal regulations, provided certain conditions are met. The applicable sections of Subtitle D that must be addressed are 258.40(a)(1) and (c), and 258.50(b).

22. Subtitle D, §258.40(a)(1) requires that the site design must ensure that the concentration values for constituents listed in Table 1 (attached) will not be exceeded in the uppermost aquifer at the relevant point of compliance. The groundwater and landfill gas collection systems already in place have been designed to intercept any potential contamination migrating from the 33-acre expansion area. Therefore, concentration values for constituents listed in Table 1 are not expected to be exceeded beyond the point of compliance.

23. Subtitle D, §258.40(c) provides that a design complying with §258.40(a)(1) can only be approved after considering the following factors:

    a. Hydrogeologic characteristics of the facility and surrounding land,

    b. Climatic factors for the area, and

    c. Volume and physical and chemical characteristics of the leachate.

    After examining the mitigation measures contained in Volume I of the JTD, and considering findings 18-29, the Regional Board finds that the liner requirement waiver is supportable for this specific site.

24. Subtitle D, §258.50(b) requires that the landfill owner/operator must demonstrate that groundwater monitoring requirements can be suspended because there is no potential for migration of hazardous constituents to the uppermost aquifer. Resolution No. 93-62 requires that the criteria established in Subtitle D for such a suspension must be met. The Regional Board finds that these criteria have been met as follows:

    a. With respect to the issue of "uppermost aquifer," hydrogeological investigations have shown that the landfill is underlain by sedimentary formations which, while they are capable of transmitting infiltrated liquids,

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are not capable of producing significant quantities of groundwater, and thus do not meet the accepted definition of an aquifer.

b. The hydraulic conductivities for the formations underlying the site are between 1 x 10-5 and 1 x 10-8 cm/sec., indicative of extremely low yields, considerably less than "significant yield," which is defined in SWRCB Resolution No. 88-63 as 200 gallons per day sustainable yield.

25. The demonstration required by Subtitle D, §258.50(b) must be certified by a qualified groundwater scientist, and approval must be based on the following factors:

    a. the demonstration study is site-specific with respect to factors which influence contaminant transport, and

    b. the study uses worst-case predictions regarding contaminant fate and transport and for consideration of impacts on human health and the environment.

26. A site specific study that takes into account the factors listed above has been completed by a qualified groundwater scientist. The results of this study, in conjunction with a corrective action system and the drainage and erosion controls at the site that direct stormwater flows away from the landfill surface, indicate that the liner exemption will allow for minimal potential for migration of hazardous constituents beyond the downgradient boundary of the landfill.

27. Resolution No. 93-62 also requires that the landfill owner/operator satisfy either of the following two conditions:

    a. A hydrogeologic investigation shows that there is no producing aquifer present under the facility, and that contaminants will not migrate to ground or surface water in the same water basin, or

    b. Groundwater under the facility has no beneficial uses and contaminants will not migrate to an aquifer which does have beneficial uses.

28. The Olinda Alpha Landfill site meets both of these requirements. The landfill is located in an area of low hills designated in the Basin Plan as a non-water bearing area with no designated beneficial uses.

29. Any potential migration of contaminated groundwater to the Orange County Groundwater Management Zone , a groundwater basin that does have beneficial uses and that lies directly downgradient of the landfill, is controlled by a number of factors:

    a. The low hydraulic conductivity of the formations in the non-water bearing area, which allow only very slow transmission of groundwater into the Orange County Groundwater Management Zone .

    b. The Whittier Fault Zone, which lies between the landfill and the Orange County Groundwater Management Zone. The fault, which acts as a barrier to

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groundwater migration from the Puente-Chino Hills to the Orange County Groundwater Management Zone.

c. The groundwater extraction system, which intercepts contaminated groundwater north of the Whittier Fault Zone, removing it before it can migrate into the Orange County Groundwater Management Zone.

d. The landfill gas extraction system, which controls the migration of gas that might otherwise adversely impact groundwater south of the landfill.

e. The leachate collection and removal system beneath the center ridge, which collects and removes any leachate that could potentially percolate into groundwater.

f. The drainage and erosion control system, which minimizes the amount of water that infiltrates into refuse, thus decreasing leachate production.

g. More stringent controls imposed on the moisture content of refuse accepted for disposal, which has been limited to 50 percent moisture by Title 27 regulations.

30. The footprint of the entire expanded landfill will cover approximately 453 acres. The landfill site has a capacity of approximately 148.8 million cubic yards. The planned lateral and vertical expansion phases will accommodate a planned closure date of December of 2021 (vertical expansions are regulated by the Department of Resource Recovery and Recycling [formerly the California Integrated Waste Management Board]). The landfill expansion will be constructed in accordance with the proposal specified in the December 3, 2008 JTD for the site, and in accordance with all liner waiver requirements in Title 27 and Resolution 93-62.

31. On May 21, 2009, Regional Board staff approved OCWR's request to use boiler blowdown and cooling tower wastewater (wastewater) as dust control at the landfill, which should begin in early 2010. This approval was based on the Discharger's agreement with Ridgewood Renewable Power (Ridgewood) whereby Ridgewood would supply wastewater generated at an on-site gas-to-energy plant on the southwest edge of the landfill, to the Discharger for use as dust control. Regional Board staff has reviewed analytical results from similar plant operations and has determined that the wastewater generated at the plant should not pose a threat to water quality or the environment. However, once the power plant is in operation, the wastewater will be analyzed to confirm that it does not pose a threat to water quality.

32. This order incorporates requirements for the discharge of treated seep water and groundwater from the facility's CAS and wastewater from the gas-to-energy plant for use as dust control at the landfill.

33. The Discharger is required to monitor for constituents of concern in accordance with Monitoring and Reporting Program No. R8-2010-0006, attached to this order. Constituents of concern are waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit.

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34. Solid waste is compacted and covered daily with appropriate cover material. When the landfill reaches its final design elevation over a given area, it is capped with an interim cover. The interim cover is graded to promote runoff toward a system of surface drainage ditches to minimize ponding and percolation of water into the solid waste.

35. A load checking program has been established at the landfill for the purpose of rejecting incoming refuse that is not Class III or inert waste.

36. The Discharger has indicated in the Closure Plan for the landfill that the deed to the landfill property, or some other instrument that is normally examined during title search, will be modified to include, in perpetuity, a notation advising any potential purchaser of the property that:

    a. The parcel has been used as a MSW landfill

    b. The land use options for the parcel are restricted in accordance with the postclosure land uses set forth in the Postclosure Plan and in WDRs for the landfill; and,

    c. In the event that the Discharger defaults on carrying out either the postclosure maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

37. A revised Water Quality Control Plan (Basin Plan) became effective on January 24, 1995, and was updated in February 2008. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

38. The surface drainage from the site is tributary to Carbon Canyon Creek, which is tributary to Reach 2 of the Santa Ana River. The beneficial uses of Carbon Canyon Creek include:

    a. Municipal and domestic supply,
    b. Groundwater recharge,
    c. Water contact recreation,
    d. Non-contact water recreation
    e. Warm freshwater habitat,
    f. Wildlife habitat, and
    g. Rare, threatened or endangered species.

39. The beneficial uses of the Santa Ana River, Reach 2, include:

    a. Agricultural supply,
    b. Groundwater recharge,
    c. Water contact recreation,
    d. Non-contact water recreation,
    e. Warm freshwater habitat,
    f. Wildlife habitat, and
    g. Rare, threatened or endangered species.

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40. On October 9, 1991, the United States Environmental Protection Agency (U.S. EPA) promulgated regulations for the classification of solid waste disposal facilities and criteria for MSW landfills. These regulations are contained in 40 CFR, Part 258.

41. On April 25, 1997, the SWRCB adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. The General Permit implements the Final Regulations (40 CFR Parts 122, 123, and 124) for Storm Water Runoff, promulgated by the U.S. EPA in compliance with §402(p) of the Clean Water Act. The site is covered under this General Permit.

42. On June 17, 1993, the SWRCB adopted Resolution No. 93-62, "Policy for Regulation of Discharges of MSW," as part of the state's policy for water quality control, under §13140 et seq. of the California Water Code. The Policy directed all Regional Boards to revise the WDRs of each affected MSW landfill to comply with revised provisions of Subtitle D regulations.

43. On April 17, 2007, the Orange County Board of Supervisors certified the Environmental Impact Report for the expansion of the Olinda Alpha Landfill.

44. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements.

45. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

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IT IS HEREBY ORDERED that the Discharger, in order to meet the applicable provisions contained in the California Water Code (CWC), Title 27, and 40 CFR Part 258, shall comply with the following:

A. <u>DISCHARGE SPECIFICATIONS</u>

1. **GROUNDWATER:**

   The discharge shall neither cause nor contribute to the contamination or pollution of ground water via the release of waste constituents in either the liquid or gaseous phase.

2. **SURFACE WATER:**

   The discharge shall neither cause nor contribute to any surface water contamination, pollution, or nuisance, including, but not limited to:
   a. Floating, suspended, or deposited macroscopic particulate matter or foam;
   b. Increases in bottom deposits or aquatic growth;
   c. An adverse change in temperature, turbidity, or apparent color change beyond natural background levels and occurrences;
   d. The creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin; and

e. The introduction or increase in concentration of toxic or other pollutants/ contaminants resulting in unreasonable impairment of beneficial uses of the waters of the State.

3. **UNSATURATED ZONE:**

The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials beneath or outside of OAL if such waste constituents could migrate to the waters of the State and cause a condition of contamination, pollution, or nuisance.

4. **PRECIPITATION AND DRAINAGE CONTROL**

a. Waste management units shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm.

b. Units shall be designed and constructed to achieve compliance with Title 27, §20365.

c. Top deck surfaces shall be constructed to achieve a minimum one-percent slope and to direct flows to downdrains.

d. Downdrains and other necessary drainage structures must be constructed for all sideslopes.

e. All containment structures shall be protected and maintained continuously to prevent commingling of leachate and gas condensate with surface run-on and runoff and to ensure their effectiveness.

f. The operation of a municipal solid waste landfill facility shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act (CWA), including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Title IV §402.

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5. **LIQUIDS USAGE:**

a. The discharge of liquids, including seep water, groundwater, leachate, or landfill gas condensate, or their use for dust control or irrigation, at an MSW landfill is prohibited, unless the following conditions are met:

   i. The liquids are being returned to, or used at, the landfill that produced it; **and**

   ii. The portion of the landfill to which these liquids are discharged is equipped with a containment system meeting the requirements of Section B of this order; **or**

   iii. The liquids generated from the site are disposed of in accordance with a disposal plan approved by the Executive Officer of the Regional Board.

b. This section shall not apply to CAS groundwater, leachate, and landfill gas condensate generated at the landfill and managed in accordance with an

approved plan prior to being used for dust control or irrigation over the portions of the site underlain by refuse. Wastewater generated from the landfill's gas-to-energy plant may be used throughout the facility.

6. **LINER WAIVER:**

Waiver of liner requirements - The Discharger has demonstrated that the waiver of liner requirements for Title 27, §§ 20310, 20320, 20323, 20324, 20330 and 20340 is appropriate based on information reviewed by Regional Board staff. For the approximate 33-acre expansion area northeast of the Olinda fill area, the following shall apply:

a. All mitigation measures proposed by the Discharger shall be implemented to protect water quality. These mitigation measures are detailed in the November 2008 JTD, Volume I.

b. The Discharger shall submit a report, including a topographic map showing the interim grading of the expansion area, by December 31 of each year.

B. CONTAINMENT SYSTEMS INSTALLED BEYOND THE PERMITTED REFUSE FOOTPRINT

Discharge prohibition – The discharges of MSW to any area of the OAL beyond the expanded footprint of the site is prohibited unless approved by the Regional Board, and such discharge is to an area equipped with a containment system that is constructed in accordance with the standard of the industry, and that meets the additional requirements for both liners and leachate collection systems in accordance with an approved JTD or JTD addendum, and any additional requirements of Title 27, §§20080, 20330, 20340, and 20360; and SWRCB Resolution No. 93-62.

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C. PROVISIONS

1. The Discharger shall comply with all discharge prohibitions, discharge specifications, provisions, and monitoring and reporting requirements of this order immediately upon its adoption.

2. The discharge of wastes shall not cause the release of pollutants or waste constituents in a manner that could cause a condition of contamination, pollution, or nuisance to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method.

3. The treatment or disposal of wastes shall not cause a nuisance or pollution, as defined in the CWC, §13050.

4. All wastes shall be maintained on property owned or controlled by the Discharger.

5. The discharge of hazardous or designated wastes at the site is prohibited.

6. The disposal of liquid wastes into the landfill is prohibited, except as allowed by **Discharge Specification A.5** of this order.

7. The operation of the OAL shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the CWA, including, but not limited to, the NPDES requirements, pursuant to CWA §402.

8. Title 27, §20330, and 40 CFR 258, stipulate that, as of October 9, 1993, a prescriptive composite liner design must be included in all waste containment systems at MSW landfills. This design must include, at a minimum, an upper synthetic flexible membrane liner (FML) that is at least 60-mils thick (if a high density polyethylene FML is used), and a lower component of soil that is at least two feet thick with a hydraulic conductivity no more than $1x10^{-7}$ cm/s. However, Resolution No. 93-62, and Title 27, §20080 allow for engineered alternatives to the prescriptive liner requirements, provided that the performance criteria contained in 40 CFR §258.40(a)(1) and (c), and Title 27 §20080(b), are satisfied.

9. During the months when precipitation can be expected, disposal activities shall be confined to the smallest area possible based on the anticipated quantity of wastes that will be received and on operational procedures.

10. The Discharger shall remove and properly dispose of any wastes that are placed at the site in violation of these requirements.

11. The Discharger shall establish and maintain monuments in California coordinates (or equivalent) to define the landfill property boundary. The control benchmarks shall be certified by a licensed surveyor or a professional civil engineer authorized to practice in California.

12. The water used during landfill operations shall be limited to the minimum amount reasonably necessary for dust control purposes, fire suppression, and minor maintenance.

13. Adequate cover shall be placed over all lifts except the active face. Alternative daily cover (ADC) or soil is used on the active face of the landfill.

14. Daily cover, as defined in Title 27, §§20680 through 20705, or an approved ADC must be placed over the active face in a quantity and depth sufficient to prevent waste from daylighting, or as directed by the Executive Officer.

15. The Discharger shall notify the Executive Officer within 48 hours of any slope failure occurring in a waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after a remediation workplan and schedule have been approved by the Executive Officer of the Regional Board, unless it poses an immediate threat to the environment or landfill containment structures. Then it will be corrected as soon as possible.

16. The Discharger shall implement the attached M&RP No. R8-2010-0006 in order to detect any unauthorized discharge of waste constituents from the landfill, or

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any unreasonable impairment of beneficial uses is caused by or associated with discharges of waste to the unit.

17. At any time, the Discharger may file a written request, including appropriate supporting documents, with the Executive Officer of the Regional Board, proposing modifications to M&RP No. R8-2010-0006. The Discharger shall implement any changes in the revised M&RP approved by the Regional Board's Executive Officer upon receipt of a signed copy of the revised M&RP.

18. The compliance period shall be in accordance with Title 27, §20410. At a minimum, the compliance period is equal to the active life of the landfill plus the closure period.

19. Concentration Limits – The concentration limit for any given Constituent of Concern (COC) or Monitoring Parameter in a given monitored medium at an MSW landfill shall be in accordance with Title 27, §20400, and as required by M&RP No. R8-2010-0006.

D. CONTINGENCY RESPONSES

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1. **Leachate seep** – The Discharger shall immediately report by telephone the discovery of any seepage from or soil staining at the site. If feasible, a sample of the leachate shall be collected and analytical data submitted to the Regional Board. A written report shall be filed with the Regional Board within seven days, containing at least the following information:

   a. Map – A map showing the location(s) of seepage;

   b. Flow rate – An estimate of the flow rate or volume;

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

   d. Corrective measures - Measures proposed to address any seep(s) for approval by the Executive Officer.

2. **An initial indication of a release** – Should the initial statistical or non-statistical comparison of the groundwater monitoring data under Title 27, §20415 for any COC or Monitoring Parameter indicate that a release from the landfill is tentatively identified, the Discharger shall immediately notify the site's designated Regional Board staff person by phone. The Discharger shall also provide written notification by certified mail within seven days of such determination (Title 27, §20420(j)(1)) and shall carry out a discrete retest in accordance with Title 27, §20415(e)(8)(E). The Discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, and follow up with written results submitted by certified mail within seven days of completing the retest.

3. **Retest** – If the retest confirms the existence of a release, the Discharger shall carry out the requirements of Title 27, §20420(k) and §20425, in accordance with M&RP No. R8-2010-0006.

4. **Physical evidence of a release** – If either the Discharger or the Regional Board determines that there is significant physical evidence of a release (Title 27, §20385(3)), the Discharger shall conclude that a release has been discovered and shall:

   a. Immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination);

   b. Carry out the requirements of Title 27, §20420(k) and §20425 for all potentially affected monitored media; and

   c. Carry out any additional investigations stipulated in writing by the Executive Officer for the purpose of identifying the cause of the release.

5. **Release beyond facility boundary** – Any time the Discharger or the Executive Officer concludes that a release from the Unit has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

   a. **Initial notice** – Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.

   b. **Updated notice** – Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.

   c. **Submittal** – Each time the Discharger sends a notification to Affected Persons, the Discharger shall, within seven days of sending such notification, provide the Executive Officer with both a copy of the notification and a current mailing list of all Affected Persons.

6. **Response to VOC detection in background**

   a. **Detection and verification** - Except for VOCs validated as not having come from the landfill, any time the laboratory analysis of a sample from a background monitoring point shows either three or more VOCs at or above their respective method detection limit (MDL), or one VOC at or above its respective practical quantitation limit (PQL), then the Discharger shall immediately notify the Executive Officer by phone that possible background contamination has occurred; shall follow up with written notification by certified mail within seven days; and within thirty days, shall obtain two new independent VOC samples from that background monitoring point and send them for laboratory analysis of all detectable VOCs. If either or both of these retest samples validate the presence of VOCs at that background monitoring point using the above procedure, the Discharger shall:

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i. **Notification** - Immediately notify the Regional Board about the VOCs verified to be present at that background monitoring point, and follow up with written notification submitted by certified mail within seven days of validation; and

ii. **Report** - Within 180 days of validation, submit a report acceptable to the Executive Officer that examines the possibility that the detected VOC(s) originated from the Unit (e.g., using concentration gradient analyses) and proposes appropriate changes to the monitoring program.

b. **VOCs not from landfill** - If the Discharger believes that the source of the VOCs is not the landfill, an optional demonstration report shall be prepared to show that the source is outside the landfill. If the Executive Officer concurs with this report, , the Regional Board will instruct the Discharger to return the affected wells to a Detection Monitoring Program in accordance with Title 27, §20425(f).

c. **VOCs likely from landfill** - If, after reviewing the report, the Executive Officer concurs that the detected VOC(s) most likely originated from the Unit, the Discharger shall be notified that a release has been detected and shall immediately begin carrying out the requirements of Title 27, §20420(k) and §20425.

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E. WATER SAMPLING AND ANALYSIS

All water quality monitoring and sampling analysis for the monitored media, and the monitoring points and background monitoring points for each such medium, shall be in accordance with Title 27, §20415.

1. Monitoring parameters for the required monitoring program(s) at the landfill shall be approved by the Executive Officer. The Executive Officer may approve alternative monitoring parameters that meet the requirements of both Title 27, §§20380 et seq. and 40 CFR §258.54. The Executive Officer may also approve alternative statistical methods that meet the requirements of Title 27, §20415(e) and 40 CFR §258.53.

2. **Latter third/thirty days** – For any given monitored medium, samples shall be taken from all monitoring points and background monitoring points to satisfy the data analysis requirements. All samples shall be taken during the latter third of the Monitoring Period within a maximum of 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible, in accordance with Title 27, §20415(e)(12)(B).

3. **Elevation/field parameters** – Shall be in accordance with Title 27, §20415(e)(13). Semi-annual groundwater elevations taken prior to purging the well and sampling for monitoring parameters shall be used to fulfill the Spring and Fall groundwater flow rate/direction analyses required under item 5, below.

4. **Data analysis** – Data analysis shall be carried out as soon as the monitoring data are available, in accordance with Title 27, §20415(e).

5. **Groundwater flow rate/direction** – Shall be monitored in accordance with Title 27, §20415(e)(15). This information shall be included in the regular semi-annual monitoring reports for the OAL.

F. DRAINAGE AND EROSION CONTROL

1. Waste management units shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm. This shall be accomplished by, at a minimum, the following:

   a. Top deck surfaces shall be constructed to achieve a minimum of one percent (1%) slope, including structures which direct water to downdrains;

   b. Downdrains and other necessary drainage structures must be constructed for sideslopes as necessary; and

   c. Components which protect or convey drainage from the waste containment system must be designed and constructed to withstand site-specific maximum intensity precipitation (peak flow) from a 100-year, 24-hour storm.

2. Leachate and landfill gas condensate containment system structures shall be protected and maintained to provide for their effectiveness and to prevent commingling of leachate and gas condensate with surface run-on and runoff.

3. The Discharger shall design, construct, and maintain:

   a. A run-on drainage control system to prevent flow from off-site sources onto the disposal areas of the landfill (active or inactive portions), and to collect and divert the peak flow calculated volume from off-site sources that result from a 100-year, 24-hour storm;

   b. A runoff drainage control system to collect and divert both the calculated volume of precipitation and the peak flow from on-site surface runoff that results from a 100-year, 24-hour storm.

4. All drainage structures shall be protected and maintained to assure their effectiveness.

5. Annually, by October 1, all drainage control system construction and maintenance activities shall be completed. By December 31 of each year, the Discharger shall submit a drainage control system maintenance report to the Executive Officer. The drainage control system maintenance report shall include, but not be limited to, the following information:

   a. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm;

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b. A tabular summary of both new and existing drainage control structures, including the types and completion dates of maintenance activities performed for each of these structures; and

c. An 11"x17" or larger site map indicating the locations of the elements listed in Item b., above, and the flow direction of all site drainage.

6. At least 30 days prior to the construction of any new elements of the drainage control system, the Discharger shall submit a workplan outlining all design parameters and calculations, construction details, and a construction quality assurance plan for approval by the Executive Officer.

7. The Discharger shall submit as-built drawings within 4 weeks of completing construction of any new elements of the drainage control system at the site.

8. All design plans, construction plans, and operation and maintenance plans shall be prepared by, or prepared under the direct supervision of, a registered civil engineer or a certified engineering geologist.

9. Periodic inspection of all waste management units, the drainage control system, and all containment structures shall be performed to assess the conditions of these facilities, and to initiate corrective actions necessary to maintain compliance with **Provisions F.1 through F.5** of this order.

10. The facility shall be surveyed once a year either by aerial surveillance or a licensed surveyor to assure compliance with the one percent slope requirements. By December 31 of each year, a map compiled from the survey data shall be submitted to the Executive Officer, showing landfill elevations, the flow direction of all site drainage, the drainage control system, and containment structures.

11. The Discharger shall notify the Regional Board staff site representative by telephone (951-782-4130) or by email within two business days of determination of a failure of facilities necessary to maintain compliance with the requirements in this order. Within five days, the notification shall be submitted in writing to the Regional Board.

12. The Discharger shall maintain a copy of this order at the site so it is available at all times to site operating personnel.

13. The Discharger shall permit the Regional Board:

a. Entry upon premises where a discharge source is located;

b. To copy any records required to be kept under terms and conditions of this order;

c. To photograph or videotape any structures, facilities, activities, or other phenomena that could result in adverse impacts to water quality and that are pertinent to compliance of the landfill with its WDRs; and

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d. To sample any discharges from the landfill.

14. The Discharger shall notify the Regional Board in writing of any proposed change in ownership or responsibility for construction, operation, closure, or postclosure maintenance of the landfill. This notification shall be given prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, and postclosure maintenance will be in compliance with any existing WDRs and any revisions thereof.

G. REQUIRED REPORTS AND NOTICES

1. **REPORTING PROVISIONS:**

   a. Applications, reports or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR §122.22.

   b. The Discharger shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, reissuing, or terminating this order. The Discharger shall also furnish to the Regional Board, upon request, copies of records that this order requires the Discharger to maintain.

2. The Discharger shall file a JTD or JTD amendment with the Regional Board at least 120 days before making any material change or proposed change in the character, location, volume, treatment, or disposal methods of any discharge of waste.

3. The Discharger shall give advance notice to the Regional Board of any planned changes in the permitted facility or site activities that may result in noncompliance with these WDRs.

4. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this order by letter. A copy of this letter shall be signed by the new owner accepting responsibility for complying with this order, and shall be forwarded to the Executive Officer of the Regional Board.

5. **CLOSURE AND POSTCLOSURE MAINTENANCE PLANS:**

   In accordance with Title 27, §21780 (b)(3), final closure and postclosure maintenance plans (PCMPs) for solid waste landfills shall be submitted two years prior to the anticipated date of closure. Within five years of the anticipated date of closure, the Discharger may submit the final closure and PCMPs in lieu of submitting new or updated preliminary closure and PCMPs.

6. **FINANCIAL ASSURANCE PLANS:**

The Discharger shall obtain and maintain assurances of financial responsibility for:

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a. Closure activities pursuant to Title 27 §22205;

b. Postclosure maintenance activities pursuant to Title 27 §22210;

c. Operating liability pursuant to Title 27 §22215; and

d. Corrective action activities pursuant to Title 27 §22220.

7. Resolution No. 59-2, and Order Nos. 78-29, 81-48, 97-55, and 99-33 are hereby rescinded. Order No. 98-99 is hereby replaced by this Order for this landfill.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on January 29, 2010.

_____
Gerard J. Thibeault
Executive Officer

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2010-0006

MONITORING AND REPORTING PROGRAM FOR ORANGE COUNTY WASTE & RECYCLING OLINDA ALPHA LANDFILL CLASS III SOLID WASTE DISPOSAL SITE ORANGE COUNTY

A. GENERAL

1. The Discharger shall comply with all the monitoring programs required under this Monitoring and Reporting Program (M&RP).

2. Water Quality Protection Standard (Water Standard) – The Water Standard shall consist of the list of Constituents of Concern (COC) (under Title 27, §20395), the Concentration Limits (under Title 27, §20400), and the Point of Compliance and all Monitoring Points (under Title 27, §20405). The Water Standard shall apply during the active life of the landfill, the closure period, the postclosure maintenance period, and during any compliance period (under Title 27, §20410).

3. The Water Standard concentration limits shall be assumed to be equal to background concentration limits for all COCs unless the Discharger proposes, and the Regional Board approves, an alternative Water Standard. The Discharger shall perform all monitoring activities in compliance with the Water Standard, and the requirements of both Title 27, §20390 and 40 CFR §258.50 et seq.

4. The Concentration Limit for any given COC or Monitoring Parameter in a given monitored medium (e.g., the uppermost aquifer) shall be established in accordance with Title 27, §§20400 and 20415(e)(6, 7, and 10), and shall be used as the basis of comparison with data from the monitoring points in that monitored medium. Concentration Limits Greater than Background (CLGB), established pursuant to Title 27, §20400(c, d, and e) for each Appendix II constituent, are presented in Table 1 of this M&RP. Monitoring parameters, COCs, CLGB, data evaluation procedures, and reporting requirements for the required water quality monitoring programs for the OAL are specified in this M&RP. This M&RP may be revised and approved by the Executive Officer of the Regional Board as necessary to reflect changes in the required water quality programs.

5. The Regional Board shall specify the Points of Compliance at which the Water Standard applies, in accordance with Title 27, §20405. All Point of Compliance Monitoring Point and Background Monitoring Point locations and depths shall be in accordance with Title 27, §20415(a-d).

6. The compliance period of the Detection Monitoring Program (DMP) at OAL shall equal the active life of the landfill plus a 30 year closure period in accordance

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with Title 27, §20410. The compliance period may be extended if the facility is not in compliance with its Water Standard.

7. Sample collection, storage, and analysis shall be performed according to the most recent version of Standard U.S. EPA Methods (U.S. EPA Publication "SW-846").

8. **CORRECTIVE ACTION SYSTEM**

The corrective action system at the landfill currently consists of groundwater extraction and seep water collection systems designed to recover VOC-impacted groundwater and seep water (influent) for on-site treatment. The treatment unit was installed to reduce influent VOC concentrations to meet VOC drinking water standards (Maximum Contaminant Levels) in the effluent. The system includes three major elements:

a. Groundwater extraction and seep collection systems that are designed to deliver these waters (influent) to an ex-situ ultraviolet oxidation treatment unit,

b. An ultraviolet treatment unit that treats Volatile Organic Compounds (VOCs), and yields effluent that meets the proposed treatment standards for VOCs, and

c. An equalization storage tank where treated effluent is stored and is later used for dust control at the landfill.

9. **MONITORING PARAMETERS**

a. The Discharger shall analyze separate water samples from each water-bearing medium for the monitoring programs and parameters approved (see **Attachment C**), and shall test the resulting data using one of the statistical or non-statistical methods listed in Title 27, §20415(e)(7) et seq. Monitoring parameters for the required monitoring program(s) at OAL shall be approved by the Executive Officer of the Regional Board. The Executive Officer may approve alternative monitoring parameters that meet the requirements of both Title 27, §§20380 et seq. and 40 CFR §258.54. The Executive Officer may also approve alternative statistical or non-statistical analytical methods that meet the requirements of Title 27, §20415(e) and 40 CFR §258.53.

b. The VOCs listed as monitoring parameters in **Table 2** are based on a compilation of historical landfill gas and leachate data collected from OAL. The VOCs contained in **Table 2** were detected more than once (confirmed) in either landfill gas or leachate samples. The degradation by-products of the confirmed VOCs are also included in **Table 2**. The VOC monitoring parameters list will be updated annually as follows:

i. Any Appendix I VOC or degradation by-products (**Table 4**) of confirmed VOCs that are detected in the landfill gas sample collected in October of

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each year and confirmed in the landfill gas sample collected in April of the following year will be permanently added to the VOC monitoring parameter list included in **Table 2**.

ii. Any Appendix I VOC or degradation by-products of confirmed VOCs that are detected in the leachate sample collected in October of each year and confirmed in the leachate sample collected in April of the following year will be permanently added to the VOC monitoring parameter list included in **Table 2**.

c. The groundwater monitoring parameters shall be evaluated as follows:

i. **Monitoring parameters (metals surrogates) that use statistical data analysis methods**:

(a) **Metals surrogates under 40 CFR §258.54(a)(2) -** pH, chloride, and nitrate as nitrogen, shall be analyzed using an intrawell statistical analysis method specified in Title 27, §20415(e)(8)(C, D, and E). If using SANITAS™, the Discharger shall use the "CA Standards" settings. Other inorganic monitoring parameters, in particular those that can be naturally-occurring (such as metals), shall be evaluated using time-series concentration plots.

ii. **Monitoring parameters (VOCs) that use non-statistical data analysis methods (see Figure 1 for flowchart of data evaluation and retesting procedures)**:

(a) **VOCs-** A release of VOCs in a DMP well will have tentatively occurred if either of the two following triggering conditions is met:
(i) Three or more VOCs exceed their laboratory method detection limits (MDLs) in the sample; <u>or</u>
(ii) One or more VOCs exceed their laboratory practical quantitation or reporting limit (PQL or RL) in the sample.

(b) If a tentative release is indicated in a DMP well, the Regional Board shall be immediately notified and two additional groundwater samples will be collected from this well within 30 days of the notification for retesting (unless laboratory contamination or impacts from naturally-occurring geochemical conditions are suspected). The two additional groundwater samples will be retested in the laboratory for only the constituents detected in the initial sample that triggered the retesting. If either of the two triggering conditions listed above is met for either of the two additional groundwater samples, then the release will be confirmed (**see Figure 1**).

(c) If the concentration(s) of the confirmed constituent(s) is below its corresponding CLGB (listed in Table 1), then the release will not be considered a significant release and no further action is necessary beyond continued routine semi-annual monitoring (**see Figure 1**). If

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the concentration(s) of the confirmed constituent(s) exceeds its corresponding CLGB, then the release will be considered a significant release (**see Figure 1**).

(d) If the release is confirmed and is considered significant, but is derived from off-site sources, then the Discharger shall comply with Title 27, §20420(k)(7) and demonstrate that the landfill is not the cause of the release. If the landfill is the cause of the release, then the Discharger shall implement an EMP pursuant to Section B.3 of this M&RP.

10. **CONSTITUENTS OF CONCERN (COCS)**

A portion of the OAL is equipped with a leachate collection and removal system (LCRS), which collects leachate generated by the landfill. Therefore, COCs shall be established and monitored as follows:

a. The "COC list" (list of Constituents of Concern required under Title 27, §20395) includes all Appendix II constituents listed in **Table 5** of this M&RP.

b. The Discharger shall monitor all COCs every five years, pursuant to Title 27, §20420(g). Any COC that exceeds its PQL in any of the monitoring wells will be added to the list of groundwater monitoring parameters for the site.

c. Background sampling for new constituents - For each newly detected Appendix II constituent that is added to the existing monitoring parameter list, the Discharger shall establish a reference background value by analyzing at least one sample semi-annually from each background monitoring point for a period of at least two years. Once this reference set of background data is collected, the Discharger shall include it as a separate, identified item in the next monitoring report submittal. Existing background data for the newly identified Appendix II constituents may be substituted for additional background sampling with the approval of the Executive Officer of the Regional Board.

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B. <u>MONITORING PROGRAM</u>

1. **Water Quality Monitoring**

a. The Discharger shall comply with the requirements of Title 27, §20415 for any water quality monitoring program developed to satisfy §20420, §20425, or §20430 of Title 27 and the requirements of this order.

i. The ground water monitoring shall meet the requirements of Title 27, §20415(b) and 40 CFR §§258.51(a, c, and d).

ii. The surface water monitoring shall meet the requirements of Title 27, §20415(c).

iii. Unsaturated zone monitoring shall meet the requirements of Title 27, §20415(d).

iv. All general monitoring requirements shall be in accordance with Title 27, §20415(e).

2. **Detection Monitoring Program (DMP)** - The Discharger shall implement the requirements of the DMP as outlined in Title 27, §20420 and as specified in **Attachment C** of this M&RP.

3. **Evaluation Monitoring Program (EMP)** - In the event of the discovery of a release from the landfill, the Discharger shall implement the requirements of Title 27, §20425. The EMP shall be used to assess the nature and extent of the new release and to design a corrective action program meeting the requirements of Title 27, §20430.

4. **Corrective Action Program (CAP)** – The Discharger shall continue to implement the CAP to meet the requirements of Title 27, §20430 and as specified in **Attachment C** of this M&RP. The compliance period of the CAP shall end when the Discharger can demonstrate, and the Regional Board concurs, that the site has been in compliance with its Water Standard for a period of three consecutive years.

5. **General Site Monitoring**

   a. At a minimum, all systems such as landfill gas condensate collection, leachate containment, groundwater extraction, and seep water collection systems shall be inspected and evaluated on a monthly basis for their effectiveness. All deficiencies identified and the dates and types of corrective action taken shall be recorded in a permanent log. All deficiencies shall be documented for the record. The volume of liquids collected in the containment structures shall be recorded monthly. Liquid samples, such as gas condensate and leachate, shall be collected in accordance with the monitoring frequency in **Table 3**, and analyzed for constituents specified in **Attachment C**.

   b. Monthly, the Discharger shall inspect all waste management units and shall evaluate their effectiveness in achieving compliance with **Discharge Specifications, A and F** of the WDRs. All areas of slope failure, differential settlement, fissuring, erosion, ponding, leachate staining, and seepage into or from the landfill shall be identified, field-marked, and documented. In the event seepage is discovered, the location of each seep shall be mapped and a mitigation plan submitted for the approval of the Executive Officer. All findings shall be photographed for the record.

   c. At a minimum, all run-on and runoff drainage control structures shall be inspected and evaluated quarterly for their effectiveness in achieving compliance with **Discharge Specification F.3** of the WDRs. During dry weather conditions, the effectiveness of the drainage control system shall be

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evaluated on the basis of its conformance to the as-built drawings, or revised drawings, for the system. All deficiencies shall be identified, recorded, and repaired.

d. Annually, by October 15, an aerial or ground survey of the landfill facility shall be performed in accordance with the schedule in **Table 3** of this M&RP. The Discharger shall notify the Regional Board if the October 15 deadline for the aerial photogrammetric survey cannot be adhered to due to bad weather conditions or bad visibility.

C. REPORTING

1. **Monitoring report contents** - All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following, in addition to the specific contents listed for each respective report:

   a. **Transmittal letter** - A letter summarizing the essential points in the report. This letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations;

   b. **Compliance evaluation summary** - For groundwater monitoring and COC reports, a compliance evaluation summary containing at least:

      i. **Flow rate/direction** - For each monitored ground water body, a description and graphical presentation (e.g., arrow on a map) of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the semi-annual collection of the water quality samples. The results are reported on semi-annual basis;

      ii. **Well information** - For each monitoring well addressed by the report, a description of the method and time of water level measurement, and a description of the method of purging used before sampling to remove stagnant water in the well, pursuant to Title 27, §20415(e)(12)(B); and

      iii. **Sampling Information** - For each monitoring point and background monitoring point addressed by the report, a description of the type of pump or other device used and its vertical placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name of the person collecting the samples, and any other observations);

   c. **Map** - A map (or copy of an aerial photograph) showing the locations of observation stations, monitoring points, and background monitoring points;

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d. **Laboratory data** - The laboratory results of all analyses shall be submitted in accordance with **Section A.7** of this M&RP;

e. **Leachate monitoring and control facilities, and drainage and erosion control system** - A statement as to the condition and performance of any leachate monitoring and control facilities, containment structures, waste management unit, and the drainage and erosion control systems. The summary shall include a list of deficiencies identified and the dates and types of corrective actions taken to achieve compliance with the requirements contained in this order. If corrective actions for identified deficiencies can not be implemented by the end of the monitoring period; the Discharger shall provide the reason(s) for noncompliance and a time schedule for implementing the corrective actions. The effectiveness of the leachate monitoring and drainage and erosion control systems will be evaluated in the general site monitoring reports described in Section B.5.a of the M&RP.

f. **Waste type and placement** - The quantity and types of wastes discharged and the locations in the landfill where waste has been placed since submittal of the last such report.

2. **Compliance monitoring report -** The Discharger shall submit monitoring reports for the monitoring periods and reporting due dates specified below, which are also summarized in **Table 3**. The Discharger may propose an alternate schedule and the Executive Officer may approve the proposal or require the Discharger to comply under an alternate reporting frequency.

3. **Semi-Annual monitoring reports -** For each monitored medium, all monitoring points assigned to detection monitoring, evaluation monitoring and corrective action monitoring, including all background monitoring points, shall be monitored on a semi-annual basis. Reports prepared for this M&RP shall be submitted semi-annually to the Regional Board in accordance with the schedule shown in **Table 3**.

4. Leachate Monitoring Report –

a. **October leachate sampling results** - The Discharger shall report to the Regional Board, no later than January 31 of each year, the analytical results of the leachate sample taken the previous October;

b. **April leachate retest results-** If the annual leachate sample taken in October identifies constituents which are not on the updated monitoring parameters list, the Discharger shall collect and analyze a retest leachate sample in April. The retest sample shall be analyzed only for the constituents detected in the October sampling event. During any year in which an April leachate retest is carried out, the Discharger shall submit a report to the Regional Board no later than August 1 of that year. This report must identify all constituents, including degradation by-products of confirmed constituents(s) that must be added to the landfill's monitoring parameters list as a result of having been detected in both the previous calendar year's October sample and in the April

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retest sample. The report shall also include an updated monitoring parameter list.

5. **Landfill Gas Monitoring Report –**

   a. **October landfill gas sampling results -** The Discharger shall report to the Regional Board, no later than January 31 of each year, the analytical results of the landfill gas sample taken the previous October;

   b. **April landfill gas retest results -** If the annual landfill gas sample taken in October identifies constituents that are not on the updated monitoring parameters list, the Discharger shall collect and analyze a retest landfill gas sample in April. The retest sample shall be analyzed only for the constituents detected in the October sampling event. During any year in which an April landfill gas retest is carried out, the Discharger shall submit a report to the Regional Board no later than August 1 of that year. This report must identify all constituents that must be added to the landfill's monitoring parameters list as a result of having been detected in both the previous calendar year's October sample and confirmed in the April retest sample (as well as degradation by-products of confirmed constituents(s). The report shall also include an updated monitoring parameter list.

6. **Annual summary report** - The Discharger shall submit an annual report to the Board covering the previous monitoring year (April 1 of the previous year through March 31 of the following year). The annual summary reports are due on April 30. This report may be combined with the water quality monitoring report period ending March 31, and shall meet the following requirements:

   a. **Graphical Presentation** - Graphing the Groundwater Analytical Data shall be in accordance with Title 27, §20415(e)(14);

   b. **Tables** - All monitoring analytical data obtained during the two previous semi-annual reporting periods shall be presented in tabular form in the annual summary report and shall be uploaded electronically onto the State's database (GeoTracker) within one month following the submittal of the semi-annual monitoring reports to the Regional Board. The Regional Board regards the submittal of data in hard copy and electronically on the State's database as the form necessary for statistical analysis [Title 27, §20420(h)]. This format facilitates periodic review by the Regional Board's statistical consultant;

   c. **Compliance record discussion** - A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the landfill's waste discharge requirements relating to water quality issues;

   d. **Waste allocation map** - A map showing the area, if any, in which filling has been completed during the previous calendar year;

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e. **Summary of changes** - A written summary of monitoring results and monitoring and control systems, indicating any changes made or observed since the previous annual report; and

f. **Leachate control** - For units having leachate monitoring/control facilities, an evaluation of their effectiveness, pursuant to Title 27, §20340(b, c, & d). This evaluation of the effectiveness of leachate monitoring/control systems will be performed under the General Site Monitoring Program described in **Section B.5.a.** of the M&RP.

7. **Annual drainage control and maintenance report** - Annually, by December 31, an annual site drainage control and maintenance report shall be submitted. The drainage control system maintenance report shall include, but not be limited to, the following information:

   a. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm.

   b. A tabular summary of the new and existing drainage control structures including the types and completion dates of maintenance activities performed for each of these structures; and

   c. An 11"x17" site map indicating the locations of the elements listed in Item b., above, and the flow direction of all site drainage.

8. **COC Report at least every five years** - In the absence of a new release being indicated, the Discharger shall monitor all parameters on the facility's COC list and submit a report (COC Report).

   a. **Reporting period for COCs** - The Discharger shall sample all monitoring points and background monitoring points for each monitored medium for all COCs every fifth year, beginning with the Fall of 2011. The first Reporting Period ends September 30, 2011, with subsequent COC monitoring to be carried out every fifth year thereafter, alternately in the Spring (Reporting Period ends March 31) and the Fall (Reporting Period ends September 30).

   b. **COC report** - This report, which is due one month following the Reporting period, may be combined with any semi-annual monitoring report or annual summary report. Previous COC reports were submitted in 1996, 2001, and 2006. Future COC reports are due every 5 years since the last COC report submittal (in 2011, 2016, 2021, etc.)

9. **Reporting Schedule** - The Discharger shall submit the reports/ documents in accordance with the deadlines specified in **Table 3**.

10. **Signature** - All reports shall be signed by a responsible officer or a duly authorized representative of the Discharger and shall be submitted under penalty of perjury.

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I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region.

_____

Gerard J. Thibeault
Executive Officer

January 29, 2010

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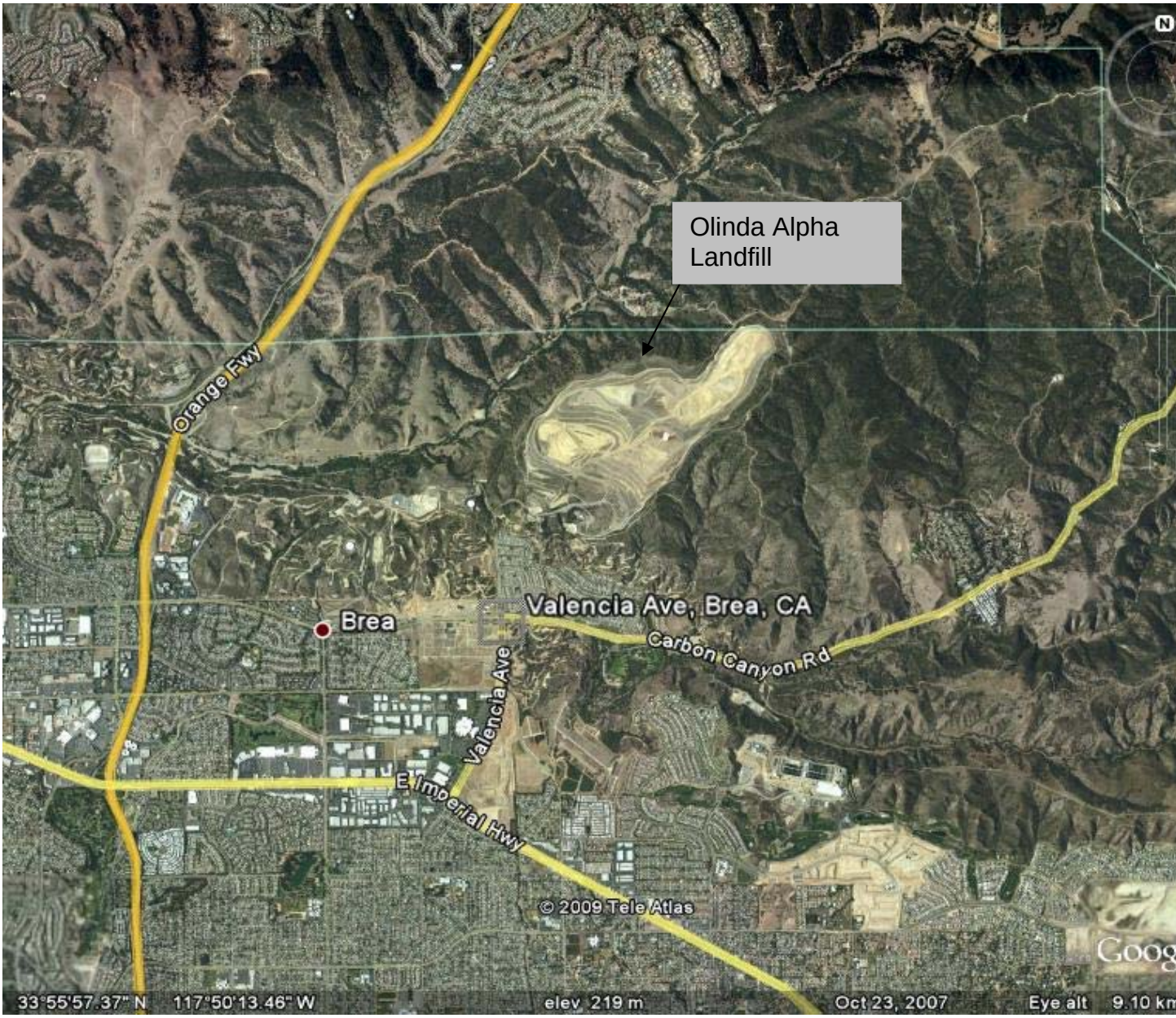
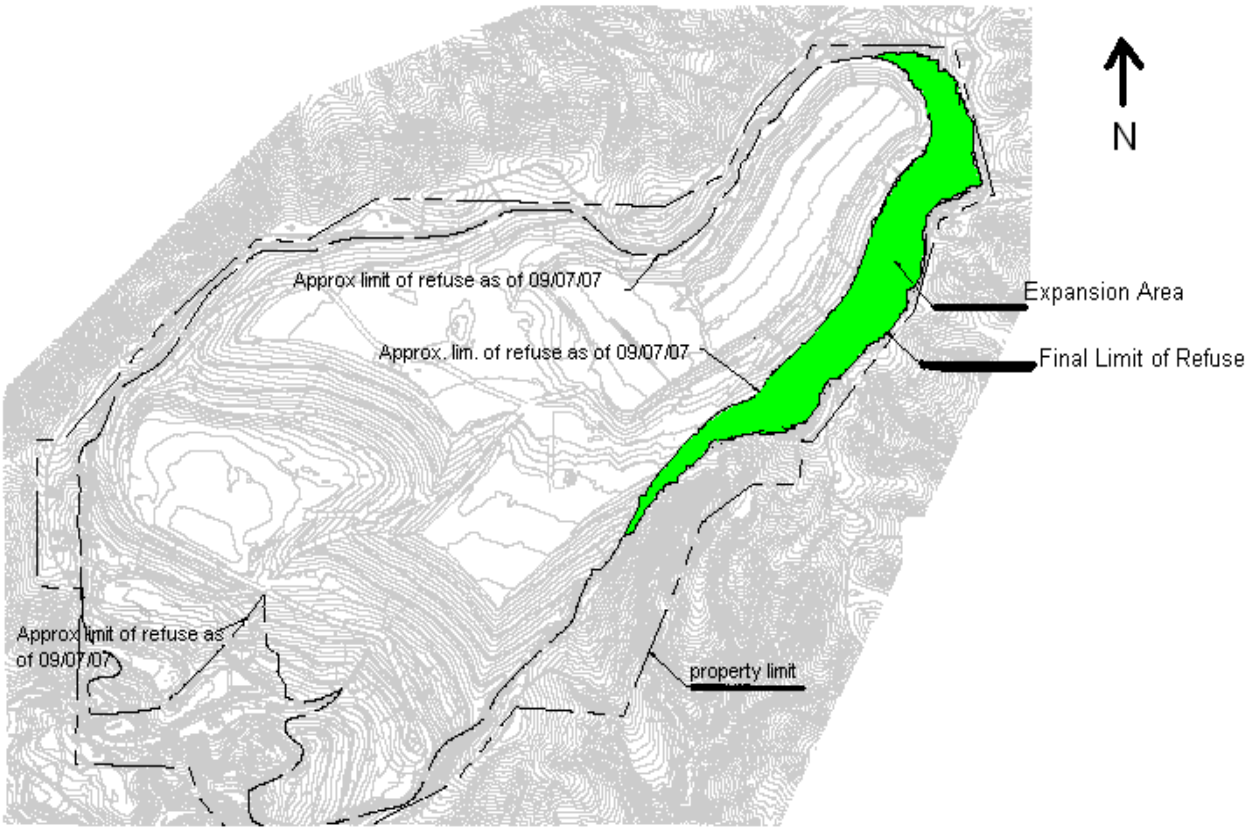
Attachment A



Attachment B



Attachment B
Expansion Area Map

Attachment C

OLINDA ALPHA LANDFILL

Type of Program	Monitoring Parameters	Monitoring Frequency
Detection water quality monitoring program (DMP Wells)	pH, nitrate, chloride, total arsenic, total dissolved solids (TDS), and volatile organic compounds (VOCs) listed in Table 2[1]	Semi-annually
Corrective action water quality monitoring program (CAP Wells)	VOCs listed in Table 2[1]	Semi-annually
Landfill gas condensate analysis	The Appendix II constituents	Annually
Leachate (untreated) monitoring	Appendix II constituents (which are not already groundwater monitoring parameters) and General minerals	Semi-Annually (October and April of each year)[2]
Treatment system influent monitoring	47 VOCs of Appendix I constituents	Semi-annually
Treatment system effluent monitoring	pH, nitrate, chloride, and the Appendix II constituents	Semi-annually
Landfill gas (untreated) monitoring	VOCs specified by SCAQMD Rule 1150.1 Table 1[4] (which are not already groundwater monitoring parameters)	Semi-Annually (October and April of each year)[3]
Vadose Zone Monitoring (perimeter gas probes)	Methane (field), total gaseous non-methane organic hydrocarbons (TGNMO), and the VOCs specified by SCAQMD Rule 1150.1 Table 1[4]	Monthly in the field and quarterly in the laboratory (per Rule 1150.1)
COC analysis	The Appendix II constituents and general minerals	Once every five years
Aerial or ground survey	Not applicable	Annually
General Site Monitoring	Not applicable	Varies (see Section B.5 of M&RP)

1. The list of VOCs shall be updated each year based on leachate and landfill gas testing/retesting programs (See footnote on Table 2).

2. October leachate testing with a confirmation retest in April of the following year.

3. October landfill gas testing with a confirmation retest in April of the following year

4. See attached SCAQMD Rule 1150.1 Table 1

TENTATIVE

TABLE 1
CONCENTRATION LIMITS GREATER THAN BACKGROUND
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Appendix II Constituent [1]	Drinking Water Maximum Contaminant Level [2] (MCL)	Laboratory Practical Quantitation Limit [3] (PQL)	Concentration Limit Greater Than Background (CLGB)
Acenaphthene		10 ug/l	10 ug/l
Acenaphthylene		10 ug/l	10 ug/l
Acetone		100 ug/l	100 ug/l
Acetonitrile		50 ug/l	50 ug/l
Acetophenone		10 ug/l	10 ug/l
2-Acetylaminofluorene		20 ug/l	20 ug/l
Acrolein		50 ug/l	50 ug/l
Acrylonitrile		10 ug/l	10 ug/l
Aldrin		0.11 ug/l	0.11 ug/l
Allyl chloride		10 ug/l	10 ug/l
4-Aminobiphenyl		20 ug/l	20 ug/l
Anthracene		10 ug/l	10 ug/l
Antimony	0.006 mg/l	0.006 mg/l	0.006 mg/l
Arsenic	0.01 mg/l	0.002 mg/l	0.01 mg/l
Barium	1.0 mg/l	0.100 mg/l	1.0 mg/l
Benzene	1.0 ug/l	5.0 ug/l	1.0 ug/l
Benzo[a]anthracene		10 ug/l	10 ug/l
Benzo[b]fluoranthene		10 ug/l	10 ug/l
Benzo[k]fluoranthene		10 ug/l	10 ug/l
Benzo[ghi]perylene		10 ug/l	10 ug/l
Benzo[a]pyrene	0.2 ug/l	10 ug/l	0.2 ug/l
Benzyl alcohol		10 ug/l	10 ug/l
Beryllium	0.004 mg/l	0.001 mg/l	0.004 mg/l
alpha-BHC		0.04 ug/l	0.04 ug/l
beta-BHC		0.03 ug/l	0.03 ug/l
delta-BHC		0.03 ug/l	0.03 ug/l
gamma-BHC	0.2 ug/l	0.03 ug/l	0.2 ug/l
Bis(2-chloroethoxy)methane		10 ug/l	10 ug/l
Bis(2-chloroethyl) ether		10 ug/l	10 ug/l
Bis(2-chloroisopropyl) ether		10 ug/l	10 ug/l
Bis(2-ethylhexyl) phthalate		10 ug/l	10 ug/l
Bromochloromethane		5.0 ug/l	5.0 ug/l
Bromodichloromethane	100 ug/l	5.0 ug/l	100 ug/l
Bromoform	100 ug/l	5.0 ug/l	100 ug/l
4-Bromophenyl phenyl ether		10 ug/l	10 ug/l
Butyl benzyl phthalate		10 ug/l	10 ug/l
Cadmium	0.005 mg/l	0.001 mg/l	0.005 mg/l
Carbon disulfide	160 ug/l	5.0 ug/l	160 ug/l
Carbon tetrachloride	0.5 ug/l	5.0 ug/l	0.5 ug/l
Chlordane	0.1 ug/l	0.25 ug/l	0.1 ug/l
p-Chloroaniline		10 ug/l	10 ug/l
Chlorobenzene	100 ug/l	5.0 ug/l	100 ug/l
Chlorobenzilate		10 ug/l	10 ug/l
p-Chloro-3-methylphenol		10 ug/l	10 ug/l
Chloroethane		5.0 ug/l	5.0 ug/l
Chloroform	100 ug/l	5.0 ug/l	100 ug/l
2-Chloronaphthalene		10 ug/l	10 ug/l
2-Chlorophenol		10 ug/l	10 ug/l
4-Chlorophenyl phenyl ether		10 ug/l	10 ug/l

TENTATIVE

TABLE 1 (cont.)
CONCENTRATION LIMITS GREATER THAN BACKGROUND
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Appendix II Constituent [1]	Drinking Water Maximum Contaminant Level [2] (MCL)	Laboratory Practical Quantitation Limit [3] (PQL)	Concentration Limit Greater Than Background (CLGB)
Chloroprene		5.0 ug/l	5.0 ug/l
Chromium	0.05 mg/l	0.01 mg/l	0.05 mg/l
Chrysene		10 ug/l	10 ug/l
Cobalt		0.001 mg/l	0.001 mg/l
Copper	1.0 mg/l	0.005mg/l	1.0 mg/l
m-Methylphenol		10 ug/l	10 ug/l
o-Methylphenol		10 ug/l	10 ug/l
p-Methylphenol		10 ug/l	10 ug/l
Cyanide	0.15 mg/l	0.01 mg/l	0.15 mg/l
2,4-D	70 ug/l	12 ug/l	70 ug/l
4,4-DDD		0.06 ug/l	0.06 ug/l
4,4-DDE		0.05 ug/l	0.05 ug/l
4,4-DDT		0.06 ug/l	0.06 ug/l
Diallate		10 ug/l	10 ug/l
Dibenz[a,h]anthracene		10 ug/l	10 ug/l
Dibenzofuran		10 ug/l	10 ug/l
Dibromomethane		5 ug/l	5 ug/l
Dibromochloromethane	100 ug/l	5.0 ug/l	100 ug/l
1,2-Dibromo-3-chloropropane	0.2 ug/l	0.01 ug/l	0.2 ug/l
1,2-Dibromoethane	0.05 ug/l	0.02 ug/l	0.05 ug/l
Di-n-butyl phthalate		10 ug/l	10 ug/l
o-Dichlorobenzene	600 ug/l	5.0 ug/l	600 ug/l
m-Dichlorobenzene		5.0 ug/l	5.0 ug/l
p-Dichlorobenzene	5.0 ug/l	5.0 ug/l	5.0 ug/l
3,3'-Dichlorobenzidine		10 ug/l	10 ug/l
trans-1,4-Dichloro-2-butene		20 ug/l	20 ug/l
Dichlorodifluoromethane	1,000 ug/l	5.0 ug/l	1,000 ug/l
1,1-Dichloroethane	5.0 ug/l	5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	0.5 ug/l	5.0 ug/l	0.5 ug/l
1,1-Dichloroethene	6.0 ug/l	5.0 ug/l	6.0 ug/l
cis-1,2-Dichloroethene	6.0 ug/l	5.0 ug/l	6.0 ug/l
trans-1,2-Dichloroethene	10 ug/l	5.0 ug/l	10 ug/l
2,4-Dichlorophenol		10 ug/l	10 ug/l
2,6-Dichlorophenol		10 ug/l	10 ug/l
1,2-Dichloropropane	5.0 ug/l	5.0 ug/l	5.0 ug/l
1,3-Dichloropropane		5.0 ug/l	5.0 ug/l
2,2-Dichloropropane		5.0 ug/l	5.0 ug/l
1,1-Dichloropropene		5.0 ug/l	5.0 ug/l
cis-1,3-Dichloropropene	0.5 ug/l	5.0 ug/l	0.5 ug/l
trans-1,3-Dichloropropene	0.5 ug/l	5.0 ug/l	0.5 ug/l
Dieldrin		0.06 ug/l	0.06 ug/l
Diethyl phthalate		10 ug/l	10 ug/l
O,O-Diethyl O-2-pyrazinyl phosphorothioate		20 ug/l	20 ug/l
Dimethioate		20 ug/l	20 ug/l
p-(Dimethylamino)azobenzene		10 ug/l	10 ug/l
7,12-Dimethylbenz[a]anthracene		10 ug/l	10 ug/l
3,3'-Dimethybenzidine		10 ug/l	10 ug/l
2,4-Dimethylphenol		10 ug/l	10 ug/l
Dimethyl phthalate		10 ug/l	10 ug/l
m-Dinitrobenzene		20 ug/l	20 ug/l

TENTATIVE

TABLE 1 (cont.)
CONCENTRATION LIMITS GREATER THAN BACKGROUND
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Appendix II Constituent [1]	Drinking Water Maximum Contaminant Level [2] (MCL)	Laboratory Practical Quantitation Limit [3] (PQL)	Concentration Limit Greater Than Background (CLGB)
4,6-Dinitro-2-methylphenol		10 ug/l	10 ug/l
2,4-Dinitrophenol		10 ug/l	10 ug/l
2,4-Dinitrotoluene		10 ug/l	10 ug/l
2,6-Dinitrotoluene		10 ug/l	10 ug/l
Dinoseb	7.0 ug/l	0.7 ug/l	7.0 ug/l
Di-n-octyl phthalate		10 ug/l	10 ug/l
Diphenylamine		20 ug/l	20 ug/l
Disulfoton		10 ug/l	10 ug/l
Endosulfan I		0.03 ug/l	0.03 ug/l
Endosulfan II		0.06 ug/l	0.06 ug/l
Endosulfan sulfate		0.06 ug/l	0.06 ug/l
Endrin	2.0 ug/l	0.06 ug/l	2.0 ug/l
Endrin aldehyde		0.13 ug/l	0.13 ug/l
Ethylbenzene	300 ug/l	5.0 ug/l	300 ug/l
Ethyl methacrylate		50 ug/l	50 ug/l
Ethyl methanesulfonate		20 ug/l	20 ug/l
Famphur		20 ug/l	20 ug/l
Fluoranthene		10 ug/l	10 ug/l
Fluorene		10 ug/l	10 ug/l
Heptchlor	0.01 ug/l	0.08 ug/l	0.01 ug/l
Heptachlor epoxide	0.01 ug/l	0.05 ug/l	0.01 ug/l
Hexachlorobenzene	1.0 ug/l	10 ug/l	1.0 ug/l
Hexachlorobutadiene		10 ug/l	10 ug/l
Hexachlorocyclopentadiene	50 ug/l	10 ug/l	50 ug/l
Hexachloroethane		10 ug/l	10 ug/l
Hexachloropropene		10 ug/l	10 ug/l
2-Hexanone		20 ug/l	20 ug/l
Indeno(1,2,3-cd)pyrene		10 ug/l	10 ug/l
Isobutyl alcohol		250 ug/l	250 ug/l
Isodrin		20 ug/l	20 ug/l
Isophorone		10 ug/l	10 ug/l
Isosafrole		10 ug/l	10 ug/l
Kepone		20 ug/l	20 ug/l
Lead	0.015 mg/l	0.005 mg/l	0.015 mg/l
Mercury	0.002 mg/l	0.001 mg/l	0.002 mg/l
Methacrylonitrile		35 ug/l	35 ug/l
Methapyrilene		100 ug/l	100 ug/l
Methoxychlor	30 ug/l	0.57 ug/l	30 ug/l
Methyl bromide		5.0 ug/l	5.0 ug/l
Methyl chloride		5.0 ug/l	5.0 ug/l
3-Methylcholanthrene		10 ug/l	10 ug/l
Methyl ethyl ketone		100 ug/l	100 ug/l
Methyl iodide		5.0 ug/l	5.0 ug/l
Methyl methacrylate		20 ug/l	20 ug/l
Methyl methanesulfonate		10 ug/l	10 ug/l
2-Methylnaphthalene		10 ug/l	10 ug/l
Methyl parathion		10 ug/l	10 ug/l
4-Methyl-2-pentanone		10 ug/l	10 ug/l
Methylene bromide		5.0 ug/l	5.0 ug/l
Methylene chloride	5.0 ug/l	5.0 ug/l	5.0 ug/l
Naphthalene	170 ug/l	10 ug/l	170 ug/l
1,4-Naphthoquinone		10 ug/l	10 ug/l

TENTATIVE

TABLE 1 (cont.)
CONCENTRATION LIMITS GREATER THAN BACKGROUND
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Appendix II Constituent [1]	Drinking Water Maximum Contaminant Level [2] (MCL)	Laboratory Practical Quantitation Limit [3] (PQL)	Concentration Limit Greater Than Background (CLGB)
1-Naphthylamine		10 ug/l	10 ug/l
2-Naphthylamine		10 ug/l	10 ug/l
Nickel	0.1 ug/l	0.010 mg/l	0.1 ug/l
o-Nitroaniline		50 ug/l	50 ug/l
m-Nitroaniline		10 ug/l	10 ug/l
p-Nitroaniline		10 ug/l	10 ug/l
Nitrobenzene		10 ug/l	10 ug/l
o-Nitrophenol		10 ug/l	10 ug/l
p-Nitrophenol		10 ug/l	10 ug/l
N-Nitrosodi-n-butylamine		10 ug/l	10 ug/l
N-Nitrosodiethylamine		20 ug/l	20 ug/l
N-Nitrosodimethylamine	0.01 ug/l	10 ug/l	0.01 ug/l
N-Nitrosodiphenylamine		10 ug/l	10 ug/l
N-Nitrosodipropylamine		10 ug/l	10 ug/l
N-Nitrosomethylethalamine		30 ug/l	30 ug/l
N-Nitrosopiperidine		20 ug/l	20 ug/l
N-Nitrosopyrolidine		40 ug/l	40 ug/l
5-Nitro-o-Toluidine		10 ug/l	10 ug/l
Parathion		10 ug/l	10 ug/l
Pentachlorobenzene		10 ug/l	10 ug/l
Pentachloronitrobenzene		20 ug/l	20 ug/l
Pentachlorophenol	1.0 ug/l	10 ug/l	1.0 ug/l
Phenacetin		20 ug/l	20 ug/l
Phenanthrene		10 ug/l	10 ug/l
Phenol		10 ug/l	10 ug/l
p-Phenylenediamine		10 ug/l	10 ug/l
Phorate		10 ug/l	10 ug/l
Polychlorinated biphenyls	0.5 ug/l	0.65 ug/l	0.5 ug/l
Pronamide		10 ug/l	10 ug/l
Propionitrile		100 ug/l	100 ug/l
Pyrene		10 ug/l	10 ug/l
Safrole		10 ug/l	10 ug/l
Selenium	0.05 mg/l	0.005 mg/l	0.05 mg/l
Silver	100 ug/l	10 ug/l	100 ug/l
Silvex	50 ug/l	1.7 ug/l	50 ug/l
Styrene	100 ug/l	5.0 ug/l	100 ug/l
Sulfide		0.1 mg/l	0.1 mg/l
2,4,5-T		2.0 ug/l	2.0 ug/l
1,2,4,5-Tetrachlorobenzene		10 ug/l	10 ug/l
1,1,1,2-Tetrachloroethane		5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	1.0 ug/l	5.0 ug/l	1.0 ug/l
Tetrachloroethene	5.0 ug/l	5.0 ug/l	5.0 ug/l
2,3,4,6-Tetrachlorophenol		10 ug/l	10 ug/l
Thallium	0.002 mg/l	0.001 mg/l	0.002 mg/l
Tin		0.005 mg/l	0.005 mg/l
Toluene	150 ug/l	5.0 ug/l	150 ug/l
o-Toluidine		10 ug/l	10 ug/l
Toxaphene	3.0 ug/l	3.13 ug/l	3.0 ug/l
1,2,4-Trichlorobenzene	5.0 ug/l	10 ug/l	5.0 ug/l
1,1,1-Trichloroethane	200 ug/l	5.0 ug/l	200 ug/l
1,1,2-Trichloroethane	5.0 ug/l	5.0 ug/l	5.0 ug/l
Trichloroethene	5.0 ug/l	5.0 ug/l	5.0 ug/l

TENTATIVE

TABLE 1 (cont.)
CONCENTRATION LIMITS GREATER THAN BACKGROUND
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Appendix II Constituent (1)	Drinking Water Maximum Contaminant Level (2) (MCL)	Laboratory Practical Quantitation Limit (3) (PQL)	Concentration Limit Greater Than Background (CLGB)
Trichlorofluoromethane	150 ug/l	5.0 ug/l	150 ug/l
2,4,5-Tricholophenol		10 ug/l	10 ug/l
2,4,6-Trichlorophenol		10 ug/l	10 ug/l
1,2,3-Trichloropropane	0.005 ug/l	5.0 ug/l	0.005 ug/l
0,0,0-Triethyl phosphorothioate		20 ug/l	20 ug/l
1,3,5-Trinitrobenzene		10 ug/l	10 ug/l
Vanadium	0.05 mg/l	0.003 mg/l	0.05 mg/l
Vinyl acetate		50 ug/l	50 ug/l
Vinyl chloride	0.5 ug/l	5.0 ug/l	0.5 ug/l
Xylenes (total)	1,750 ug/l	5.0 ug/l	1,750 ug/l
Zinc	5.0 mg/l	0.050 mg/l	5.0 mg/l

(1) Appendix II constituents are listed in 40 CFR, Chapter 1, Part 258.

(2) MCLs, if any, as established by the California Department of Health Services- Drinking Water Program or the Environmental Protection Agency National Primary Drinking Water Standards as of 2007.

(3) Laboratory PQLs as provided from Associated Laboratories in April 2007.

TENTATIVE

TABLE 2
MONITORING PARAMETERS FOR GROUNDWATER
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA

Volatile Organic Constituents *(DMP and CAP Wells)*		
Appendix I VOCs Confirmed in Leachate	**Appendix I VOCs Confirmed in Landfill Gas**	**Degradation By-Products of Appendix I VOCs Confirmed in Leachate or Landfill Gas**
Acetone Methyl Ethyl Ketone Carbon Disulfide Styrene 4-Methyl 2-pentanone	Benzene Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene Methylene Chloride Ethylbenzene Tetrachloroethene Toluene 1,1,1-Trichloroethane Trichloroethene Vinyl Chloride Xylenes	Chloroethane Chloromethane cis-1,2-Dichloroethene trans-1,2-Dichloroethene
Inorganic Constituents *(DMP Wells)*		
pH Nitrate as Nitrogen Chloride		

Note:
Monitoring Parameters list shown in this table includes analytical leachate and landfill gas data collected through March 2009. This list of VOCs will be updated (augmented) by the Discharger each year based on the annual leachate and landfill gas monitoring programs (any Appendix I VOC which is detected and confirmed in either leachate or landfill gas samples, as well as its degradation by-products, will be added to this list).

TENTATIVE

TABLE 3

MONITORING AND REPORTING

Task Description	Monitoring Period	Report Due Date
Semi-annual Water Quality monitoring	October 1 – March 31	April 30 of each year
	April 1 – September 30	October 31 of each year
Semi-annual general site monitoring	October 1 – March 31	April 30 of each year
	April 1 – September 30	October 31 of each year
October leachate and landfill gas testing analysis	October 1 – October 31	January 31 of the following year
April leachate and landfill gas retesting analysis	April 1 – April 30	August 1 of each year
Annual drainage control and maintenance	By October 1 of each year	December 31 of each year
Aerial or ground survey	By October 15 of each year	December 31 of each year
Annual summary	April 1 of previous year – March 31	April 30 of each year
COC analysis	Every 5 Years (alternating between Fall and Spring reporting periods)	October 31, 2011; April 30, 2016; October 31, 2021; April 30, 2026; etc.

Reports with the same submittal date may be consolidated into a single report.

TENTATIVE

TABLE 4

LIST OF APPENDIX I CONSTITUENTS

Inorganic Constituents	**Organic Constituents – continued**
Antimony	p-Dichlorobenzene; 1,4-Dichlorobenzene
Arsenic	trans-1,4-Dichloro-2-butene
Barium	1,1-Dichloroenthane; Ethylidene chloride
Beryllium	1,2-Dichloroethane; Ethylene dichloride
Cadmium	1,1-Dichloroethylene; 1,1-Dichloroethane; Vinylidene chloride
Chromium	cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
Cobalt	trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
Copper	1,2-Dichloropropane; Propylene dichloride
Lead	cis-1,3-Dichloro propene
Nickel	trans-1,2-Dichloropropene
Selenium	Ethylbenzene
Silver	2-Hexanone; Methyl butyl ketone
Thallium	Methyl bromide; Bromomethane
Vanadium	Methyl chloride; Chloromethane
Zinc	Methylene bromide; Dibromomethane
	Methylene chloride; Dichloromethane
Organic Constituents	Methyl ethyl ketone; MEK; 2-Butanone
Acetone	Methyl iodide; Iodomethane
Acrylonitrile	4-Methyl-2-pentanone; Methyl isobutyl ketone
Benzene	Styrene
Bromochloromethane	1,1,1,2-Tetrachloroethane
Bromodichloromethane	1,1,2,2-Tetrachloroethane
Bromoform; Tribromomethane	Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
Carbon disulfide	Toluene
Carbon tetrachloride	1,1,1-Trichloroethane; Methylchloroform
Chlorobenzene	1,1,2-Trichloroethane
Chloroethane; Ethyl chloride	Trichloroethylene; Trichloroethene
Chloroform; Trichloromethane	Trichlorofluoromethane; CFC-11
Dibromochloromethane; Chlorodibromomethane	1,2,3-Trichloropropane
1,2-Dibromo-3-chloropropane; DBCP	Vinyl acetate
1,2-Dibromoethane; Ethylene dibromide; EDB	Vinyl chloride
o-Dichlorobenzene; 1,2-Dichlorobenzene	Xylenes

TENTATIVE

TABLE 5

LIST OF APPENDIX II CONSTITUENTS

Acenaphthene
Acenaphthylene
Acetone
Acetonitrile; Methyl cyanide
Acetophenone
2-Acetylaminofluorene; 2-AAF
Acrolein
Acrylonitrile
Aldrin
Allyl chloride
4-Aminobiphenyl
Anthracene
Antimony (total)
Arsenic (total)
Barium (total)
Benzene
Benzo[a]anthracene; Benzanthracene
Benzo[b] fluoranthene
Benzo[k] fluoranthene
Benzo[ghi] perylene
Benzo[al pyrene
Benzyl alcohol
Beryllium (total)
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC; Lindane
Bis(2-chloroethoxy) methane
Bis(2-chloroethyl) ether; Dichloroethyl ether
Bis(2-chloro-1-methylethyl) ether; 2,2-Dichlorodiisopropyl ether; DCIP
Bis(2-ethylhexyl) phthalate
Bromochloromethane; Chlorobromomethane
Bromodichloromethane; Dibromochloromethane
Bromoform; Tribromomethane
4-Bromophenyl phenyl ether
Butyl benzyl phthalate; Benzyl butyl phthalate
Cadmium (total)
Carbon disufide
Carbon tetrachloride
Chlordane
p-Chloroaniline
Chlorobenzene
Chlorobenzilate
p-Chloro-m-cresol; 4-Chloro-3-methylphenol
Chloroethane; Ethyl chloride
Chloroform; Trichloromethane
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chloroprene
Chromium (total)
Chrysene
Cobalt (total)
Copper (total)
m-Cresol; 3-methylphenol
o-Cresol; 2-methylphenol
p-Cresol; 4-methylphenol
Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid
4,4-DDD
4.4-DDE
4,4-DDT
Diallate
Dibenz [a,h] anthracene
Dibenzofuran
Dibromochloromethane; Chlorodibromomethane
1,2-Dibromo-3-chloropropane; DBCP
1,2-Dibromoethane; Ethylene dibromide; EDB
Di-n-butyl phthalate
o-Dichlorobenzene; 1,2-Dichlorobenzene
m-Dichlorobenzene; 1,3-Dichlorobenzene
p-Dichlorobenzene; 1,4-Dichlorobenzene
3,3-Dichlorobenzidine
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane; CFC 12
1,1-Dichloroethane; Ethyldidene chloride
1,2-Dichloroethane; Ethylene dichloride
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
2,4-Dichlorophenol
2,6-Dichlorophenol
1,2-Dichloropropane; Propylene dichloride
1,3-Dichloropropane; Trimethylene dichloride
2,2-Dichloropropane; Isopropylidene chloride
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Dieldrin
Diethyl phthalate
0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin
Dimethoate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3-Dimethylbenzidine
2,4-Dimethylphenol; m-Xylenol
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol
Di-n-octyl phthalate
Diphenylamine
Disulfoton
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethylbenzene
Ethyl methacrylate
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
2-Hexanone; Methyl butyl ketone
lndeno (1,2,3-cd) pyrene
Isobutyl alcohol
Isodrin
Isophorone
Isosafrole
Kepone
Lead (total)

TENTATIVE

TABLE 5 (continued)

LIST OF APPENDIX II CONSTITUENTS

Mercury (total)
Methacrylonitrile
Methapyrilene
Methoxychlor
Methyl bromide; Bromomethane
Methyl chloride; Chloromethane
3-Methylcholanthrene
Methyl ethyl ketone; MEK; 2-Butanone
Methyl iodide; Iodomethane
Methyl methacrylate
Methyl methanesulfonate
2-Methylnaphthalene
Methyl parathion; Parathion methyl
4-Methyl-2-pentanone; Methyl isobutyl ketone
Methylene bromide; Dibromomethane
Methylene chloride; Dichloromethane
Naphthalene
1,4-Naphthoquinone
1-Napthylamine
2-Napthylamine
Nickel (total)
o-Nitroaniline; 2-Nitroaniline
m-Nitroaniline; 3-Nitroaniline
p-Nitroaniline; 4-Nitroaniline
Nitrobenzene
o-Nitrophenol; 2-Nitrophenol
p-Nitrophenol; 4-Nitrophenol
N-Nitrosodi-n-butylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine
N-Nitrosomethylethylamine
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane; Methylchloroform
1,1,2-Trichloroethane
Trichloroethyiene; Trichloroethene
Trichlorofluoromethane; CFC-1 I
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
1,2,3-Trichloropropane
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene
Vanadium (total)
Vinyl acetate
Vinyl chloride; Chloroethene
Xylenes (total)
Zinc (total)
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Parathion
Pentachlorobenzene
Pentachloronitrobenzene
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Phorate
Polychlorinated biphenyls; PCBS; Aroclors
Pronamide
Propionitrile; Ethyl cyanide
Pyrene
Safrole
Selenium (total)
Silver (total)
Silvex; 2,4,5-TP
Styrene
Sulfide
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid
1,2,4,5-Tetrachlorobenzene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
2,3,4,6-Tetrachlorophenol
Thallium (total)
Tin (total)
Toluene
o-Toluidine
Toxaphene

TENTATIVE

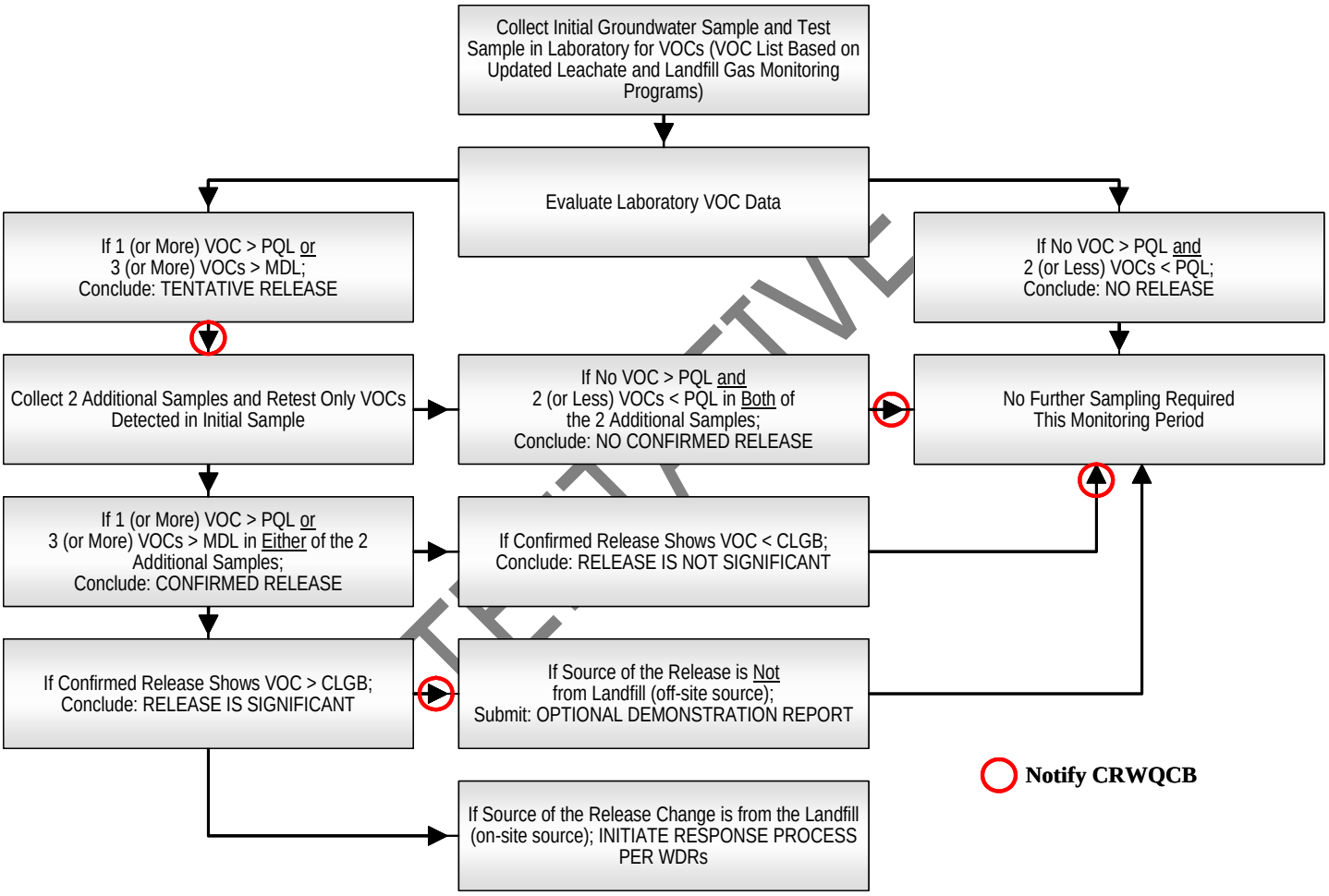



FIGURE 1
FLOWCHART FOR VOC DATA EVALUATION AND RETESTING PROCEDURES
OLINDA ALPHA LANDFILL
ORANGE COUNTY, CALIFORNIA