STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 9, 2007

ITEM NUMBER **15**

SUBJECT **Revised Waste Discharge Requirements Order No. R3-2007-0003, For Crazy Horse Class III Landfill, Monterey County**

KEY INFORMATION

Location:	350 Crazy Horse Canyon Road, Northern Monterey County, approximately nine miles north of the City of Salinas, as shown on Figure 1 of Waste Discharge Requirements Order No. R3-2007-0003.
Discharger:	Salinas Valley Solid Waste Authority (Discharger) owns the Crazy Horse Landfill (landfill).
Type of Waste:	Non-hazardous municipal solid waste.
Waste In Place:	4.3 million cubic yards of air space.
Current Capacity:	0.6 million cubic yards of air space; estimated life to 2009.
Disposal:	Canyon fill method.
Liner System:	57 acres are unlined; 15 acres are lined.
Groundwater Contamination:	Volatile organic compounds (VOCs) and inorganic constituents in groundwater; corrective action system in place since 1988, but under evaluation for effectiveness.
Existing Orders:	Waste Discharge Requirements Order No. 99-26, Waste Discharge Requirements Order No. 93-84 (landfill Super Order), and State Water Resources Control Board Water Quality Order No. 97-03 DWQ (General Industrial Storm Water Permit).
This Action:	**Adopt Waste Discharge Requirements Order No. R3-2007-0003.**

SUMMARY

The proposed Waste Discharge Requirements Order No. R3-2007-0003 (Hereafter "Order" or "Order No. R3-2007-0003") specifies minimum landfill design and operation modifications to protect water quality.

The updates to the proposed Order include:

a. Updated groundwater impact information and approach for refining and improving the corrective action program.
b. Disposal of bio-solids mixed with dry soil for use as cover material to promote vegetative growth for winterization erosion control on closed or partially closed slopes.
c. Use of leachate for dust control over lined portions of the landfill.
d. Updated geological and hydrogeological information.
e. Use of alternate daily cover such as tarps.
f. Incorporation of the requirements of Order No. 93-84 "Waste Discharge Requirements Amendment for All MSW landfills in the Central Coast Region" (Super Order).

The proposed Order updates and replaces Waste Discharge Requirements Order No. 99-26, adopted by the Regional Board on July 9, 1999.

Proposed Order No. R3-2007-0003 and Monitoring and Reporting Program No. R3-2007-0003 are included as Attachments 1 and 2, respectively.

The proposed Order also covers the current landfill operations and provides guidance and requirements for potential future changes and upcoming closure. Design and construction specifications within the proposed Order meet or exceed requirements in both 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 and History

Figure 2 of the proposed Order shows the current landfill configuration. The landfill site is a 160-acre parcel with 72 acres of the site permitted for Class III refuse disposal. Lined areas consist of two cells totaling 15 acres subject to Subtitle D liner requirements. Figure 2 also shows the waste disposal area and the landfill property line as well as 88 acres of buffer between the disposal areas and the property boundaries.

The landfill is constructed as a typical "canyon fill" whereby limited areas of the canyon walls and bottom are excavated to provide cover soil as the canyon is filled with waste. The landfill began operation in 1934 and operated as a burn dump until 1966 in the old fill area now identified as closed Module I. In 1966, the burn dump operations were changed to sanitary landfill operations. Disposal operations continued in the 6-acre Module I area until about 1972. The current active disposal area started operation in 1972 and covers approximately 66 acres. The active landfill is being developed in multiple phases and covers 15 acres of lined and 51 acres of unlined, pre-Subtitle D areas (Subtitle D, a Federal regulation, requires liners under new areas where no previous waste disposal occurred before promulgation of the regulation).

In 1988, a corrective action program consisting of a groundwater extraction and treatment system was installed to mitigate the contamination originating from Module I (Module I plume). The groundwater extraction and treatment system has remained in operation since 1988. In 1988, the landfill owner installed a final cover on Module I (six acres), after placing additional Class III waste in the module.

Two Subtitle D lined cells were constructed between 1992 and 1998 along the west side of the landfill. Post Subtitle D construction was planned in four phases, with phases I through III over the Subtitle D lined areas in the western portion of the landfill, and Phase IV over existing waste in the central portion of the landfill. Phases I through IV have been developed and currently receive waste. Phase V, an approximate 4-acre area located near the current scale house facility, is an optional phase. Phase V, if developed, will require a Subtitle D bottom liner over the portion of the area that does not already have waste.

Based on the associated groundwater impacts originating from the unlined Module I, the U.S. Environmental Protection Agency placed this portion of the landfill on the National Priorities List (NPL) and Module I became a Superfund site in 1990.

Land use within 1,000 feet of the landfill is primarily rural residential and cattle grazing. The nearest residential structures are located approximately 50 to 225 feet and 200 to 250 feet from the southeast and northwest boundaries of the landfill property, respectfully. The nearest domestic wells are located between approximately 25 feet and 150 feet from the south and southeast property boundaries of the landfill.

Compliance History

Since Order No. 99-26 was adopted in 1999, the Discharger has performed numerous corrective actions to address groundwater impacts from the landfill. These include:

a. Clean closure of an old waste pile found in the central ravine area of the buffer zone, beyond the permitted landfill boundary.
b. Improvements to erosion and sediment controls in interim and final cover areas.
c. Diligent maintenance of vegetation to stabilize slopes.
d. Mitigation of leachate seeps.
e. Improvements to Module I cover drainage at the east perimeter road.
f. Expansion of the landfill gas collection system.
g. Implementation of evaluation monitoring programs (EMPs) in the southern and eastern areas to assess new volatile organic compound (VOC) detections in groundwater monitoring wells.

The Discharger is responsive to Water Board staff's information requests and proactively addresses compliance issues.

Proposed Order Changes

This proposed Order updates chemical, geological and hydrogeological information obtained during groundwater investigations, establishes a closure date, and specifies closure criteria. In addition, the proposed Order outlines an approach for improving the groundwater corrective action system. The proposed Order sets milestones for closure, and improvements to the corrective action program.

The Monitoring and Reporting Program was last modified by the Executive Officer on September 15, 2004. Staff propose making minor revisions at this time to adjust the monitoring parameter list and add recently installed monitoring wells to the program. Staff added the metals antimony and magnesium to the parameter list because of the potential for these metals to be elevated as a result of landfill impacts.

Geology

Identified geologic units within the vicinity of the landfill from youngest to oldest are: recent alluvial deposits, Pleistocene marine terrace deposits, Pleistocene eolian/fluvial deposits of the Aromas Sand, Tertiary marine sediments of the Purisima Formation, older Tertiary formations, and the Cretaceous quartz diorite (granitic bedrock) basement complex. The sedimentary units are generally fine-grained and semiconsolidated in nature. Geologic cross sections depict bedding to be nearly flat across the landfill site.

Findings 23 through 26 in the proposed Order provide a detailed description of the landfill geology, including stratigraphy and faulting.

Hydrogeology

The groundwater flow system in the vicinity of the landfill is complex. Groundwater recharge occurs in the exposed granitic bedrock to the north of the landfill and seasonally in the Crazy Horse Canyon drainage east of the landfill. Local landfill studies indicate that groundwater occurs within five hydrogeologic units. These are the alluvial unit, the localized perched unit within the upper Aromas Sand, the Aromas Sand, the Purisima Formation, and the granitic bedrock. Groundwater in the Aromas Sand and underlying Purisima Formation is separated by a 40 to 50 feet thick aquitard ("Transition Zone") that the Discharger reports to be laterally continuous across the landfill site. In 1998, groundwater extraction wells with screens through the Transition Zone were modified to seal their screen intervals in the Transition Zone and deeper Purisima Formation. However, three former domestic wells (now converted to

extraction wells) remain onsite. These wells may continue to act as a vertical conduit for contamination to deeper units because of the long interval of their gravel packs.

There are approximately 30 domestic wells within a one-mile radius of the landfill. Most of the wells are screened in the deeper Purisima Formation; however, their gravel packs typically extend from about 50 feet below ground surface to the bottom of the well, which potentially creates a conduit for hydraulic communication with shallower units. Eight downgradient domestic wells are regularly monitored on a quarterly basis for detection monitoring program constituents, including VOCs. Based on potentiometric surface maps, groundwater generally flows from northeast to southwest at a relatively steep gradient (0.04 feet vertical per foot horizontal), generally parallel to the surrounding topographic gradient. Groundwater is reported to flow at a rate of between 1 and 5 feet per day in the Aromas Sand; however, staff believes that these estimated velocities are high based on estimated hydraulic conductivity values from the reported low well yields at the site.

Findings 26 and 27 in the proposed Order provide detailed hydrogeologic information.

Groundwater Monitoring

Groundwater sampling has been conducted at the landfill for over twenty years. Groundwater samples are collected and analyzed for select inorganic parameters and VOCs on a semiannual basis, and for a comprehensive analyte list every five years.

Groundwater monitoring wells are screened in the five identified water-bearing units beneath the site. The locations of groundwater monitoring wells are shown on Order Figure 2. Monitoring consists of two programs: detection monitoring, and corrective action monitoring. There are 31 groundwater monitoring locations in the detection monitoring program, including eight domestic supply wells monitored on a quarterly basis. Detection monitoring wells are located along the waste boundary or plume boundary. The corrective action monitoring program includes 20 monitoring wells, located in the plume interior. In addition, up to 19 piezometers are used for groundwater level monitoring.

Monitoring and Reporting Program No. R3-2007-0003 (Attachement 2) provides comprehensive details regarding the monitoring programs along with their associated organic and inorganic water quality monitoring parameters, and the wells designated to each program.

Leachate Management System

Landfill leachate is collected by gravity drainage from the lined and unlined portions of the landfill and temporarily stored before it is applied to lined portions of the landfill as dust control. During 2005, the monthly volume of leachate collected varied between approximately 23,000 gallons in September to 112,000 gallons in March.

Landfill Gas Control

The gas control and collection system consists of a an internal network of 66 serviceable vertical gas collection wells drilled into the landfill, lateral collector pipes, and header pipes which terminate at a 1,500 kilowatt gas-to-energy plant located north of the landfill entrance. In addition, perimeter gas extraction wells aid in controlling gas migration and groundwater impacts, with the produced gas being burned at the flare station. Enhancements to the landfill gas control were completed in 2004. In closed Module I, the enhancements included extending gas extraction well casings and associated piping above the landfill cover to provide better control on the distribution of gas

production. In addition, new vertical wells were installed in the lined module area and the leachate cleanout risers were connected to the gas extraction system. Gas wells were also installed in the central ravine slope in the unlined portion of the active area.

Groundwater Degradation

Closed Module I plume VOCs likely originate from both landfill gas and leachate sources. The VOCs are detected in both the Aromas Sand and Purisima Formation. Consistently detected VOCs include 1,1-dichloroethane, 1,1-dichloroethene, benzene, cis-1,2-dichloroethene, dichlorodifluoromethane, methylene chloride, tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, trichlorofluoromethane, and 1,2-dichloropropane. The VOC plume in the Aromas Sand originates from the southeast boundary of closed Module I (near monitoring well A-16) and extends southwest toward the southern landfill property where the plume bends and widens towards the central ravine to the west where the toe of the plume is defined, about 1,300 feet downgradient of the source (Order Figure 4).

In May 1996, samples collected from Aromas Sand monitoring well A-31, located west of the active fill area and the central ravine, began detecting VOCs. In 1998, samples collected from well A-34, located directly northwest of the central ravine and east of A-31, began detecting VOCs, indicating a consistent release in the area (Order Figure 4). Exploratory borings helped delineate the extent of this new release, reported to be the result of landfill gas. Because of the VOC migration in the closed Module I plume and evidence of new release below the active fill area, Water Board staff required the Discharger to implement an evaluation monitoring program (EMP) to characterize the extent of new impacts in the southern area. The results of the southern EMP indicate that the closed Module I plume extends slightly offsite near EMP monitoring well A-55 at concentrations below Maximum Contaminant Levels ([MCLs] total VOCs at 12 micrograms per liter [µg/L] in 2005) and the active fill plume skirts the western landfill boundary at well A-53 as it moves eastward towards the central ravine.

In 2002, detections of VOCs and increasing inorganic concentrations in A-8 (former background well) indicated a release in the eastern area near the entrance to the landfill. This finding required the Discharger to implement an EMP to characterize the extent of impacts in the eastern area. This eastern EMP continues with initial results suggesting that the impact is beyond the property boundary to the east. The goal of the EMP is to define the lateral extent of the impact. The nearest domestic well is approximately 1,000 south of the impacted area. Analytical results indicate that this domestic well is not impacted by a landfill release at this time.

Inorganic water quality impacts occur at the landfill as indicated by elevated levels of chloride, bicarbonate, sodium, antimony, magnesium, and overall total dissolved solids (TDS). The Closed Module I inorganic plume generally coincides with the organic plume but is shifted slightly to the west. The background TDS concentration in groundwater is approximately 300 mg/l to 350 mg/l which compares to a maximum TDS of about 2,200 mg/l found in shallow monitoring well A-58, located in the central ravine.

The impacts in the deeper Purisima Formation are not as laterally extensive as the impacts in the Aromas Sand. Impacts in the Purisima Formation may be the result of vertical migration of contaminants through improperly installed multi-zone wells. As a corrective action measure, the Discharger modified eight multi-zone wells in 1998 to seal lower portions of the wells.

Remediation Effectiveness

Groundwater remediation efforts have been underway downgradient of the closed Module I area since 1988. Specific details of the groundwater flow model used to design the groundwater extraction system are either lacking in the project record or were never provided. The treatment system currently consists of 25 groundwater extraction wells completed in either the Aromas Sand or Purisima Formation, passive air stripping, and a gas phase granulated activated carbon column to remove VOCs from the air stream prior to discharge to the atmosphere. Treated groundwater is stored in a 500-gallon polyethylene tank to await re-injection to the Aromas Sand aquifer through the nine recharge galleries, or use as dust control. The groundwater cleanup goals for the groundwater corrective action program were set at one-half of the Federal maximum contaminant levels (MCLs). Other compounds not having MCLs will also be captured and remediated along with MCL compounds by the groundwater extraction and treatment system.

In 1988, the extraction wells averaged 0.33 gallons per minute (gpm) per well for the Aromas Sand wells and 1.5 gpm per well for the Purisima Formation wells, significantly less than originally designed for, suggesting that the transmissivity of the aquifer was overestimated. For the full remedial system, 15 extraction wells in the Aromas Sand produced an average between <0.1 gpm and 1.5 gpm per well, totaling approximately 6 gpm (average of 0.4 gpm per well) until the mid-1990's, with diminishing performance until well rehabilitation efforts were conducted in 1998. Monitoring data between April 2004 and June 2006 indicate that the total production of the Aromas Sand wells has decreased to an average of 2 to 3 gpm.

Groundwater samples collected from Aromas Sand well A-12, located in plume center, had declining VOC concentrations following startup of the groundwater corrective action in 1988. However, VOC concentrations increased between 1995 and 1999. Since 1999, total VOC concentrations detected in A-12 have stabilized at approximately 70 µg/L. Groundwater samples collected from well A-20, located south of well A-12 and within 30 feet of the landfill's southern property boundary, had detectable VOC concentrations starting in 1995, indicating plume expansion. The plume expansion and lack of cleanup progress in the plume interior suggested that the groundwater corrective action program is not adequate.

The groundwater corrective action system ceased operating in June 2006 because of vandalism, and has remained offline. The Discharger is currently using this system shutdown as an opportunity to conduct a long-term rebound test to evaluate the past effectiveness of the system.

Staff has requested that the Discharger conduct aquifer testing and a groundwater balance evaluation in order to refine the hydrogeologic model for the landfill. The hydrogeologic model will serve as the basis for the upcoming engineering feasibility study (due in June 2007) to improve the remedial system.

Surface/Storm Water

The Discharger has reported that groundwater seeps occur approximately 200 feet east and uphill from Desilting Basin B in the central ravine at the contact between the Aromas Sand and underlying Transition Zone. In addition, the Desilting Basin B retains water throughout the year, which indicates that it is spring fed from underlying saturated alluvium. No other springs or seeps are evident in the immediate area of the landfill. The landfill is covered under the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Industrial

Activities. Surface water monitoring consists of quarterly sampling at Sediment Desilting Basin B for VOCs, and annual collection of storm water discharge at SW-1, located downstream of Desilting Basin B. SW-1 parameters are specified in MRP No. R3-2007-0003. As required by the permit, one sample is collected at SW-1 during the first major storm event of the rainy season, and a second sample collected during an event thereafter. The Discharger submits an annual report to the Water Board by May 31 each year including sample results for the previous twelve-month period. Monitoring results indicate that the landfill's surface water discharge is in compliance with discharge standards. The Discharger also reports daily and quarterly rainfall data for the landfill in the Semiannual Detection Monitoring Reports, which are submitted to the Water Board.

PROPOSED ORDER CONTENTS

General Information

The section includes discussions of the site's description and history, waste type and classification, geology and hydrogeology, groundwater, storm water and surface water, water quality, control systems and monitoring programs, beneficial uses of the water, and surrounding land use.

Compliance with other Regulations, Orders and Standard Provisions

This section directs the Discharger to:

a. Comply with proposed Order No. R3-2007-0003 which replaces Regional Board Order No. 93-84 (landfill Super Order).
b. Comply with all applicable requirements contained in CCR Title 27 and 40 CFR 257 and 258.
c. 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."

Prohibitions

The discharge prohibitions outlined in the Order are applicable to Class III waste disposal.

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, d) Corrective Action Program, and e) Closure.

General Specification No. 19 states that the landfill must discontinue receiving waste by April 30, 2009, when the landfill is projected to reach final design configuration.

Water Quality Protection Standards

These standards outline constituents of concern, monitoring parameters, concentration limits, monitoring points, points of compliance, and compliance period.

Provisions

This section addresses the Discharger's responsibilities regarding landfill-related impacts to water quality and provides: Water Board access to the landfill and related reports, Order severability, discharge conditions, reporting and implementation provisions, a termination clause, financial assurance mechanisms, and wet weather operations provisions.

MONITORING AND REPORTING PROGRAM (MRP) CONTENTS

Part I - 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, leachate and gas), analytical monitoring of groundwater and gas monitoring parameters, and constituents of concern, and quarterly determination of groundwater flow rate and direction.

Part II - 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. This section also establishes acceptable statistical and non-statistical methods the Discharger must use to perform data analysis, and outlines acceptable re-test procedures.

Part III – Statistical and Non-statistical Analysis of Data

This section outlines the methods that will be used to analyze monitored constituents for evidence of a release.

Part IV - Reporting

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

Part V - Definition of Terms

This section defines a number of terms used in the MRP.

ENVIRONMENTAL SUMMARY

Environmental impacts from the landfill were evaluated in a Regional Solid Waste Facilities Project, Environmental Impact Report (EIR), dated September 2002. The required public comment period was extended from the 45-day minimum, to a total of 100 days. In addition to the required public comment period, the project was also discussed during monthly Salinas Valley Solid Waste Authority Board meetings. The Notice of Determination approving the project was completed in December of 2003. Subsequent to completion of the environmental impact report, amendments were drafted to allow for tonnage increases and clarification that a "leachate barrier" was not required to complete the 30-foot vertical expansion at landfill.

This current project involves an update of Waste Discharge Requirements initiated by the Discharger. 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

The draft Order and MRP No. R3-2007-0003 were distributed to a list of interested parties (including downgradient property owners) and agencies that have been historically involved with the landfill. Written comments received on the draft Order and MRP No. R3-2007-0003 are included in Attachment D. The Discharger also discussed some of their comments with Water Board staff via telephone. All submitted comments were

considered and addressed upon receipt or had previously been included in the original draft version. The key comments along with Water Board staff's responses include:

1. The Discharger, and their consultant, Dr. Jim Finegan, requested that the deadlines for the engineering feasibility studies (southern and eastern areas), extent of waste characterization, and implementation of corrective action refinements be pushed back at least two months because of schedule conflicts.
Response: Water Board staff incorporated extensions for all but the engineering feasibility study for the southern area because it is considered a high priority item given the off-line status of the groundwater extraction and treatment system and potential for offsite migration of contaminants.

2. The Discharger expressed concern that Specification No. 6 "The Discharger shall not cause an increase in concentration of waste constituents in soil-pore gas, soil-pore liquid, perched water, groundwater or geologic materials outside of the Point of Compliance (as defined by CCR Title 27)" was overly conservative with respect to protecting beneficial uses of water and that it could lead to high resource expenditures with little benefit in terms of water quality.

Response: Water Board staff responded to the comment by adding the following language "Discharger shall not cause a **measurably significant** increase in waste constituents….."

3. The Discharger and their consultant, requested that some monitoring locations in the plume interior be removed from the MRP sampling and that domestic well monitoring be changed to a semiannual frequency (versus the current quarterly frequency). The Discharger also suggested that a case could be made for not including antimony, perchlorate, iron, and total petroleum hydrocarbons in the detection and corrective action monitoring.

Response: Water Board staff will consider these requests after refinements are made to the corrective action system, which are scheduled for summer 2007. Proposed changes to the MRP can be made with the Executive Officer's approval at that time. Water Board staff believes that antimony, perchlorate, iron, and total petroleum hydrocarbons should be analyzed during a minimum of three sampling rounds to evaluate the concentrations of these parameters. Therefore, they have been left in the MRP program.

4. The Discharger and their consultant commented on WDR finding No. 44, under the Control Systems/Monitoring Programs, and a similar item in MRP Section F.7, landfill Gas Collection System. The MRP calls for monthly sampling of perimeter soil-gas monitoring wells and analysis for methane, carbon dioxide, oxygen, and total VOCs using field instruments. On an annual basis, samples are collected and analyzed for individual VOC compounds by a laboratory using EPA Method Toxic Organic (TO)-15 or equivalent method. Soil-gas monitoring is being used in-lieu of collecting soil-pore water samples (via lysimeters) at the landfill. The Discharger argued that annual analysis for individual VOC compounds is costly and not very useful for protecting both the beneficial uses of water and human health and safety, considering the transient nature of landfill gas. Because laboratories continue to lower their detection levels, the Discharger argued that the associated risk to groundwater from concentrations of landfill gas in the low parts per billion (by volume) has become difficult to quantify and that field analysis for methane was the most useful method for detecting landfill gas migration. In addition, the Discharger argued that the landfill already has groundwater impacts such that laboratory analysis of soil-gas is not needed. Instead,

field monitoring for methane should suffice as a screening tool to check for landfill gas migration.

Response: Water Board staff evaluated reported 2005 soil-pore gas concentrations for individual VOCs versus potential groundwater impacts and indoor air risk using gas-water partitioning relationships and environmental screening levels, respectively. Staff determined that PCE and vinyl chloride are the likely risk drivers at the landfill and concluded that complete elimination of laboratory VOC analysis is not warranted at this time for the following reasons: 1) the west side of the landfill has minimal to no groundwater impacts such that the use of soil-gas VOC detection monitoring is still needed at this location as an early indication of a new release, 2) the lack of detectable methane does not always preclude the presence of VOC gas migration. This is evident in one gas monitoring location (GW-17) where soil-pore gas concentrations of PCE indicated a potential risk for indoor air impacts and groundwater impacts, despite field readings of zero for methane (the area is currently under an EMP program to evaluate the source of VOCs), 3) Although perimeter probes do not contain vinyl chloride at the present time, vinyl chloride is detected in interior probes such that there is a potential for vinyl chloride to migrate offsite at a later time. Vinyl chloride has low environmental risk screening levels because it is a carcinogen, and 4) Title 27, Section 20921 mandates that "trace gases shall be controlled to prevent adverse acute and chronic exposure to toxic and/or carcinogenic compounds." This indicates that the Discharger must demonstrate through quantitative analysis that surrounding residences are protected from potential VOC migration in soil-pore gas. However, staff believes that annual monitoring for VOCs using EPA Method Toxic Organic (TO)-15 could be substituted with alternative monitoring methods if shown by the Discharger to be equally protective. Also, in response to the Discharger's comments, Water Board staff modified WDR finding No. 44 to provide context for the 2005 soil-gas VOC analytical results with respect to potential residential indoor air and groundwater impacts.

We received no further comments from any additional parties. Copies of the proposed Order were sent to property owners surrounding the landfill.

RECOMMENDATION

Adopt proposed Waste Discharge Requirements Order No. R3-2007-0003.

ATTACHMENTS

1. Proposed Waste Discharge Requirements Order No. R3-2007-0003.
2. Proposed Monitoring and Reporting Program No. R3-2007-0003.
3. Interested Parties List
4. Comments on Draft WDR and MRP No. R3-2007-0003

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