United States Coast Guard

Viscous Oil Pumping System (VOPS)
Background

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Partnership

- U.S. Coast Guard
- U.S. Navy Supervisor of Salvage
- Private Industry
- International
Key Components

- Control Stand
- Product Monitoring Pipe
- Water Injection Pump
- Annular Water Injection Flange
Water Injection Pump

Rotan Gear Pump
Control Stand

Product Pump Control

Water Injection Control
Product Monitoring Pipe

- Product Temperature
- Rupture Disk 180 - 220 psi
- System Pressure
Product Piping with Installed Gages and Sampling Port
Annular Water Injection Flange

Removable Ring for easy Cleaning
Water Injection Flange
Results

- Reduces head pressure.
- Push viscous oil greater distances.
- The three USCG Strike Teams have the VOPS in inventory.
USCG Viscous Oil Pumps

DOP-250 Pump with AWI Flange

DOP-160 Pump
VOPS Tested at OHMSETT

Hydra-search Fitting

400 meters of 6” hose
30,000 cst oil
VOPS Tested at Alaska Clean Seas, Prudhoe Bay, AK

Approx. 50,000 cst oil

100 cu.m/hr

With Water Injection
Future Plans

- Continue Partnership
- Testing / Exercises
- Develop Uniform Job Aids
- Actual Response Use
Water and oil discharging out of 6” lay flat hose at 800’
Questions?