

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF NOVEMBER 19, 2004**

Finalized on October 27, 2004

**ITEM:** 4

**SUBJECT:** **REVISED WASTE DISCHARGE REQUIREMENTS ORDER NO. RB3-2004-0151, FOR VANDENBERG AIR FORCE BASE CLASS III LANDFILL, SANTA BARBARA COUNTY**

**KEY INFORMATION:**

**Location:** The Landfill site is situated within north Vandenberg AFB; southeast of the intersection of Washington and New Mexico Avenues, southwest of Pine Canyon Road.

**Type of Waste:** Non-hazardous municipal solid wastes.

**Waste In Place:** 3.3 million cubic yards.

**Current Capacity:** 2.5 million cubic yards remaining.

**Disposal:** Canyon fill disposal method.

**Liner System:** All Landfill areas are unlined.

**Groundwater Contamination:** Historically, volatile organic compounds (VOC) have been detected in upgradient wells 3-MW-3, 3-MW-5, 3-MW-11, and PC-MW-1 since 1984. The source of these groundwater impacts is suspected to be Installation Restoration Program (IRP) Site 3, located northwest of the Landfill, on Burton Mesa.

**Existing Orders:** Waste Discharge Requirements Order No. 94-26, Waste Discharge Requirements Order No. 93-84 (Landfill Super Order), Region-wide Cleanup and Abatement Order No. R3-2002-0130, and State Water Resources Control Board Water Quality Order No. 97-03 DWQ (General Industrial Storm Water Permit).

**SUMMARY:**

Existing Waste Discharge Requirements (Order) Order No. 94-26 (Order 94-26) for the Vandenberg AFB Class III Landfill (Landfill), adopted June 3, 1994, requires revision to reflect current site operations, and State and Federal regulations.

Updates to Order 94-26, as provided in proposed Order No. R3-2004-0151 (proposed Order 04-0151) (Attachment 1) and Monitoring and Reporting Program No. R3-2004-0151 (MRP 04-0151) (Attachment 2), are essential to facilitate ongoing site operations. Proposed Order No. 04-0151 allows continued Landfill operation, updates

groundwater-monitoring requirements, and consolidates duplicative regulation. This update is designed to bring the Landfill into compliance with current State and Federal landfill regulations.

The proposed revised Order includes:

- Revision to the Monitoring and Reporting Program, which includes groundwater, surface water, landfill gas and leachate monitoring.
- Final closure requirements for six recently discovered landfill refuse cells, which became inactive prior to the promulgation of CCR Title 27 (November 27, 1984) and are located outside the Landfill's Subtitle D Footprint.

- Language that brings the Landfill into compliance with California Code of Regulations Title 27, Solid Waste, effective July 18, 1997 (CCR Title 27); and, 40 CFR Parts 257 and 258 Solid Waste Facility Disposal Criteria, Final Rule, as promulgated October 9, 1991 (40CFR 257 and 258).

The proposed Order covers the current Landfill operations and provides guidance and requirements for any potential future changes. Design and construction specifications within the proposed Order meet or exceed requirements in both the CCR Title 27, and 40 CFR 257 and 258, both of which pertain to siting, design, construction, and operation of solid waste management facilities.

## DISCUSSION

**Landfill Description** - The existing Landfill is located approximately 50 miles north of Santa Barbara, along the south-central coast of California, within the north Vandenberg AFB, as shown on the **Figure 1** to the proposed Order.

Land use designations within 1,000 feet of the Landfill include military industrial facilities and open space.

Site topography has been altered due to historic Landfill operations. The steep slopes along the northern, northwestern, and southwestern site boundaries, comprised of indurated shale, chert, and diatomite, have been cut back to provide cover material for the Landfill. The Landfill is in a natural canyon, a tributary of Oak Canyon, at the southeastern edge of Burton Mesa. The elevation of Oak Canyon, at the southernmost extent of the Landfill, is 290 feet above mean sea level (MSL). Oak Canyon is a minor, north-south trending watershed that drains south into the Santa Ynez River, approximately 6 miles from the Pacific Ocean. Burton Mesa surrounds the Landfill, with elevations ranging from 420 feet to 450 feet above MSL. The active portion of the Landfill is situated just below the headwaters of Oak Canyon.

The Landfill site will be developed in ten phases, beginning in the northeast portion of the Landfill. The total land disposal area permitted for refuse disposal activities, designated as the "Permitted Landfill Boundary", covers 172 acres. The

"Subtitle D Footprint" (the land disposal area, which was occupied by waste as of October 9, 1993, pursuant to 40 Code of Federal Regulations Part [CFR] 258), covers 46 acres. The Landfill site also includes six recently identified refuse cells, located outside the "Subtitle D Footprint" (Figure 3). These refuse cells became inactive/abandoned prior to the promulgation of Title 27 requirements (Pre-Title 27 refuse cells) and encompass an aggregate area of approximately 9.9-acres.

The currently permitted waste disposal disposal areas are not equipped with liner systems and do not meet CCR Title 27, Section 20260 (b)(1) siting criteria with regard to "geologic setting", in that the site does not meet the five-foot separation requirement, pursuant to CCR Title 27, Section 20080(c). Details concerning the "geologic setting" are included in Finding No. 30 of the proposed Order.

The Landfill is not open to the public and receives non-hazardous solid waste from Vandenberg AFB, the U.S. Penitentiary, and the Lompoc Correctional Facility only. The waste received at the Landfill consists of residential, commercial, and industrial waste along with construction and demolition (C&D) debris. The facility also reserves specific areas for specific wastes including an animal cemetery, non-friable asbestos disposal, grease pit, and a wood waste and green waste chipping operation. The facility also accepts used tires for recycling at an off-site location. Concrete and asphalt are also accepted, and staged and processed on site. All significant Landfill features are depicted in **Figure 2** to the proposed Order.

The Solid Waste Facility Permit (SWFP) allows the unlined Landfill to accept up to 400 tons of waste per day: 374 of general non-hazardous waste, 18 tons of separated or commingled recyclables, and eight (8) tons of miscellaneous non-hazardous waste. The present total waste in place is approximately 3.3 million cubic yards. The Landfill has an estimated remaining capacity of 2.5 million cubic yards. According to the Fill Sequencing Program, the estimated closure date for the Landfill is 2082 if the disposal rate remains consistent with 1999-2002 average rates. Approximately 7,761 tons of waste was buried in 2003. Presently, an average of 9,041 tons of waste

are landfilled annually. The **Figure 3** to the proposed Order depicts the existing Landfill boundaries.

**Landfill History** - The Landfill originally served as an Army tank and artillery training area for the U.S. Army's Camp Cook and was operated by the U.S. Army from 1941 to 1958. The Air Force acquired Camp Cook in 1957, established Vandenberg AFB and assumed the operation of the Landfill in 1958. The Regional Board has regulated the Landfill since April 14, 1978. In 1985, an Installation Restoration Program (IRP) was initiated at the military site to investigate and cleanup contamination resulting from past military operations. Waste Discharge Requirements Order No. 88-161, adopted by the Regional Board on November 18, 1988, revised requirements to reflect applicable landfill regulations including California Code of Regulations Title 23, Division 3, Subchapter 15 (Chapter 15), as promulgated in 1984. Revised Waste Discharge Requirements were reissued on June 3, 1994. Order No. 94-26 was revised to reflect the newly promulgated Federal regulations contained in 40 CFR 257 and 258, and to incorporate changes to the Chapter 15 regulations, including Article 5, pertaining to landfill groundwater quality monitoring and response programs, as amended July 1, 1992. Order No. 94-26 also allowed the disposal of water/leachate collected at the toe of the Landfill at a spray disposal area.

Proposed Order No. 04-0151 again updates regulatory language by referencing CCR Title 27, which combined and replaced Chapter 15 and California Waste Board regulations (Title 14). The proposed Order updates the Monitoring and Reporting Program to reflect current site conditions and groundwater monitoring and reporting requirements. The proposed Order also rescinds Waste Discharge Requirements Order No. 93-84 (Landfill Super Order), adopted by our Regional Board on October 8, 1993. Lastly, proposed Order No. 04-0151 reflects current Federal regulations; specifically, 40 CFR 257 and 258 (Subtitle D).

**Compliance History** - Since the last Order update in 1994, the Discharger has been in substantial compliance with Order 94-26. A comprehensive file review from 1994 to present turned up one informal enforcement action. The informal

enforcement action was issued in December 5, 2001 and consisted of an Inspection Violation. A formal Notice to Comply was not issued. Instead, staff verbally directed the Discharger to repair Landfill erosion and sedimentation problems observed during the inspection. The Discharger promptly implemented all necessary wet weather preparedness measures and corrected the noted Landfill erosion and sedimentation problems. Regional Board staff followed-up with a second inspection and confirmed all necessary corrective measures had been successfully completed. Regional Board staff considers this issue resolved.

Groundwater impacts have been noted at several up-gradient well locations, and, historically, the landfill has not met the five-foot separation requirement (separation between underlying groundwater and refuse). To achieve compliance, the Discharger is implementing leachate controls to dewater the saturated alluvium and lower the groundwater level. Ongoing implementation of appropriate leachate controls should effectively control groundwater and migration pathways, and ensure the five-foot separation requirement, pursuant to CCR Title 27, Section 20080(c), is maintained at all times.

Since the impacted wells were specifically installed to monitor groundwater entering the Landfill from upgradient locations, the source of the VOC impacts is suspected to be Installation Restoration Program (IRP) Site 3 located northwest of the Landfill, on Burton Mesa.

Overall the Discharger is responsive to Regional Board staff's information requests and proactively addresses compliance issues. At this time, staff is not recommending changes to the existing Order or Monitoring and Reporting Program based on prior formal or informal compliance issues.

#### **GEOLOGY:**

Geologic units underlying and adjacent to the Landfill include the Monterey Shale, Sisquoc Diatomite, Orcutt Sand, and younger alluvial deposits. Considering the permitted disposal area is not equipped with liner systems and site-specific conditions (i.e., the size of the permitted disposal area, permeability and transmissivity of underlying soils, depth to groundwater, background groundwater quality, current and anticipated

groundwater use, and annual precipitation), the native underlying soils do not ensure protection of groundwater or surface water quality. Therefore, the permitted disposal areas do not meet CCR Title 27, Section 20260 (b)(1) siting criteria with regard to "geologic setting". The mitigation measures being implemented by the Discharger to address non-compliance with the siting criteria are described under *Groundwater Separation – Unlined Area*, below.

A detailed description of the Landfill Geology is included in Findings Nos. 22 and 23 to proposed Order No. 2004-0151.

### **HYDROGEOLOGY AND GROUNDWATER:**

Groundwater beneath the Landfill consists of an alluvial aquifer and a bedrock (Monterey Formation) aquifer. The water-bearing unit in the Oak Canyon alluvial fill underlies the bottom of landfilled materials at 5 to 30 feet below ground surface (bgs). Groundwater flow in this unit generally appears to follow the canyon contours and is likely affected by localized topography of the bedrock. Source areas for recharge of this water-bearing unit appear to be primarily from surface/groundwater drainage at the northwestern edge of Oak Canyon, upgradient of the Landfill.

The groundwater aquifer in the upper Monterey Formation underlies the Landfill at approximately 60 feet bgs. The absence of water-bearing units in the alluvium in the northeast portion of the Landfill area may indicate a recharge area for the bedrock aquifer. There is no evidence of hydraulic connection between the water-bearing unit in the alluvial sediments and the deeper aquifer in the upper Monterey Formation.

Groundwater flow is predominantly to the south in the area down gradient of the groundwater extraction system (GWES) at the toe of the Landfill, in Pine Canyon and in the upper Oak Canyon. The GWES is described in Finding No. 38 of proposed Order No. 2004-0151. The average linear groundwater velocities for 2002 in the upper Oak Canyon and the area down gradient of the GWES were approximately 141 feet per year and 369 feet per year, respectively.

There are no water supply, oil, or geothermal wells within one mile of the facility boundary. There are, however, several installation restoration program (IRP) monitoring wells located directly up gradient of the Landfill. These wells were specifically installed to monitor groundwater entering the Landfill from up-gradient IRP sites.

Finding No. 26 of proposed Order No. 2004-0151 describes the regional hydrogeology.

**Groundwater Separation – Unlined Area -** During certain times of the year (recharge events), alluvial groundwater may rise to a level that contacts buried waste in portions of the active disposal area.

Title 27 Landfill regulations require the Discharger to operate the Landfill so that wastes will be a minimum of five feet above highest anticipated groundwater. This operational goal is intended to reduce leachate generation and ensure no impairment of groundwater beneficial uses.

To address the five-foot separation issue, the Discharger is implementing leachate controls to dewater the saturated alluvium and lower the groundwater level far below buried waste levels.

The implementation of these leachate controls is intended as an engineered alternative [Engineered alternatives are allowed by CCR, Title 27 Section 20080 (b)(1).]. The leachate controls are consistent with the operational goal and are expected to afford equivalent protection of groundwater quality. The leachate controls consist of an Groundwater Reclamation and Conditioning System (GWRCS), runoff source control and diversion project, and ongoing drainage and grading improvements. The leachate controls are described in Findings Nos. 34 and 38 of proposed Order No. 2004-0151.

This application of engineered alternatives is consistent with other permitted landfills, where groundwater is known to be in contact with waste. The other cases have involved unlined landfills with downgradient releases and groundwater in contact with waste.

In the Vandenberg AFB Landfill case, there is no evidence to indicate that contaminated groundwater

is leaving the landfill via unmonitored flow paths. The Discharger is continually evaluating and optimizing environmental control systems and engineered alternatives. This Order requires the Discharger to continue to extract leachate, and control/divert surface water run-off and run-on away from Landfill areas. Additionally, Monitoring and Reporting Program R3-2004-0151, (Attachment 2), sets forth requirements for monitoring and reporting on these systems' ongoing effectiveness. Comprehensive monitoring of leachate and groundwater allows the Discharger and Regional Board staff to work together to optimize these systems.

#### **Buried Waste Outside Subtitle D Footprint -**

The Discharger recently identified six locations where buried refuse exists within the Permitted Landfill Boundary, but outside of the Subtitle D Footprint (See Figure 3 and 4). These unlined areas encompass an aggregate area of approximately 9.9 acres. The Discharger has determined these six refuse cells were missed during the establishment of the Subtitle D Footprint in 1993. Based on historical records, refuse placement occurred between the 1940s and 1980s. Thus, it has been determined these refuse cells became inactive and were abandoned prior to the promulgation of Title 27 requirements (November 27, 1984). As such, these cells are not specifically required to be closed in accordance with current Title 27 requirements (§20950 et seq.). Nevertheless, the Discharger has agreed to provide the cells with an Executive Officer-approved final cover system. The Discharger has provided an acceptable closure plan and implementation schedule. According to the approved final closure plan, funding has been requested to implement closure of these six cells in fiscal year 2005, and is subject to appropriation from Congress.

**Groundwater Monitoring -** Groundwater has been monitored since July 1, 1989. The present groundwater-monitoring program consists of ten (10) groundwater-monitoring points, which are monitored on a periodic basis. Groundwater monitoring requirements, including the monitoring point locations, are specified in Attachment 2.

Groundwater conditions in the alluvial unit are monitored by Wells 3-MW-5, 3-MW-11, 3-MW-6, LF-MW-1, LT-MW-3, PC-MW-1, and PC-MW-2.

Two up gradient monitoring points (Wells 3-MW-5 and 3-MW-11) monitor the quality of groundwater entering the Landfill from upgradient IRP sites. Well LF-MW-1 is located within the Subtitle D Footprint and was drilled through 50 feet of refuse. This well monitors groundwater conditions directly beneath the Landfill waste disposal areas. Two downgradient monitoring points (Wells 3-MW-6 and LT-MW-3) monitor groundwater conditions at the Landfill's downgradient edge. Well LT-MW-3 is located directly north of the slurry wall and well 3-MW-6 is located at the toe of the Landfill. Well 3-MW-6 is designated as the "**Point of Compliance**" monitoring point. The designated "**Background**" groundwater monitoring points for the alluvium are wells PC-MW-1 and PC-MW-2. These wells are located in Pine Canyon.

Groundwater conditions in the upper Monterey Formation are monitored by Wells DSW-MW-1, LT-MW-2 and MFB-MW-1. Well DSW-MW-1 is located at the toe of the Landfill and is the designated "Point of Compliance" monitoring point. Well LT-MW-2 is located north of the slurry wall and well MFB-MW-1 is located northwest of the Landfill. An appropriate "Background" monitoring point will be located using information from planned groundwater modeling. Groundwater modeling will be performed to confirm groundwater gradients and contours within the Monterey Formation.

The proposed Order requires the Discharger to submit a well location and installation plan for Executive Officer review and approval. The Plan must address the installation of an appropriately located "background" groundwater monitoring point, designed to monitor background water quality conditions within the Monterey Formation.

The "Monitoring Point Location Map", below depicts the locations of all existing groundwater monitoring points.

**Groundwater Degradation and Remediation Effectiveness -** Historically, volatile organic compounds (VOC) have been detected in several upgradient monitoring well locations, since 1984. Detected concentrations have ranged from trace to above the constituent's established maximum contaminant levels (MCLs). Since these wells were

specifically installed to monitor groundwater entering the Landfill from upgradient locations, the source of the VOC impacts is suspected to be Installation Restoration Program (IRP) Site 3, located northwest of the Landfill, on Burton Mesa.

To date, no contamination has been detected in the Monterey Formation. Further, no evidence of groundwater contamination from the Landfill has been detected at any alluvial "Point of Compliance" groundwater monitoring wells at the Landfill toe south of the GWES (See **Figure 4**).

Due to the relatively low methane levels being generated by the solid waste and the lack of evidence of measured groundwater impacts, the Discharger has not been required to install a gas collection system at the Landfill.

Continued implementation of the existing groundwater/leachate management system (described in Finding No. 38 of Attachment 1) in addition to ongoing run-on diversion measures are expected to result in a decrease in infiltration rates, a decline in the creation of leachate and subsequent groundwater quality improvements.

**Surface/Storm Water** - The Landfill site receives a mean precipitation of 14.4 inches annually with November to May as the predominant wet months. The most precipitation recorded at the site during a one-year period is 35.99 inches, which fell during El Nino-related storms in 1995. The greatest amount of precipitation recorded over a 24-hour period was 3.71 inches in March 1995.

In 2003, a major surface water source control project was completed that is designed to intercept and divert 46.7 percent of the current watershed area runoff from approximately 175 acres to the north, east, and west of the landfill, and redirect the discharge around the Landfill and into Lake Canyon. The western canyon along Iceland Avenue is the only remaining area that still allows a substantial volume of storm water run-on onto the Landfill area. Pending approval and availability of funds, the Discharger plans to evaluate the feasibility of diverting surface water run-on from the western canyon of the Landfill in 2005.

Surface water run-on at the Landfill is managed by a system of concrete lined ditches, channels, and

culverts to convey surface water around the Landfill and down into lower Oak Canyon.

Surface water is monitored at three locations around the Landfill. Additionally, storm water is monitored according to the State's NPDES storm water discharge general permit. Surface water monitoring requirements and monitoring points are described and shown in Attachment 2.

#### **PROPOSED ORDER CONTENTS:**

1. **General Information:** The section includes discussions of the site's geology and hydrogeology, water quality, operations, beneficial uses of the water, and surrounding land use.
2. **Compliance with other Regulations, Orders and Standard Provisions:** This section directs the Discharger to:
  - No longer comply with Regional Board Order No. 93-84 (Landfill Super Order), because Order 03-0014 addresses all requirements of Order No. 93-84.
  - Comply with all applicable requirements contained in CCR Title 27, and 40 CFR 257 and 258.
  - Comply with State Water Resources Control Board Water Quality Order No. 97-03-DWQ, which addresses storm water associated with industrial activities, commonly referred to as "General Industrial Storm Water Permit."
3. **Prohibitions:** These discharge prohibitions are applicable to Class III waste disposal.
4. **Specifications:** These are specifications that the Discharger must meet and/or implement to comply with site specific aspects of CCR Title 27 and 40 CFR 257 and 258 pertaining to solid waste disposal practices. These specifications are categorized into several groups; a) General Specifications, b) Wet Weather, c) Design Criteria and, d) Closure.
5. **Water Quality Protection Standards:** These standards outline constituents of concern, monitoring parameters, concentration limits, monitoring points, points of compliance, and compliance period.

6. **Provisions:** This section addresses the Discharger's responsibilities regarding Landfill-related impacts to water quality and provides: Regional Board access to the Landfill and related reports, Order severability, discharge conditions, reporting and implementation provisions, a termination clause, and wet weather operations provisions.

#### **MONITORING AND REPORTING PROGRAM (MRP) CONTENT:**

**Monitoring and Observation Schedule:** This section contains the following requirements: periodic routine Landfill inspections, intake monitoring, drainage system inspections, rainfall data collection, Pollution Control System(s), Landfill monitoring (groundwater, surface water, and gas), analytical monitoring of groundwater and gas monitoring parameters, and constituents of concern, and quarterly determination of groundwater flow rate and direction.

**Sample Collection and Analysis:** This section establishes criteria for sample collection and analysis, methods to determine concentration limits, and specifies how these records shall be maintained. It requires the preparation and submittal of an updated Sampling and Analysis Plan by **January 30, 2005**. This section also establishes acceptable statistical and non-statistical methods the Discharger must use to perform data analysis, and outlines acceptable re-test procedures.

**Reporting:** This section establishes formats and requirements that the Discharger must follow when submitting analytical data, semiannual reports, and summaries to the Regional Board. It includes notification requirements, contingency responses and reporting requirements.

**Definition of Terms:** This section defines a number of terms used in the MRP.

#### **ENVIRONMENTAL SUMMARY:**

This project involves an update of Waste Discharge Requirements initiated by the Regional Board. These Waste Discharge Requirements are for an existing facility and as such are exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.)

in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15301.

#### **COMMENTS TO DRAFT ORDER AND MRP No. R3-2004-0151:**

Draft Order R3-2004-0151 and MRP R3-2004-0151 were distributed to a list of interested parties and agencies that have been historically involved with the Landfill. These interested parties include:

- Mr. Patrick Maloy, Solid Waste Manager  
Department of the Air Force
- Mrs. Sondra K. Masterson  
RISC Management Joint Venture
- Mrs. Lisa Sloan  
Santa Barbara County  
Environmental Health Services Division
- Mr. David Brummond  
Santa Barbara County  
Environmental Health Services Division
- Mr. Peter Janicki  
CA Integrated Waste Management Board
- Dianne Ohiosumua  
CA Integrated Waste Management Board
- Jeff Mathieu, Solid Waste Area Functional  
Manager
- James R. Steel, Principal Geologist  
Tetra Tech, Inc.
- Mike Goldman  
Air Pollution Control District
- Bill Chiat  
Multijurisdictionan Solid Waste Task Group
- Dianne Meester  
Santa Barbara County Planning & Development
- Melinda Burns  
Santa Barbara News-Press
- David Ciaffardini  
Santa Maria Times/County Reporter
- Steve Cushman  
SB Chamber of Commerce/Executive Director
- Cathy Murrillo  
The Santa Barbara Independent/News Edit
- City of Lompoc Record

Written comments received on the proposed Order and MRP are included in Attachment 3. All submitted comments were considered and all were either incorporated upon receipt or had previously been incorporated. The key issues referenced in comment letters are as follows:

**Patrick Maloy, Solid Waste Program Manager  
Department of the Air Force, Vandenberg Air  
Force Base Landfill:**

1. Waste Discharge Requirements, page 1, Finding 5: Please add a fourth bullet for the Report of Waste Discharge Addendum 1 dated 30 June 2004.

**Staff Response:** Staff had added the referenced document to Finding 5, as suggested. Staff has also added reference to a July 23, 2004 Preliminary Closure Plan and a July 24, 2004 Joint Technical Document. Both of these additional references were reviewed and considered while preparing the revised WDRs.

2. Waste Discharge Requirements, page 2, Finding No. 8: The finding states that the landfill will be developed in five phases. The landfill will actually be developed in ten phases based on the latest Fill Sequencing Plan dated 7 March 2003.

**Staff Response:** Staff has changed the finding as suggested.

3. Waste Discharge Requirements, Page 2, Finding 10: The finding lists areas at the landfill reserved for specific types of waste disposal but does not mention C&D debris staging area. Please add the C&D debris staging area to the list.

**Staff Response:** Staff has changed the finding as suggested.

4. Waste Discharge Requirements, page 2, Finding 12: non-irrigation should be non-irrigated.

**Staff Response:** Staff has corrected the typo.

5. Waste Discharge Requirements, Page 3, Finding 17: Sentence five indicates, "Concrete and asphalt are also accepted but are relocated to an off-site staging area prior to recycling". Concrete and asphalt are staged and processed on site.

**Staff Response:** Staff has clarified the finding as suggested.

6. Waste Discharge Requirements, page 3, Finding 19: Please update the data listed in the finding to reflect the 2002 disposal characteristics as listed in the Vandenberg AFB Landfill Solid Waste Characterization Report dated April 2003. The approximate percentages of materials received for disposal are as follows: Lompoc Federal Correctional Institute/US Penitentiary – 49%, Vandenberg AFB Military Family Housing – 26%, Vandenberg AFB Industrial/Commercial – 22%, Self-Haul – 3%.

**Staff Response:** Staff has corrected the finding.

7. Waste Discharge Requirements, page 6, Finding 35: The second sentence indicates precipitation for the 1997-2000 weather year. The weather year should be 1997-1998.

**Staff Response:** Staff has made the indicated correction.

8. Waste Discharge Requirements, page 6, Finding 40: Please remove the reference to groundwater collection pond. The pond was removed from service and was demolished in 2000.

**Staff Response:** Staff has removed the reference to the pond and correctly referenced the Groundwater Reclamation and Conditioning System (GWRCS).

9. Monitoring and Reporting Program, page 2, Item B.1 and B.2: Please remove the reporting requirement for volume received and leave weight received. All material entering the facility is weighed, but the volume of material varies depending on density.

**Staff Response:** Staff concurs with the suggested change and has modified the reporting requirement as suggested.

10. Monitoring and Reporting Program, item E.1.b, 3<sup>rd</sup> bullet: Replace reference to Table 2 with Table 4. Table 4 contains the Constituents of Concern, not Table 2.

**Staff Response:** Staff has made the suggested correction.



11. Monitoring and Reporting Program, Page 3, Section F.1.a – The WDR Revisions report dated 15 September 2003 requested the removal of wells 3-MW-3, DM-2, and SSW-MW-1 from the monitoring program. The RWQCB concurred with this request in a letter to Pat Maloy dated 28 April 2004. However the wells are included in the monitoring and reporting program.

**Staff Response:** Staff erroneously left these wells in the monitoring program. Staff has removed the wells from the MRP as previously agreed. Staff also revised WDR, Finding No. 36 to clarify the groundwater monitoring system includes 10, **not** 13 monitoring points.

12. Monitoring and Reporting Program, Page 3, Section F.1.a. and F.1.b.: These sections designate monitoring points LT-MW-3 and LT-MW-2 as “Point of Compliance” monitoring points for the alluvial and Monterey formations. These wells are both located north of the slurry wall and therefore do not reflect the quality of groundwater leaving the unit. The water north of the slurry wall is pumped to the Groundwater Reclamation and Conditioning System for treatment. The Air Force requests that these wells be considered monitoring points rather than points of compliance.

**Staff Response:** Staff concurs with the proposed well designations. The MRP has been modified to ensure the all wells have the proper designations.

13. Monitoring and Reporting Program, background well MFB-MW-1: This well is located within the Subtitle D footprint and therefore should not be considered a background well. The Air Force proposes locating a background well using information obtained from planned groundwater modeling. This will allow the proper placement of the well for the purpose of evaluating background water quality.

**Staff Response:** Staff agrees a properly located “background” well is needed. Staff has revised Finding No. 36 of the WDRs addressing the need for a properly located “Background” monitoring point. Further, staff has added the following provision (Provision E. 26):

*The Discharger shall submit a well location and installation plan for Executive Officer review and approval. The plan shall address the installation of an appropriately located “background” groundwater monitoring point, designed to monitor background water quality conditions within the Monterey Formation. The plan shall include a specific installation and monitoring schedule. **REPORT DUE DATE: March 30, 2005.***

14. Monitoring and Reporting Program, item F.2, 3<sup>rd</sup> sentence: The drainage routes are located along the northern and western boundary. Please replace “northern and eastern” boundary with “northern and western”.

**Staff Response:** Staff has made the requested correction.

15. Monitoring and Reporting Program, page 4, Item G.2: Please clarify that quarterly surface water monitoring will only be required when sufficient surface water is available for sampling.

**Staff Response:** Staff has clarified this requirements as follows: “... all water samples from all surface water monitoring points shall be analyzed **quarterly (when sufficient water is available for sampling)** for the Monitoring Parameters listed in ...”

16. Monitoring and Reporting Program, page 9, Section C, Records to be Maintained: The MRP indicates that VAFB is required to retain records for the life of the facility. The facility’s estimated closure date is over 80 years from now, including the 30 year post-closure period there is a potential for the base to have to maintain records for 120 years. The Air Force requests that records maintenance be limited to 30 years.

**Staff Response:** Staff agrees it is unreasonable to require VAFB to maintain records for up to 120 years. The proposed 30-year period is deemed reasonable. Thus, this section has been modified to require that records maintenance be limited to 30-years.

**Lisa Sloan, Representing the Santa Barbara County Environmental Health Environmental Health Services Division (Local Enforcement Agency), submitted verbal comments.**

1. Waste Discharge Requirements, page 3, Finding 15: The VAFB Landfill updated its Preliminary Closure Plan on July 23, 2004. The Closure Plan has been submitted to the California Integrated Waste Management Board (CIWMB) for review and approval. Please correct this finding to reflect this fact.

**Staff Response:** staff has revised Finding No. 15 as follows:

“A Preliminary Closure and Post-Closure Maintenance Plan (Closure Plan) for the Vandenberg Air Force Sanitary Landfill *was last updated on July 24, 2004. The Closure Plan has been submitted for approval to the California Integrated Waste Management Board (CIWMB). ...*”

2. Waste Discharge Requirements, Specification C.25 authorizes the Discharge of condensate or leachate to landfill areas that are equipped with a liner system. Since the areas within the Subtitle D boundary at VAFB are not equipped with a liner system, please make it clear that condensate or leachate may not be discharged at this site.

**Staff Response:** Staff agrees and has revised the WDRs to clarify what can and cannot be discharged at this landfill. However, Specification C.25 has not been changed since it is intended as a general specification that applies to all landfills sites in general. However, staff has revised Prohibition B.3 to specify that the discharge of condensate or leachate at this landfill site is prohibited.

3. Waste Discharge Requirements, Provision E.15 authorizes the Discharge of de-watered sewage or water treatment sludge waste containing less than 50 percent solids by weight to areas that are equipped with a liner system. Since the areas within the Subtitle D boundary at VAFB are not equipped with a liner system, please make it clear that de-

watered sewage or water treatment sludge waste containing less than 50 percent solids by weight may not be discharged at this site.

**Staff Response:** Staff agrees and has revised the WDRs to clarify what can and cannot be discharged at this landfill. However, Provision E.15 has not been changed since it is intended as a general Provision that applies to all landfills sites in general. However, staff has revised Prohibition B.3 to specify that the discharge of de-watered sewage or water treatment sludge waste containing less than 50 percent solids by weight at this landfill site is prohibited.

4. Waste Discharge Requirements, Provision E.24: Since the Discharger has recently updated its Preliminary Closure Plan (July 24, 2004), please modify the submittal requirements, as appropriate.

**Staff Response:** staff agrees and has revised the Report Due Date to July 30, 2009.

#### **Regional Water Quality Control Board (staff)**

Staff reviewed the proposed Order package (WDR, MRP, Staff Report) carefully and made some minor changes and corrections, as necessary to ensure the proposed Order is accurate.

No other written or verbal comments were received.

#### **RECOMMENDATION:**

Adopt proposed Waste Discharge Requirements Order No. 2004-0151.

#### **ATTACHMENTS:**

1. Proposed Waste Discharge Requirements Order No. R3-2004-0151.
2. Proposed Monitoring and Reporting Program No. R3-2004-0151.
3. Comment Letters on Draft Order and MRP No. R3-2004-0151.

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