

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

**STAFF REPORT FOR REGULAR MEETING OF MAY 13, 2005**

Prepared on April 5, 2005

**ITEM: 28**  
**SUBJECT: Rescission of Waste Discharge Requirements for Manville Products Corporation Lompoc Plant/Filtration and Minerals Division, Santa Barbara County – Order No. 88-111**

**KEY INFORMATION**

Permittee: Manville Products Corporation (facility now owned/operated by Celite Corporation)  
Location: 2500 Miguelito Canyon Road, Lompoc, Santa Barbara County  
Discharge Type: Individual Onsite Wastewater Treatment System  
Type of Waste: Domestic Wastewater  
Design Capacity: 12,500 gallons per day  
Treatment: Imhoff tank (primary treatment by settling)  
Disposal: Subsurface disposal to conventional leachfields  
Reclamation: N/A  
Existing Orders: Waste Discharge Requirements Order No. 88-111 for domestic wastewater; State Water Board Water Quality Order No. 97-03-DWQ, General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity

**SUMMARY**

*[NOTE: Staff's recommendation to rescind Order No. 88-111 is accompanied by staff's recommendation to enroll the Permittee under another Waste Discharge Requirements Order. Please see the "Low Threat and General Discharge Cases" Section of this Agenda.]*

On July 8, 1988, the Regional Board adopted WDR Order No. 88-111 for the Manville Products Corporation, authorizing the discharge of primary treated domestic wastewater and laboratory rinse water to leachfields. The facility is now owned and operated by Celite Corporation (Celite).

Order No. 88-111 anticipated the completion of the facility's onsite Research and Development Laboratory (R&D Lab), by recognizing the additional personnel and non-hazardous laboratory rinse waters proposed for discharge. Staff established a comprehensive monitoring and reporting program (as revised June 26, 1990), which included influent, effluent, water supply, sludge,

and laboratory rinse water monitoring, disposal area inspections, and quarterly reporting.

Celite requests a reduction in monitoring based on the sampling results since 1993. Staff's review of monitoring data indicates that reduced monitoring is warranted. Staff proposes two actions: 1) The rescission of Order No. 88-111, and 2) The enrollment of the Permittee under State Water Resources Control Board Water Quality Order No. 97-10-DWQ, *General Waste Discharge Requirements for Discharges to Land by Small Domestic Wastewater Treatment Systems*.

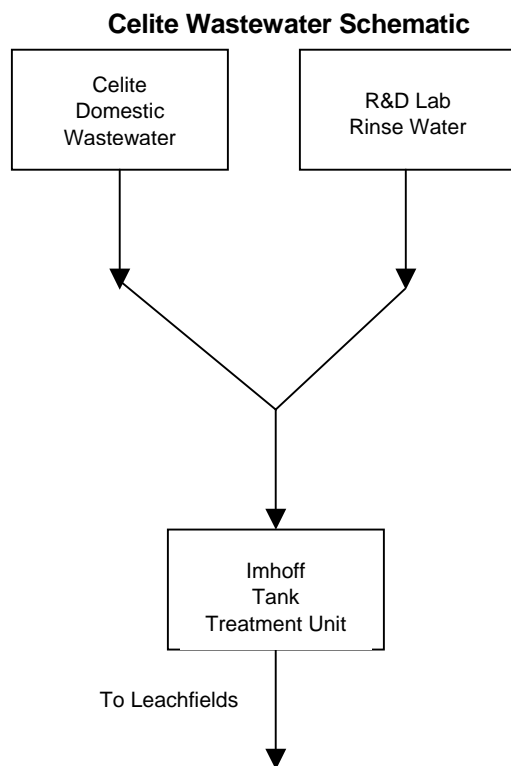
**DISCUSSION**

Celite mines diatomaceous earth (the non-toxic, fossilized remains of freshwater and marine algae-like organisms) at its 5000-acre facility approximately three miles south of Lompoc. The material has a variety of uses, which include filtering liquids and its use as a filler in other products such as paints.

Order No. 88-111 authorizes the discharge of

domestic wastewater and laboratory rinse water to an onsite treatment system consisting of a 25,000-gallon Imhoff tank and leachfields. An Imhoff tank functions similarly to a septic tank, providing removal of settleable and floatable wastes, and anaerobic digestion of solids. Its two compartments are vertically configured (one over the other), in contrast to the side-by-side configuration of conventional septic tanks.

There are two components to Celite's waste discharge (see schematic below): 1) domestic wastewater from onsite personnel; and, 2) non-hazardous laboratory rinse water from the onsite R&D Lab. Approximately fifteen years of monitoring data for the R&D Lab indicate no adverse impacts on the treatment and disposal system. R&D Lab wastewater comprises only non-hazardous, pH-controlled rinse water, with occasional discharges of alcoholic products such as beer, wine, or sake from beverage-filtration bench tests. These wastes exclude all hazardous wastes, which are disposed of in accordance with all local, state, and federal requirements.



In response to the R&D Lab monitoring data, staff recommends eliminating this component of Celite's

monitoring as required in the *Research and Development Lab Monitoring* section of Monitoring and Reporting Program No. 88-111. Staff recommends accomplishing this by rescinding Order No. 88-111 (thus eliminating the direct monitoring of the R&D Lab), and enrolling Celite under the State's Order No. 97-10-DWQ (further discussed below) for onsite wastewater treatment systems. Under this proposal, the regulation of the R&D Lab waste stream will continue, but more appropriately recognized as a small and relatively insignificant component of the total effluent.

**Proposed Enrollment Under WQO No. 97-10-DWQ** – On November 18, 1997, the State Water Resources Control Board adopted Water Quality Order No. 97-10-DWQ, *General Waste Discharge Requirements for Discharges to Land by Small Domestic Wastewater Treatment Systems* (General Order). Domestic wastewater treatment and disposal systems with a maximum average daily flow of 20,000 gallons or less that discharge to land are eligible for coverage under the General Order.

From November 1999 through October 2004, Celite's total average daily flow was approximately 4,030 gallons per day. Celite's flow rate is therefore well within the General Order's flow limit of 20,000 gallons per day.

The R&D Lab wastewater components (pH-controlled rinse water and periodic discharge of alcoholic beverages from beverage-filtration test wastewater) are common to typical domestic wastewater discharges, and are within the scope of waste discharges covered by the General Order.

In addition, Celite staff estimate the volume of wastewater from the R&D Lab at approximately one to three percent of the total wastewater flow to the treatment and disposal system (an average of 40 to 120 gallons per day). Because the R&D Lab flows are small in comparison to the overall wastewater flow, the domestic waste stream substantially dilutes the R&D Lab waste stream.

Based on these qualifications, staff proposes enrolling Celite under the General Order (Please see the "Low Threat and General Discharge Cases" Section of this Agenda), contingent upon its coordination with the Regional Board's rescission

of Order No. 88-111. Enrolling Celite under the General Order would achieve staff's recommendation to modify Celite's monitoring requirements, with more appropriate emphasis on the domestic nature of Celite's waste discharge.

The following provides additional detail regarding current monitoring and reporting requirements.

**Current R&D Laboratory Monitoring Requirements:** Monitoring and Reporting Program No. 88-111 includes specific sampling and analysis requirements for the lab rinse water: monthly sampling for pH and Total Organic Carbon, and annual sampling for 103 organic compounds.

The discharge specifications of Order No. 88-111 apply to the effluent from the Imhoff tank to the leachfield, with no limitations specific to discharges from the R&D Lab to the Imhoff tank.

**R&D Lab pH** – From May 1993 through October 2004, only two Imhoff tank effluent sample results were outside of the permitted pH range of 6.5-8.4. R&D Lab monitoring data coinciding with effluent monitoring indicates that neither effluent excursion was adversely influenced by the R&D Lab discharge. Staff review of historical monitoring of R&D Lab discharges indicates the pH of this waste stream is insignificant to Celite's waste discharge and does not pose a threat to water quality.

**R&D Lab Total Organic Carbon (TOC)** – The monitoring program requires TOC analysis to measure potentially adverse organic pollutant loadings to the treatment system. For only 13 of 113 sampling events since 1993, Celite's monthly monitoring of the R&D Lab wastewater TOC indicates concentrations considered "strong" for untreated wastewater (290 mg/L or above).

Staff attributes these results to the testing of alcoholic beverages, which contain high levels of organic carbon, and the typically low flow during discharge. This combination yields a high concentration, but the results do not factor in the considerable dilution after the R&D Lab discharge combines with the wastewater from the rest of the facility before treatment. Celite estimates R&D

Lab flow rates at approximately one to three percent of the facility's total wastewater flow, and frequently experiences difficulty in collecting samples due to the typically low flows.

The vast majority of the sampling results indicate "very weak" to "weak" strength R&D Lab wastewater in comparison to typical domestic wastewater (such as that received from the rest of the facility).

Related to TOC monitoring of the R&D Lab waste stream, influent to the Imhoff tank is monitored for Chemical Oxygen Demand (COD; another measure of organic content in wastewater). The Imhoff tank receives wastewater from the R&D Lab and the rest of the facility (again, this is typical domestic wastewater). There is no correlation between R&D Lab TOC monitoring data and Imhoff tank influent COD data.

For example, in July 1996, the R&D Lab TOC was 2.5 mg/L (extremely weak organic concentration), while the Imhoff tank influent COD was 790 mg/L (medium-to-strong organic concentration). In contrast, in October 1996, the R&D Lab TOC was 540 mg/L (very strong organic concentration), while the Imhoff tank influent COD was 190 mg/L (very weak organic concentration). This analysis further supports staff's conclusion that discharges from the R&D Lab have an insignificant affect on the treatment and disposal system, and pose no threat to water quality.

**R&D Lab Organic Compound Monitoring** – Since 1999, organic compound analyses indicate detection of only two of the 103 chemicals included in required analytical tests. The chemicals (bromoform, dibromochloromethane) are known byproducts of drinking water supply disinfection. Effluent analysis detected these two chemicals just above detection limits, yet 10 to 100 times below EPA's drinking water Maximum Contaminant Level for trihalomethanes.

In 1990, the Regional Board acknowledged the possibility that monitoring for organic chemicals from the R&D Lab may warrant modification after reviewing initial sampling results. MRP No. 88-111 states, "Sampling frequency may be modified after the first year depending on detection of

specific pollutants during the first year of monitoring.” In light of monitoring data collected over the fifteen years since the MRP’s issuance, and lack of detected pollutants, staff recommends eliminating these requirements.

Staff’s recommendation is further supported by Celite’s *Standard Operating Procedures and Guidelines for Safety Practice in the R&D Facilities* (SOP). The SOP outlines and includes by reference mandatory procedures for the proper control and disposal of hazardous chemical wastes, and the discharge of non-hazardous wastes to lab sinks. Celite periodically updates this document, and will continue its implementation.

Overall, Celite’s long history of R&D Lab monitoring has shown no observable impact on Celite’s wastewater discharge, and staff recommends removing this component from their monitoring requirements.

**Current Domestic Wastewater Monitoring Requirements:** The remainder of MRP No. 88-111 largely comprises common monitoring requirements for onsite domestic wastewater treatment systems, including monitoring flow rate, pH, settleable solids, total suspended solids, total dissolved solids, total nitrogen, sludge disposal, and disposal area observations. Staff intends to recommend continuing these elements in the General Order’s MRP (Please see the “Low Threat and General Discharge Cases” Section of this Agenda).

MRP No. 88-111 contains two exceptions to the common monitoring elements listed above: 1) Annual effluent sampling for metals; and, 2) Influent Chemical Oxygen Demand (COD). Staff recommends two changes discussed below: 1) deleting effluent metals monitoring; and, 2) monitoring effluent COD instead of influent.

**Effluent Metals** – Annual effluent sampling for metals has shown that, when detected, concentrations are at least 1,000 times smaller than the Order’s effluent limits, and comparable to concentrations detected in Celite’s water supply. Monitoring indicates no detection of ten out of fifteen constituents, and two of the fifteen have no effluent limits in the Order. The data indicates that

metals are an insignificant component of Celite’s wastewater, and staff recommends eliminating effluent monitoring for metals.

**Influent COD** – As an indicator of the organic content of Celite’s wastewater, MRP No. 88-111 also requires influent monitoring for COD. Influent monitoring data does not indicate organic concentrations unusual for domestic wastewater. Changing the sampling location to the effluent side of treatment will better characterize the organic loading to the leachfields. Instead of monitoring for COD at the influent (the raw wastewater flowing to the Imhoff tank treatment system), staff recommends monitoring effluent COD (after Imhoff tank treatment, but before disposal to leachfields).

**Compliance History:** Since 1994, Celite has violated its daily maximum flow limit of 10,440 gallons per day on thirty-six occasions (approximately 1 percent of the daily flow measurements). Monitoring reports attribute these incidents to broken fixtures (i.e., toilets – cause for the majority of incidents), failed equipment, or extreme rainfall. Celite responded appropriately to remedy each incident, including connecting the treatment system’s high water level alarm into their main alarm panel in 2003 (upgraded from a local alarm at the Imhoff tank). Celite reported no adverse impacts to the treatment and disposal system. These periodic flow violations did not cause violations of the daily flow averaged over any month (8,330 gallons per day).

Celite violated its effluent pH limit in November 2000 (6.2 reported versus the Order’s minimum of 6.5), and in March 1998 (10 reported versus the Order’s maximum of 8.4).

Celite violated its effluent settleable solids limit once in January 1997, reporting 1.0 mL/L versus the Order’s maximum of 0.7 mL/L.

Staff used verbal enforcement for some of the above violations, and recommended no formal enforcement actions.

Regional Board files indicate staff observed no violations during facility inspections.

## COMMENTS AND RESPONSE

Celite Corporation: Tom Hawk – By telephone on April 5, 2005, Mr. Hawk concurred with staff recommendations and offered no further comment.

## ATTACHMENTS

1. Order No. 88-111

## RECOMMENDATION

Rescind Order No. 88-111 (with enrollment under State Board's Order No. 97-10-DWQ for onsite wastewater systems; please see the "Low Threat and General Discharge Cases" Section of this Agenda)

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WDR 88-111 rescission - STF.doc  
Task: 126-01  
File: Discharger; Celite Corp/Allegheny Corp / Celite Lompoc Plant