

Ox Mountain Landfill
Order R2-2006-0040

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

**UPDATED WASTE DISCHARGE REQUIREMENTS AND
ORDER NO. R2-2006-0040**

**BROWNING-FERRIS INDUSTRIES, INC.
OX MOUNTAIN SANITARY LANDFILL
CLASS III WASTE MANAGEMENT FACILITY
HALF MOON BAY, SAN MATEO COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

DISCHARGER AND LOCATION

1. Owner, operator, and discharger named: Browning-Ferris Industries, Inc. (BFI) of California currently owns and operates the Ox Mountain Landfill Class III waste management facility (also referred to as Corindas Los Trancos Ox Mountain Landfill). BFI is hereinafter referred to as the Discharger.
2. Landfill location and description: Ox Mountain Landfill is located approximately 3 miles east of the city of Half Moon Bay, north of Highway 92 (see Figure 1). Ox Mountain Landfill consists of approximately 191 acres. The landfill was formed by placing waste in Corindas Los Trancos Canyon, largely isolating the landfilled materials from surface waters and groundwater. The landfill is surrounded by open space and agricultural areas.

PURPOSE OF ORDER UPDATE

3. Update of Waste Discharge Requirements: This order updates Waste Discharge Requirements (WDRs) for the Ox Mountain Landfill to include general provisions and tasks necessary to continue the established design criteria for the landfill containment

systems and update and revise the groundwater, surface water, subdrain, and leachate monitoring programs in order to minimize impacts to water quality.

SITE DESCRIPTION

4. Waste placement: Ox Mountain Class III Landfill originated as a 33 acre Class III landfill in the upper portion of Corinda Los Trancos Canyon. This initial portion of the landfill received approximately 7.5 million cubic yards of waste from 1976 to 1993. In 1992, the Discharger was issued WDRs for a 140 acre landfill expansion, and in 1999, WDRs were issued for additional expansion. The total acreage of the landfill is 191 acres. The current maximum total capacity of the landfill is 48.3 million cubic yards. Closure of the landfill is anticipated in 2027.
5. Waste types and classification: Waste received at the landfill consists of non-hazardous residential, commercial and industrial solid waste classified in CCR Title 27, Section 20220(a) as Class III wastes. Class III waste includes but is not limited to: all putrescible and nonputrescible solid, semi-solid, and liquid wastes including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, and soil.
6. Leachate containment and minimization: The Discharger has implemented a corrective action monitoring program. A landfill leachate containment and extraction system is designed to minimize the potential for landfill leachate to impact the quality of groundwater and surface water. Downward migration of leachate to groundwater is minimized by construction of a landfill liner and a network of drainpipes which collect leachate for removal at the southern terminus of the landfill. Landfill leachate flows down-canyon above the landfill liner and is discharged into leachate collection tanks. The landfill liner consists of low-permeable soil (hydraulic conductivity $< 1 \times 10^{-7}$ cm/sec), and high density polyethylene (HDPE) geomembrane. The leachate collection and removal system (LCRS) consists of perforated HDPE piping, a 1-foot thick drainage layer, geotextile, and a 2-foot thick operation soil layer (See Figure 2). The specific design of the liner varies according to the localized hydrogeologic conditions in order to optimize liner strength and effectiveness. Extracted leachate is collected in tanks and transferred in trucks to a POTW. Contact of leachate with groundwater is also minimized by the utilization of groundwater subdrains which are located beneath the landfill liner and by dewatering systems in spring areas located in canyon sideslopes. Generation of leachate is minimized by utilization of surface water controls, including perimeter surface runoff diversion channels, channelization of portions of Corinda Los Trancos Creek, and the construction of a final cap and interim covers over waste materials. Leachate, groundwater, and surface water is monitored and analyzed on a monthly and quarterly

basis in order to evaluate water quality and the performance of the landfill containment systems.

7. Landfill cap: An interim and final cover is necessary to contain landfill waste, provide vector controls, and minimize infiltration of surface waters and generation of landfill leachate. The interim and final cover design is detailed in the Discharger's Report of Waste Discharge. The final landfill cover consists of: 1) a foundation layer of 2 feet minimum thickness consisting of clean soil or treated soil placed above compacted waste; 2) a low permeability layer of 1 foot minimum thickness with a hydraulic conductivity of 1×10^{-6} cm/s or less; and 3) a protective/vegetative soil layer of 1 foot minimum thickness. The surface of the landfill will be graded to prevent ponding and promote runoff.

REGULATORY HISTORY

8. Previous Orders: The most recent Board Orders for the site include:
 - Order No. 99-067 - Updated Waste Discharge Requirements and Recision of Order No. 92-087 for the Ox Mountain Landfill;
 - Order No. 93-146 - NPDES permit for the discharge of treated groundwater to Corindas Los Trancos Creek; and,
 - Order No. 97-03DWQ - NPDES General Permit for Storm Water Discharges Associated with Construction Activities.

SITE GEOLOGIC AND HYDROGEOLOGIC SETTING

9. Stratigraphy: Stratigraphic units beneath Ox Mountain Landfill include sedimentary surficial materials underlain by granitic bedrock. The sedimentary materials includes uncemented alluvial deposits, colluvial deposits, and landslide and debris flow deposits. The sedimentary deposits are generally located in the central and lower portions of the Corinda Los Trancos drainage and the canyon side slopes. The thickness of the sedimentary deposits ranges from a few feet at the sideslopes to approximately 100 feet in the central and lower portions of the canyon. The granitic rock is generally located beneath the surficial sediments and varies in degree of weathering. The weathered granitic bedrock is generally less than 30 feet.
10. Surface water: The entire landfill drains into the 572 acre Corinda Los Trancos Creek Basin, which in turn drains into the lower portion of the 7,590 acre Pilarcitos Creek

Basin. Corinda Los Trancos Creek flows intermittently in the upper tributary area, and perennially in the lower tributary area. Pilarcitos Creek flow is perennial. In 1984, the upper portion of Corinda Los Trancos Creek was culverted and routed around the perimeter of the landfill into a settling pond, which discharges back into the natural creek down canyon of the landfill. Prior to the diversion, the creek flowed through a culvert beneath the refuse. Groundwater which still collects in the old culvert beneath the older portion of the landfill is currently treated and discharged to a clay-lined sedimentation basin and discharged to Corinda Los Trancos Creek. The pH of creek water typically ranges from 6.5 to 8, and TDS is typically less than 500 ppm. The creek is subject to high flows during the wet season. The mean annual precipitation for the site is approximately 36 inches. The 100-year, 24-hour storm event is estimated at 8.18 inches. During El Nino years rainfall has exceeded 70 inches.

11. Groundwater: The major water-bearing unit identified at the site includes the alluvial and colluvial deposits and the weathered granitic bedrock. These upper hydrostratigraphic units transmit enough water to be considered an aquifer. A lower hydrostratigraphic unit, consisting of the slightly weathered to fresh bedrock is not considered an aquifer, although this unit may serve as a significant recharge source area and may contribute groundwater to regional aquifers. The estimated average linear groundwater flow velocity in the upper hydrostratigraphic unit ranges 120 feet per year in the canyon bottom to up to 3,300 feet per year in the canyon walls. Vertical hydraulic gradients between the upper and lower hydrostratigraphic units vary throughout the canyon. Depth to groundwater varies from a few feet below the original ground surface at the canyon floor to approximately 85 feet below ground surface at the ridges at the landfill perimeter. Seeps and springs discharges located along the side slopes generally flow at a rate of less than one gallon per minute. Groundwater pH at the landfill typically ranges from 6.5 to 8, and TDS is typically less than 500 ppm.
12. Geologic structure and landfill stability: No known active faults (defined as faults showing displacement within the past 11,000 years) were identified within the area of the landfill. The closest known active fault is the San Andreas Fault, located approximately 3 miles northeast of the landfill. The static and seismic stability of the side slopes, toe berm, and landfill materials was evaluated as pursuant to Subtitle D requirements in 1993. The evaluation determined that sandy deposits in areas of the canyon floor were susceptible to liquefaction during a maximum probable earthquake (magnitude 8.25) The discharger mitigated the risk by installing a network of subsurface stone reinforcement columns in the southern portions of the landfill which strengthen the underlying materials. Additional measures to provide seismic stability include extraction of leachate

and groundwater, diversion of surface water, and benching, grading, and compaction of both landfill waste and the underlying native materials.

SITE CONTAMINATION AND WATER QUALITY

13. Contamination originating at landfill: Landfill leachate contains volatile and semi-volatile chlorinated solvents, xylene, petroleum hydrocarbons as gas and diesel, and MTBE. Levels of metals are generally low. Several of these constituents have also been detected in the shallow groundwater beneath the landfill and beneath the landfill toe. The groundwater impacts appear to be the result of releases from the older portions of the landfill, which were constructed prior to promulgation of Subtitle D landfill requirements. Because groundwater contamination extends to the southern boundary of the landfill, corrective actions have been required in order to mitigate groundwater impacts, including groundwater extraction and monitoring. Corrective action monitoring indicates that the corrective actions and leachate minimization and containment measures are effective at restricting significant groundwater impacts to the area within Point of Compliance (POC) wells of the landfill (MW-6A-F, MW-11A, MW-11B, and MW-12), defined as the vertical limit at the hydraulically downgradient limit of the landfill. Monitoring at the POC wells and wells further downgradient indicates that groundwater downgradient of the landfill meets drinking water standards.
14. Corrective action measures addressing landfill contaminants: Monitoring at the landfill indicates that groundwater beneath the landfill is impacted by several of the contaminants detected in landfill leachate. The source area of the groundwater contamination is likely the older portion of the landfill, which was constructed prior to modern landfill regulations. As described in Finding 13, significant groundwater impacts are limited to the area of the POC wells, located at the landfill toe. The corrective action monitoring program indicates that the area and severity of the groundwater impacts is not increasing and confirms the effectiveness of the leachate and groundwater extraction.
15. Impacts to surface waters from landfill vectors: Studies of water quality in Corindas Los Trancos Creek, Pilarcitos Creek, and beaches near the creeks' point of discharge into the Pacific Ocean indicate that the surface waters contain high levels of fecal coliform bacteria. The bacteria appears to be associated with the large seagull population, which visits the landfill and feed upon waste materials disposed at Ox Mountain Landfill. Additional studies are necessary in order to more fully determine the source and degree of the impacts, and to identify potential mitigation measures.

16. Board Resolution No. 89-39: Board Resolution 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas containing high TDS (greater than 3000 mg/l TDS), high background contaminant levels, or those areas with a low-yield. Some groundwater underlying and adjacent to the site qualifies as a potential source of drinking water, although there is no current use of the site's groundwater, nor any anticipated plans for its use.

BASIN PLAN

17. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on January 21, 2004. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resource Control Board and the Office of the Administrative Law on July 22, 2004, and October 4, 2004, respectively, and approved by the U.S. Environmental Protection Agency, Region IX on January 5, 2005. A summary of regulatory provisions is contained in 23 CCR. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.

BENEFICIAL USES

18. The beneficial uses of groundwater beneath the landfill include:
 - a. Domestic and municipal supply
 - b. Agricultural supply
 - c. Industrial process and service supply
 - d. Groundwater recharge
 - e. Discharge to the Corindas Los Trancos Creek and Pilarcitos Creek
19. The beneficial uses of Corindas Los Trancos and Pilarcitos Creeks include:
 - a. Wildlife and estuarine habitat
 - b. Contact and non-contact water recreation
 - c. Fish migration and spawning
 - d. Preservation of rare and endangered species
 - e. Shellfish harvesting
 - f. Groundwater recharge
 - g. Agricultural supply
 - h. Municipal and domestic supply

MONITORING PROGRAMS

20. Groundwater Monitoring – Currently, the upper hydrostratigraphic unit is monitored at the landfill by 15 wells and 2 subdrains. The subdrains collect groundwater from beneath the older and new portions of the landfill. The wells are screened in the upper hydrostratigraphic units because of the higher hydraulic conductivities in this zone. The monitoring well network consists of 3 upgradient wells screened in the weathered granitic bedrock and 12 downgradient wells screened in weathered bedrock or alluvium. The wells are monitored on a semiannual basis for VOCs, SVOCs, MTBE, metals, and general water quality parameters. A more extensive list of compounds is analyzed every five years.
21. Leachate Monitoring – Leachate is monitored by sampling each of two holding tanks, LHT-1 and LHT-2. The wells are monitored on a semiannual basis for VOCs, SVOCs, MTBE, metals, and general water quality parameters. A more extensive list of compounds is analyzed every five years.
22. Surface Water Monitoring –Surface water monitoring is conducted per the Statewide Industrial Activities Storm Water General Permit.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

23. CEQA: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the Resources Agency Guidelines.
24. Public notice: The Board has notified the Discharger and interested agencies and persons of its intent to adopt revised, updated Waste Discharge Requirements for the Discharger and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
25. Public meeting: The Board, in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, its agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2, Subdivision 1 of the California Code of Regulations and Division 7 of the California Water Code and shall comply with the following:

A. PROHIBITIONS

1. The relocation of wastes to or from any waste management unit shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code. Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever. Wastes shall not be relocated to any location where they can be discharged into waters of the State or of the United States.
2. Leachate and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.
3. Buildup or mounding of leachate levels within the landfill shall be prevented by operation of a leachate extraction system. The depth of leachate shall be kept at levels sufficient to maintain an inward gradient as necessary to insure efficient operation of the leachate extraction system.
4. The creation of any new waste management units is prohibited without prior Board approval.
5. The Discharger shall not excavate within or reconfigure any existing waste management unit without prior Board approval.
6. No additional waste shall be deposited or stored at this site after closure is completed.
7. The Discharger, or any future owner or operator of the site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:
 - a. Surface Waters
 - Floating, suspended, or deposited macroscopic particulate matter or foam.
 - Bottom deposits or aquatic growths.
 - Alteration of temperature, turbidity, or apparent color beyond natural background levels.
 - Visible, floating, suspended or deposited oil or other products of petroleum origin.

- Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
- b. Groundwater
- Further degradation of groundwater quality.
 - Substantial worsening of existing groundwater impacts.
8. The Discharger shall not disc the landfill cap. Alternate methods of controlling vegetative growth, which do not affect the integrity of the landfill cap, shall be utilized.

B. SPECIFICATIONS

1. All reports pursuant to this order shall be prepared under the supervision of a California registered professional civil engineer, professional geologist or certified engineering geologist.
2. The site shall be protected from any washout or erosion of wastes or cover material and from inundation that could occur as a result of a 100-year, 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.
3. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.
4. The existing containment, drainage, and monitoring systems at the facility, shall be maintained as long as leachate is present and poses a threat to water quality.
5. The Discharger shall assure that the structures, which control leachate, surface drainage, erosion and gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
6. The final cap system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.
7. "Treated wood" wastes may be discharged, but only to an area equipped with a composite liner and leachate collection and removal system. The treated wood

waste shall be handled in accordance with California Health and Safety Code Sections 25143.1.5 and 250150.7. "Treated wood" means wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate (CCA), pentachlorophenol, creosote, acid copper chromate (ACC), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or chromated zinc chloride (CZC). Treated wood must be managed to ensure consistency with Sections 25143.1.5 and 25150.7 of the Health and Safety Code. If a verified release is detected from the waste management unit where treated wood is disposed, the disposal of treated wood shall be terminated at the unit with the verified release until corrective action ceases the release. This Discharge Specification applies only to treated wood waste that is a hazardous waste solely due to the presence of a preservative in the wood, and is not subject to regulation as a hazardous waste under the federal act.

8. The Discharger shall analyze the samples from any groundwater or leachate wells as outlined in the Discharge Monitoring Program (Attachment A).
9. The Discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future Discharge Monitoring Program issued by the Executive Officer.
10. Landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water.
11. The Discharger shall maintain all devices or designed features installed in accordance with this Order, such that they continue to operate as intended without interruption.
12. The Discharger shall provide a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. A licensed land surveyor or registered civil engineer shall install these monuments.
13. The Board shall be notified immediately of any failure occurring in the waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

14. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
15. The Discharger shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at points of compliance as provided in Section 20420 of Title 27.
16. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

C. PROVISIONS

1. The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these WDRs. Violations may result in enforcement actions, including Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].
2. All technical and monitoring reports required pursuant to this Order are being requested pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code.

LANDFILL CONSTRUCTION

3. FIVE YEAR DEVELOPMENT PLAN

COMPLIANCE DATE: January 31 of each year

The Discharger shall submit a technical report, acceptable to the Executive Officer, which includes at a minimum, scaled drawings showing the footprint of landfill expansion areas and grading locations for each year in the five year cycle. The Five Year Development Plan shall also include a schedule for submission of ROWD updates for significant changes to the existing permit.

4. **MODIFICATIONS TO THE FIVE YEAR DEVELOPMENT PLAN**

COMPLIANCE DATE: 60 days prior to implementing any proposed changes

The Discharger shall submit a technical report, acceptable to the Executive Officer, which includes at a minimum, any significant changes to the Five Year Development Plan. A detailed schedule shall also be provided.

5. **CONTAINMENT SYSTEM CONSTRUCTION PLANS**

COMPLIANCE DATE: 60 days prior to initiating construction

The Discharger shall submit a technical report, acceptable to the Executive Officer, prior to each new phase of construction at the site, leachate containment system construction plans which include, at a minimum, a detailed description and drawings of liner design, leachate and groundwater drainage and extraction system designs, preparation and installation procedures, field and laboratory Construction Quality Assurance (CQA) procedures, testing methods and results, and a schedule of construction activities. Any proposed deviation from previous Board-approved containment systems (see Figure 2) shall be described in detail.

6. **CONTAINMENT CONSTRUCTION CERTIFICATION LETTER AND CONSTRUCTION QUALITY ASSURANCE REPORT**

COMPLIANCE DATE: 30 days prior to receipt of waste into newly constructed disposal areas

The Discharger shall submit a Construction Certification Letter (CCL) and a CQA report signed and stamped by a registered professional civil engineer or engineering geologist, following completion of a newly constructed phase of the landfill. The CCL letter shall certify the new phase was constructed in compliance with this Order, approved designed plans, and Title 27. The CQA report, shall be acceptable to the Executive Officer, and include, at a minimum, a detailed summary of the landfill construction, as-built construction drawings, updated topographic maps, and results of quality assurance testing and monitoring.

7. **FINAL COVER CONSTRUCTION PLANS**

COMPLIANCE DATE: 180 days prior to installation of final cover in area of landfill to be closed

The Discharger shall submit a technical report, acceptable to the Executive Officer, which includes a description and schedule of all activities pertinent to areas of the landfill to be closed and to receive final cover. The report shall address the final cover design and installation, and the associated issues pertinent to leachate and landfill gas extraction, containment, and minimization, as well as landfill corrective action monitoring programs. Any proposed changes to the previously approved closure plans, gas and leachate extraction systems, and/or landfill monitoring must be described in detail.

8. **FINAL COVER CONSTRUCTION CERTIFICATION LETTER AND CONSTRUCTION QUALITY ASSURANCE REPORT**

COMPLIANCE DATE: 30 days after final cover is completed in area of newly closed areas of the landfill

The Discharger shall submit a CCL and a CQA report signed and stamped by a registered professional civil engineer or engineering geologist, following completion of final cover in newly closed areas of the landfill. The CCL letter shall certify that the closure was completed in compliance with this Order, approved designed plans, and Title 27. The CQA report shall be acceptable to the Executive Officer, and include, at a minimum, a detailed summary of the landfill final cover construction, as-built construction drawings, updated topographic maps, and results of quality assurance testing and monitoring.

LANDFILL STABILITY

9. **REPORT EVALUATING LANDFILL STABILITY**

COMPLIANCE DATE: July 1, 2007

The Discharger shall submit a technical report, acceptable to the Executive Officer, which updates previous evaluations of landfill stability. The Evaluation shall evaluate factors including, but not limited to: variances in groundwater and leachate levels within and adjacent to the landfill, interim and final grading plans, recent slope and interface strengths; static and dynamic slope stability; strengths of waste, subgrade, and cover material, and modeling results. The report shall include an evaluation of current and historic ground survey data, slope inclinometer data, creep measurements, and any other site monitoring data. If stability issues are identified, the report shall propose any changes necessary to current construction and closure plans.

10. **INDEPENDENT GEOTECHNICAL PEER REVIEW OF LANDFILL STABILITY EVALUATION**

COMPLIANCE DATE: October 1, 2008

The Discharger shall submit a technical report, acceptable to the Executive Officer, which provides the results of an independent geotechnical peer review of the landfill stability evaluation described in Provision 9. The review shall evaluate the adequacy of the slope stability evaluation pursuant to CCR Title 27, Subchapters 3 and 6. The independent reviewer must certify that they do not have a conflict of interest, direct or indirect, with the Discharger or parent company. The independent reviewer shall be a California licensed geotechnical engineer. The Board encourages the Discharger to utilize the Association of Bay Area Governments, as an independent body, to coordinate selection and contracting of the independent reviewer at the Discharger's expense.

11. **RESPONSE TO INDEPENDENT GEOTECHNICAL PEER REVIEW OF LANDFILL STABILITY EVALUATION**

COMPLIANCE DATE: December 1, 2007

The Discharger shall submit a technical report, acceptable to the Executive Officer, which provides a response to all comments and recommendations in the peer review described in Task 11. The response shall include if needed, a workplan to address comments should additional field work or engineering evaluations be warranted.

12. **POST-EARTHQUAKE INSPECTION AND CORRECTIVE ACTION REPORTS**

COMPLIANCE DATE: Within 72 hours of the occurrence of an earthquake of magnitude 6 or higher

The Discharger shall submit a technical report, acceptable to the Executive Officer, which describes implementation of the Post Earthquake Inspection and Corrective Action Plan for the landfill for any earthquake greater than Richter Magnitude 6 or greater at or within 30 miles of the landfill. The report shall describe the results of the post earthquake inspection and any corrective actions necessary to insure landfill stability and prevent water quality impacts which may result from seismic events.

WATER QUALITY IMPACTS AND LANDFILL MONITORING

13. **WORKPLAN FOR EVALUATING THE IMPACTS OF VECTORS ON SURFACE WATER QUALITY**

COMPLIANCE DATE: October 1, 2006

The Discharger shall submit a workplan, acceptable to the Executive Officer, for evaluating the impacts of the landfill's seagull population on water quality of Corinda Los Trancos Creek, Pilarcitos Creek, and the discharge point at the Pacific Ocean. The workplan shall propose sampling and lab analytical methods and a method to evaluate whether seagull fecal waste is creating significant water impacts at the site and immediately offsite of the landfill, and whether the impacts pose nuisance conditions and/or risk to human and/or ecological health.

14. **EVALUATION AND MITIGATION OF SURFACE WATER QUALITY IMPACTS FROM VECTORS**

COMPLIANCE DATE: December 1, 2006

The Discharger shall submit a technical report, acceptable to the Executive Officer, which documents implementation and findings of the workplan described in Provision C.13. The technical report shall propose methods for mitigating any significant impacts, including at a minimum, vector controls, modifications of waste handling methods, and modification of methods of applying daily cover. The report shall also propose methods of monitoring the effectiveness of vector controls.

15. **ANNUAL MONITORING REPORT**

COMPLIANCE DATE: January 31 of each year

The Discharger shall submit an Annual Monitoring Report, acceptable to the Executive Officer, by January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The annual report to the Board shall cover the previous calendar year as described in Part A of the Monitoring Program. In addition to the requirements outlined in Attachment A, this report shall also include the following: location and operational condition of all leachate and groundwater monitoring wells; and a site map delineating groundwater and leachate levels for each monitoring event.

16. **SEMI-ANNUAL MONITORING REPORT**

COMPLIANCE DATE: July 31 and January 31 of each year

The Discharger shall submit semi-annual monitoring reports, no later than July 31 and January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The January 31 semi-annual report may be combined with the annual report.

17. **ANNUAL MAINTENANCE REPORT**

COMPLIANCE DATE: July 31 of each year

The Discharger shall submit a technical report to the Board, acceptable to the Executive Officer, detailing the repair and maintenance activities that need to be completed prior to the commencement of the next rainy season (starting October 15 of each year). This letter report shall also include a description and schedule for repair and maintenance activities, and a cost analysis detailing the anticipated expense for all repairs, maintenance and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the Discharge Monitoring Program.

18. **WELL INSTALLATION REPORT**

COMPLIANCE DATE: 45 days following completion of well installation activities

The Discharger shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the Discharge Monitoring Program (Attachment A). Additionally, rationale shall be included for calculation of extent of groundwater subdrain setback from last observed sidewall seep or spring. This rationale shall consider estimated peak flow/discharge conditions and necessary variations to be considered beneath geosynthetic clay layer versus the conventional clay liner.

19. **CHANGE IN SITE CONDITIONS**

NOTIFICATION DUE DATE: Immediately upon occurrence
REPORTING DUE DATE: 30 days after initial notification

The Discharger shall immediately notify the Board of any flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, liner leakage, or other change in site conditions that could impair the integrity of the landfill cap, waste or leachate containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

20. **STORMWATER CONTROL PLANS**

COMPLIANCE DATE: October 15 of the year of construction or prior to construction if commencing between October 15 and May 15

For each proposed development greater than 5 acres in size, the Discharger shall submit a Notice of Intent to the State Board, prepare and submit a Storm Water Pollution Prevention Plan acceptable to the Executive Officer, and implement Best Management Practices (BMPs) for the control of storm water, in accordance with requirements specified in the State Board's General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000002).

21. The Discharger shall maintain a copy of these waste discharge requirements and these requirements shall be available to operating personnel at the facility at all times [CWC Section 13263].
22. The Discharger shall permit the Board or its authorized representative, upon presentation of credentials:
 - a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
 - b. Access to copy any records required under the terms and conditions of this order.
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
 - d. Sampling of any discharge or groundwater governed by this order.
23. The Discharger shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has been closed according to the requirements of this Order and Chapter 15. The Discharger shall certify under penalty of perjury that all closure activities were

performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

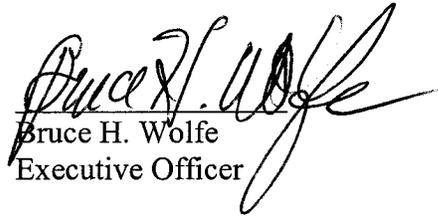
24. In the event of any change in control/operator or ownership of land or parcel of land, or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. The Discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]. The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.
25. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics [CWC Section 13263]. The Executive Officer may specify minor changes to Self Monitoring Plan as necessary.
26. Where the Discharger becomes aware that they failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Board, they shall promptly submit such facts or information [CWC Sections 13260 and 13267].
27. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from its liability under Federal, State or local laws, nor do they create a vested right for the to continue the waste discharge [CWC Section 13263(g)].
28. Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.
29. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed

or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order [CWC Section 13263(f)].

30. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the Discharger is in violation of a prohibition in the applicable water Quality Control Plan [CWC Section 13271(a)].
31. The Discharger shall report any noncompliance that may endanger public health or the environment. Any such information shall be provided orally to the Executive Officer within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours [CWC Sections 13263 and 13267].
32. This Board's Order No. 99-067 is hereby rescinded.

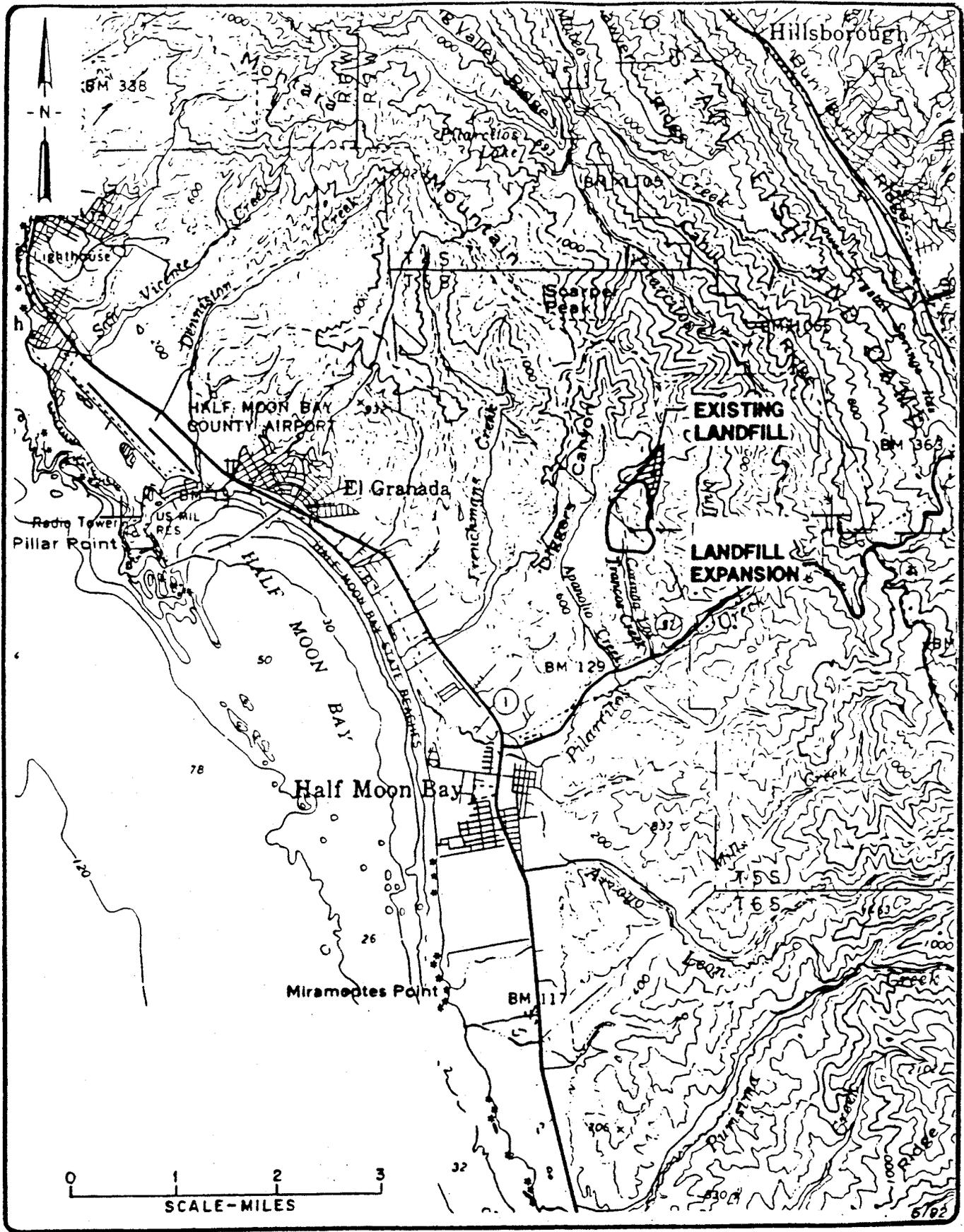
Ox Mountain Landfill
Order R2-2006-0040

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 14, 2006.


Bruce H. Wolfe
Executive Officer

Figures: Figure 1 - Site Location Map
 Figure 2 - Liner Design

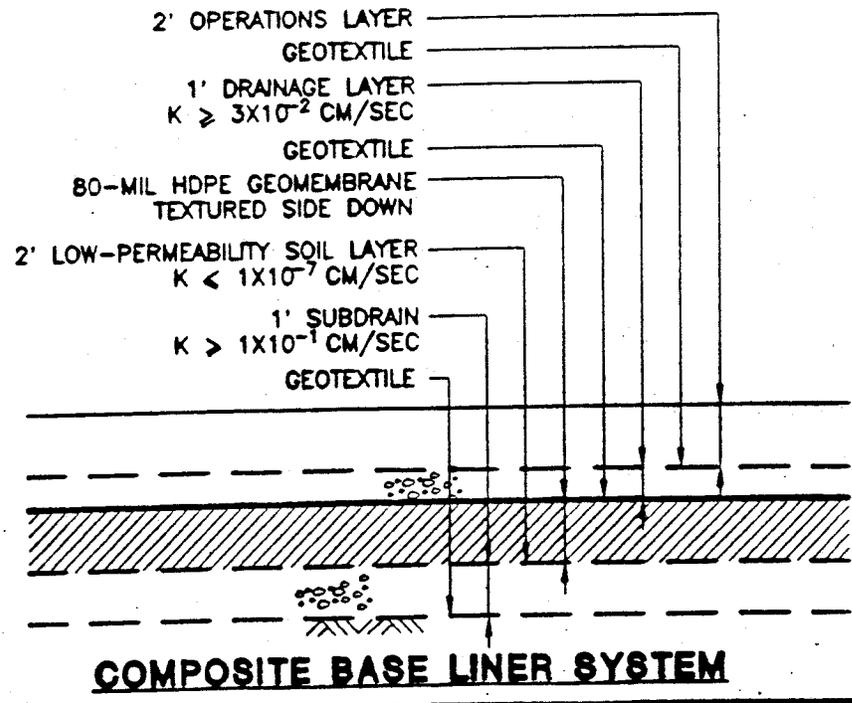
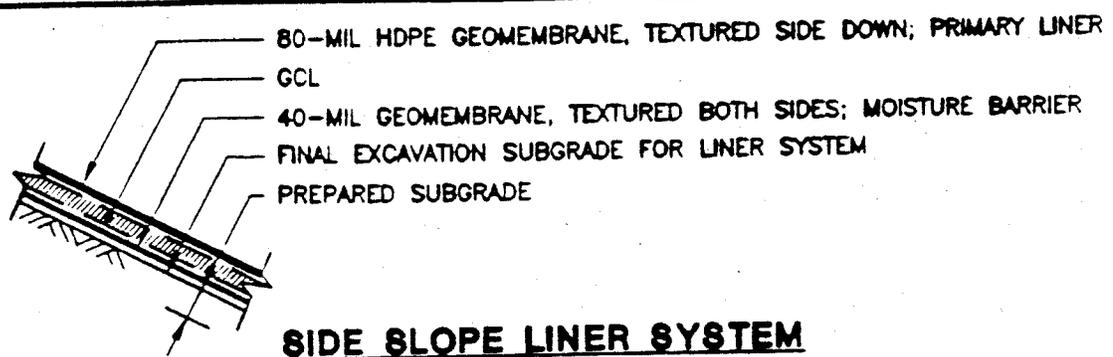
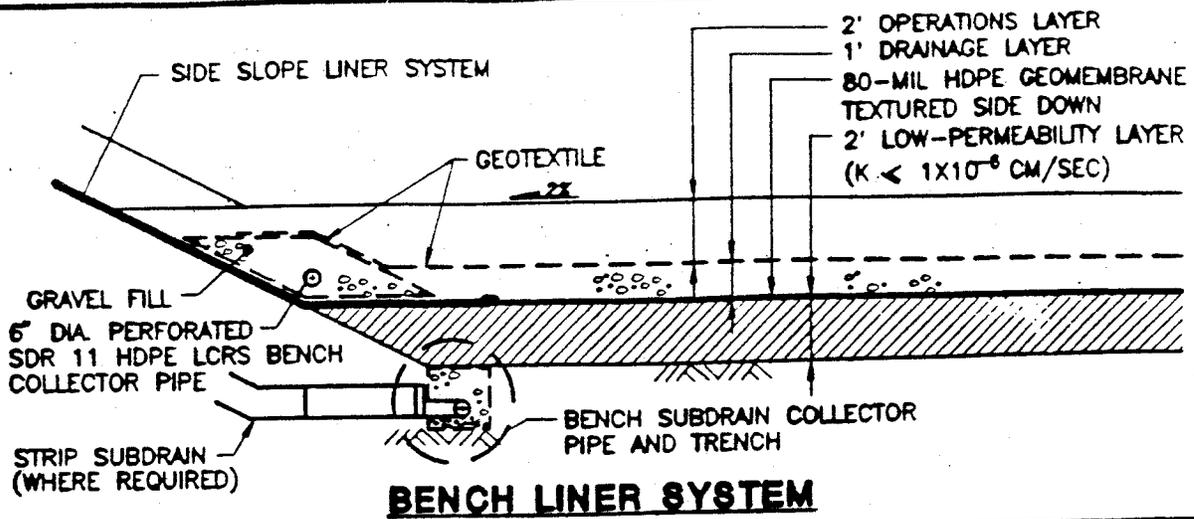
Attachment: Attachment A - Discharge Monitoring Program



LOCATION MAP SHOWING PROPOSED EXPANSION OF
 CORINDA LOS TRANCOS LANDFILL
 OX MOUNTAIN RANCH SAN MATEO COUNTY

SAN FRANCISCO BAY REGIONAL
 WATER QUALITY CONTROL BOARD

FIGURE
1



DATE	1/14/98
DWN	RW
APP	
REV	
PROJECT NO.	

FIGURE 2
CORINDA LOS TRANCOS LANDFILL
SAN MATEO COUNTY, CALIFORNIA

LINER SYSTEMS

EA-SACRAMENTO/CAD: I:\DWGS\OX\BAS-LINR.dwg Xrefs: <NONE> Operator: RWALL
Scale: 1 = 1.00 DimScale: 1 = 1.00 Date: 1/15/98 Time: 1:25 PM

Ox Mountain Landfill
Order R2-2006-0040

ATTACHMENT A

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

DISCHARGE MONITORING PROGRAM

FOR

**OX MOUNTAIN CLASS III SANITARY LANDFILL
HALF MOON BAY, SAN MATEO COUNTY**

ORDER NO. R2-2006-0040

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste discharges are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Title 27 of the California Code of Regulations.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the dischargers in complying with the requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface that actually or potentially receives surface or groundwaters that pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, the surface runoff from the site, and the San Francisco Bay are considered receiving waters.

3. Standard observations refer to:
 - a. Receiving Waters
 - 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
 - 2) Discoloration and turbidity: description of color, source, and size of affected area.
 - 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 4) Evidence of beneficial use: presence of water associated wildlife.
 - 5) Flow rate
 - 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.
 - b. Perimeter of the waste management unit.
 - 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion and/or daylighted refuse.
 - c. The waste management unit.
 - 1) Evidence of ponded water at any point on the waste management facility.
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion, slope or ground movement, and/or daylighted refuse.
 - 4) Adequacy of access road
 - 5) Condition of site drains, silt basin capacity
 - 6) Standard Analysis and measurements are listed on Table A (attached)

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The Discharger is required to perform sampling, analyses, and observations in the following media:

1. Storm drain discharges per Section 20415
2. Groundwater and leachate per Section 20415

and per the general requirements specified in Section 20415(e) of Title 27.

E. RECORDS TO BE MAINTAINED

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

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. **Monitoring Reports**

Written detection monitoring reports shall be filed by January 31 and July 31 of each year. In addition an annual report shall be filed by January 31 of each year. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

- b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:
 - 1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.
 - 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.
 - 3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.
 - 4) A written discussion of the groundwater analyses indicating any change in the quality or characteristics of the groundwater.
- c. A comprehensive discussion of the compliance record and status, as well as any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Waste Discharge Requirements and 27CCR.
- d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
- e. Laboratory statements with the results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.
 - 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be

submitted for review and approved by the Executive Officer prior to use.

- 2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that are outside laboratory control limits; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.
- f. An evaluation of the effectiveness of the leachate monitoring facilities, which includes an evaluation of leachate buildup within the disposal units and sump areas, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal/treatment methods utilized.
 - g. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.
 - h. The quantity and types of waste disposed of during each quarter of the reporting period, and the locations of the disposal operations. Locations of the waste placement shall be depicted on a map showing the area, if any, in which the filling has been completed during the previous calendar year.
 - i. A summary statement describing the findings from the Discharger: periodic load checking/screening program, waste characterization program, and any other observational/inspection programs.
 - j. Tabular and graphical summaries of the monitoring data obtained during the previous year; the annual report should be accompanied by a compact disc, MS-EXCEL format, tabulating the year's data.
 - k. The Annual Monitoring Report shall be submitted to the Board covering the previous year. The Report shall include, but is not limited to, the following:
 - i. A graphical presentation of the analytical data [Board-approved alternate procedure per 27CCR, Section 20415(e)(14)] for monitoring locations that have shown detectable concentrations during two consecutive monitoring events, or greater than ten percent detection frequency for any organic compound. Graphical representation must be provided for monitoring locations with

metals and general chemistry analytical parameters that have an increasing trend for three consecutive monitoring events;

- ii. A tabular summary of all the monitoring data obtained during the previous year;
- iii. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;
- iv. A map showing the area, if any, in which filling has been completed during the previous calendar year;
- v. A written summary of the groundwater analyses indicating any change in the quality of the groundwater; and
- vi. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate control volumes removed from the units, and a discussion of the leachate disposal methods utilized.

2. **Contingency Reporting**

- a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:
 - 1) a map showing the location(s) of discharge if any;
 - 2) approximate flow rate;
 - 3) nature of effects; i.e. all pertinent observations and analyses; and
 - 4) corrective measures underway, proposed, or as specified in the Waste Discharge Requirements.
- b. Following determination that groundwater analytical results or a monitoring location exceed the WQPS concentration limits (CLs), the Discharger shall follow the decision sequence in Figure 2 for any monitoring locations still exceeding the CLs.

3. **Well Logs**

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with

the construction standards of the Department of Water Resources. These shall be submitted within 45 days after well installation.

G. WATER QUALITY PROTECTION STANDARDS

1. Constituents of Concern: The Constituents of Concern (COC) for groundwater are those listed in Table 1 of this Self-Monitoring Program.
2. Concentration Limits: Concentration Limits (CLs) have been established for each COC listed in Table 1. These CLs are shown in Table 2. The CLs were developed from the approved Corrective Action Groundwater Monitoring Program (CAGMP) submitted by the Discharger. The CLs were set at the PQLs for most SVOCs and VOCs. CLs were set above the PQLs for certain constituents that were: 1) common laboratory contaminants (acetone, methylene chloride, bromoform, chloroform, toluene, phthalates, phenol); 2) derived from field sampling equipment and materials; and 3) periodically detected in some wells as a result of COC migration prior to implementation of corrective measures or as result of the presence of waste fill outboard of containment structures. The CLs are well below water quality criteria for Corindas Los Trancos Creek and therefore are protective of human health and the environment.
3. Monitoring Points: Monitoring Points for the landfill are identified in Table 1 of this Self-Monitoring Program. Because landfill operations predate collection of groundwater chemistry data at this site, background water quality monitoring locations do not exist; therefore, intra-well comparisons will be used for evaluating monitoring data. For those areas where COCs greater than the CLs existed prior to corrective measures, monitoring will be conducted to demonstrate that the levels of COCs have either stabilized or are decreasing.
4. Point of Compliance: The Point of Compliance for this facility is the vertical surface that extends from the outside edge of the lateral containment structures through the uppermost aquifer underlying the unit.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. GROUNDWATER, LEACHATE, AND STORMWATER MONITORING: Report Semi-Annually (groundwater) and Annually (Leachate and Surface Water)

- i. **Groundwater:** Groundwater shall be sampled and analyzed as detailed in Table 1. Monitoring well locations are shown in Figure 1. CLs for groundwater sampled at the monitoring wells are shown in Table 2.
- ii. **Leachate:** Leachate and seeps shall be sampled and analyzed as detailed in Table 3. Leachate monitoring locations are shown in Figure 1. The Discharger shall analyze for all Subtitle D, Appendix II compounds not listed in Table 3, once every five years.
- iii. **Surface Water:** Surface water monitoring data collected under the Statewide Industrial Activities Storm Water General Permit or for discharge of surface water runoff from retention basins shall be submitted with the winter/spring (wet) season semi-annual monitoring report due each July 31. The report shall include the standard storm water annual report forms, a map of the storm water monitoring locations, and any summary data tables or attachments, as appropriate. Analytical laboratory data reports need not be included.

B. WASTE MONITORING - Observe monthly unless otherwise noted, report semi-annually

- i. Record the total volume and weight of waste in cubic yards and tons disposed of at the site during each month, and show locations and dimensions on a map.
- ii. Record a description of waste stream to include percentage of waste type (ie. municipal solid waste, construction and demolition waste, asbestos-containing waste, medical waste, and industrial waste including: (i) asbestos, (ii) ash, (iii) treated auto-shredder waste (TASW), (iv) petroleum contaminated soil, (v) lead contaminated soils, (vi) sewage and wastewater treated sludges with metal content, (vii) industrial sludges, and (viii) industrial filters.

- iii. Remaining landfill capacity/waste volume in place at the end of the reporting period.
- iv. TASW accepted for disposal shall be sampled and analyzed quarterly for: PCBs (EPA Method 8080) and for soluble lead, mercury, cadmium, trivalent and hexavalent chromium copper, nickel, and zinc (by WET Method).

C. **FACILITIES MONITORING - Observe Quarterly, report Semi-annually**

The Discharges shall inspect all facilities to ensure proper and safe operation once per quarter and report semi-annually. The facilities to be monitored shall include, but not be limited to:

- 1. Leachate collection and removal/pumping system
- 2. Surface water impoundments/retention basins
- 3. Leachate management facilities and secondary containment
- 4. Perimeter diversion channels and run-on/run-off control features
- 5. Final cover system
- 6. Re-use areas including the composting and soil recycling locations

D. **PHOTO DOCUMENTATION OF FACILITIES MONITORING - Observe quarterly, report annually**

The Discharger shall provide photo documentation of conditions at locations that include, but are not limited to the landfill facilities listed in Part B.1.C above. Locations from which photographs are taken should be permanent stations such that they can be used in successive reports.

E. **ON-SITE OBSERVATIONS**

<u>Station</u>	<u>Description</u>	<u>Observations</u>	<u>Frequency</u>
V-1 to V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit	Bi-monthly observations (rainy season) Monthly observations (dry season) Report Semi-annually
P-1 thru P-'n'	Located at equidistant intervals not exceeding 1000 feet around the	Standard observations for the perimeter	Bi-monthly observations (rainy season) Monthly observations (dry season) Report Semi-

perimeter of the
waste management
unit.

annually

F. SEEPAGE MONITORING

Seepage monitoring stations include any point at which seepage is found occurring from the disposal area. The landfill perimeter shall **be monitored quarterly and the results reported semi-annually.**

<u>Station</u>	<u>Description</u>	<u>Observations</u>	<u>Frequency</u>
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area	Standard obser- vations for the perimeter and standard analyses (Table 3, perform analyses once per seep	Daily until remedial action is taken and seepage ceases

G. PIEZOMETER/LEACHATE ELEVATION MONITORING

1. Groundwater piezometric elevation monitoring shall be conducted at the following locations on a semi-annual basis: GD-2, G-4C, MW-6A-MW-6F, MW-7, MW-8, MW-9, MW-10, MW-11A, MW-11B, MW-12, MW-13A, and MW-13B.
2. Leachate elevation monitoring shall be conducted at the following locations on a quarterly basis: LHT-1 and LHT-2.

H. LEACHATE EXTRACTION MONITORING

1. The Discharger shall report daily, weekly, monthly, and average rates for pumping/removal of leachate from the total system, monthly and average daily rates for each pump area, and monthly leachate elevations. This information will be provided with the semi-annual monitoring report.
2. Included with each semi-annual report will be an evaluation of the effectiveness of pumping on reduction of leachate levels throughout the Ox Mountain Landfill.

3. All surface leachate extraction lines and storage structures shall be double contained.

I. LANDFILL GAS CONDENSATE

Landfill gas condensate removed from the landfill's gas collection system shall be transported for disposal at a wastewater treatment or leachate treatment facility. For each condensate monitoring point, the Discharger shall include in the **semi-annual monitoring report** a measurement of the estimated volume of condensate collected, and the **monthly** and **average daily condensate volumes** for each condensate collection point.

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. R2-2006-0040.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.


Bruce H. Wolfe
Executive Officer

Date Ordered: June 14, 2006

Attachment: Figure A-1 - Monitoring Well Location Map

**Table 1 - Groundwater Monitoring Points, Parameters and Sampling Frequency
 Ox Mountain Sanitary Landfill**

Monitoring Wells	Analytical Parameters	Sampling Frequency
All Groundwater Monitoring Wells And Drains	General Water Quality Parameters:	
GD-1	pH, Ammonia (total and unionized)	Quarterly
GD-2		
G-4C	VOCs:	
MW-6A	EPA Method 8260	Quarterly
MW-6B		
MW-6C	SVOCs:	
MW-6D	EPA Method 8270	Annually
MW-6E		
MW-6F	Dissolved Metals	
MW-7	Arsenic, Barium Cadmium,	Annually
MW-8	Copper, Chromium, Lead	
MW-9	Mercury, Nickel,	
MW-10	Vanadium, Zinc	
MW-11A		
MW-11B	Additional Metals:	
MW-12	Antimony, Beryllium,	Once every 5 years
MW-13A	Cobalt, Selenium, Silver,	beginning in 2009
MW-13B.	Thallium, Tin	
	40 CFR 258 Appendix II constituents:	
	Pesticides & PCBs: EPA Method 8080	Once every 5 years beginning in 2009
	Chlorophenoxy Herbicides: EPA Method 8151	
	Cyanide: EPA Method 9010	
	Sulfide: EPA Method 9030	Annually

Table 1 Notes:

EPA methods: Arsenic (7060 or 6010), Barium (6010), Chromium (6010), Copper (6010), Lead (7421 or 6010), Mercury (7470), Nickel (6010), Vanadium (6010), Zinc (6010), Antimony (6010), Beryllium (6010), Cobalt (6010), Selenium (7741 or 7740), Silver (6010), Thallium (7841), Tin (6010)

This subset of the 40 CFR 258 Appendix I metals is used as a surrogate for the entire suite of Appendix I metals

**Table 2 - Concentration Limits for Groundwater
 Ox Mountain Landfill**

Constituent of Concern	Practical Quantitation Limit	US EPA Test Method	Concentration Limits (ppb)
<u>Specified VOCs</u>		8260	
Acetone	20		100
Methylene chloride	10		50
Bromoform	10		50
Chloroform	10		50
Benzene	10		30
Toluene	10		50
Ethylbenzene	10		50
Xylene	10		50
<u>Other VOCs</u>	varies	8260	PQLs
<u>Specified SVOCs</u>		8270	
Phthalates	10		100
bis(2ethylhexyl)	10		50
butylbenzyl	10		50
di-ethyl	10		50
di-methyl	10		50
di-n-butyl	10		50
di-n-oxtyl	10		50
Phenol	10		100
<u>Other SVOCs</u>	varies	8270	PQLs
<u>Metals¹</u>			
Arsenic	7	7060 or 6010	PQL/Background ²
Barium	20	6010	PQL/Background ²
Cadmium	5	6010	PQL/Background ²
Chromium	10	6010	PQL/Background ²
Copper	10	6010	PQL/Background ²
Lead	5	7421 or 6010	PQL/Background ²
Mercury	1	7470	PQL/Background ²
Nickel	40	6010	PQL/Background ²
Vanadium	10	6010	PQL/Background ²
Zinc	20	6010	PQL/Background ²
Antimony	5	6010	PQL/Background ²
Beryllium	5	6010	PQL/Background ²
Cobalt	10	6010	PQL/Background ²
Selenium	10	7740 or 7741	PQL/Background ²
Silver	20	6010	PQL/Background ²

Thallium	5	7841	PQL/Background ²
Tin	50	6010	PQL/Background ²
<u>Pesticides and PCBs</u>	varies		PQLs
<u>Chlorophenoxy Herbicides</u>	varies		PQLs
<u>Cyanide</u>	10		PQLs

Table 2 notes:

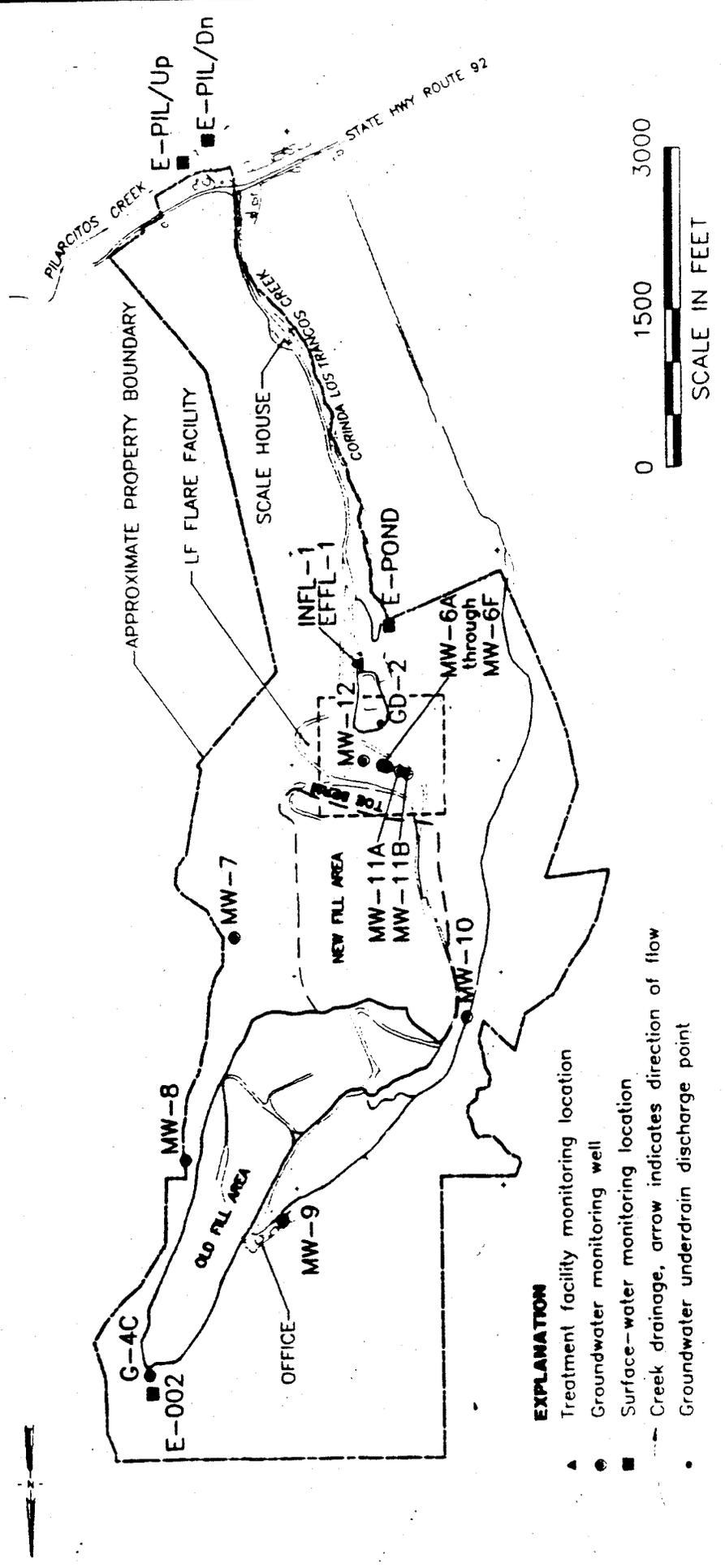
¹PQLs may vary based on the results of the laboratory's annual MDL survey and any sample dilution required because of matrix interferences. Metals data will provide supplemental information to the VOC and SVOC analyses and are not intended for use as indicator parameters apart from the VOC and SVOC analyses.

²Concentration Limit is the higher of either the routine PQL or the background value.

Table 3 - Leachate and Seepage Monitoring Points, Parameters and Sampling Frequency – Ox Mountain Landfill

Monitoring Location	Analyses	EPA Method (or equivalent)	Sampling Frequency
	VOCs	8260	
	SVOCs	8270	
Leachate well/sump: LHT-1 and LHT-2 and Leachate discharge (sump) locations	Dissolved Metals		Leachate wells- Quarterly
	Arsenic	7060 or 6010	
	Barium	6010	
	Cadmium	6010	
	Copper	6010	
	Chromium	6010	
	Lead	7421 or 6010	
	Mercury	7470	
	Nickel	6010	
	Vanadium	6010	
	Zinc	6010	
	pH	9040	
	Ammonia (total and unionized)	350.1	
Cyanide	335.2		
Pesticides/PCB	8080		
Leachate discharge (seep) locations only	Total Oil and Grease	SM5520B	Leachate discharge (seep) - Each occurrence; daily until remedial action is taken or seep ceases
	COD	410.1	
	96-hour Toxicity Bioassay using Mysid Shrimp	N/A	

EA-SANJOSE-CAD/DRAWINGS: G:\372-009\S\SITE.dwg Xrefs: <NONE>
 Scale 1 = 100 DimScale 1 = 400.00 Date: 12/2/97 Time: 5:08 PM Operator: KLT



EXPLANATION

- ▲ Treatment facility monitoring location
- Groundwater monitoring well
- Surface-water monitoring location
- - - Creek drainage, arrow indicates direction of flow
- Groundwater underdrain discharge point



DATE	DEC. 1997
DWN	KLT
APP	
REV	
PROJECT NO.	372-009.073

FIGURE A-1
 BROWNING-FERRIS INDUSTRIES OF CALIFORNIA
 CORINDA LOS TRANCOS LANDFILL
 OX MOUNTAIN RANCH
 SAN MATEO COUNTY, CALIFORNIA
SITE MONITORING LOCATION MAP

