

SUPPLEMENTAL INFORMATION to the HYDROKLEEN ETV REPORT
September 2003

HydroKleen Treatment Flow Rate

Excerpts from:

September 2003

03/07/WQPC-SWP

Environmental Technology Verification Report

In-Drain Treatment Technologies Equipment Verification

Hydro Compliance Management, Inc.

Hydro-Kleen™ Filtration System

Prepared by NSF International

Under a Cooperative Agreement with U.S. Environmental Protection Agency

There were two main concerns for Hydro Compliance Management that arose during testing and are summarized in the verification report. The first was the flow rate of water through the media and the second was rapid clogging of the media. The Hydro-Kleen Filtration System experienced reduced treatment flow and substantial clogging during the ETV testing that Hydro Compliance Management had not observed in prior testing or in the field. Hydro Compliance Management has always strived to make supportable claims. Based on the results from the verification testing, Hydro Compliance Management arranged for further testing with Dr. Robert Pitt at the University of Alabama.

Upon completion of the ETV testing by NSF, Hydro Compliance Management sent a test unit to Dr. Pitt to determine flow rates and clogging characteristics of the treatment media. Dr. Pitt's report was finalized on October 27, 2003 and is available at

http://www.spillcontainment.com/products/stormwater/catch_basin/hydrokleen2.htm

In summary, Dr. Pitt's report indicated that the **Hydro-Kleen Filtration System was able to achieve a flow rate through the media up to 63 gpm without bypass***.

In addition, he did not observe clogging close to the degree that was seen in the ETV testing.

*NOTE: Hydro Compliance Management previously claimed that the HydroKleen could conservatively flow 35-40 GPM.

Hydrocarbon Capacity: The hydrocarbon capacity test used a stock hydrocarbon solution (gasoline, diesel fuel, motor oil and brake fluid) having a density of 803 grams per liter (6.69 pounds/gallon). Approximately 28,800 L (7,600 gal) of water was fed to the test unit during the capacity test. The stock hydrocarbon solution was mixed into water to achieve a mean TPH concentration of 135 mg/L and a mean O&G concentration of 173 mg/L. The TPH removal efficiency at the start of the test was 82 percent, dropping to 30 percent at the end of the test. Based on the TPH data, the hydrocarbon capacity of the media was approximately 2,890 grams (6.36 pounds). The results for O&G followed a similar pattern, with an initial removal efficiency of 84 percent and an ending removal efficiency of 22 percent. **Based on the O&G data,**

the hydrocarbon capacity of the media was approximately 2,930 grams (6.45 pounds or approximately one (1) gallon of hydrocarbon capturing capacity.