



OILSORB GUARDIAN

Biomin, Inc.
Our 15th Year of Excellence

P.O. Box 20028 • Ferndale, MI 48220 • Ph 248-544-2552 • Fax 248-544-3733 • biomin@aol.com
www.biomininc.com

STORM WATER

“OILSORB” ORGANOCLAY BRINGS REFINERY INTO COMPLIANCE

A major refinery in California found itself in violation of local discharge standards and needed to upgrade its water treatment operation. The refinery had been collecting parking-lot and plant run-off, which was contaminated with oil, grease and sediments. The run-off was mixed with process water and the mixture was pumped through a dissolved air flotation unit. To break any emulsions and float as much oil as possible, polymers were added into the mix. The oil was skimmed off before the water entered a settling tank. After the water settled, it was discharged into the open waterway.

The Regional Water Quality Control Board's standard for oil and grease was 5 ppm. The refinery met the standard occasionally, but

spikes overtaxed the system. The refinery was frequently fined for discharge violations. To bring the refinery into compliance, a system was designed that consisted of two particulate filters with 50 micron cartridges; two particulate filters with two 25 micron cartridges, and supporting valves, pipes and hoses, followed by a number of string wound polypropylene cartridges to remove sediments of 5 and even 1 micron size. This was followed by two carbon steel pressure media filter vessels containing 720 ft³ of “Oilsorb” organoclay, or 35,000 lb “Oilsorb” each, and running at a flow rate of 1000 gpm each (Figure 1). The quality of the Storm water effluent measured consistently below the 5-ppm discharge limit.

The effluent water was so clean that the refinery considered recycling it in the processing facility to reduce the costs of water and causing fewer visits by the water quality inspector.

Cont'd on back



Fig 1. Storm water Cleanup system at a Refinery. 2000 gpm, 75,000 lb Oilsorb.

OILSORB Cleans Urban Runoff in Orange County, CA

Purpose of system: remove sources of contamination on beaches.
Sources: Fire hydrants, lawn water runoff; car washes. Contaminant's: oils, pesticides, herbicides, bacteria, viruses, heavy metals, suspended

solids. System: Multimedia filter for SS: Two 72 ft 3 vessels (in parallel), 3000 lb Oilsorb each; purpose of Oilsorb: protect two UV disinfection units from oil. Flow rate: 150 gpm max.

PERMITTING & CONTROLLING STORMWATER DISCHARGES FROM INDUSTRIAL FACILITIES: A PRIMER

Nonpoint source water pollution comes from many different sources. As rainfall runoff moves across industrial and commercial facilities, it picks up natural and man made pollutants and deposits them into surface and underground water courses. The United States EPA has determined that nonpoint source pollution is the leading cause of water quality problems. Since 1987, the USEPA and States have regulated eleven categories of industrial activities identified by Standard Industrial Classification codes which include manufacturers, landfills, transportation facilities and construction activities that disturb more than one to five acres. These facilities must obtain coverage under a NPDES stormwater permit. General and individual

permits are available, but general permits are much more streamlined. EPA's Stormwater program website is www.epa.gov/npdes/stormwater.html.

On March 10, 2003 new federal Phase II stormwater regulations came into effect that extended coverage to construction sites that disturb one to five acres. Sites disturbing five acres or more were previously regulated. These regulations place new requirements on as many as 200,000 construction sites. The Construction Industry Compliance Assistance Center at www.cicacenter.org/stormwater provides a plain language explanation of the rules. Limited waivers are available. Application forms were posted on the EPA website on July 1,

2003. EPA estimates that compliance costs for the new rule range from \$2,100 to \$9,600 depending upon the acreage of the site. BMP costs for commercial sites range from \$10,000 to \$70,000. (www.epa.gov/pubs/econ_chap_4.pdf.)

All regulated categories of businesses are required to implement a Stormwater Pollution Prevention Plan. Construction sites must have soil erosion sediment control plans. The plan must identify sources of pollution impacting the quality of stormwater discharges and ensure implementation of measures to minimize and control pollutants in stormwater discharge associated with industrial or construction activities. Periodic evaluation of the

Cont'd on back

The spent material was disposed of by sending it to a fuel blender; the BTU value of spent Oilsorb is 15,000 BTUs (land filling is also an economical option).

The "Oilsorb" was used for 6 months, until the project was finished, but the "Oilsorb" organoclay was not yet exhausted. "Oilsorb" removes oil and grease at 7 times the rate of activated carbon, and saved this facility 50%

of its operations costs. If N/D had to be guaranteed, a carbon tank would have been added at the tail end as extra insurance.

"Oilsorb" organoclay (organically modified clay) consists of bentonite modified with quaternary amines. This modification allows the organoclay to remove oils and other organic hydrocarbons of low solubility by partition, meaning that the clay can remove

oils at any pH, in fresh or salt water. The organoclay is blended with anthracite to prevent early plugging of interstitial pores.

To order OILSORB, please call us at (248) 544-2552, fax your order to (248) 544-3733 or e-mail us at biomin@aol.com.

References and a performance guarantee are available on request.

Biomin, Inc.

P.O. Box 20028
Ferndale, MI 48220
www.biomininc.com

**Another Case History for
Oilsorb EC-100 Organoclay
Save 50% of Operations Costs!**
*by extending the life of activated carbon
by 7 times.*

Topic: STORM WATER
Oilsorb Removes oil from Storm Water.

Permitting and Controlling continued from front

effectiveness of the plan to prevent stormwater contamination is also essential. Stormwater discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops.

Best management practices are to be the primary method followed in controlling nonpoint sources of storm water pollution. Self evaluation, monitoring and reporting are requirements for all permittees. Low cost management practices include good housekeeping, employee training and spill prevention and response procedures. The second type of management practices includes containment, miti-

gation and treatment, but these are more costly.

Permit monitoring and permitting requirements include three general types of monitoring stormwater quality: (1) analytical monitoring or chemical monitoring; (2) compliance monitoring and (3) visual examination of storm water discharges.

Most facilities are covered under general permits. The crucial aspect of compliance is development and implementation of a Stormwater Pollution Prevention Plan which includes the key elements discussed in this article.

* For further information contact **Daniele Cervino, Esq.**, Vice President and General Counsel of the environmental consulting and remediation firm of Environmental Waste Management Associates, LLC of Parsippany, New Jersey. Tel.: 800-969-3159. Daniele.cervino@ewma.com.

Also: Water and Waste Water Products pg. 8,
March-April Issue 2003. www.stormh20.com