

## E-MOP: Quick Facts

### **What is E-MOP™ Electromagnetic Oil Spill Remediation Technology?**

- A revolutionary new technology for oil spill remediation
- A technology that recovers oil from water with very high efficiency
- A system that collects and separates oil using magnets
- A process using materials that are environmentally friendly

### **What does E-MOP do?**

- Uses electromagnets to attract oil on either the surface or suspended below the surface of water
- Separates oil from water using a system composed of a conveyor belt and magnets
- Recovers oil from water with efficiency greater than 97% (as measured at Ohmsett, the National Oil Spill Response Research & Renewable Energy Test Facility)

### **How does E-MOP work?**

- Oil is first made magnetizable by seeding it with magnetite powder (a non-toxic iron oxide)
- Natural forces bond magnetite with oil. Magnets attract the magnetite and oil combination and move it in the direction of magnetic forces
- A string of electromagnetic coils, the “e-boom,” is powered to move the oil to a magnetized conveyor belt and separator
- A steep conveyor belt with magnets comprise the oil/water separator
- Separated oil is scraped from the belt for collection and recovery
- Magnets draw the magnetite to the bottom of the tank so it too is reusable

### **Unique features**

- An E-MOP system can be either mounted to a flotation vessel to collect oil in open water or located onshore where, in each case, collection takes advantage of water currents
- The E-MOP system has been tested to work with oil of any viscosity
- E-MOP collects oil at both the water surface and subsurface
- It works just as well in cold water spills
- E-MOP operating parameters can be dynamically adjusted to match oil viscosity and environmental conditions for optimum oil collection
- Magnetite material used is prevalent in nature, non-toxic, micron in size and can be readily recovered with magnets, cleaned and reused
- The E-MOP technology has potential for water reclamation applications in addition to oil remediation