

Industrial

Date Completed:

2004

Construction Cost:

N/A

Client or Owner's Rep:

Shell USA

Highlights:

- ✓ **Oily Water System**
- ✓ **Potentially Contaminated Storm Sewer System**
- ✓ **Benzene NESHAP**
- ✓ **Safety**
- ✓ **Reduced O&M Costs**
- ✓ **Funding and Preparation of Appropriation Requests (A/R)**

Photo: *Dual Carbon Canister Layout (Siemens/US Filter)*

Sewer Venting Analysis Conceptual Study Shell USA | Puget Sound, Washington

Project Description | Sewer Evaluation for Shell Puget Sound Refinery.

Services Provided | Shell Puget Sound Refinery collects oily wastewater and potentially contaminated storm water in the existing Oily Water Sewer (OWS) system and discharges to an existing biological wastewater treatment plant (enhanced bio-degradation units). To meet the Benzene NESHAP regulation, the refinery installed dual carbon canisters on all of the uncontrolled vents on the sewer system. The breakthrough of VOCs through the carbon canisters is occurring frequently. The cost for replacing the carbon and for disposal of spent carbon is estimated to be more than \$30,000 per year. KGI performed a study to achieve the following objectives:

- Evaluate the basic venting requirements of the existing sewer system.
- Determine the necessity of carbon canisters for treatment of VOCs.
- Develop conceptual improvements to improve the operability, decrease maintenance and improve safety of the existing sewer system.

