

538

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**



FROM: Waste Management Department

SUBMITTAL DATE:
December 5, 2008

SUBJECT: 2007 El Sobrante Landfill Annual Monitoring Report

RECOMMENDED MOTIONS: That the Board of Supervisors:

1. Receive and file the 2007 El Sobrante Landfill Annual Monitoring Report, dated April 2008; and
2. Direct the Clerk to ensure that a copy of the Annual Monitoring Report is made available for public review at accessible locations.

BACKGROUND: As stipulated in the Conditions of Approval of the Second El Sobrante Landfill Agreement, the Administrative Review Committee (ARC), formed pursuant to Section 13 of the Agreement and composed of representatives from the Waste Management Department, Executive Office, and Planning Department, reviewed the 2007 El Sobrante Landfill Annual Monitoring Report to ensure that the landfill is being operated by Waste Management, Inc. in conformance with the landfill's adopted Mitigation Monitoring Program. (continued)

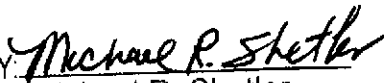

Hans W. Kernkamp, General Manager-Chief Engineer

FINANCIAL DATA	Current F.Y. Total Cost:	\$0	In Current Year Budget:	N/A
	Current F.Y. Net County Cost:	\$0	Budget Adjustment:	N/A
	Annual Net County Cost:	\$0	For Fiscal Year:	N/A


SOURCE OF FUNDS:	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION:

APPROVE

BY: 
Michael R. Shetler

County Executive Office Signature

FORM APPROVED BY COUNTY COUNSEL
BY: 
NEAL R. KIPNIS
DATE
tel Concurrence

Policy Policy
Consent Consent

Dept's Recomm.:
Per Exec. Ofc.:

Prev. Agn. Ref.:

District: 1 | Agenda Number:
ATTACHMENTS FILED WITH THE CLERK OF THE BOARD

12.1

BACKGROUND (continued)

Upon deeming the landfill in compliance, the ARC submitted the Annual Monitoring Report to the Citizens Oversight Committee (COC) for their review and approval. On October 15, 2008, the COC approved the 2007 Monitoring Report and recommended that it be received and filed with the Board of Supervisors. In addition, the Second Agreement requires that a copy of the Annual Monitoring Report be made available for public review at accessible locations.

El Sobrante Landfill Annual Monitoring Report

**Reporting Period:
January 1, 2007 through December 31, 2007**

**Prepared By:
USA Waste of California, Inc.**

April 2008

Background

The El Sobrante Landfill is an existing municipal solid waste landfill, which started operations in 1986. The landfill, which is located at 10910 Dawson Canyon Road, easterly of Interstate 15 and Temescal Canyon Road, approximately seven (7) miles southeast of the City of Corona in the Temescal Canyon area of unincorporated Riverside County, is owned and operated by USA Waste of California, a subsidiary of Waste Management Inc.

On September 1, 1998, the Riverside County Board of Supervisors took the following actions with respect to the vertical and lateral expansion of the El Sobrante Landfill:

- Adopted Resolution No. 98-275, certifying the Environmental Impact Report (EIR), consisting of the Draft EIR (dated April 1994), the Final EIR (dated April 1996), and the Update to the Final EIR (dated July 1998).
- Adopted Resolution No. 98-276, approving the El Sobrante Landfill Expansion Project and the Second El Sobrante Landfill Agreement, adopting Conditions of Approval and a Mitigation Monitoring Program and making Findings of Fact.

The El Sobrante Landfill Expansion Project, for which the EIR (circulated under SCH No. 1990020076) was certified, is comprised of the following major components:

- An increase in landfill disposal capacity to approximately 196.11 million cubic yards or approximately 109 million tons of municipal solid waste.
- An increase in the daily disposal capacity up to 10,000 tons.
- An increase in the landfill area to a total of 1,322 acres.
- An increase in the landfill footprint to 495 acres.
- An increase in the hours of operation, allowing 24-hour continuous operations, 7 days a week, for non-waste functions (i.e., application of daily cover, stockpiling of daily cover, site maintenance, grading, and vehicle maintenance) and allowing disposal operations from 4:00 A.M. to Midnight.

On July 21, 2001, the Regional Water Quality Control Board (RWQCB), Santa Ana Region, approved the issuance of Waste Discharge Requirements (WDRs) Order No. 01-53 for the El Sobrante Landfill Expansion Project.

On August 6, 2001, the Riverside County Environmental Health Department, Local Enforcement Agency, with concurrence from the California Integrated Waste Management Board (CIWMB), issued the Solid Waste Facility Permit (SWFP) No. 33-AA-0217 for the expansion project.

Preparation of the El Sobrante Landfill Annual Monitoring Report is a requirement of the Second El Sobrante Landfill Agreement, which specifies in Section 13.2 that USA Waste provide the Administrative Review Committee (a committee comprised of representation from the Planning Department, the Waste Management Department, and the Executive Office) with Mitigation Monitoring compliance records on an annual basis. Condition of Approval No. 14.b. then requires that the Citizen Oversight Committee (formed in 2003)

meet at least once annually to review the Annual Status Report, as submitted by the Administrative Review Committee (ARC).

The Annual Monitoring Report, dated March 2007, has been prepared by USA Waste of California, Inc. and covers the period of January 1, 2007 through December 31, 2007.

Overview of Calendar Year 2007

The following activities occurred at the El Sobrante Landfill during calendar year 2007:

- El Sobrante received a revised Solid Waste Facility Permit on August 20, 2007. The revision of the permit was to acknowledge the revised internal phasing for cell construction and to place a maximum weekly limit on green waste that could be brought in for alternative daily cover and other beneficial uses.
- Additional gas collection wells were added to the landfill to adequately collect generated methane.
- The Phase 9A cell was completed.
- A new Ultralow NO_x 5500 cubic foot per minute landfill gas flare was installed and became operational.
- New, potable and non-potable water lines, tanks, and pumping stations were installed to increase the capacity of the site's water supply and replace the aging waterline that has been in-place since the inception of the facility in the mid-80s.
- Construction on Phase 9B was initiated. Two million cubic yards of surplus soil was hauled to the old US Tile Clay Mine adjacent to the landfill for mine reclamation.
- Closure of approximately 22-acres of the west side of the landfill was completed.
- Approximately 1/3 of the El Sobrante Landfill Wildlife Preserve was burned in May 2007 as a result of an illegal off-road motorcycle rider trespassing on the El Sobrante Preserve.

Current Hours of Operation

The current landfill hours of operation for commercial haulers are from 4:00 a.m. to 12:00 midnight, Monday through Friday, from 6:00 a.m. to 6:00 p.m. on Saturday, and closed on Sundays. In accordance with the Second Agreement, for the general public the landfill hours were from 6:00 a.m. to 6:00 p.m. Monday through Saturday and closed on Sunday.

The landfill operates 24-hours per day, Monday through Saturday, with maintenance activities occurring at the facility between the hours of midnight and 4:00 a.m. Examples of typical activities include the grading of roads, the application of daily and intermediate cover,

repositioning equipment in preparation of the next day's activities, and other miscellaneous tasks.

Permits Obtained, Extended, or Modified.

During the reporting period the following major permits were obtained, extended, or modified.

Permit Name/Number	Permit Description	Issuing Agency	Purpose of Permit	Date of Issuance or Revision	Expiration Date
Landfill Gas Flaring Permit/F24059	Regulates landfill gas controls and the monitoring of other potential air pollutants.	Air Quality Management District	Annual Renewal (now a Title V Permit)	08/30/07	10/25/16
Permits to Operate Landfill Gas to Energy Engines/ R392457 and R392458	Allows installation and emissions testing of engines for the gas to energy facility.	Air Quality Management District	Obtained for construction (now a Title V Permit)	08/30/07	10/25/09
Engines for Truck Tippers/ F44349, F74076 and F61098	Allows the operation of diesel engines on the tippers.	Air Quality Management District	Annual renewals	9/21/01 3/08/05 5/29/03	Renewed Annually
Solid Waste Facilities Permit Revisions to JTD/ 33-AA-0217	Regulates disposal of solid waste.	County of Riverside Department of Environmental Health	Designate daily cover at end of operating day (operating day is Monday through Saturday)	08/20/07	Reviewed every 5 years

In addition to the permits obtained or modified, El Sobrante began a new permitting effort to modify the Solid Waste Facility Permit to allow for the delivery of municipal solid waste 24-hours per day (an increase of 4-hours per day) and to change from a daily permit cap of 10,000 tons per day, 7-days per week, to a weekly permit cap of 70,000 tons per week. In addition to these changes, El Sobrante will clean-up engineering design issues with the conceptual landfill grades in the Joint Technical Document. Examples of items to be reviewed and modified include the width of the permanent perimeter roads, changing the inclination of the side slopes of the landfill, and updating the seismic stability analysis for the liner system using the latest information available on the local geologic faults. This will likely result in an overall capacity increase in the permit but will not expand the footprint of the landfill or result in a final height increase.

Calendar Year 2007 Disposal Volume

During calendar year 2007, the El Sobrante Landfill accepted a total of 2,173,316.14 tons of municipal solid waste. Of this amount, 1,003,835.28 tons originated from Riverside County sources. The balance of 1,169,480.86 tons originated from out of county sources.

During calendar year 2007 the El Sobrante Landfill was open 308 working days. The average daily tonnage for the year was 7,056 tons.

Capacity Used and Remaining Capacity

Landfill capacity is closely monitored at El Sobrante to ensure that the landfill's operational efficiency is meeting Corporate and community expectations. On an annual basis, the entire landfill is flown by an aerial survey company, and aerial topographic maps are prepared to calculate the capacity used during a known period of time. The capacity used is then divided by the amount of waste disposed during that period of time to arrive at an Airspace Utilization Factor (AUF). The calculated used capacity takes into account compaction efficiency of the waste, use of alternative daily cover and soil cover, waste settlement, and waste stream composition. The AUF can change over time depending on a variety of factors; therefore the AUF is trended over time to arrive an average or predicted AUF to take into account temporary fluctuations.

Using the current average AUF, in 2007 approximately 3,562,813 cubic yards of capacity was used by municipal solid waste, green waste alternative daily cover, and cover soil. The remaining capacity is estimated to be approximately 147,084,882 cubic yards.

Origin of Non-County Waste Disposal Volume

Non-County waste received at the El Sobrante Landfill must be delivered in transfer trucks, or transfer-like trucks to mitigate traffic impacts. A transfer-like truck is one that transports a volume of waste to the landfill similar in size and weight to a transfer truck. Two examples of a transfer-like truck are the Heil Star System and the WMS Pod Trucks.

During 2007, non-county waste was delivered to El Sobrante through five primary sources. Those sources were the following:

- West Valley Transfer Station in Fontana, California
- Carson Transfer Station in Carson, California
- Southgate Transfer Station, Southgate
- Athens Transfer Station, City of Industry, California
- Grand Central Recycling and Transfer Station in the City of Industry, California

During calendar year 2007 the list of communities that delivered a quantity of waste greater than 1,000 tons to El Sobrante are the following:

Arcadia	La Verne	Pomona
Baldwin Park	Lawndale	Rancho Cucamonga
Carson	Lomita	Rancho Palos Verdes
Chino	Long Beach	Redondo Beach
Colton	Los Angeles (City)	Rialto
Commerce	LA County (Uninc.)	Rolling Hills Estate
Compton	Lynwood	San Bernardino (City)
Diamond Bar	Manhattan Beach	San Bernardino (County)
El Segundo	Misc. Indian Reservations	San Dimas
Fontana	Montclair	Santa Monica
Gardena	Ontario	Southgate
Hawthorne	Park View Estates	Torrance
Huntington Park	Pico Rivera	Vernon
Inglewood	Placentia	Whittier

In addition to the delivery of waste from the communities previously listed, El Sobrante also received miscellaneous volumes through transfer stations and direct haul from private haulers. These communities included:

Agoura Hills	El Monte	Lynwood	San Fernando
Alhambra	Fullerton	Malibu	San Gabriel
Anaheim	Garden Grove	Maywood	San Juan Capistrano
Artesia	Glendale	Monrovia	San Marino
Azusa	Glendora	Montebello	Santa Ana
Bell	Grand Terrace	Monterey Cnty (Uninc.)	Santa Clarita
Bell Garden	Hawaiian Gardens	Monterey Park	Santa Fe Springs
Bellflower	Hermosa Beach	Newport Beach	Seal Beach
Beverly Hills	Huntington Beach	Norwalk	Signal Hill
Buena Park	Imperial County	Oceanside	Simi Valley
Burbank	Industry	Orange	South El Monte
Calabasas	Irvine	Orange County (Uninc.)	South Pasadena
Carlsbad	Irwindale	Palmdale	Temple City
Cerritos	La Canada	Paramount	Upland
Chino Hills	La Habra	Pasadena	Ventura Cnty (Uninc.)
Claremont	La Habra Heights	Redlands	Victorville
Costa Mesa	La Puente	Rialto	Walnut
Covina	Laguna Hills	Rolling Hills	West Covina
Cudahy	Laguna Niguel	Rosemead	West Hollywood
Culver City	Lake Forest	Salinas	Westminster
Cypress	Lakewood	San Clemente	Yorba Linda
Dana Point	Loma Linda	San Diego County	Yucaipa
Downey	Los Alamitos		

Estimated Delivery of County Waste in 2007

The delivery of County Waste in 2008 is anticipated to decrease slightly compared to the 2007 volume to a planned total of 1,000,000 total tons. The slight reduction in volume is a result of the local economic downturn. The estimated average tons per day of County Waste is expected to be near 3,300 tons per day with anticipated peaks near 4,000 tons.

Estimated Delivery of Non-County Waste in 2007

The majority of Non-County Waste that is disposed of at El Sobrante originates from municipal collection contracts, transfer stations owned by Waste Management, or third-party transfer stations processing waste under contract to Waste Management. Third party waste volume directed to El Sobrante Landfill from non-Waste Management facilities and contracts come from the City of Los Angeles transfer station and the Athens Transfer Station.

For 2008, El Sobrante is forecasted to receive 1,250,000 tons from non-county sources. This represents an estimated increase of 7% over 2007. The majority of this increase will be the result of the new contract with Athens Services in Los Angeles County that runs through the third quarter of 2008 and a redirection of some Waste Management volume from the Puente Hills Landfill into El Sobrante. It is anticipated that the average Non-County waste tonnage will be 4,000 to 4,500 tons per day Monday through Friday and 1,000 to 2,000 tons on Saturdays.

Closure/Post Closure Trust

At the end of 2007, the El Sobrante Landfill Trust market values were \$17,404,024.28. During calendar year 2007, no funds were withdrawn for closure or post-closure activities.

Changes in Project Plan

The El Sobrante Landfill continued to develop in overall accordance with the approved Joint Technical Document and the EIR during the reporting period. During 2007, no changes, adjustments, or modifications were made to the project plan.

Local Mitigation Trust

During 2004, the Citizens Oversight Committee (COC) for the El Sobrante Landfill project continued with their meetings. On October 19, 2004, through a motion from the COC to the County Board of Supervisors, the COC recommended to utilize the entire Local Mitigation Fund for County efforts to cleanup illegal dumping in the Temescal Valley area along the I-15 corridor from El Cerrito Road south to Lake Street. By the end of 2006, the COC had spent approximately one half of the Local Mitigation Fund.

General Liability Insurance

See attached certificate.

Regulatory Agency Issues

During 2007, El Sobrante Landfill did not receive any formal Notices of Violations and does not have any unresolved complaints from any regulatory agencies, including the LEA, California Integrated Waste Management Board (CIWMB), RWQCB-SAR, and SCAQMD.

Throughout 2007 El Sobrante worked with the LEA and CIWMB to amend its Solid Waste Facility Permit to include language limiting the amount of green waste that it accepts for Alternative Daily Cover. The LEA and El Sobrante are in agreement that the landfill will continue to accept locally generated green waste; however, the CIWMB is seeking stronger restrictions that would threaten AB939 diversion requirements for local communities. A resolution should be forth coming in late 2008/early 2009.

Pending Litigation

During 2007, El Sobrante Landfill was not involved in any type of litigation.

2007 Status of Mitigation Measures

AESTHETICS

Mitigation Measures:

A-1

To assure visual screening of landfill operations and facilities, a phased closure and restoration plan shall be implemented. The closure and restoration plan shall utilize Riversidian sage scrub consistent with native vegetation in nearby undisturbed areas of the Gavilan Hills to minimize visual impacts to surrounding views.

Status:

The approved Multiple Species Habitat Conservation Plan (HCP) negotiated with the US Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) details a phased closure and restoration plan utilizing native species. Construction on the first phase of closure began in 2006 and was completed in 2007. The closed slopes were hydroseeded using native Riversidian Sage species collected from the El Sobrante preserve.

A-2

Development shall be phased such that only approximately 20 acres are disturbed at any one time. Riversidian sage scrub restoration activities shall be similarly phased. (Final EIR)

Status:

Phased closure and restoration are being performed in accordance with the Implementing Agreement, dated July 2001, for the approved Multiple Species HCP that was entered into by USFWS, CDFG, USA Waste of California, Inc., and Riverside County. During 2003, the expansion phases were redesigned to facilitate expansion and soil stockpiling activities. A minor modification request to USFWS and CDFG was initiated in order to re-phase the grading plan, which increases the number of phases from 15 to 17, and was formally submitted to these agencies in May 2004. Approximately 22 acres of phases 1 and 6 were closed and revegetated in 2007.

A-3

Landfill-associated facilities and structure exteriors (including rooftops) and signage shall be of a color consistent with the surrounding area.

Status:

Two water tanks and the low NO_x gas flare were installed in 2007. These features are not visible off-site.

A-4

A plan that assures the removal or approved use of landfill-associated facilities, structures, and signage shall be approved by the CIWMB, as part of the Post-closure Plan.

Status:

This same requirement is contained with the HCP with a caveat to leave approved structures in place, if desired, for the on going monitoring and maintenance of the habitat preserve. The final post-closure plan will also include this measure.

A-5

Outdoor lighting associated with the access road, administration building, and scales shall be directed toward the ground and shall be shielded. Portable lighting used for landfill operations (i.e., working face of the landfill) shall be shielded and directed toward the working area.

Status:

This is an ongoing requirement. From time to time, the landfill operator will receive feedback from the LEA if complaints are received about temporary lighting, so that light locations and angles can be adjusted. No complaints regarding lighting were raised in 2007.

A-6

Wherever feasible, temporary earthen or landscape berms, or other structures or measures, shall be utilized to provide visual screening of operations at the working face and to reduce potential glare impacts on surrounding residences from nighttime activities at the working face of El Sobrante. Any measures implemented for this purpose shall be subject to annual review by the Citizen Oversight Committee. (Board of Supervisors)

Status:

The landfill phasing has been restructured to minimize the visual impact of filling activities for the surrounding neighbors. During periods of 2007, the location of active filling could not be feasibly screened from some neighborhoods west of interstate 15 due to the height of the landfill. However, the majority of local residents cannot readily see El Sobrante due to its location behind hills alongside Interstate 15.

A-7

A plan that assures the removal of litter associated with the proposed project shall be approved by the CIWMB prior to the issuance of a SWFP. USA Waste or its successor-in-interest shall be responsible for the control and cleanup of litter and debris from the landfill and/or waste-hauling vehicles along the landfill access road to its intersection with Temescal Canyon Road, along Temescal Canyon Road between the landfill access road and the intersection of Interstate 15 (1-15) and Temescal

Canyon Road. At a minimum, USA Waste or its successor-in-interest shall inspect and remove litter and debris from these roadways on a weekly basis and within 48 hours upon receipt of notice of complaint. (Board of Supervisors)

Status:

Litter removal is an on-going task and is monitored by the LEA. No violations or areas-of-concerns were recorded during 2007 by the LEA for the landfill access road.

Temescal Canyon Road, like many roads in Riverside County, has been the subject of illegal disposal activity and increased graffiti. During negotiations with the Board of Supervisors for the gas to energy amendment to the Second Agreement, the El Sobrante Landfill agreed to increase the scope of its off-site litter removal activities to better meet the needs of the community. Condition 23.a of the approved Conditions of Approval was revised to read as follows:

- 23.a. USA Waste or its successor-in-interest shall be responsible for the control and cleanup of litter and debris from the landfill and/or waste-hauling vehicles along the landfill access road to its intersection with Temescal Canyon Road, and along Temescal Canyon Road from the intersection with Interstate 15 (I-15) to the intersection with Weirick Road.

During 2007, El Sobrante allotted a minimum of sixteen man-hours per week to the clean-up of litter and debris along the landfill access road to its intersection with Temescal Canyon Road and along Temescal Canyon Road from the intersection with I-15 to the intersection with Weirick Road.

In addition, the First Amendment to the Second El Sobrante Landfill Agreement, approved on July 1, 2003, requires the following:

- In order to provide more focused assistance with the problem of illegal dumping on private property, USA WASTE or its successor-in-interest will provide one roll-off bin per quarter in the Spanish Hills area and one roll-off bin per quarter in the Dawson Canyon area for private property owners in those areas. Costs associated with transportation and disposal of waste deposited in the bins will be borne by USA WASTE, with the understanding that the private property owners will bear the responsibility of depositing waste in the bins.

During 2007, El Sobrante transported and disposed of trash contained within the two roll-off bins located in the Spanish Hills and Dawson Canyon areas on an "as needed" basis monitored by surrounding neighbors, or on an average of once every 45 days.

For I-15, El Sobrante sponsors three sections of the interstate through the CalTrans Adopt-a-Highway program. For these sections, El Sobrante historically paid a CalTrans contractor for twice monthly cleaning, which is double the normal sponsorship. However, in 2007, the CalTrans contractor and El Sobrante agreed to terminate our relationship, because they were unwilling to meet our cleanliness standards. El Sobrante then took over the cleaning of the I-15 sections utilizing El Sobrante employees and temporary labor suppliers. The adopted sections are now noticeably cleaner. For 2008, El Sobrante will continue to clean the adopted sections of I-15 utilizing company resources.

BIOLOGICAL RESOURCES

Mitigation Measures:

B-1

Development shall be phased so that the area to be disturbed shall be minimized. Restoration of previously disturbed areas at the existing permitted landfill, not associated with the expansion, shall begin prior to surface disturbance for the expansion.

Status:

Phased closure and restoration are being performed in accordance with the Implementing Agreement, dated July 2001, for the approved Multiple Species HCP that was entered into by USFWS, CDFG, USA Waste of California, Inc., and Riverside County. During 2003, the expansion phases were redesigned to facilitate expansion and soil stockpiling activities. A minor modification request to USFWS and CDFG was initiated in order to re-phase the grading plan, which increases the number of phases from 15 to 17, and was formally submitted to these agencies in May 2004. Closure of Phase A of the landfill was completed in 2007 including the restoration of approximately 22 acres of Riversidian Sage Scrub (RSS). Restoration activities in 2007 included the following:

- The cactus nursery was maintained and weeded throughout 2007.
- Restoration of riparian areas damaged by the May wildfire was initiated. Native tree saplings were planted in upland areas.
- The dudleya restoration site on the landfill property was weeded, and additional dudleya planting occurred.
- No new disturbance outside of Phase 9 was needed.

B-2

Areas within the landfill limits of disturbance shall be restored with Riversidian sage scrub in accordance with the multispecies Restoration Plan developed in consultation with the USFWS and CDFG.

Status:

Refer to "Status" under Mitigation Measure B-1.

B-3

A salvage-enhancement plan for the many-stemmed dudleya shall be included in the Riversidian sage scrub Restoration Plan. (Final EIR)

Status:

Refer to "Status" under Mitigation Measure B-1. The approved HCP negotiated with the USFWS and CDFG addresses this measure.

The initial estimate of the many-stemmed Dudleya population in 2001 was 1,600 individuals. However, pre-impact surveys conducted from the commencement of pre-impact surveys in 2002 in the landfill phases and general surveys conducted in the preserved open space have identified approximately 26,800 individual plants.

The mitigation requirement for El Sobrante Landfill is a 1:1 ratio. To date, 11,000 plants have been salvaged from landfill phases prior to grading activities. Many of these plants are currently being cultivated within the Recon native plant nursery to produce plants for relocation. Through 2007, 6,240 plants have been relocated into the protected open space with additional plantings scheduled for the spring of 2008.

Details of the many-stemmed Dudleya restoration project can be found in the "El Sobrante Landfill Annual Report for the Many-Stemmed Dudleya Restoration Project, Year 6 HCP Implementation" report prepared by Recon Environmental, Inc.

B-4

A wetland compensation plan shall be developed in consultation with the USFWS and CDFG. Riparian habitats shall be mitigated at a 3:1 ratio with compensation of 6.36 acres. An additional 1.28 acres of riparian herb vegetation shall be mitigated at a 1:1 ratio. Final determination of mitigation ratios shall be made subsequent to onsite evaluation by the COE, USFWS and CDFG.

Status:

Impacts to wetland habitat have not occurred and should not occur until the last phase of landfill development, Phase XVII. As noted in the approved HCP negotiated with the USFWS and CDFG, the wetland compensation plan will be developed separately from the HCP and prior to impacts.

B-5

Activities to mitigate the disturbance to wetlands may include, but are not limited to:

- **Identification and assessment of sites and specific riparian mitigation measures along Temescal Wash.**
- **Enhancement of degraded areas within existing channels.**
- **Weed removal to improve existing riparian habitat.**
- **Potential purchase of offsite riparian habitat.**

Status:

As noted under "Status" for Mitigation Measure B-4, a wetland compensation plan has not yet been developed, because impacts to wetland/riparian areas have not occurred and will

not occur until Phase XVII. At the time the plan is developed, it will incorporate measures such as those noted in Mitigation Measure B-5.

B-6

The purchase of offsite riparian/wetland habitat shall be incorporated into the mitigation plan in the event that the COE Section 404 permit and CDFG Section 1603 agreement process conclude that onsite enhancement and offsite mitigation along Temescal Wash could not provide sufficient compensation for disturbance to onsite riparian habitat. If this mitigation were implemented, surveys shall be conducted in coordination with USFWS and CDFG to identify offsite riparian habitat that would be suitable for purchase as mitigation for onsite habitat disturbance. Considerations shall include, but not be limited to:

- Proximity to landfill site.
- Similarity of adjacent habitat.
- Management plans.
- Comparability.
- Sustainability.

Status:

Refer to "Status" under Mitigation Measures B-4 and B-5. Exact mitigation measures for the future phases of the landfill that require disturbance of these habitats will be negotiated prior to any impacts.

B-7

The Implementation Plan for habitat mitigation shall be developed by USA Waste and submitted for approval to the USFWS, CDFG, COE, and the County. Plans for the realignment of watercourses shall be submitted to the RWQCB. (Final EIR)

Status:

Habitat mitigation is addressed in the approved HCP and is being implemented in accordance with the Implementing Agreement, dated July 2001, for the approved Multiple Species HCP that was entered into by USFWS, CDFG, USA Waste of California, Inc., and Riverside County. Prior to disturbance to wetland/riparian areas, or any streambed alteration, permits will be required from CDFG (1602), Army Corps of Engineers (ACOE - 404), and Regional Water Quality Control Board (RWQCB - 401), which will require submittal of a compensation and mitigation plan.

B-8

Landfill personnel shall be instructed as to the requirement for and importance of restoration of completed areas of the site. (Final EIR)

Status:

Worker education for El Sobrante employees and contractor employees was conducted in 2007 by El Sobrante supervisory staff as needed. This is an ongoing requirement.

B-9

Upon USA Waste's receipt of applicable permits for operations of the landfill expansion, approximately 292 acres of the eastern portion of the project property shall be conveyed to the County as part of a permanent multispecies reserve. (Final EIR)

Status:

The property was conveyed to the County in 2002, subject to a conservation easement granted in favor of the CDFG.

In 2007 the Riverside County Transportation Commission (RCTC) selected an alignment for the Mid-County Parkway that would cross approximately 20 acres of this parcel, thereby eliminating 20 acres of habitat. RCTC has requested that USA Waste allow RCTC to amend the Habitat Conservation Plan for El Sobrante which would make the current alignment feasible. USA Waste is considering this request.

B-10

Upon receipt of applicable permits for the operation of the landfill expansion, USA Waste shall make an advanced payment of \$500,000 of the \$1.00 per ton out-of-County waste accepted at El Sobrante, for multispecies habitat acquisition and management. (Final EIR)

Status:

Waste Management Inc. submitted Check No. 0166954984, dated July 25, 2001, in the amount of \$500,000, which was received by the Riverside County Executive Office on September 11, 2001.

B-11

Upon receipt of applicable permits for operation of the landfill expansion, USA Waste shall set aside 180 acres through a nondisturbance agreement (see Figure A.I.I of Appendix A of the Final EIR). In the event USA Waste or its successor of interest decides to sell the 180-acre nondisturbance area, the County shall be provided a right-of-first refusal to purchase the 180 acres. (Final EIR)

Status:

A restrictive covenant (Declaration of Conservation Covenants and Restrictions) was placed over approximately 406 acres of Undisturbed Open Space on the landfill property in favor of USFWS and CDFG, a copy of which was recorded on August 7, 2002 as Instrument No. 434614.

B-12

Initial payment by USA Waste of \$100,000 of the \$500,000 advance payment upon execution of a Memorandum of Agreement with the USFWS, CDFG and County for multispecies habitat acquisition and management. (Final EIR)

Status:

This Mitigation Measure was never implemented, because a Memorandum of Understanding (MOU) was never negotiated between the parties. The MOU was not needed to negotiate the HCP and incidental take permits from USFWS and CDFG. Consequently, the entire \$500,000 was advanced by Waste Management as noted under Mitigation Measure B-10, once all applicable permits to operate the landfill were issued.

B-13

Pursuant to Section 5 of the Agreement, USA Waste or its successor-in-interest shall pay the County a per ton charge for the deposit of Non-County waste at El Sobrante Landfill, \$1.00 of which shall be utilized for multi-species habitat acquisition and management, including planning and research activities, as provided in Section 10.7. Monies to be utilized for multi-species purposes shall be deposited in a trust fund administered by the Executive Officer of the County. In imposing this condition, the Board of Supervisors acknowledges that the Section 7 Consultation and Streambed Alteration processes will result in a final agreement with the appropriate federal and state agencies establishing specific mitigation parameters for the expansion project with the express understanding that the phased closure and restoration of the landfill site, the \$ 1.00 per-ton charge to be utilized for multi-species purposes, and the 292-acre dedication in the eastern portion of the project site substantially exceed required mitigation and that the balance of the trust fund monies will be available to meet other County obligations or goals related to multi-species habitat acquisition and management. (Board of Supervisors)

Status:

In addition to this \$1.00/ton of out-of-County waste, the Board of Supervisors approved an additional \$.50/ton of Out-of-County waste to be allocated from Out-of-County fees for multi-species habitat when the project was approved by the Board on September 1, 1998. From the Start Date of the expansion project, July 1, 2001, through the end of calendar year 2007, approximately \$11,565,636 has been collected from out-of-county waste imports and conveyed to the Executive Office for funding for the MSHCP.

B-14

In the unlikely event that out-of-County waste ceases to be disposed of at El Sobrante, use of the 60 million tons of air space currently allocated for out-of-County waste shall include the requirement for payment of \$1.00 per ton for multispecies habitat acquisition and management. (Final EIR)

Status:

This measure has not been triggered.

B-15

Lighting at the working face shall be downcast and shielded to minimize reflection, and shall be directed inward toward the landfill. (Final EIR)

Status:

This measure is implemented on a daily basis.

B-16

A predator monitoring and control plan shall be developed and implemented. If necessary, the plan shall include a cowbird trapping and relocation plan, based on recommendations of the USFWS and CDFG. (Final EIR)

Status:

Wildlife control measures that include the following have been incorporated in the approved HCP and are being implemented by the Habitat Manager (RECON) in accordance with the Implementing Agreement:

- Cowbird trapping during the breeding season of the Gnatcatcher.
- Monitoring for the occurrence of Argentine ants and fire ants, and implementation of control measures that are based on methods prescribed by County and State agencies and approved by the Management Committee. Implementation of the measures must be consistent with the terms of the incidental take permits.
- Monitoring for the presence of domestic pets and feral cats, and implementation of trapping or other appropriate actions to limit the effects on these animals on Covered Species in Conserved Habitat and in undisturbed habitat in the Landfill Area.

Covered wildlife species observed during management activities include golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus hudsonius*), Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), coastal California gnatcatcher, Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and grasshopper sparrow (*Ammodramus savannarum perpallidus*).

B-17

No Riversidian sage scrub shall be directly disturbed during the breeding season of the coastal California gnatcatcher and coastal cactus wren, which occurs from March 1 through August 31 of each year. This constraint shall apply only to vegetation removal, which would be scheduled to occur from September 1 through February 28. (Final EIR)

Status:

In accordance with the Implementing Agreement for the approved HCP, vegetation clearing is only allowed after August 15th and before February 1.

B-18

When the landfill expansion is complete (i.e., after closure of all phases and at the end of the postclosure monitoring and maintenance period [currently a minimum of 30 years]), including the restoration of Riversidian sage scrub in accordance with the performance standards of the Restoration Plan, the area of onsite disturbance (approximately 645 acres) shall be conveyed by a conservation easement to the County for permanent management as part of a multispecies core preserve, and the nondisturbance agreement on the 180 acres shown in Figure A.I.I of the Final EIR shall be eliminated. (Final EIR)

Status:

As noted, this mitigation measure will not be triggered until after the post-closure period of approximately 30 years beyond closure of all phases of the landfill expansion project.

B-19

USA Waste or its successor-in-interest shall include the County in all aspects of the Section 7 Consultation and Streambed Alteration processes and shall work cooperatively with the County in developing the final agreement with the appropriate federal and state agencies that will allow a portion of the trust fund monies to be used to satisfy other County obligations or goals related to multi-species habitat acquisition and management. (Board of Supervisors)

Status:

The County of Riverside is a party to the Implementing Agreement for the approved HCP. No portion of the Out-of-County fee that is allocated for multi-species habitat acquisition and management (refer to Mitigation Measure B-13) is utilized to fund the El Sobrante Landfill HCP. The County maintains entire discretion over the trust fund, which is currently being utilized to fund a major portion of the Western Riverside County Multiple Species Habitat Conservation Plan. USA Waste (or its successors-in-interest) is entirely responsible for funding and carrying out its obligations under the approved HCP for the El Sobrante Landfill.

CULTURAL RESOURCES

Mitigation Measures:

C-1

Prior to grading, a Society of Professional Archaeologists (SOPA)-certified archaeologist(s) shall be retained, at the expense of the project, to provide surface collection, mapping, and test excavations for identified archaeological sites. If the sites are determined to be important, the resources within these sites shall be either preserved or a data recovery excavation shall be conducted.

Status:

On August 14, 2003, SOPA-certified archeologists, Harry Price and Evangeline Birmingham with RECON, conducted a pre-impact survey of Phases VIII and IX. Per a letter report, dated September 4, 2003, no archaeological resources were located during the survey. In fact, two previously recorded archaeological sites (CA-RIV-4980 and CA-RIV-4982) that had been mapped within the limits of impact for Phases VIII and IX could not be relocated. Due to the lack of any evidence of any archaeological resources, RECON did not recommend any further archaeological work within these areas.

C-2

In the event that additional archaeological sites are uncovered during initial grading, work shall be redirected and an archaeologist shall be retained at the expense of the project, to evaluate the importance of the site and, if necessary, shall develop and implement an appropriate data recovery program. The archaeologist shall be allowed to redirect grading in the area of exposed resources until inspection, evaluation, and recovery activities are completed.

Status:

No archaeological sites have been uncovered during any grading. Per the RECON letter report, dated September 4, 2003, the archaeological survey conditions produced excellent ground visibility. There was no evidence for a subsurface component.

C-3

Routine road or stormwater facilities, maintenance or other land-altering activities in the vicinity of sites shall be monitored by a SOPA-certified archaeologist to prevent inadvertent disturbance or loss of important resources.

Status:

Pre-impact archaeological surveys have been conducted by SOPA-certified archaeologists in order to identify previously recorded resources and to identify new resources in expansion areas prior to any disturbance activities. No resources were identified in phase 9.

C-4

The status of the sites shall be monitored on a semi-yearly basis to assure that incidental disturbance or recreational collection of resources has not occurred.

Status:

RECON, as the Habitat Manager, monitors all activity on the landfill site on an ongoing basis.

C-5

Archaeological materials recovered during surface collections, subsurface excavations, and monitoring shall be curated in perpetuity at a regional repository approved by the County. Expenses for curation shall be borne by the project.

Status:

No archaeological materials have been identified or recovered in the current expansion phases. El Sobrante Landfill will comply with this mitigation measure if triggered.

C-6

While the archaeological sites that will be affected by the proposed project are not expected to include human remains or burial artifacts, should such items be discovered during subsurface testing or data recovery, or if such items are discovered at unknown sites during construction or operation of the proposed action, project-related earthmoving activities shall be redirected away from the area. A SOPA-certified archaeologist shall consult with the County and representatives of local Native American groups regarding removal and reinternment.

Status:

No human remains or burial artifacts have been recovered during subsurface testing. Therefore, this mitigation measure has not been triggered.

C-7

The approved archaeological mitigation measures shall be affixed to all copies of the project grading plans.

Status:

El Sobrante Landfill is in compliance with this mitigation measure.

AIR QUALITY

Mitigation Measures:

AQ-1

The following activities shall occur based on SCAQMD Rule 1150.1 - Control of Gaseous Emissions from Active Landfills:

- **Landfill gas collection and thermal destruction systems shall be provided and operated.**
- **Landfill gas destruction system shall be constructed using best available control technology (BACT). Improved combustion technology (e.g., boiler) shall be installed at the time that the continued use of current technology flares would exceed SCAQMD standards for stationary sources. (Final EIR).**
- **A network of landfill gas monitoring probes shall be installed to identify potential areas of subsurface landfill gas migrations.**
- **The project includes a landfill gas barrier layer (i.e., 10- to 20-mil high-density polyethylene [HDPE] or polyvinyl chloride [PVC] sheeting) as part of the intermediate cover and final cover system. This gas barrier layer is not required by Subtitle D and would minimize excess air infiltration and fugitive landfill gas emissions, and would increase landfill gas collection efficiency.**
- **Monitoring of landfill gas concentrations at perimeter probes, gas collection system headers, landfill surface, and in ambient air downwind of the landfill shall be conducted in accordance with applicable regulations.**
- **Annual emissions testing of inlet and exhaust gases from the landfill gas destruction system shall be conducted to evaluate gas destruction efficiency.**
- **The gas collection system shall be adjusted and improved based on quarterly monitoring and annual stack testing results.**

Status:

El Sobrante is in compliance with these requirements. Quarterly reports confirming compliance are submitted to the South Coast Air Quality Management District. In March 2007, the new LEAR Flare (ultra Low NOx) became operational.

AQ-2

The following activities shall occur based on SCAQMD Rule 403 - Fugitive Dust:

- **Emission controls necessary to assure that dust emissions are not visible beyond the landfill property boundary shall be implemented.**
- **New cell construction and cell closure activities shall not occur simultaneously.**
- **The Rule 403 Fugitive Dust Emissions Control Plan for the landfill, approved by SCAQMD in May 1993, shall be adhered to. The plan itemized various control strategies for dust emissions from earthmoving, unpaved road travel, storage piles, vehicle track-out, and disturbed surface areas, including watering,**

chemical stabilizers, revegetation, and operational controls or shutdown for implementation during both normal and high wind conditions.

- **Rule 403 Fugitive Dust Emissions Control Plan shall be revised on an annual basis.**

Status:

Dust control measures are being implemented in accordance with this mitigation measure and the landfill's SCAQMD-approved Rule 403 Fugitive Dust Plan. The plan is updated as required by the SCAQMD.

AQ-3

The following mitigation measures exceed current regulatory requirements and shall be incorporated by design, construction, and operation:

- **PM₁₀ monitoring stations and an onsite meteorological station shall be installed and operated, as agreed in consultation with the SCAQMD.**
- **Where feasible, landfill roads shall be paved.**
- **Portions of paved roads abutting unpaved haul truck traffic areas shall be routinely swept and/or washed.**
- **Onsite vehicles shall be routinely maintained.**

Status:

El Sobrante Landfill is in compliance with this mitigation measure. The site has installed a meteorological station and conducted PM₁₀ monitoring as part of construction activities. All paved surfaces are scheduled to be swept a minimum of once weekly, with supplemental sweepings added on a more frequent basis as dictated by weather conditions. All unpaved haul roads are watered as needed and the dust suppressant, magnesium chloride, is used periodically during the summer months. All heavy equipment is maintained on a 250 operating hour interval and all heavy trucks (e.g., roll-off trucks) undergo annual exhaust opacity testing as required by SCAQMD.

AQ-4

In the event monitoring indicates that permissible levels of PM₁₀ are being exceeded, some combination of the following dust control measures shall be implemented: (Final EIR)

- **Washing of truck wheels.**
- **Routing paved access roads away from directions that result in property boundary impacts.**
- **Curtailing specific activities (e.g., new phase construction) when conditions are unfavorable for fugitive PM₁₀ control.**

Status:

PM10 levels are not being exceeded. Therefore, this mitigation measure has not yet been triggered.

AQ-5

The following activities would occur based on SCAQMD Regulation XIII - New Source Review:

- **Control devices for stationary emission sources shall be provided which satisfy BACT requirements.**
- **NO_x, ROG, SO_x, and PM₁₀ emissions from stationary sources shall be offset according to SCAQMD requirements for essential public services.**

Status:

El Sobrante is in compliance with this mitigation measure and submits annual emission reports as required by this mitigation measure.

AQ-6

The following activity shall occur based on SCAQMD Regulation XIV - Toxics and Other Noncriteria Pollutants:

- **Control devices for stationary emission sources shall be provided which assure that emissions of potentially carcinogenic and/or toxic compounds do not result in unacceptable health risks downwind of the landfill.**

Status:

El Sobrante is in compliance with this mitigation measure. Annual emission compliance tests are conducted to ensure compliance with permitted limits.

AQ-7

Onsite vehicles shall be routinely maintained.

Status:

El Sobrante is in compliance with this mitigation measure, which consists of routine maintenance for onsite vehicles and equipment.

AQ-8

Heavy construction equipment shall use low sulfur fuel (<0.05 percent by weight) and shall be properly tuned and maintained to reduce emissions.

Status:

El Sobrante is in compliance with this mitigation measure. All diesel fuel used at the facility is low sulfur fuel with a sulfur content of less than 0.05% by weight.

AQ-9

Construction equipment shall be fitted with the most modern emission control devices.

Status:

El Sobrante is in compliance with this mitigation measure. All heavy equipment operated at the facility by Waste Management is fitted with the manufacturer's specified emission control devices for the period the equipment was manufactured. As equipment is routinely maintained, the most current available upgrades to the *emission control* systems are installed on the equipment.

AQ-10

The project shall comply with SCAQMD Rule 461 which establishes requirements for vapor control from the transfer of fuel from the fuel truck to vehicles.

Status:

El Sobrante is in compliance with this mitigation measure. The facility does not currently operate stationary or mobile gasoline fuel tanks that trigger the requirements of Rule 461.

AQ-11

Prior to construction and construction/operation activities, the following premonitoring measures shall be implemented to avoid or lessen boundary concentrations of NO₂: (Board of Supervisors)

- **Normal landfill operations and cell construction/closure activities shall be preplanned to avoid potentially adverse alignments (both horizontally and vertically) during anticipated periods of meteorological conditions which could result in the greatest property boundary concentration.**
- **During periods when both disposal and construction activities are occurring, downwind property line monitoring of NO₂ shall be implemented for wind and stability conditions which could result in the highest boundary concentrations.**

During construction and construction/operation activities, the following postmonitoring measures shall be implemented to avoid or lessen boundary concentrations of NO₂: (Board of Supervisors)

- **If monitoring determines that the 1-hour NO₂ standard (i.e., 470 μg/m³) is being approached (i.e., within 95 percent of the standard or approximately 450**

u.g/m³), construction or cell closure activities shall be curtailed until the appropriate tiered mitigation measures can be implemented, or until adverse meteorological conditions no longer exist.

- The waste placement and/or clay preparation areas shall be moved to a preplanned alternative working location to separate emissions from clay placement construction emissions.
- Construction procedures shall be configured such that operations requiring heavy equipment do not occur simultaneously (e.g., clay placement and protective soil placement by scrapers will not be done during periods with adverse meteorological conditions).
- Construction scheduling will be slowed to reduce daily equipment usage.
- Hours of construction with designated pieces of equipment (e.g., scrapers) shall be constrained to occur outside of peak adverse meteorological conditions.

Status:

During construction activities, the landfill operator implements a "CEQA Mitigation Monitoring Workplan for NO₂," which was prepared by SCS Engineers to incorporate these measures and submitted to the South Coast Air Quality Management District on January 27, 2003.

AQ-12

Within three years of start date, USA Waste or its successor-in-interest shall submit to the County of Riverside an evaluation of the technological and economical feasibility of using natural gas fuel or other alternative fuel in transfer trucks. The technological feasibility of the evaluation shall include review comments by the South Coast Air Quality Management District. The evaluation shall be subject to County approval. If the County finds that natural gas fuel or other alternative fuel in transfer trucks is technologically and economically feasible, USA Waste or its successor-in-interest shall develop and implement a program to phase-in transfer trucks capable of using these fuels. The program shall be subject to County approval. If the County concludes that transfer trucks capable of using alternative fuels are not technologically and economically feasible, USA Waste or its successor-in-interest shall periodically reevaluate the feasibility of using alternative fuels in transfer trucks. Such reevaluations shall be at least every three (3) years. USA Waste or its successor-in-interest shall, however, conduct such a reevaluation anytime deemed appropriate by County. (Board of Supervisors)

Status:

The evaluation report was submitted with the 2004 Annual Report. The report indicated that alternatively fueled engines with sufficient power ratings for a transfer truck application were not available. As of the end of 2007, this has not changed. If higher engine horsepower

applications are developed that would lend themselves to a transfer truck application, USA Waste will re-evaluate the feasibility of implementing this requirement.

AQ-13

The project shall provide the required emission reductions of NO_x and ROG sufficient to cause no net increase of project emissions. (Board of Supervisors).

Status:

Based on the attached "Annual 2008 Mitigation Monitoring Program Status Report, Air Quality Mitigation Measure AQ-13, El Sobrante Landfill, Corona, California," prepared by SCS Engineers and dated September 13, 2007, which provides both a summary of the project's emission inventory for both stationary and mobile sources and a summary of the emission increases or reductions from the various project emission sources from the baseline year to the 2008 projected emissions, the project will have an emission reduction of 462.0 lbs./day for NO_x and 7.6 lbs./day for ROG. No emission offsets are required for 2008, and the project is in compliance with this mitigation measure.

AQ-14

USA Waste shall amend its Policies and Procedures Manual at the landfill to require that heavy construction and operating equipment at the landfill shall not idle for longer than 15 minutes. (Board of Supervisors).

Status:

El Sobrante is in compliance with this mitigation measure. Employees are routinely trained on this condition.

GEOLOGY, SOILS AND SEISMICITY

Mitigation Measures:

G-1

The landfill and associated structures shall be designed and constructed to withstand the expected ground motions and potential effects of seismic ground shaking.

Status:

El Sobrante is in compliance with this mitigation measure. All cell designs are submitted to the RWQCB for review and permitting. All building plans are submitted to Riverside County for review and permitting.

G-2

Final exterior waste fill slopes shall not be steeper than 1.75:1 with a minimum of one 15-foot wide bench for every 50-feet of vertical height.

Status:

El Sobrante is in compliance with this mitigation measure. All final exterior slopes are a more conservative 2.5:1 with benches every 50 vertical feet. Interim slopes are constructed at 3:1 per RWQCB guidelines.

G-3

A slope or foundation stability report shall be prepared by a registered civil engineer or certified engineering geologist. The report must indicate at least a 1.5 factor of safety for the critical slope under dynamic conditions, or appropriate factor of safety in accordance with applicable regulations.

Status:

El Sobrante is in compliance with this mitigation measure. All analysis was included in the Joint Technical Document and reviewed by the RWQCB. In addition, each new landfill cell design is submitted to the RWQCB for review and permitting, which includes a stability analysis.

G-4

In lieu of achieving a 1.5 factor of safety under dynamic conditions, a more rigorous analytical method that provides a quantified estimate of the magnitude of movement may be employed.

Status:

El Sobrante is in compliance with this mitigation measure. All stability critical structures within the footprint of the landfill are designed to the 1.5 factor of safety.

G-5

Significant slopes (including cut, fill, and waste prism slopes greater than 20 feet high and steeper than 3:1) shall be designed to comply with RWQCB and CIWMB requirements for the identified maximum probable earthquake peak acceleration.

Status:

El Sobrante is in compliance with this mitigation measure. All cut, fill, and waste slopes are designed by an engineering firm to comply with regulatory requirements.

G-6

RWQCB and CIWMB requirements shall be complied with, and the final cover surface slopes shall be limited to 3:1, based on seismic considerations, with intermediate fill stage heights limited to 70 feet, with 15-foot wide benches to improve stability, unless subsequent analyses verify the acceptability of steeper slopes or greater fill heights. Under no circumstance, however, shall the final exterior waste fill slope be steeper than 1.75:1 (see G-2 above).

Status:

El Sobrante is in compliance with this mitigation measure.

G-7

Slope buttresses shall be provided, if necessary, to increase slope stability and reduce deformations.

Status:

El Sobrante is in compliance with this mitigation measure. During 2007, no buttress fills were required or constructed.

G-8

Parameters developed by geosynthetic and geotechnical testing shall be included in the analysis of liner systems on side slopes. Residual strength values (i.e., after shearing) shall be used, unless control of peak strengths can be demonstrated.

Status:

El Sobrante is in compliance with this mitigation measure. Compliance is documented in the Construction Quality Assurance As-Built Reports for each specific landfill phase that is constructed.

G-9

A postearthquake inspection plan shall be submitted to the RWQCB and CIWMB, for approval which provides for detailed site inspection after an earthquake of magnitude (M) 5.0 or greater within 25 miles of the site to determine the integrity of landfill structures and systems. The plan shall identify appropriate measures which may be initiated to correct earthquake-related damage. Also, a routine inspection plan shall be developed and implemented by a registered certified engineer to examine slope conditions. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. A plan has been designed and implemented to include integrity inspections of structures, slopes and the landfill's integrated systems. El Sobrante staff currently inspects its slopes and structures for maintenance issues including signs settlement and fissures on a weekly basis. This plan will be submitted to the RWQCB and CIWMB in 2008.

G-10

If geotechnical investigations reveal the need for blasting for a specific landfill phase, a blasting study shall be conducted in compliance with County requirements. If such a study is necessary, it shall be conducted by a licensed engineer and submitted to the County Engineering Geologist for approval. (Final EIR)

Status:

El Sobrante will comply with this mitigation measure if geotechnical investigations reveal the need for blasting. No blasting was required in 2007.

G-11

If isolated saturated bedrock conditions are encountered in cut slopes, appropriate drainage systems shall be installed. These systems could consist of weep systems, subdrain systems, or the flattening of excavated cut slopes to improve slope stability. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. Subdrain systems were installed in Phase 8 when these conditions were encountered. During the construction of cell 9A, this subdrain was extended.

G-12

Landfill liners shall be placed over the side slopes, and surface water runoff control systems (e.g., V-ditches at the top of slopes) shall be constructed to prevent uncontrolled flow down the face of the slopes. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. El Sobrante has constructed and continuously maintains a surface drainage network system to prevent erosion over the slopes of the landfill, which consists of v-ditches, check dams, sand bags, and silt fences.

G-13

Structural fills shall be built above ground water and compacted in place to a specific high relative density. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. No structural fills were placed in ground water during 2007. A canyon subdrain system was installed beneath the fill in Phase 8 in 2004.

G-14

Expansive index testing shall be performed to verify the suitability of native soils for fill materials. If testing indicates a potential for high expansiveness in the soil, such soils shall be either treated (e.g., mixed with nonexpansive soils) or removed. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. All fill materials have been tested prior to fill placement and documented in a Construction Quality Assurance As-Built Report submitted to the regulatory agencies.

G-15

Blasting shall be conducted in compliance with local building code requirements to prevent damage to structures and new construction from shear waves generated during blasting. (Final EIR)

Status:

El Sobrante Landfill is in compliance with this mitigation measure. No blasting occurred during 2007.

G-16

Only state-licensed blasters shall be used to design, supervise, and detonate explosives on the site. (Final EIR)

Status:

El Sobrante Landfill is in compliance with this mitigation measure. No blasting occurred during 2007.

G-17

Seismic monitoring of each blast shall be conducted by an independent, qualified consultant. (Final EIR)

Status:

No blasting occurred during 2007.

G-18

There shall be no onsite storage of explosives. Explosives shall be transported to the site by the licensed blaster on an as-needed basis. (Final EIR)

Status:

Explosives are not stored onsite.

G-19

USA Waste shall inform the Riverside County Sheriffs Department (Sheriffs Dept.) and the Riverside County Fire Department (Fire Dept.) prior to blasting. (Final EIR)

Status:

No blasting occurred in 2007.

G-20

USA Waste shall notify neighbors within 1,000 feet of potential blasting areas prior to a blasting episode. (Final EIR)

Status:

No blasting occurred in 2007.

G-21

A record of each blast shall be retained for at least three years and shall be submitted to the County Building and Safety Department as requested by the Building and Safety Director. (Final EIR)

Status:

All records of blasting are retained at the landfill Administration Office. The blasting record becomes part of the Operating Record for the landfill.

G-22

Preblast inspections shall be made by a civil engineer licensed by the State of California of residences and facilities existing at the time of landfill permit approval and located within 1,000 feet of potential blasting areas. (Final EIR)

Status:

No blasting occurred in 2007.

G-23

A letter containing a general description of the blasting operations and precautions, including the blast-warning whistle signals that are required by the State of California Construction Safety orders, shall be sent to residents within a one-half mile radius of the landfill operations by USA Waste in accordance with applicable regulations. (Final EIR)

Status:

No blasting occurred in 2007.

G-24

Blasting complaints, if any, shall be recorded by USA Waste as to complainant, address, data, time, nature of the complaint, name of the person receiving the complaint, and the complaint investigation conducted. Complaint records shall be made available to the County Engineering Geologist, Planning Department, and Building and Safety Department. (Final EIR)

Status:

El Sobrante Landfill is in compliance with this mitigation measure.

LAND USE AND LAND USE PLANS

Mitigation Measures:

L-1

The development of El Sobrante Landfill Expansion shall be in accordance with the mandatory requirements of all applicable County ordinances and shall conform substantially with the project description in the EIR (State Clearinghouse No. 90020076), as filed in the office of the RCWMD. (Board of Supervisors)

Status:

El Sobrante is in compliance with this mitigation measure.

L-2

Prior to any offsite grading, USA Waste or its successor-in-interest shall obtain and record appropriate offsite easements. (Board of Supervisors)

Status:

El Sobrante is in compliance with this mitigation measure.

L-3

A Citizen Oversight Committee shall be formed by the Board of Supervisors upon approval of the project. The Citizen Oversight Committee shall be composed of a total of five (5) members, whose term of service will be established upon formation of the committee. Three (3) of the five (5) members will be appointed by the Supervisor of the district in which the landfill is located. Of these three (3), two (2) members must reside within a three (3) mile radius of the landfill property. One (1) member shall be a representative from a corporate operation within a three (3) mile radius of the landfill property. The remaining two (2) members will be appointed by the entire Board of Supervisors and shall be chosen at large to represent the affected communities of interest. (Board of Supervisors)

Status:

This mitigation measure has been met.

L-4

The Citizen Oversight Committee shall meet at least once annually to review the Annual Status Reports that will be submitted by an Administrative Review Committee which will include all reports and data that will be provided by USA Waste or its successor-in-interest and shall submit written comments on the project to the Board of Supervisors as they deem necessary. (Board of Supervisors)

Status:

This mitigation measure has been met.

NOISE

Mitigation Measures:

N-1

Excavation and liner construction of new landfill cells shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. (Planning Commission)

Status:

El Sobrante is in compliance with this mitigation measure.

N-2

Landfill equipment working on the outside slopes of the landfill shall be limited to the hours of 8:00 a.m. to 5:00 p.m. (Planning Commission)

Status:

El Sobrante is in compliance with this mitigation measure.

N-3

Construction equipment shall use industrial-grade mufflers to reduce noise emission.

Status:

El Sobrante is in compliance with this mitigation measure.

N-4

Blasting shall be postponed during temperature inversions and unfavorable wind conditions (wind blowing toward residences). (Final EIR)

Status:

No blasting occurred in 2007.

N-5

Drilling and blasting shall be conducted between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, and will not occur on federal, state, and local holidays. (Planning Commission)

Status:

No blasting occurred in 2007.

N-6

Acoustic blankets shall be used around drilling operations to reduce potential drilling noise. (Final EIR)

Status:

No drilling for blasting occurred in 2007.

N-7

Wherever feasible, temporary earthen or landscape berms, or other structures or measures, shall be utilized to reduce potential noise impacts on surrounding homeowners from nighttime activities at the working face of El Sobrante. Any measures implemented for this purpose shall be subject to annual review by the Citizen Oversight Committee. (Board of Supervisors)

Status:

The current landfill development and filling is not close to any residential property owners, and the facility has not received any noise complaints.

PALEONTOLOGICAL RESOURCES

Mitigation Measures:

P-1

A qualified paleontologist shall be retained, at the expense of the project, to monitor ongoing grading or other extensive activities in the Silverado Canyon and Lake Mathews formations. The monitoring program shall reflect the County's intent to research, recover, and preserve significant paleontological resources.

Status:

El Sobrante is in compliance with this mitigation measure.

P-2

In the event that significant paleontological resources are uncovered during excavation, earthmoving and/or grading, work shall be redirected from the area until an appropriate data recovery program can be developed and implemented.

Status:

This mitigation measure has not yet been triggered.

P-3

Recovered fossils shall be cleaned, cataloged, and identified to the lowest taxon possible. A report containing monitoring results, including an itemized list of fossils, shall be submitted to the County. A copy shall accompany the fossils to an appropriate repository.

Status:

This mitigation measure has not yet been triggered.

P-4

Collected fossils shall be curated at a public institution with an educational/research interest in the material. The expenses shall be borne by the project.

Status:

This mitigation measure has not yet been triggered.

P-5

The approved paleontologic mitigation measures shall be affixed to all copies of the project grading plans.

Status:

El Sobrante is in compliance with this mitigation measure.

TRAFFIC AND CIRCULATION

Mitigation Measures:

T-1

USA Waste or its successor-in-interest shall comply with the roadway improvement conditions set forth in the County Transportation Department's letter of March 27, 1998. (Board of Supervisors)

USA Waste shall consult with Caltrans regarding the length of the left turn lane to be added to the southbound off-ramp from the 1-15 to Temescal Canyon Road. The length of the left turn lane shall be sufficient to assure that vehicles in the left turn lane do not interfere with vehicles in the right lane of the off-ramp. (Board of Supervisors)

Status:

In August of 2003, all off-site traffic improvements outlined in the County Transportation Department letter were completed.

T-2

Out-of-County waste from Los Angeles County, Orange County, and San Diego County shall be transported to El Sobrante by transfer trucks rather than by packer trucks. (Board of Supervisors)

Status:

No out-of-County waste is delivered in packer trucks. El Sobrante is in compliance with this mitigation measure.

T-3

Out-of-County waste from San Bernardino County may be transported to El Sobrante by packer trucks until July 1, 2000, at which time the waste from San Bernardino County shall be transported by transfer trucks. (Board of Supervisors)

Status:

Out-of-County waste from San Bernardino County is not transported to the landfill in packer trucks. El Sobrante is in compliance with this mitigation measure.

T-4

Transportation of out-of-County waste from areas other than Los Angeles County, Orange County, San Bernardino County, and San Diego County shall not be permitted without additional environmental review and approval. (Board of Supervisors)

Status:

El Sobrante is not accepting waste from counties other than those identified. El Sobrante is in compliance with this mitigation measure.

T-5

Transfer trucks hauling waste from out-of-County to El Sobrante that use State Route (SR) 91 shall travel to and from the landfill during off-peak hours for SR 91.

Status:

During 2007 El Sobrante was in substantial compliance with this mitigation measure.

The traffic study for the EIR was conducted in 1994. At that time, the peak hours were identified as 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM. As significant growth has come to Riverside County, traffic patterns have shifted, and the peak periods may encompass longer periods of time than what was originally studied.

To help address the issue of traffic caused by extensive residential growth, El Sobrante has proposed to revise its Solid Waste Facility Permit to extend the hours the gates remain open to accept waste deliveries from 20 hours a day to 24 hours a day. If obtained, El Sobrante will be able to direct the movement of more waste at night and significantly reduce transfer truck traffic on the SR 91 freeway and I-15 during the longer morning and evening traffic commuting periods. The ability and commitment to move more waste deliveries to nighttime hours is outlined in the Second Amendment to the Second Agreement for El Sobrante Landfill.

Currently, only one customer is known to use the SR 91 freeway as the primary route for accessing El Sobrante. This customer is the Carson Transfer Station, which is a Waste Management facility located in Carson, CA. This facility is aware of the hour restrictions at El Sobrante and schedules deliveries during the off-peak hours. For example, Carson delivers volume in the evening hours up to midnight Monday through Friday.

At this time, a report that verifies compliance by the landfill's customers is not available. Reports available to El Sobrante through the County's solid waste reporting system are limited to the time that a truck enters the landfill. These reports are based on the whole hour, for example 7:00 AM to 8:00 AM. They do not break down the reporting period to the half hour so it is not possible to determine the exact vehicle count that enters the landfill between 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM.

Factoring in travel time on SR 91 and the turn-around time at the landfill, we have chosen the morning hours of 6:00 AM to 8:00 AM and the evening hours of 3:00 PM to 5:00 PM to represent the periods most likely to represent the hours that a truck may have been using SR 91 traveling to the landfill or returning to the out-of-county transfer station. During a review of the available data for these periods, it appears that a theoretical maximum of 5% (an approximate average of 9 trucks per day) of the out-of-county loads delivered to El Sobrante may have been on a portion of the SR 91 freeway passing through Riverside County during the AM and PM peak hours. Taking into the account delays at the landfill and

on I-15, and the actual time that a truck entered or left the landfill, the actual number may have been less than half of that amount.

T-6

Vehicles delivering waste from out-of-County to be disposed at El Sobrante shall utilize on all trips (both inbound and outbound) only that portion of Temescal Canyon Road between its intersection with 1-15 and the landfill access road, except in the event of a closure of the on- and/or offramps at Temescal Canyon Road and 1-15.

Status:

El Sobrante requires all transfer trucks to utilize the designated route for deliveries of waste. When a driver is observed not using the designated route, the management of the trucking company is notified of the violation and a request is made to correct the behavior. The El Sobrante staff tracks violations and repeated violations by a driver will result in the driver being banned from using the El Sobrante facility.

T-7

Except for vehicles collecting waste in the immediate vicinity of El Sobrante, USA Waste's or successor's-in-interest collection vehicles delivering waste from in-County to be disposed at El Sobrante shall utilize only that portion of Temescal Canyon Road between its intersection with 1-15 and the landfill access road for all trips (both inbound and outbound), except in the event of a closure of the on-and/or off-ramps at Temescal Canyon Road and I-15. (Board of Supervisors)

Status:

El Sobrante is in significant compliance with this mitigation measure. A sign located at the intersection of Dawson Canyon Road and Temescal Canyon Road clearly indicates this restriction. When a driver is observed not using the designated route, the management of the trucking company is notified of the violation and a request is made to correct the behavior. The El Sobrante staff tracks violations, and repeated violations by a driver will result in the driver being banned from using the El Sobrante facility.

PUBLIC SERVICES AND UTILITIES

Mitigation Measures:

U-1

Access roads/streets shall be wide enough to accommodate movement and parking without hindering the flow of traffic. Roadway modifications shall be designed to provide smooth and orderly traffic flow and shall be well lighted.

Status:

El Sobrante is in compliance with this mitigation measure.

U-2

Warning or caution signs shall be placed on Temescal Canyon Road and the El Sobrante access road to indicate the presence of slow-moving traffic/trucks.

Status:

El Sobrante is in compliance with this mitigation measure.

U-3

Upon assignment of a numbered street address by the County, the project entrance shall be clearly marked with address numbers. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. The landfill entrance is well marked by many signs.

U-4

Buildings shall be constructed with fire retardant roofing material as approved by the County Fire Department. (Final EIR)

Status:

All new building applications for permanent structures will be routed through the Fire Department as required by the standard building permit process.

U-5

Water mains and fire hydrants providing required fire flows shall be constructed subject to approval by the County Fire Department.

Status:

All new water mains and fire hydrants will be routed through the Fire Department as required.

U-6

Prior to approval of any development plan for lands adjacent to open space areas, a fire protection/revegetation management plan shall be submitted to the Riverside County Fire Department for approval.

Status:

El Sobrante has developed a fire management plan and submitted it to the Fire Department for review and comment in 2003. To date no comments have been received. Construction is underway to increase the water supply at El Sobrante for potential fire mitigation with additional storage tanks, and pumps. The Fire department has been contacted and will receive a dedicated hook-up to each of our new tanks.

U-7

Landfill equipment operators, waste transfer vehicle drivers, and landfill personnel assigned to nighttime operations shall have appropriate training for night operation of heavy equipment.

Status:

El Sobrante is in compliance with this mitigation measure.

U-8

Portable lights shall be used at the working face to provide a safe working environment during nighttime operations.

Status:

El Sobrante is in compliance with this mitigation measure.

U-9

The landfill access road and onsite roads to the working face shall be equipped with reflectors, reflective cones, reflective barriers and signs.

Status:

El Sobrante is in compliance with this mitigation measure.

U-10

Public access to the landfill shall be restricted to the hours of 6:00 a.m. to 6:00 p.m.

Status:

El Sobrante is in compliance with this mitigation measure.

U-11

Installation of low flow toilets, faucets, and showers.

Status:

El Sobrante is in compliance with this mitigation measure.

U-12

Wastewater shall go to the Lee Lake Treatment Facility, which makes water available for reuse.

Status:

Leachate and condensate is re-circulated on-site as permitted by the RWQCB. Gray water from restroom facilities is routed into an onsite septic system approved by Riverside County. In 2007 El Sobrante initiated discussions with Lee Lake Water District to provide water and sewer service to the landfill in the future. These discussions were on-going at the end of 2007.

WATER RESOURCES

Mitigation Measures:

W-1

Drainage structures, such as the perimeter drainage channels, sedimentation basins, leachate evaporation ponds, stormwater retention basins, and collection pipes and ditches, shall be inspected and maintained on a regular basis.

Status:

El Sobrante is in compliance with this mitigation measure.

W-2

Regular monitoring (and possibly testing) of perimeter drainage channels and retention ponds shall be completed to assure that discharged stormwater does not contain contaminants from the landfill.

Status:

El Sobrante is in compliance with this mitigation measure.

W-3

A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared. It shall include a Spill Prevention and Response Plan and a monitoring plan. The facility shall implement "best management practices" as required by NPDES.

Status:

El Sobrante is in compliance with this mitigation measure.

W-4

Leachate shall be collected by the leachate collection and removal system (LCRS) installed at the base of each landfill cell. Such leachate shall be sampled regularly and, if necessary, treated prior to use for dust control on lined areas of the landfill. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure.

W-5

Stormwater runoff that falls on the active working face of the landfill shall be diverted to a collection sump and reused for dust control on lined areas of the landfill. The

sump for stormwater runoff from the active working face shall be designed to hold the runoff from the 100-year, 24-hour storm. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure. A berm is constructed at the toe of the active face to collect contact water that may come into contact with refuse and prevent co-mingling with stormwater. This condition rarely occurs due the predominately dry conditions at El Sobrante.

W-6

Drainage improvements shall be designed and constructed to provide all-weather access to the landfill. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure.

W-7

To reduce the quantity of water used, the following measures shall be implemented:

- **Low-flow plumbing fixtures shall be installed for onsite facilities.**
- **Washwater for cleaning equipment at the operations and maintenance center shall be collected and recycled, and reused for washing or dust control. (Final EIR)**
- **Stormwater that falls on the active working face of the landfill shall be collected and used for dust control. (Final EIR)**

Status:

El Sobrante is in compliance with this mitigation measure.

W-8

The liner system for the expansion of El Sobrante shall meet the following requirements: (Board of Supervisors)

- **The liner system (inclusive of the bottom liner and the sideslope liner) of the landfill shall exceed the requirements of Subtitle D and California Code of Regulations (CCR) Title 27 and shall be composed of the alternative bottom liner (identified as Alternative Bottom Liner B2) and the alternative sideslope liner (identified as Sideslope Liner Alternative S2), which are both described and evaluated in *Evaluation of Liner System Alternatives, El Sobrante Landfill Expansion, Riverside County, California*, prepared by GeoSyntec Consultants and dated February 1998.**

- **If it is determined that this liner system will not meet the requirements of the regulatory agencies, a substitute liner system must be approved by the regulatory agencies, and evidence of such a determination shall be forwarded to the El Sobrante Landfill Administrative Review Committee of Riverside County. In this event, the substitute liner system shall be composed of a bottom liner and a sideslope liner that are at least equal to Alternative Bottom Liner B2 and Sideslope Liner Alternative S2, respectively, and must be approved by the Administrative Review Committee.**

Status:

El Sobrante is in compliance with this mitigation measure.

W-9

Landfill gas collectors shall be placed as compacted lifts of waste are finished. Once sufficient waste has been placed above the collectors to prevent air intrusion, the collectors shall be used for active landfill gas extraction.

Status:

El Sobrante is in compliance with this mitigation measure. El Sobrante installed a series of horizontal collectors within the footprint of phase 8. These horizontal collectors are used as a compliance measure to collect any newly generated gas and prevent free venting from the working face. Due to the generally arid climate of the area and the young age of the waste, the horizontal collectors do not collect a significant quantity of landfill gas from the landfill. El Sobrante principally relies on sufficient landfill gas extraction from the vertical well field to maintain compliance.

W-10

The final cover of the landfill shall conform to Subtitle D and CCR Title 27, and shall consist of a minimum of four (4) feet of vegetative layer in accordance with the augmented cover described in the EIR (State Clearinghouse No. 90020076). Any change from the augmented cover shall require clearance from the RCWMD, the California Integrated Waste Management Board (CIWMB), Regional Water Quality Control Board (RWQCB), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). (Board of Supervisors)

Status:

El Sobrante is in compliance with this mitigation measure.

W-11

In accordance with applicable regulations, landfill gas shall be monitored at the landfill perimeter and in the vadose zone. (Final EIR)

Status:

El Sobrante is in compliance with this mitigation measure.

W-12

"Point of compliance" ground water monitoring wells, as required by CCR Title 27, shall be installed along the downgradient perimeter of the landfill footprint, pursuant to a monitoring plan approved by the RWQCB. These wells shall be sampled on a quarterly basis beginning one year prior to landfilling each respective cell, and will provide a secondary warning of a leak in the liner system.

Status:

El Sobrante is in compliance with this mitigation measure.

W-13

If leachate or landfill gas generated by the landfill expansion were determined to be a potential risk to ground water, a corrective action plan shall be developed and implemented in conjunction with the RWQCB as required by CCR Title 27.

Status:

This mitigation measure has not been triggered yet for the expansion phases. For the original landfill, a corrective action plan was implemented for apparent landfill gas impacts to ground water in 1996. This plan was developed and implemented in conjunction with the RWQCB. On June 4th 2003, the RWQCB gave El Sobrante permission to turn off the ground water remediation system as the impacts appeared to have been mitigated. Monitoring continues to this day and in the event that impacts appear to return, El Sobrante will re-institute the mitigation measures.

W-14

The Implementation Plan for habitat mitigation, shall be developed by USA Waste, and submitted for approval to the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers (COE), and the County. Plans for the realignment of water courses shall be submitted to the RWQCB. (Final EIR)

Status:

The approved HCP negotiated with the US Fish and Wildlife Service and California Department of Fish and Game addresses this measure. The landfill and restoration efforts are phased. A schedule of anticipated impacts and restoration efforts was developed along with success criteria. Any plans to alter watercourses in future phases will be submitted to the RWQCB.

W-15

Whenever a specified material, design, system or action is required by the project or any exhibit thereto, USA Waste or its successor-in-interest may substitute such material, design, system or action, provided that: (Board of Supervisors)

- **Such material, design, system or action complies with applicable Federal, State, and local regulations; and,**
- **Any Federal, State or local regulatory agency having jurisdiction has approved the use of the material, design, system or action for similar facilities (i.e., Class III landfills); and,**
- **The General Manager - Chief Engineer of the RCWMD, with concurrence of the appropriate regulatory agency(ies), has determined that such material, design, system or action is technically equal, or superior to, those required in these conditions.**

Status:

El Sobrante is in compliance with this mitigation measure.

W-16

USA Waste or its successor-in-interest shall deposit 50 cents per ton into a Third Party, Environmental Impairment Trust, which fund shall be established and maintained throughout the life of the project. Any balance in the existing fund contributed by USA Waste or its successor-in-interest under the First El Sobrante Landfill Agreement, as amended, shall continue to accrue with deposits from all waste delivered to the site on or after the start date, including interest earnings on the funds, until the fund has reached a total of \$2,000,000, at which time deposits may be discontinued until withdrawals cause the fund to fall below the \$2,000,000 cap. The cap shall increase annually by 90 percent of the change in the Consumer Price Index (CPI) starting in the year 2002. (Board of Supervisors)

Status:

Currently, The Environmental Impairment Trust balance is \$2,619,177.50 with a 2007 cap of \$2,425,963.85. El Sobrante is in compliance with this mitigation measure.

W-17

Monies may be withdrawn from the Environmental Impairment Trust only for environmental remediation purposes with approval by USA Waste or its successor-in-interest and the General Manager - Chief Engineer of the RCWMD. The Trustee shall be required to report quarterly to the Department on all fund activity and balances. (Board of Supervisors)

Status:

El Sobrante did not withdraw any funds from this Trust in 2007.



ACORD™ CERTIFICATE OF LIABILITY INSURANCE

1/1/2009

DATE (MM/DD/YYYY):
12/13/2007

PRODUCER
LOCKTON COMPANIES, LLC
 5847 SAN FELIPE, SUITE 320
 HOUSTON TX 77057
 888-260-3538

INSURED
 1300299 **WASTE MANAGEMENT HOLDINGS, INC. & ALL AFFILIATED, RELATED & SUBSIDIARY COMPANIES INCLUDING:**
EL SOBRANTE LANDFILL
 10910 DAWSON CANYON ROAD
 CORONA CA 92683

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE		NAIC #
INSURER A:	ACE American Insurance Company	22667
INSURER B:	Indemnity Insurance Co of North America	43575
INSURER C:		
INSURER D:		
INSURER E:		

THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER AND THE CERTIFICATE HOLDER.

COVERAGES **A1**

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

NR	ADDF'L LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
A		<input checked="" type="checkbox"/> GENERAL LIABILITY	HDO G23736767	1/1/2008	1/1/2009	EACH OCCURRENCE	\$5,000,000
		<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (EA OCCURRENCE)	\$5,000,000
		<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$XXXXXXXXXXXX
		<input checked="" type="checkbox"/> XCU INCLUDED				PERSONAL & ADY INJURY	\$5,000,000
		<input checked="" type="checkbox"/> ISO CG 00011204				GENERAL AGGREGATE	\$6,000,000
		GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	\$6,000,000
		<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC					
A		<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY	ISA H08240395	1/1/2008	1/1/2009	COMBINED SINGLE LIMIT (EA ACCIDENT)	\$1,000,000
		<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)	\$XXXXXXXXXXXX
		<input checked="" type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$XXXXXXXXXXXX
		<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident)	\$XXXXXXXXXXXX
		<input checked="" type="checkbox"/> HIRED AUTOS					
		<input checked="" type="checkbox"/> NON-OWNED AUTOS					
		<input checked="" type="checkbox"/> MCS-90					
		<input type="checkbox"/> GARAGE LIABILITY	NOT APPLICABLE			AUTO ONLY - EA ACCIDENT	\$XXXXXXXXXXXX
		<input type="checkbox"/> ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	\$XXXXXXXXXXXX
						AGG	\$XXXXXXXXXXXX
A		<input checked="" type="checkbox"/> EXCESS/UMBRELLA LIABILITY	XOOG23889389	1/1/2008	1/1/2009	EACH OCCURRENCE	\$15,000,000
		<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$15,000,000
		<input type="checkbox"/> DEDUCTIBLE <input checked="" type="checkbox"/> UMBRELLA FORM					\$XXXXXXXXXXXX
		RETENTION \$					\$XXXXXXXXXXXX
B		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WLR C43997646 (AOS)	1/1/2008	1/1/2009	<input checked="" type="checkbox"/> WC STATUTORY LIMITS	
A		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	WLR C43997609 (CA)	1/1/2008	1/1/2009	E.L. EACH ACCIDENT	\$3,000,000
A		If yes, describe under SPECIAL PROVISIONS below	SCF C43997567 (WI)	1/1/2008	1/1/2009	E.L. DISEASE - EA EMPLOYEE	\$3,000,000
		NO				E.L. DISEASE - POLICY LIMIT	\$3,000,000
A		OTHER EXCESS AUTO LIABILITY	XSA H08240231	1/1/2008	1/1/2009	COMBINED SINGLE LIMIT \$9,000,000 (EACH ACCIDENT)	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS
 CANCELLATION: 30 DAYS *EXCEPT 10 DAYS NOTICE FOR NON-PAYMENT. BLANKET WAIVER OF SUBROGATION IS GRANTED IN FAVOR OF CERTIFICATE HOLDER ON ALL POLICIES WHERE AND TO THE EXTENT REQUIRED BY WRITTEN CONTRACT WHERE PERMISSIBLE BY LAW. CERTIFICATE HOLDER IS NAMED AS AN ADDITIONAL INSURED (EXCEPT FOR WORKERS' COMP/EL) WHERE AND TO THE EXTENT REQUIRED BY WRITTEN CONTRACT. RE: PROPERTY LOCATED AT PETSMAST #126, 373 MCKINLEY STREET, CORONA, CA 92639. ADDITIONAL INSURED IN FAVOR OF NATIONAL WASTE ASSOC. (ON ALL POLICIES EXCEPT WORKERS' COMPENSATION/EL) WHERE AND TO THE EXTENT REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Environmental Consultants

3050 Fite Circle
Suite 106
Sacramento, California 95827

916-361-1297
FAX 916-361-1299
www.scsengineers.com

SCS ENGINEERS

September 13, 2007
File No. 01202020.05, Task 9

Ms. Linda Dejbakhsh
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765
(909) 396-2614

**SUBJECT: ANNUAL 2008 MITIGATION MONITORING PROGRAM STATUS
REPORT, AIR QUALITY MITIGATION MEASURE AQ-13, EL
SOBRANTE LANDFILL, CORONA, CALIFORNIA**

Dear Linda Dejbakhsh:

As part of the certified Environmental Impact Report (EIR) for its most recent landfill expansion, USA Waste of California, Inc. (USA Waste) is required to implement a California Environmental Quality Act (CEQA) mitigation monitoring and reporting program (MMRP) for the El Sobrante Landfill in Corona, California. Condition AQ-13 of the MMRP requires that USA Waste determine the need, if any, for emission offsets for Nitrogen Oxides (NOx) and Reactive Organic Gases (ROG) from stationary and mobile sources as defined by the EIR.

This letter was prepared by SCS Engineers (SCS) on behalf of USA Waste and constitutes the required Annual MMRP Status Report (Report) for 2008.

BACKGROUND

Condition AQ-13 of the MMRP requires that USA Waste provides emission reductions of non-attainment pollutants, NOx, ROG and their precursors, sufficient to result in no net increase of project (i.e., non-construction) emissions after correction to baseline emissions, as defined by the CEQA document.

Under Condition AQ-13 of the MMRP, USA Waste is required to determine the amount of annual emission offsets for NOx and ROG, which are needed for the upcoming year. The emission offset calculations are required to include an estimate of the baseline NOx and ROG emissions prior to the landfill expansion and a comparison to the projected 2008 NOx and ROG emissions from both stationary and mobile sources at the site. If emission increases are determined to occur, USA Waste must provide written proof of acquisition of emission reduction credits (ERCs) in sufficient quantity to ensure no net increases in NOx and ROG.

Ms. Linda Dejbakhsh
September 13, 2007
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The emission calculations are required to be summarized in this Report and submitted to the South Coast Air Quality Management District (SCAQMD) and Riverside County Waste Management Department (County) 90 days prior to the beginning of the next calendar year or by October 2, 2007.

EMISSION OFFSET CALCULATIONS

Emission offset calculations were based on the difference between the baseline 2001 NO_x and ROG emissions prior to the landfill expansion and the projected 2008 NO_x and ROG emissions for stationary sources, off-site vehicles, on-site vehicles and equipment.

As allowed by the MMRP, the landfill gas (LFG) flare emissions, LFG IC engines emissions, and surface emissions were removed from the offset calculation since the SCAQMD provides ERCs for these sources from its Priority Reserve account for sources that are exempt from offsets due to their status as essential public services, as define by SCAQMD Rule 1302.

Stationary Source Calculations

Stationary sources from the landfill include NO_x and ROG emitted through the combustion of LFG in the on-site flare, IC engines, and surface emissions of ROG from uncollected LFG. Baseline emissions from these sources were estimated by using actual flare flow rate data from 2001 and other available information. Actual source test data from 2001 were used to determine baseline ROG and NO_x emissions from 2001. Projected 2008 emissions from the flare and IC engines were estimated in the same manner; however, the 2008 flow rate was projected using an SCS calibrated version of the U.S. Environmental Protection Agency's (EPA's) LFG generation (LANDGEM) model.

The model inputs included refuse data provided by USA Waste as shown in Table 1. The selected "L₀" and "k" values for the El Sobrante site were calibrated based on precipitation data. The L₀ (2,925 ft³/ton) and k (0.027) values were based upon 12.5 inches of annual rainfall.

SCS assumed a collection efficiency for the baseline and 2008 scenarios of 85% per the EPA's *Compilation of Air Pollutant Emission Factors*, Section 2.4 (AP-42) document. As mentioned in the above reference, EPA notes that collection efficiencies for LFG systems can range between 60-85%, with a default of 75%. An 80-85% collection efficiency was assumed in the certified Final Environmental Impact Report (FEIR) El Sobrante Landfill Expansion (State Clearinghouse No. 90020076), dated April 1996.

Although USA Waste is required to complete these emission calculations, stationary source emissions from LFG-derived sources were not included in the offset calculations since the landfill is considered an essential public service as defined by SCAQMD Rule 1302. The LFG control system and uncontrolled surface emissions would be offset by ERCs banked in the Priority Reserve, as required by Rule 1309.

Table 2 (baseline 2001) and 3-A (2008) provide NO_x and ROG emission estimates for flare and

Ms. Linda Dejbakhsh
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Page 3

surface emissions. Baseline flare maximum NOx and ROG emissions are 25.9 lbs/day and 7.9 lbs/day, respectively. Baseline maximum surface emission estimates for ROG is 69.5 lbs/day. The 2008 NOx and ROG emission estimates for the flare is 13.6 and 8.2 lbs/day, respectively. Surface emission estimate for 2008 is 245.0 lbs/day of ROG. Table 3-B (2008) provides NOx and ROG emission estimates for the IC engines. The 2008 NOx and ROG emission estimates for the IC engines are 178.8 and 58.7 lbs/day, respectively.

The total increase from the baseline and 2008 LFG-derived emissions are 166.5 and 234.5 lbs/day of NOx and ROG, respectively. However, please note that the 2008 emissions estimate was calculated based on the projected flow rate generated via LANDGEM model. It is considered an over-estimate. As noted above, these emissions are not required to be offset since they essentially have been through the District account, as noted previously.

Off-Site Waste Haul Vehicle Emission Calculations

Off-site vehicle emission calculations from transfer trucks and packer trucks were also estimated as shown in Table 4. Baseline emission estimates from Updated Table G.1.1 of the *Draft South Coast Air Quality Management District (SCAQMD) - Consultation Work in Progress Air Quality Analysis Refinements El Sobrante Landfill Expansion* (TRC Environmental Solutions, Inc., TRC, February 5, 1997), which was an update to the air quality section of the Final EIR (FEIR), were used in determining the baseline and projected 2008 emissions from the landfill.

The baseline emissions, as defined by the MMRP, are based on a refuse acceptance rate of 4,000 tons per day (tpd). The 2008 emissions were based on an assumption that the landfill would operate at approximately 6,050 tpd in 2008, based on waste storage rates of 8,150 tpd Monday through Friday, 1,500 tons on Saturday, and no waste storage on Sunday. It is anticipated that the waste disposal capacity increase at the El Sobrante site will be diverted from other landfills, primarily located within the South Coast Air Basin (SCAB); therefore, the above-referenced TRC document and FEIR compared refuse vehicle emissions from facilities or areas within the SCAB that would potentially be routed to the El Sobrante Landfill after expansion.

As shown in Table 4, the use of transfer trucks in place of packer trucks would result in a net reduction of approximately 6,271 miles of daily vehicle travel in the SCAB for the scenario where El Sobrante is receiving 6,050 tpd of municipal solid waste (MSW) compared to the 4,000 tpd of waste under the baseline scenario. The net reduction in NOx and ROG is 639.5 and 15.3 lbs/day, respectively, due to change in refuse hauling practice. The reduction occurs since the transfer trucks have a 22-ton capacity, whereas packer trucks have only an 8-ton capacity. Therefore, fewer vehicle miles are required for transfer trucks than packer trucks to haul the same amount of waste.

Since the FEIR compared vehicle emissions from the worst-case 10,000 tpd scenario, rather than a 6,050 tpd scenario, SCS used ratios in developing the 2008 emissions. Baseline emissions were evaluated assuming 6,050 tpd of MSW was transferred throughout the SCAB if the expansion of El Sobrante Landfill did not occur. The El Sobrante Landfill accepted up to 4,000 tpd in 2001; therefore 2,050 tpd of waste was equally allocated among other landfills, which included the Sunshine Canyon Landfill. The number of truck trips per day was also altered from

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Updated Table G.1.1 in the TRC study to reflect the 6,050 tpd of MSW being transported. In particular, the number of trips estimated under the 10,000 tpd scenario was multiplied by a ratio of 2001 amount of MSW transferred to the maximum (10,000 tpd) amount of MSW transferred within each area.

Baseline emission factors were updated from the TRC SCAQMD Consultation document, which used the EMFAC7G model for Heavy-Duty Trucks traveling 60 miles per hour (mph) at 75 degrees Fahrenheit (F). For this study, the EMFAC2002 model was used to estimate heavy-duty trucks traveling 60 mph at 75 degrees F and a relative humidity of 60% in 2001. EMFAC2002 was used to maintain consistency with previous reports.

Estimated baseline NOx and ROG emissions are 1,077.7 and 26.6 lbs/day, respectively.

Projected 2008 off-site truck travel emission estimates were determined in a similar manner. The amount of waste being hauled from each facility or area to the El Sobrante Landfill was based on the projected incoming tonnage rate to the El Sobrante site of 6,050 tpd multiplied by a ratio of the amounts of MSW arriving from in- and out-of-county areas under the 10,000 tpd scenario to a value of 10,000 tpd. For example, the amount of 2008 MSW traveling from the Carson Transfer Station to El Sobrante equals 6,050 tpd multiplied by a ratio (4,000 tpd/10,000 tpd), which equals 2,420 tpd. Under the 10,000 tpd scenario, the FEIR projects 4,000 tpd (40% of total waste) of MSW traveling from Carson Transfer Station to the El Sobrante Landfill.

The number of truck trips for both in- and out-of county areas were estimated using the number of trips projected under the 10,000 tpd scenario and multiplying by a ratio of 2008 MSW tpd transferred to the maximum MSW tpd transferred within each area.

Approximately 44 liquefied natural gas (LNG) vehicles per day will be traveling to the El Sobrante Landfill in 2008; therefore, an LNG vehicle emissions estimate was calculated to determine the amount of reduced NOx emissions from the baseline year, which did not include any LNG vehicles. Attachment 2 provides an emission comparison of diesel and LNG engines, which shows a 49% reduction in NOx emissions. ROG emission reductions from vehicle conversions from diesel to LNG were not studied and were, therefore, not calculated in the 2008 scenario. However, USA Waste reserves the right to complete this calculation in the future.

Projected 2008 emission factors were derived from the EMFAC2002 model for heavy-duty trucks traveling 60 mph at 75 degrees F and a relative humidity of 60% in 2008. Using these factors, the NOx and ROG emissions for 2008 are estimated to be 438.2 and 11.3 lbs/day, respectively. This equates to an emission reduction of 639.5 and 15.3 lbs/day of NOx and ROG, respectively, from the off-site refuse hauling vehicles.

On-Site Mobile Equipment- Landfill Operations

On-site mobile equipment emission calculations were also estimated as shown in Table 5. Emissions and load factors from Attachment 6 of the July 22, 1997 memorandum to Robert A. Nelson from Eric Walther and Bob Mason of TRC was used in determining baseline and

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projected 2008 emissions. The on-site mobile equipment emissions provided in the memorandum was for a 10,000 tpd scenario; therefore, total usage time for 2001 and 2008 scenarios had to be extrapolated. Baseline total usage time for each piece of equipment was estimated using total usage times provided in the TRC memorandum multiplied by a ratio of baseline to expansion hours of operation and support activities. New equipment obtained to accommodate additional waste tonnages in the expansion was provided by USA Waste.

EMFAC2002 modeling was used to determine baseline and 2008 emission factors for heavy-duty trucks at 75 degrees F traveling 25 mph with a relative humidity of 60%. Baseline mobile equipment emissions for NOx and ROG are estimated to be 133.9 and 7.23 lbs/day, respectively. The 2008 mobile equipment emissions for NOx and ROG are estimated to be 312.5 and 14.97 lbs/day, respectively. This equates to an emission increase of 178.6 and 7.74 lbs/day of NOx and ROG, respectively, from the on-site mobile equipment.

On-Site Solid Waste Hauling and Employee Vehicle Emissions

On-site solid waste hauling and employee vehicle emission calculations were also estimated within the landfill as shown in Table 6. Emission information from Attachment 6 of the July 22, 1997 memorandum to Robert A. Nelson of the USA Waste from Eric Walther and Bob Mason of TRC was used in determining baseline and projected emissions from 6,050 tpd of MSW.

The amount of waste being hauled from each facility or area to the El Sobrante Landfill was based on the hauled tonnages from the 10,000 tpd scenario provided in the TRC SCAQMD Consultation document and multiplying by the ratio of 2001 or 2008 daily tonnages (4,000 or 6,050 tpd) to the maximum daily tonnage (10,000 tpd). The numbers of vehicles were estimated from the amount hauled divided by the assumed capacity of each vehicle type. For instance, transfer trucks have a 22-ton MSW capacity, whereas light-duty trucks have an approximately 1-ton MSW capacity.

Emission factors for both 2001 and 2008 estimates were from the EMFAC2002 model for heavy-duty trucks and light weight automobiles and trucks at 75 degrees F traveling 25 mph with a relative humidity of 60%. The results of the modeling are located in Attachment 1.

The number of employee vehicles (45) decreased between baseline and expansion scenarios due to site-specific data and additional employees are not expected to be necessary to handle the additional refuse.

Table 6 indicates a net emission decrease of 1.1 and 0.07 lbs/day of NOx and ROG, respectively.

RESULTS OF EMISSIONS ANALYSIS

Table 7 provides a summary of the project emission inventory, which includes both stationary and mobile sources associated with the El Sobrante Landfill expansion project. Table 8 provides a summary of the emission increases (or reductions) from the various project emission sources from the baseline year of 4,000 tpd to the project 2008 emissions at 6,050 tpd. This calculation

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includes an adjustment for the amount of ERCs that have/will be provided from the SCAQMD's Priority Reserve account due to the offset exemption for essential public services. The results show project emission reduction of 462.0 and 7.6 lbs/day for NO_x and ROG, respectively. Therefore, no emission offsets are required for 2008.

CLOSING

We believe that this Report satisfies USA Waste's requirements under AQ-13 of the MMRP under CEQA and should allow operations to continue as projected at the site. Please let us know if any fees are required under SCAQMD Rule 301 for this submittal, and USA Waste will pay them promptly.

If you have any questions regarding this submittal or desire any additional information, please contact the undersigned.

Sincerely,



John Henkelman
Staff Engineer



Patrick Sullivan, R.E.A., C.P.P.
Vice President
SCS ENGINEERS

Attachments

- Table 1. Landfill Gas Generation Projection, El Sobrante Landfill
- Table 2. Actual Emission Source Estimates for Flare (2001), El Sobrante Landfill and Recycling Center, Corona, California
- Table 3a. Projected Emission Source Estimates for Flare (2008), El Sobrante Landfill and Recycling Center, Corona, California
- Table 3b. Projected Emissions Source Estimates for IC Engines (2008, El Sobrante Landfill and Recycling Center, Corona, California
- Table 4. Emissions Comparison Within the South Coast Air Basin
- Table 5. On-site Mobile Equipment Emissions at 4,000 tons per day (2001)
On-site Mobile Equipment Emissions at 6,050 tons per day (2008)
- Table 6. Solid Waste Haul and Employee Vehicle Emissions at the Landfill with 4,000 tons per day (2001)
Solid Waste Haul and Employee Vehicle Emissions at the Landfill with 6,050

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tons per day (2008)

Table 7. Project Emission Inventory for Baseline and 6,050 tons per day

Table 8. Emission Offsets Required for Future

Attachment 1. EMFAC2002 Model Results

Attachment 2. Liquefied Natural Gas to Diesel Comparison Table

cc: Nicholas Godfrey; USA Waste (w/attachments)
Leslie Likens; Riverside County Waste Management Department (w/attachments)

TABLES

**TABLE 1. LFG GENERATION POTENTIAL
EL SOBRANTE LANDFILL - CORONA, CALIFORNIA**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	LFG Generation Potential			LFG System Coverage (%)	LFG Generation from Existing and Planned System		
			(scfm)	(mmcf/day)	(mmBtu/yr)		(scfm)	(mmcf/day)	(mmBtu/yr)
1986	79,121	79,121	0	0.00	0	100%	0	0.00	0
1987	246,361	325,482	24	0.03	6,324	100%	24	0.03	6,324
1988	274,562	600,044	97	0.14	25,845	100%	97	0.14	25,845
1989	376,768	976,812	177	0.26	47,100	100%	177	0.26	47,100
1990	348,316	1,325,128	286	0.41	75,958	100%	286	0.41	75,958
1991	297,904	1,623,032	383	0.55	101,773	100%	383	0.55	101,773
1992	270,298	1,893,330	462	0.67	122,871	100%	462	0.67	122,871
1993	455,984	2,349,314	531	0.76	141,201	100%	531	0.76	141,201
1994	499,823	2,849,137	654	0.94	173,883	100%	654	0.94	173,883
1995	413,649	3,262,786	787	1.13	209,198	100%	787	1.13	209,198
1996	456,970	3,719,756	890	1.28	236,685	100%	890	1.28	236,685
1997	617,411	4,337,167	1,004	1.45	266,902	100%	1,004	1.45	266,902
1998	520,983	4,858,150	1,162	1.67	309,138	100%	1,162	1.67	309,138
1999	900,610	5,758,760	1,288	1.85	342,541	100%	1,288	1.85	342,541
2000	931,508	6,690,268	1,524	2.20	405,395	100%	1,524	2.20	405,395
2001	1,120,379	7,810,647	1,764	2.54	469,045	100%	1,764	2.54	469,045
2002	1,868,255	9,678,902	2,053	2.96	546,094	100%	2,053	2.96	546,094
2003	2,218,630	11,897,532	2,560	3.69	680,862	100%	2,560	3.69	680,862
2004	2,396,469	14,294,001	3,159	4.55	840,044	100%	3,159	4.55	840,044
2005	2,310,173	16,604,174	3,795	5.46	1,009,199	100%	3,795	5.46	1,009,199
2006	2,170,195	18,774,369	4,388	6.32	1,166,950	100%	4,388	6.32	1,166,950
2007	2,203,140	20,977,509	5,008	7.21	1,331,798	100%	5,008	7.21	1,331,798
2008	2,203,140	23,180,649	5,737	8.26	1,525,858	100%	5,737	8.26	1,525,858
2009	2,203,140	25,383,789	6,448	9.28	1,714,749	100%	6,448	9.28	1,714,749
2010	2,203,140	27,586,929	7,139	10.28	1,898,609	100%	7,139	10.28	1,898,609
2011	2,203,140	29,790,069	7,812	11.25	2,077,570	100%	7,812	11.25	2,077,570
2012	2,203,140	31,993,209	8,467	12.19	2,251,764	100%	8,467	12.19	2,251,764
2013	2,203,140	34,196,349	9,104	13.11	2,421,318	100%	9,104	13.11	2,421,318
2014	2,203,140	36,399,489	9,725	14.00	2,586,355	100%	9,725	14.00	2,586,355
2015	2,203,140	38,602,629	10,329	14.87	2,746,996	100%	10,329	14.87	2,746,996
2016	2,203,140	40,805,769	10,917	15.72	2,903,357	100%	10,917	15.72	2,903,357
2017	2,203,140	43,008,909	11,489	16.54	3,055,553	100%	11,489	16.54	3,055,553
2018	2,203,140	45,212,049	12,046	17.35	3,203,695	100%	12,046	17.35	3,203,695
2019	2,203,140	47,415,189	12,588	18.13	3,347,891	100%	12,588	18.13	3,347,891
2020	2,203,140	49,618,329	13,116	18.89	3,488,245	100%	13,116	18.89	3,488,245
2021	2,203,140	51,821,469	13,630	19.63	3,624,861	100%	13,630	19.63	3,624,861
2022	2,203,140	54,024,609	14,130	20.35	3,757,837	100%	14,130	20.35	3,757,837
2023	2,203,140	56,227,749	14,616	21.05	3,887,271	100%	14,616	21.05	3,887,271
2024	2,203,140	58,430,889	15,090	21.73	4,013,257	100%	15,090	21.73	4,013,257
2025	2,203,140	60,634,029	15,551	22.39	4,135,886	100%	15,551	22.39	4,135,886
2026	2,203,140	62,837,169	16,000	23.04	4,255,250	100%	16,000	23.04	4,255,250
2027	2,203,140	65,040,309	16,437	23.67	4,371,433	100%	16,437	23.67	4,371,433
2028	2,203,140	67,243,449	16,862	24.28	4,484,521	100%	16,862	24.28	4,484,521
2029	2,203,140	69,446,589	17,276	24.88	4,594,597	100%	17,276	24.88	4,594,597
2030	2,203,140	71,649,729	17,679	25.46	4,701,741	100%	17,679	25.46	4,701,741
2031	2,203,140	73,852,869	18,071	26.02	4,806,030	100%	18,071	26.02	4,806,030
2032	2,203,140	76,056,009	18,453	26.57	4,907,542	100%	18,453	26.57	4,907,542
2033	2,203,140	78,259,149	18,824	27.11	5,006,349	100%	18,824	27.11	5,006,349
2034	2,203,140	80,462,289	19,186	27.63	5,102,524	100%	19,186	27.63	5,102,524
2035	10,228,282	90,690,571	19,538	28.13	5,196,137	100%	19,538	28.13	5,196,137
2036	0	90,690,571	22,091	31.81	5,875,190	100%	22,091	31.81	5,875,190

Methane Content of LFG Adjusted to: 50%
 Selected Decay Rate Constant (k): 0.0270
 Selected Ultimate Methane Recovery Rate (Lo): 2,925 cu ft/ton

TABLE 2
ACTUAL EMISSION SOURCE ESTIMATES FOR FLARE (2001)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA

CAS	COMPOUNDS	Molecular Weight	Average Concentration of Compounds Found In LFG ¹	Maximum Concentration of Compounds Found In LFG ¹	Average Uncontrolled LFG Flow Rate-Surface Emissions ²	Maximum Uncontrolled LFG Flow Rate-Surface Emissions ²	Average LFG Flow Rate to Flare ³	Maximum LFG Flow Rate to Flare ³	Comp. Spec. Average Flare Destruction Efficiency ⁴	Average Emissions from Flare	Maximum Emissions from Flare
71-55-6	Benzene Air Pollutant (BAP) ¹	78.11	0.310	0.368	1.87E-03	2.22E-03	4.27E-02	5.07E-02	98.0%	8.46E-04	1.00E-03
79-34-5	1,1,1-Trichloroethane (methyl chloroform) ²	161.85	0.070	0.070	5.30E-04	5.30E-04	1.20E-02	1.20E-02	98.0%	2.40E-04	2.40E-04
107-06-2	1,1-Dichloroethane (ethylene dichloride) ²	98.95	6.910	6.910	2.69E-02	3.09E-02	6.04E-01	7.06E-01	98.0%	1.21E-02	1.40E-02
75-35-4	1,1-Dichloroethane (vinylidene chloride) ²	96.94	0.212	0.253	9.25E-04	1.11E-03	2.10E-02	2.51E-02	98.0%	4.20E-04	5.02E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride) ²	98.96	0.563	1.000	2.52E-03	4.47E-03	5.72E-02	1.01E-01	98.0%	1.14E-03	2.03E-03
78-87-5	1,2-Dichloropropane (propylene dichloride) ²	112.99	0.023	0.023	1.17E-04	1.17E-04	2.66E-02	2.66E-02	98.0%	5.32E-05	5.32E-05
67-63-8	2-Propanol (isopropyl alcohol) ²	60.11	7.908	7.908	2.15E-02	8.62E-02	4.86E-01	4.86E-01	98.0%	9.73E-03	9.73E-03
107-13-1	Acrylonitrile ²	53.06	0.026	0.026	8.62E-05	8.62E-05	1.95E-03	1.95E-03	98.0%	3.91E-05	3.91E-05
71-43-2	Benzene ²	78.11	1.788	2.715	6.30E-03	7.46E-03	1.43E-01	1.69E-01	98.0%	2.86E-03	3.18E-03
75-25-2	Bromochloroethane ²	163.83	0.311	0.311	2.30E-03	2.30E-03	5.21E-02	5.21E-02	98.0%	1.04E-03	1.04E-03
75-15-0	Carbon disulfide ²	76.13	0.435	0.590	1.49E-03	2.03E-03	3.39E-02	4.60E-02	98.0%	6.78E-04	9.19E-04
56-23-5	Carbon tetrachloride ²	153.84	0.017	0.018	1.25E-04	1.25E-04	2.60E-03	2.83E-03	98.0%	5.19E-05	5.67E-05
463-58-1	Carbonyl sulfide ²	60.07	0.155	0.170	4.20E-04	4.61E-04	9.53E-03	1.04E-02	98.0%	1.91E-04	2.09E-04
108-90-7	Chlorobenzene ²	112.56	0.079	0.128	4.01E-04	6.50E-04	9.10E-03	1.47E-02	98.0%	1.82E-04	2.95E-04
75-00-3	Chloroethane (ethyl chloride) ²	64.52	0.239	0.239	6.96E-04	6.96E-04	1.58E-02	1.58E-02	98.0%	3.16E-04	3.16E-04
67-66-3	Chloroform ²	119.39	0.012	0.012	6.47E-05	6.47E-05	1.47E-03	1.47E-03	98.0%	2.93E-05	2.93E-05
75-45-6	Chlorodifluoromethane ²	86.47	0.355	0.355	1.39E-03	1.39E-03	3.14E-02	3.14E-02	98.0%	6.29E-04	6.29E-04
74-87-3	Chloroethane (methyl chloride) ²	50.49	0.249	0.249	5.67E-04	5.67E-04	1.29E-02	1.29E-02	98.0%	2.57E-04	2.57E-04
106-86-7	Dichloroethane (1,4-Dichloroethane) ²	147.00	0.989	1.090	6.56E-03	7.21E-03	1.49E-01	1.64E-01	98.0%	3.28E-03	3.28E-03
75-43-4	Dichlorodifluoromethane ²	120.91	0.395	0.395	1.85E-02	1.85E-02	4.20E-01	4.20E-01	98.0%	8.40E-03	8.40E-03
75-71-8	Dichloromethane (Methylene Chloride) ²	102.92	0.355	0.355	1.65E-03	1.65E-03	3.74E-02	3.74E-02	98.0%	7.48E-04	7.48E-04
75-09-2	Ethylene ²	84.94	34.323	36.050	1.32E-01	1.32E-01	2.98E-00	3.13E+00	98.0%	5.97E-02	6.27E-02
64-17-5	Ethylene ²	46.08	27.200	27.200	5.66E-02	5.66E-02	1.28E+00	1.28E+00	98.0%	2.56E-02	2.56E-02
100-41-4	Ethylene ²	106.16	6.789	6.789	3.25E-02	3.25E-02	7.37E-01	7.37E-01	98.0%	1.47E-02	1.47E-02
106-93-4	Ethylene dichloride (1,2-Dichloroethane) ²	137.40	0.009	0.012	2.03E-03	2.03E-03	4.60E-02	4.60E-02	98.0%	3.46E-05	4.61E-05
75-69-4	Fluorochloroethane ²	86.18	2.324	2.324	9.04E-03	9.04E-03	2.05E-01	2.05E-01	98.0%	4.10E-03	4.10E-03
7647-01-0	Hydrochloric acid ²	36.50	46.930	46.930	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.0%	1.77E+00	1.77E+00
2148-87-8	Hydrogen Sulfide ²	34.08	19.950	21.100	3.07E-02	3.25E-02	6.96E-01	7.36E-01	98.0%	1.39E-02	1.47E-02
7439-97-6	Mercury (total) ²	200.61	0.0003	0.0003	2.64E-06	2.64E-06	5.99E-05	5.99E-05	0.0%	5.99E-05	6.05E-05
78-93-3	Methyl ethyl ketone ²	72.11	10.557	10.557	3.44E-02	3.44E-02	7.79E-01	7.79E-01	98.0%	1.56E-02	1.56E-02
108-10-1	Methyl isobutyl ketone ²	100.16	0.750	0.750	3.39E-03	3.39E-03	7.69E-02	7.69E-02	98.0%	1.54E-03	1.54E-03
127-78-4	Perchloroethylene (tetrachloroethylene) ²	165.83	3.940	4.160	2.59E-02	3.11E-02	6.68E-01	7.06E-01	98.0%	1.34E-02	1.41E-02
100-98-1	Toluene ²	92.13	66.625	72.650	2.52E-01	3.02E-01	5.71E+00	6.85E+00	98.0%	1.14E-01	1.37E-01
79-01-6	Trichloroethylene (trichloroethene) ²	131.38	1.938	1.938	1.09E-02	1.17E-02	2.47E-01	2.65E-01	98.0%	4.94E-03	5.31E-03
75-01-4	Vinyl chloride ²	62.50	0.156	0.156	3.55E-04	4.40E-04	8.06E-03	8.06E-03	98.0%	1.61E-04	2.00E-04
110-20-7	Xylenes ²	106.16	27.535	32.860	1.32E-01	1.58E-01	2.99E+00	3.58E+00	98.0%	5.98E-02	7.16E-02
Total BAPs:											
Criteria Air Pollutants		86.18	1.892	2.090	29.434	32.524	166.795	184.304	98.0%	3.336	3.686
Total Non-Methane Organics (NMOC) as Hexane ²											

TABLE 2
ACTUAL EMISSION SOURCE ESTIMATES FOR FLARE (2001)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA

	Maximum Particulate Emissions g/ha ²	Permitted Emission Factor lb/ha ² /Btu	Emission Factor lb/ha ² /Btu	Average Uncontrolled LFG Flow Rate-Surface Emissions		Maximum Uncontrolled LFG Flow Rate-Surface Emissions		Emissions from Flare	
				lb/day	lb/ha ² /Btu	lb/day	lb/ha ² /Btu	lb/day	lb/ha ² /Btu
Nitrogen Oxides (NO _x) ¹	-	0.060	0.024	-	-	-	-	1.079	25.9
Reactive Organic Gases (ROCs) ²	-	-	-	62.9	0.128	89.5	0.128	7.9	1.433

Variables:	VALUE:
MODEL INPUT VARIABLES:	
Methane Concentration	50.0%
Fuel Value ³	500 Btu/cf
Total Landfill Gas Generation Rate	1764 SCFM
Total Uncontrolled Landfill Gas Collection Rate	265 SCFM
Total Landfill Gas Collection Rate (to flare) ⁴	1,499 SCFM
	Assuming an 85% collection efficiency

- Notes:
- 1 List of hazardous air pollutants was from Title III, Clean Air Act Amendments, 1990, and includes compounds found in landfill gas, as determined from a list in AP-42 Tables 2.4-1 ("Uncontrolled Landfill Gas Concentrations") and 2.4-2.
 - 2 Actual data from the 2001 source test was used and marked by "*" if available. For compounds analyzed for but not detected during the testing, the Method Detection Limits were used. Concentrations of HAPs were also taken from "Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses with Historic AP-42 Values." (*) if site specific data was unavailable, otherwise AP-42 Tables 2.4-1 and 2.4-2 was used (**).
 - 3 Based on a maximum flow rate into the flare of 2200 scfm at 36.2% methane, which was converted to 50% methane.
 - 4 Values taken from AP-42 Table 2.4-3 ("Control Efficiency for LFG Constituents")
 - 5 Concentration of HCl is based on AP-42 Section 2.4.4.2. (11/98)
 - 6 Concentration of Mercury based on the EPA AP-42 Section 2.4.1 (11/98).
 - 7 In accordance with the proposed permit modifications, ROCs are assumed equal to NMOCs minus Exempt Compounds.
 - 8 Existing flares permitted at 1,388 scfm each.
 - 9 Based on 2001 source test

TABLE 3-A
 PROJECTED EMISSION SOURCE ESTIMATES FOR FLARES (2008)
 EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA

CAS	COMPOUNDS	Molecular Weight	Max Concentration of Compounds Found in LFGs (ppmv)	Total Landfill Gas Generation (tons/yr)	Minimum Uncontrolled LFG Flow Rate - Surface Emissions (tons/yr)	Maximum LFG Flow Rate to Flare ³ (tons/yr)	Flare Destruction Efficiency ⁴ (%)	Maximum Emissions from Flare (tons/yr)
71-55-6	Hazardous Air Pollutants (HAPs)							
76-34-5	1,1,1-Trichloroethane (methyl chloroform)*	133.42	0.060	0.031	4.70E-03	1.71E-02	98.0%	3.43E-04
107-06-2	1,1,2,2-Tetrachloroethane+	167.85	0.070	0.046	6.90E-03	2.52E-02	98.0%	6.08E-04
75-35-4	1,1-Dichloroethane (ethylene dichloride)*	98.95	0.060	0.031	4.65E-03	1.66E-02	98.0%	3.39E-04
107-06-2	1,1-Dichloroethane (vinylidene dichloride)*	98.94	0.080	0.050	4.66E-03	1.66E-02	98.0%	3.32E-04
78-87-5	1,2-Dichloroethane (ethylene dichloride)*	98.96	0.221	0.126E-02	4.68E-02	1.66E-02	98.0%	3.36E-04
67-63-0	1,2-Dichloropropane (propylene dichloride)†	112.69	0.023	0.010	1.53E-03	5.68E-03	98.0%	1.11E-04
107-13-1	2-Propanol (isopropyl alcohol)+	60.11	7.908	1.881	2.76E-01	1.02E+00	98.0%	2.04E-02
71-43-3	Acrylonitrile+	53.06	0.036	0.007	1.12E-03	4.09E-03	98.0%	8.18E-05
75-25-2	Benzene*	78.11	2.990	0.815	1.37E-01	5.00E-01	98.0%	1.00E-02
76-15-0	Bromodichloromethane+	163.83	0.311	0.200	2.66E-02	1.09E-01	98.0%	2.18E-03
56-23-3	Carbon disulfide*	76.13	0.200	0.060	6.64E-03	3.26E-02	98.0%	6.52E-04
463-58-1	Carbon tetrachloride*	153.84	0.060	0.036	5.42E-03	1.96E-02	98.0%	3.65E-04
108-90-7	Carbonyl sulfide*	60.07	0.200	0.047	7.06E-03	2.57E-02	98.0%	5.14E-04
75-00-3	Chlorobenzene*	112.56	0.100	0.060	6.61E-03	2.41E-02	98.0%	4.82E-04
67-68-3	Chloroethane (ethyl chloride)†	64.52	0.239	0.080	9.09E-03	3.30E-02	98.0%	6.60E-04
75-45-8	Chlorofluoromethane+	119.39	0.020	0.009	1.40E-03	5.11E-03	98.0%	1.02E-04
74-87-3	Chloromethane (methyl chloride)†	68.47	0.355	0.120	1.80E-02	6.57E-02	98.0%	1.31E-03
108-98-7	Dichlorobenzene (1,4-Dichlorobenzene)*	147.00	0.249	0.049	7.36E-03	2.69E-02	98.0%	5.30E-04
75-43-4	Dichlorodifluoromethane+	120.91	3.395	1.607	3.31E-02	1.21E-01	98.0%	2.41E-03
75-71-8	Dichlorofluoromethane+	102.92	0.355	0.143	2.16E-02	7.82E-02	98.0%	1.76E-03
64-17-5	Dichloromethane (Methylene Chloride)*	84.94	0.080	0.027	3.69E-03	1.48E-02	98.0%	2.91E-04
100-41-4	Ethylbenzene+	106.16	6.799	2.822	4.23E-01	1.54E+00	98.0%	3.09E-02
108-93-4	Ethylene dibromide (1,2-Dibromoethane)*	187.89	0.030	0.022	3.31E-03	1.21E-02	98.0%	2.41E-04
75-68-4	Fluorochloromethane+	137.40	0.137	0.175	2.64E-02	9.62E-02	98.0%	1.92E-03
7847-01-9	Hexane+	86.16	2.314	0.764	1.16E-01	4.29E-01	98.0%	8.66E-03
2148-87-8	Hydrochloric acid	36.50	46.930	0.000	0.00E+00	0.00E+00	0.0%	3.70E+00
7499-87-6	Hydrogen Sulfide*	34.08	4.49	0.666	3.69E-02	3.84E-01	98.0%	7.26E-03
78-63-3	MercURY (total)	200.61	0.0003	0.0002	3.44E-05	1.25E-04	0.0%	1.25E-04
108-10-1	Methyl ethyl ketone+	72.11	10.557	2.951	4.47E-01	1.83E+00	98.0%	3.26E-02
127-18-4	Methyl isobutyl ketone+	100.16	0.750	0.264	4.41E-02	1.61E-01	98.0%	3.22E-03
108-88-3	Perchloroethylene (tetrachloroethylene)*	166.83	1.510	0.981	1.47E-01	5.36E-01	98.0%	1.07E-02
78-01-8	Toluene*	92.13	36.033	10.835	1.63E+00	5.92E+00	98.0%	1.18E-01
75-01-4	Trichloroethylene (trichloroethylene)*	131.38	1.730	0.950	1.34E-01	4.87E-01	98.0%	9.73E-03
1330-20-7	Vinyl chloride*	62.50	0.334	0.062	1.23E-02	4.47E-02	98.0%	8.65E-04
Total: HAPs		106.16	18.060	7.507	1.13E+00	4.10E+00	98.0%	8.21E-02
Total: HAPs			3.66E+01	2.11E+01	5.78E+00	2.11E+01		4.123
Criteria Air Pollutants								
Total Non-Methane Organics (NMOCs) as Hexane ⁷		86.16	2.265	7.64E+02	1.15E+02	417.923	98.1%	3.646

TABLE 3-A
 PROJECTED EMISSION SOURCE ESTIMATES FOR FLARES (2008)
 EL SOBRIANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA

Maximum Uncontrolled LFG Flow Rate Surface Emissions	Emission Factor	Estimated Emissions from Flare	
		lb/yr	ton/yr
245.0	0.005	0.585	2.473
-	-	0.342	1.500

MODEL INPUT VARIABLES:	POTENTIAL TO EMIT
Methane Concentration	60.0%
Fuel Value	500 Btu/cf (Default Value)
Total Landfill Gas Generation Rate	5,737 SCFM
Total Uncontrolled Landfill Gas Collection Rate	861 SCFM
Total Landfill Gas Collection Rate (to flare)	4,137 SCFM
Total Landfill Gas Collection Rate (to IC engines)	1,740 SCFM
Total Landfill Gas Collection Rate	4,877 SCFM

Assume a collection efficiency of 65%

Notes:

- List of hazardous air pollutants was from Title III Clean Air Act Amendments, 1990, and include compounds found in landfill gas, as determined from a list in AP-42 Tables 2.4-1 ("Uncontrolled Landfill Gas Concentrations") and 2.4-2.
- Actual data from the 2007 source test was used and marked by "A" if available. For compounds analyzed for but not detected during the testing, the Method Detection Limits were used. Concentrations of HAPs were also taken from "Waste Industry Air Condition Comparison of Recent Landfill Gas Analyses with Historic AP-42 Values." (*) if site specific data was unavailable, otherwise AP-42 Tables 2.4-1 and 2.4-2 was used (**).
- Based on a projected maximum flow rate into the flare of 3,137 scfm at 60% methane.
- Values taken from AP-42 Table 2.4-3 ("Control Efficiencies for LFG Constituents").
- Concentration of HCl is based on AP-42 Section 2.4.4.2. (11/98)
- Concentration of Mercury based on the EPA AP-42 Section 2.4 Table 2.4-1 (11/98).
- Based on maximum values from most recent source testing results (2007).
- ROGs are assumed equal to NMOCs minus exempt compounds.

**TABLE 3-B
PROJECTED EMISSION SOURCE ESTIMATES FOR LFG-FIRED IC ENGINES (2008)
EL SOBRIANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

CAS	COMPOUNDS	Molecular Weight	Maximum Concentration of Compound Found in LFG ³	Hourly Uncontrolled LFG Flow Rate to IC Engines ³	Daily Uncontrolled LFG Flow Rate to IC Engines ³	IC Engine Destruction Efficiency ⁴	Hourly Controlled Emissions	Daily Controlled Emissions	Annual Emissions	
										g/mol
Toxic Air Contaminants (TACs)										
71-55-8	1,1,1-Trichloroethane (methyl chloroform)*	133.42	0.060	2.17E-03	5.21E-02	98.0%	4.34E-06	1.04E-03	3.80E-01	
78-34-5	1,1,2,2-Tetrachloroethane*	167.85	0.070	3.19E-03	7.85E-02	98.0%	6.37E-06	1.53E-03	5.58E-01	
107-06-2	1,1-Dichloroethane (ethylene dichloride)*	98.96	0.060	2.19E-03	5.18E-02	98.0%	4.28E-05	1.03E-03	3.78E-01	
76-35-4	1,1-Dichloroethene (vinylidene chloride)*	96.94	0.060	2.19E-03	5.05E-02	98.0%	4.21E-05	1.01E-03	3.68E-01	
107-06-2	1,2-Dichloroethane (ethylene dichloride)*	98.96	0.221	5.93E-03	1.42E-01	98.0%	1.19E-04	2.85E-03	1.04E+00	
78-87-5	1,2-Dichloropropane (propylene dichloride)†	112.98	0.023	7.08E-04	1.69E-02	98.0%	1.41E-05	3.36E-04	1.23E-01	
67-63-0	2-Propanol (isopropyl alcohol)†	60.11	7.908	1.29E-01	3.09E+00	98.0%	2.59E-03	6.19E-02	2.26E+01	
107-13-1	Acrylonitrile†	53.06	0.036	5.19E-04	1.24E-02	98.0%	1.04E-05	2.49E-04	8.07E-02	
71-43-2	Benzene*	78.11	2.990	6.33E-02	1.52E+00	98.0%	1.27E-03	3.04E-02	1.11E+01	
76-25-2	Bromodichloromethane†	163.83	0.311	1.36E-02	3.32E-01	98.0%	2.76E-04	6.63E-03	2.42E+00	
76-15-0	Carbon disulfide*	76.13	0.200	4.13E-03	9.91E-02	98.0%	8.26E-05	1.99E-03	7.23E-01	
86-23-5	Carbon tetrachloride*	153.84	0.060	2.50E-03	6.01E-02	98.0%	5.01E-05	1.20E-03	4.36E-01	
463-86-1	Carbonyl sulfide*	80.07	0.200	3.26E-03	7.82E-02	99.0%	6.51E-05	1.59E-03	5.71E-01	
109-90-7	Chlorobenzene*	112.86	0.100	3.05E-03	7.32E-02	98.0%	6.10E-05	1.48E-03	5.35E-01	
75-00-3	Chloroethane (ethyl chloride)†	64.52	0.239	4.19E-03	1.00E-01	98.0%	8.30E-06	2.07E-03	7.30E-01	
67-66-3	Chloroform*	119.39	0.020	8.47E-04	1.59E-02	98.0%	1.29E-05	3.11E-04	1.13E-01	
75-45-8	Chlorofluoromethane*	86.47	0.355	9.32E-03	2.00E-01	98.0%	1.66E-04	4.05E-03	1.46E+00	
74-87-3	Chloromethane (methyl chloride)†	50.49	0.249	3.41E-03	8.18E-02	98.0%	6.82E-05	1.64E-03	5.97E-01	
106-46-7	Dichlorobenzene (1,4-Dichlorobenzene)*	147.00	0.365	1.53E-02	3.66E-01	98.0%	3.05E-04	7.33E-03	2.67E+00	
75-43-4	Dichlorodifluoromethane†	120.91	3.395	1.11E-01	2.67E+00	98.0%	2.23E-03	5.34E-02	1.86E+01	
75-71-8	Dichloromethane (Methylene Chloride)*	102.82	0.355	8.91E-03	2.38E-01	98.0%	1.98E-04	4.76E-03	1.74E+00	
64-17-5	Ethanol††	46.08	27.200	3.40E-01	8.16E+00	98.0%	6.80E-03	1.63E-01	5.96E+01	
100-41-4	Ethylbenzene†	106.16	6.789	1.99E-01	4.69E+00	98.0%	3.91E-03	9.36E-02	3.42E+01	
106-98-4	Ethylene dichloride (1,2-Dichloroethane)*	187.88	0.030	1.53E-03	3.67E-02	98.0%	3.06E-05	7.34E-04	2.66E-01	
75-69-4	Fluorochloromethane†	137.40	0.327	1.22E-02	2.92E-01	98.0%	2.44E-04	5.85E-03	2.13E+00	
110-64-3	Hexane†	86.18	3.124	5.43E-02	1.30E+00	98.0%	1.06E-03	2.61E-02	9.51E+00	
7647-01-0	Hydrochloric acid†	36.50	46.990	0.00E+00	0.00E+00	0.0%	4.88E-01	1.12E+01	4.11E+03	
2149-97-8	Hydrogen Sulfide*	34.08	4.99	4.61E-02	1.11E+00	98.0%	9.22E-04	2.21E-02	8.09E+00	
7439-97-8	Mercury (total)†	200.51	0.0003	1.59E-05	3.81E-04	0.0%	1.59E-05	3.81E-04	1.39E-01	
78-83-3	Methyl isobutyl ketone†	72.11	10.557	2.06E-01	4.95E+00	98.0%	4.13E-03	9.91E-02	3.62E+01	
108-10-1	Methyl isobutyl ketone†	100.16	0.750	6.79E-02	1.63E+00	98.0%	4.07E-04	9.78E-03	3.57E+00	
127-18-4	Perchloroethylene (tetrachloroethylene)*	166.83	1.910	7.50E-01	1.80E+01	98.0%	1.50E-02	3.60E-01	1.31E+02	
108-88-3	Toluene*	92.13	30.833	6.16E-02	1.48E+00	98.0%	1.23E-03	2.95E-02	1.06E+01	
78-91-6	Trichloroethylene (trichloroethene)*	131.38	1.730	5.16E-02	1.24E+00	98.0%	1.13E-04	2.72E-03	9.93E-01	
75-01-4	Vinyl chloride*	62.50	0.834	1.36E-01	3.26E+00	98.0%	1.04E-02	2.50E-01	9.11E+01	
1030-20-7	Xylenes*	106.16	18.060	5.20E-01	1.25E+01	98.0%	0.522	12.533	4574.444	
Total: TACs										
Criteria Air Pollutants										
Total Non-Methane Organics (NMOC) as Hexane†		86.16	2.124	49.630	1181.12	98.0%	0.99	23.92	8.665	

**TABLE 3-8
PROJECTED EMISSION SOURCE ESTIMATES FOR LFG-FIRED IC ENGINES (2008)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

	Emission Factor gmb/day	Emission from Single IC Engine		Emission from All (3) IC Engines	
		lb/yr	lb/day	lb/yr	lb/day
Nitrogen Oxides (NO _x) ¹	0.50	2.483	7.448	65.248	
Reactive Organic Gases (ROGs) ²	0.197	0.815	2.446	58.7	21.424

Variables:

MODEL INPUT VARIABLES:

	POTENTIAL TO EMIT
Methane Concentration	50.0% (at 600 scfm per engine)
Generator horsepower	5631 hp (1,877 hp per engine)
Fuel Value	500 Btu/lb
Total Landfill Gas Collection Rate (IC Engine) ³	1,740 SCFM (580 scfm per engine)

Notes:

- ¹ List of hazardous air pollutants was from 1150.1 Table 1
- ² Actual data from the 2007 flare source test was used and marked by "m" if available. For compounds analyzed for but not detected during the testing, the Method Detection Limits were used. Concentrations of HAPs were also taken from "Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses with Historic AP-42 Values" (+) if site specific data was unavailable, otherwise AP-42 Tables 2.4-1 and 2.4-2 were used (++)
- ³ Flow rate (at 50% methane) was calculated based on the permitted throughput of 17.4 MwBtu/hr for each engine
- ⁴ Values based on engine source test conducted on 1/22/2007
- ⁵ Concentration of HCl is based on AP-42 Section 2.4.4.2 (11/68)
- ⁶ Concentration of Mercury based on the EPA AP-42 Section 2.4 Table 2.4-1 (11/98).

**TABLE 4
EMISSIONS COMPARISON WITHIN THE SOUTH COAST AIR BASIN
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

Baseline Off-Site Truck Travel Emissions for El Sobrante Landfill including Off-Site Truck Travel Emissions from Landfills within the South Coast Air Basin

From	To	Road Miles (1 way) ¹		Waste ² (tons/day)	Number of Truck Trips Per Day ⁴		Total Daily Truck Miles	NOx Emission Factors ³ g/mi	ROG Emission Factors ³ g/mi	NOx Emissions lb/day	ROG Emissions lb/day
		Packer	Transfer		Packer	Transfer					
In-County MSW											
Corona-Norco Area	El Sobrante	13	0	1,250	169.0	0.0	2,197	24.069	0.594	--	--
Riverside Area	Agua Mansa/El Sobrante	7.7	25.7	1,250	169.0	57.0	2,766			--	--
In-County Sub-Total		--	--	2,500	--	--	4,963			263.6	6.5
Out-of-County MSW											
Carson Transfer Station	El Sobrante	0	55.9	1000	0.0	45.0	2,516	24.069	0.594	--	--
Pomona-Chino Area	El Sobrante	21.8	0	250	34	0.0	736			--	--
Upland-Ontario Area	El Sobrante	21.8	0	250	34	0.0	736			--	--
Pomona-Chino Area	Miliken	13.5	0	925	125	0.0	1,868			--	--
Upland-Ontario Area	Miliken	9.4	0	925	125	0.0	1,175			--	--
Carson-Wilmington Area	BKK	33.9	0	925	125	0.0	4,238			--	--
Carson-Wilmington Area	Sunshine	33.9	0	925	125	0.0	4,238			--	--
Out-of-County Sub-Total		--	--	5,200	--	--	15,326			814.1	20.1
Totals		--	--	7,700	906	102	20,289	1877.7	26.6		

Notes:

- Road miles to and from all areas and number of trips for trucks traveling to El Sobrante in 2001 are provided by the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.
- 1,220,000 tpy of MSW was received by El Sobrante Landfill in 2001 (4,000 tpd). 6,000 tpd of MSW was transferred to other landfills within the air basin in 2001 prior to expansion, which was divided up among the other landfills within the air basin, similar to the emissions comparison shown in the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.
- Emissions Factors were updated from the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997, using EMFAC2001 Modeling for Heavy Duty Trucks at 75 degrees F, 60 mph, and 80% relative humidity in 2001.
- In and out-of-County truck trips for each area were estimated by taking the estimated daily tonnage divided by 7.4 tons for packer trucks or 22 tons for transfer trucks.

**PROJECTED OFF-SITE TRUCK TRAVEL EMISSIONS (2008)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

From	To	Road Miles (1 way) ¹		Waste ² (tons/day)	Number of Truck Trips Per Day ⁴		Total Daily Truck Miles	NOx Emission Factors ³ g/mi	ROG Emission Factors ³ g/mi	NOx Emissions lb/day	ROG Emissions lb/day
		Packer	Transfer		Packer	Transfer					
In-County MSW											
Corona-Norco Area	El Sobrante	13	0	1,210	164	0.0	2,126	14.62	0.37	--	--
Riverside Area	Agua Mansa/El Sobrante	7.7	25.7	1,210	164	55	2,673			--	--
In-County Sub-Total		--	--	2,420	327	55	4,798			154.7	3.9
Out-of-County MSW											
Carson Transfer Station ⁴	El Sobrante	0	55.9	2,420	0	110	6,149	14.62	0.37	--	--
Pomona-Chino Area ⁴	West Valley/El Sobrante	13.5	21.8	605	82	28	1,703			--	--
Upland-Ontario Area ⁴	West Valley/El Sobrante	9.4	21.8	605	82	28	1,368			--	--
Out-of-County Sub-Total		--	--	3,630	164	165	9,220			297.2	7.5
LNG Vehicle Emissions Reduction ⁵		--	--	--	44	--	--	--	--	-13.7	--
Total		--	--	6,050	491	220	14,018	438.2	11.3		

Notes:

- Road miles are provided by the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.
- El Sobrante is projected to receive 6,050 tons per day in 2008 after the completion of expansion. The Draft SCAQMD Consultation document projects 40% of the MSW will be transferred from within the county. Projected out-of-county waste transferred in 2008 is estimated based on incoming tonnage of 6,050 to El Sobrante multiplied by the percentage of MSW estimated to be transferred to El Sobrante from in and out-of-county areas under the 10,000 tpd scenario as shown in the above Consultation document. Carson transfer station is assumed to transfer a maximum of 4,000 tpd, and Pomona-Chino and Upland-Ontario areas are projected to transfer a maximum of 1,000 tpd each when El Sobrante reaches its peak tpd.
- Emissions Factors were estimated using the EMFAC2002 Modeling for Heavy Duty Trucks (HHD, DSL) at 75 degrees F, 60 mph, and 80% relative humidity in 2008.
- In and out-of-County truck trips for each area were estimated by taking the estimated daily tonnage divided by 7.4 tons for packer trucks or 22 tons for transfer trucks.
- Approximately 16,000 vehicle trips/yr from LNG vehicles are estimated for 2008. An emission comparison of Diesel and LNG engines was performed showing a 49% reduction in NOx emissions. NOx reductions from LNG vehicles are based on 44 vehicle trips per day multiplied by the average lb/day of NOx per vehicle (0.64 lb/day) multiplied by 49%. ROG reductions data were not available.

**TABLE 5
ON-SITE MOBILE EQUIPMENT EMISSIONS AT 4,000 TONS PER DAY (2001)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

Equipment Type	Available Running Time**	Total Usage Time	Round Trip Distance	Hp	Load Factor	Emissions Factor				Emissions	Emissions Factor				Emissions
						NOx					COGs				
						g/hr	g/m ³	lb/hp-hr	lb/day		g/hr	g/m ³	lb/hp-hr	lb/day	
Water Wagon (Scraper Mounted) 613C	12	0.96	--	--	0.361	1308	--	--	0.37	40	--	--	0.01		
Water Wagon (Scraper Mounted) 613B	12	0.84	--	--	0.361	1308	--	--	0.66	40	--	--	0.02		
Compactor (peak use) 636 C ¹	3.8	1.88	--	--	0.413	2661	--	--	4.81	11	--	--	0.02		
Compactor (continuous use) 636 C ²	12	5.76	--	--	0.413	2661	--	--	13.06	11	--	--	0.08		
Compactor (continuous use) 636 C ³	12	5.76	--	--	0.413	2661	--	--	13.06	11	--	--	0.08		
Rax Compactor (Surplus) ⁴	12	0.26	--	--	0.413	2661	--	--	0.61	11	--	--	0.00		
Oil Dozer (continuous use) ⁵	12	0.34	--	--	0.538	2520	--	--	18.88	250	--	--	1.86		
D-9N Dozer (peak use) ⁵	3.8	6.42	--	--	0.538	2520	--	--	19.10	250	--	--	1.90		
D-9N Dozer (non-peak use) ⁵	16	2	--	--	0.538	2520	--	--	5.72	250	--	--	0.58		
D-9N Dozer (peak use) ⁵	3.8	1.8	--	--	0.538	2520	--	--	5.36	250	--	--	0.63		
Backhoe 690K ¹	16	4	--	--	0.465	790	--	--	3.20	72	--	--	0.30		
Roll Off Trucks (Medium/Heavy Duty Vehicles) (9) ¹	16	0.6	2.1	--	--	--	16,284	--	0.67	--	1,032	--	0.04		
Light Truck (gasoline) (10)	16	1.67	2.1	--	--	--	0.905	--	0.11	--	0.245	--	0.04		
Excavator 325L	16	2.47	--	--	0.58	6240	--	--	10.68	127	--	--	0.40		
Wheel Loader 936	16	4	--	--	0.465	1650	--	--	6.77	105	--	--	0.43		
Motor Grader 143	16	1.67	--	--	0.322	2370	--	--	2.80	180	--	--	0.21		
Columbia Tipper	16	0.6	2.1	--	--	--	15,284	--	0.57	--	1,052	--	0.04		
Tractor 1728B	16	4	--	--	0.465	590	--	--	2.42	72	--	--	0.30		
Light Plant (3)	5.10	21.97	--	5	0.74	--	--	0.018	1.48	--	--	0.002	5.16		
Scraper 627C	16	2.47	--	--	0.368	6240	--	--	13.44	127	--	--	0.27		
Total									153.9				7.23		

Notes:

* Surplus equipment assumed to run 0.26 hours per day.

** Total usage time estimated by taking the Draft South Coast Air Quality Management District Consultant, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 usage times and multiplying by the ratio of 2001 available running time to 1997 available running time at 10,000 tons per day.

** Future maintenance/support activities are 24 hours per day as discussed in the Draft South Coast Air Quality Management District Consultant, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 using EMFAC2002 Modeling for Heavy Duty Trucks at 75 degrees F, 60 mph in 2001.

¹ 1600 per hour were used rather than hours per day.

² EMFAC2002 Modeling for Heavy Duty Trucks at 75 degrees F, 25 mph in 2001.

³ A load factor of 0.413 was used for the various compactors; the load factor was provided by Caterpillar for an 636C compactor.

⁴ A load factor of 0.538 was used for the various dozers; the load factor was provided by Caterpillar for an D9N dozer.

**ON-SITE MOBILE EQUIPMENT EMISSIONS AT 6,050 TONS PER DAY (2008)
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

Equipment Type	Available Running Time**	Total Usage Time	Round Trip Distance	Hp	Load Factor	Emissions Factor				Emissions	Emissions Factor				Emissions
						NOx					COGs				
						g/hr	g/m ³	lb/hp-hr	lb/day		g/hr	g/m ³	lb/hp-hr	lb/day	
Water Wagon (Scraper Mounted) 613C	20	0.80	--	--	0.361	1308	--	--	0.62	40	--	--	0.02		
Water Wagon (Scraper Mounted) 613B	20	0.90	--	--	0.361	1308	--	--	0.94	40	--	--	0.03		
Compactor (continuous use) 636 C ¹	20	9.60	--	--	0.413	2661	--	--	23.28	11	--	--	0.10		
Compactor (continuous use) 636 C ²	20	9.60	--	--	0.413	2661	--	--	23.28	11	--	--	0.10		
Compactor (continuous use) 636 C ³	20	9.60	--	--	0.413	2661	--	--	23.28	11	--	--	0.10		
Boeing Compactor (continuous use) ⁴	20	9.60	--	--	0.413	2661	--	--	23.28	11	--	--	0.10		
Boeing Compactor (continuous use) ⁵	20	9.60	--	--	0.413	2661	--	--	23.28	11	--	--	0.10		
D-9N Dozer (peak use) ⁵	6	3.00	--	--	0.538	2520	--	--	9.97	250	--	--	0.99		
D-9N Dozer (non-peak use) ⁵	24	10.70	--	--	0.538	2520	--	--	30.82	250	--	--	3.17		
D-9N Dozer (peak use) ⁵	24	10.70	--	--	0.538	2520	--	--	30.82	250	--	--	3.17		
D-9N Dozer (peak use) ⁵	6	3.00	--	--	0.538	2520	--	--	9.97	250	--	--	0.99		
D-9N Dozer (peak use) ⁵	24	10.70	--	--	0.538	2520	--	--	30.82	250	--	--	3.17		
Motor Grader 143	24	2.60	--	--	0.322	2370	--	--	4.31	180	--	--	0.32		
John Deere Loader 644H1	24	6.00	--	--	0.465	1820	--	--	10.15	195	--	--	0.95		
Excavator 325L	24	3.70	--	--	0.587	6240	--	--	28.63	127	--	--	0.90		
Excavator 365B	24	3.70	--	--	0.587	6240	--	--	28.63	127	--	--	0.90		
Case 680C Front	24	2.80	--	--	0.300	1308	--	--	2.18	40	--	--	0.07		
Wheel Articulating Dump Truck (3) ¹	24	0.76	2.1	--	--	--	9,491	--	0.53	--	0.88	--	0.04		
Columbia Tipper (3) ¹	24	2.25	2.1	--	--	--	9,491	--	1.98	--	0.88	--	0.11		
Roll Off Trucks (Medium/Heavy Duty Vehicles) (1) ¹	24	1.75	2.1	--	--	--	9,491	--	1.23	--	0.88	--	0.09		
Light Truck (gasoline) (10) ¹	24	2.25	2.1	--	--	--	0.470	--	0.079	--	0.134	--	0.02		
Light Plant (14)	13	87.11	--	5	0.74	--	--	0.019	5.80	--	--	0.002	8.64		
Total									313.3				14.97		

Notes:

* Surplus equipment assumed to run 0.6 hours per day.

** Total usage time estimated by taking the Draft South Coast Air Quality Management District Consultant, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 usage times for 10,000 tons per day scenario. The actual total usage times for 2008 should be lower.

** Future maintenance/support activities are 24 hours per day as discussed in the Draft South Coast Air Quality Management District Consultant, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.

¹ 1600 per hour were used rather than hours per day.

² EMFAC2002 Modeling for Heavy Duty Trucks (MHD, DSL) at 75 degrees F, 25 mph in 2008.

³ A load factor of 0.413 was used for the various compactors; the load factor was provided by Caterpillar for an 636C compactor.

⁴ A load factor of 0.538 was used for the various dozers; the load factor was provided by Caterpillar for an D9N dozer.

⁵ EMFAC2002 Modeling for Heavy Duty Trucks (LDT, CAT) at 75 degrees F, 25 mph in 2008.

**TABLE 6
SOLID WASTE HAUL AND EMPLOYEE VEHICLE EMISSIONS AT THE LANDFILL WITH 4,000 TONS PER DAY
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

Equipment Type	Available Running Time**	Amount Hauled ¹	Round Trip Distances	Number of Vehicles ^{2,3}	Emissions Factor ⁴	NOx		ROGs	
						g/mi ²	lbs/day	g/mi	lbs/day
		tpd	mi						
Solid Waste Haul (Transfer Truck Engines)	12	3414	2.1	155	15.284	10.98	1.032	0.74	
Solid Waste Packer Truck Engines	12	554	2.1	75	15.284	5.29	1.032	0.36	
Light Duty Truck Engines	12	12	2.1	12	0.878	0.05	0.366	0.02	
Automobile Engines	12	20	2.1	40	0.598	0.11	0.309	0.06	
Employee Vehicles	16	-	1.0	57	0.598	0.08	0.309	0.04	
Total						16.5		1.22	

Notes:

¹ Amount hauled was estimated by taking the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 amount hauled values and multiplying by the ratio of 2001 daily tonnage (4,000 tpd) to maximum daily tonnage (10,000 tpd).

² Number of vehicles were estimated by using the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 amount hauled and number of vehicle estimates in Table C to determine the number of vehicles required for the amount hauled in 2001.

³ Employee vehicles numbers are based on Table C from the SCAQMD consultation document, which is based on a 10,000 tpd scenario. Employee vehicle numbers are assumed to remain the same before and after expansion.

⁴ EMFAC2002 modeling for heavy duty trucks and light weight gasoline automobiles and trucks at 75 degrees F, 25 mph in 2001.

** Waste disposal is 12 hours per day and maintenance/support activities are 16 hours per day as shown in the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.

**SOLID WASTE HAUL AND EMPLOYEE VEHICLE EMISSIONS AT THE LANDFILL WITH 6,050 TONS PER DAY
EL SOBRANTE LANDFILL AND RECYCLING CENTER, CORONA, CALIFORNIA**

Equipment Type	Available Running Time*	Amount Hauled ¹	Round Trip Distances	Number of Vehicles ^{2,3}	Emissions Factor ⁴	NOx		ROGs	
						g/mi	lbs/day	g/mi	lbs/day
		tpd	mi						
Solid Waste Haul (Transfer Truck Engines)	20	5164	2.1	235	9.491	10.32	0.68	0.74	
Solid Waste Packer Truck Engines	20	837	2.1	113	9.491	4.97	0.68	0.36	
Light Duty Truck Engines	20	18	2.1	18	0.414	0.03	0.163	0.01	
Automobile Engines	20	30	2.1	61	0.276	0.08	0.115	0.03	
Employee Vehicles	24	-	1.0	45	0.276	0.03	0.115	0.011	
Total						15.4		1.15	

Notes:

¹ Amount hauled was estimated by taking the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 amount hauled values and multiplying by the ratio of 2008 daily tonnage (6,050 tpd) to maximum daily tonnage (10,000 tpd).

² Number of vehicles were provided by using the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997 amount hauled and number of vehicle estimates in Table C to determine the number of vehicles required for the amount hauled in future.

³ Employee vehicles numbers are based on site-specific data. The number of employees is less than Table C from the SCAQMD Consultation document.

⁴ EMFAC2002 modeling for heavy duty trucks (HHD, DSL) and light weight gasoline automobiles (LDA, CAT) and trucks (LDT1, CAT) at 75 degrees F, 25 mph in 2008.

* Waste disposal is 20 hours per day and maintenance/support activities are 24 hours per day as shown in the Draft South Coast Air Quality Management District Consultation, Work in Progress Air Quality Analysis Refinements, El Sobrante Landfill Expansion, TRC Environmental Solutions, Inc., February 5, 1997.

**TABLE 7
PROJECT EMISSION INVENTORY FOR BASELINE AND 6,050 TPD
EL SOBRANTE LANDFILL EXPANSION, CORONA, CALIFORNIA**

Source	Maximum Emissions Rate (lbs/day)	
	NOX	ROG
Stationary (Onsite) at 6,050 tpd - Flare	13.6	8.2
Stationary (Onsite) at 6,050 tpd - IC Engines	178.8	58.7
Surface Emissions (Onsite) at 6,050 tpd	-	245.0
Mobile (Onsite) at 6,050 tpd	312.5	15.0
On-site Solid Waste Hauling and Employee Vehicles at Landfill at 6,050 tpd	15.4	1.2
Waste Transport (Off-site) at 6,050 tpd	438.2	11.3
Total Project at 6,050 tpd	958.4	339.4
Stationary (Onsite) at 4,000 tpd - Flare	25.9	7.9
Surface Emissions (Onsite) at 4,000 tpd	-	69.5
Mobile (Onsite) at 4,000 tpd	133.9	7.2
On-site Solid Waste Hauling and Employee Vehicles at Landfill at 4,000 tpd	16.5	1.2
Waste Transport (Off-site) at 4,000 tpd	1077.7	26.6
Total Project at 4,000 tpd	1254.0	112.4

TABLE 8
EMISSION OFFSETS REQUIRED FOR FUTURE
EL SOBRANTE LANDFILL EXPANSION, CORONA, CALIFORNIA

Source	Maximum Emissions Rate (lbs/day)	
	NOx	ROG
Stationary (Onsite) at 6,050 tpd - Flare	-	-
Stationary (Onsite) at 6,050 tpd - IC Engines	-	-
Surface Emissions (Onsite) at 6,050 tpd	-	-
Mobile (Onsite) at 6,050 tpd	312.5	15.0
On-site Solid Waste Hauling and Employee Vehicles at Landfill at 6,050 tpd	15.4	1.2
Waste Transport (Off-site) at 6,050 tpd	438.2	11.3
Total Project at 6,050 tpd	766.1	27.5
Stationary (Onsite) at 4,000 tpd - Flare	-	-
Surface Emissions (Onsite) at 4,000 tpd	-	-
Mobile (Onsite) at 4,000 tpd	133.9	7.2
On-site Solid Waste Hauling and Employee Vehicles at Landfill at 4,000 tpd	16.5	1.2
Waste Transport (Off-site) at 4,000 tpd	1077.7	26.6
Total Project at 4,000 tpd	1228.1	35.0
Expansion (6,050 tpd minus 4,000 tpd)	-462.0	-7.6
SCAQMD Emission Rate Significance Threshold	55.0	55.0
Required Emission Reduction	0.0	0.0

ATTACHMENT 1
EMFAC2002 MODEL RESULTS

MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT
6.365	0.217	0.11	0.271	4.185	0.12	0.315	0.167	4.104	0.208	0.394	0.285	6.286
5.455	0.131	0.059	0.178	1.603	0.045	0.17	0.072	1.571	0.076	0.213	0.133	2.434

MDV NCAT	MDV CAT	MDV DSL	MDV ALL	LHD1 NCAT	LHD1 CAT	LHD1 DSL	LHD1 ALL	LHD2 NCAT	LHD2 CAT	LHD2 DSL	LHD2 ALL	MHD NCAT
4.413	0.714	1.086	0.758	1.766	0.333	4.065	1.007	1.734	0.625	4.488	2.234	2.633
5.87	0.707	1.573	0.778	2.287	0.432	6.262	1.483	2.246	0.81	6.915	3.353	3.41

MHD CAT	MHD DSL	MHD ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	LHV NCAT	LHV CAT	LHV DSL	LHV ALL	UBUS NCAT	UBUS CAT
0.656	0.354	0.435	17.109	4.526	0.68	0.856	0	0	0	0	7.472	2.267
0.237	0.191	0.209	6.72	1.742	0.367	0.431	0	0	0	0	2.903	0.88

MHD CAT	MHD DSL	MHD ALL	MHD NCAT	MHD CAT	MHD DSL	MHD ALL	LHV NCAT	LHV CAT	LHV DSL	LHV ALL	UBUS NCAT	UBUS CAT
2.109	7.448	6.443	15.318	9.895	9.491	9.513	0	0	0	0	3.1	3.283
2.731	11.476	9.828	19.836	12.814	14.623	14.55	0	0	0	0	4.014	4.251

UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL
0.975	1.743	2.613	1.615	0	2.356	6.23	1.54	0.443	0.668	6.211	0.623	0.18
0.573	0.78	4.705	2.718	0	4.193	2.411	0.58	0.239	0.316	2.404	0.231	0.097
UBUS DSL	UBUS ALL	MCY NCAT	MCY CAT	MCY DSL	MCY ALL	SBUS NCAT	SBUS CAT	SBUS DSL	SBUS ALL	MH NCAT	MH CAT	MH DSL
17.375	10.81	0.986	0.914	0	0.967	2.611	2.618	10.232	9.276	2.604	1.395	7.252
30.847	18.46	1.283	1.12	0	1.241	3.381	3.391	15.764	14.21	3.372	1.807	11.173

MH	ALL	ALL	ALL	ALL
ALL	NCAT	CAT	DSL	ALL
0.916	5.066	0.147	0.54	0.221
0.347	4.739	0.087	0.293	0.147

MH	ALL	ALL	ALL	ALL
ALL	NCAT	CAT	DSL	ALL
1.824	2.797	0.391	8.099	0.853
2.471	3.708	0.39	12.627	1.12

ATTACHMENT 2

LIQUIFIED NATURAL GAS TO DIESEL COMPARISON TABLE

Reduced Air Pollution from LNG Refuse Trucks

Emission Comparison – Diesel and LNG Engines

Emissions in Grams Per Brake Horsepower (g/BHP-hr)

Engine Type	Oxides of Nitrogen	Particulate Matter	Carbon Dioxide
Conventional Diesel (1998 Model Year)	3.72	0.157	555.0
New Mack LNG	1.90	0.023	495.8

Annual Emissions Reductions in Pounds

Engine Type	Oxides of Nitrogen	Particulate Matter	Carbon Dioxide
Conventional Diesel (1998 Model Year)	1,261.2	53.2	188,162
New Mack LNG	644.2	8.0	168,091
Percent Reduction	49%	85%	11%

Total Annual Emission Reductions For 120-Truck Project

Oxides of Nitrogen	Particulate Matter	Carbon Dioxide
74,040 lbs (37.02 tons)	5,400 lbs (2.7 tons)	2,408,520 lbs (1,204.6 tons)

The NOx reductions that result from purchasing 120 Mack LNG trucks instead of conventional diesels is equivalent to taking 9,255 new passenger cars off the road.

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