

# HUMASORB®

*Solution To Pollution*

*Low Cost for Simultaneous Cleanup of Heavy Metals, Radionuclides and Organics*

**Metals, Radionuclides, Organics**

**Multi-Purpose Adsorber**

**High Cation-Exchange Capacity**

**Can Be Regenerated**

**Cost-Effective**

**Environmentally Friendly**

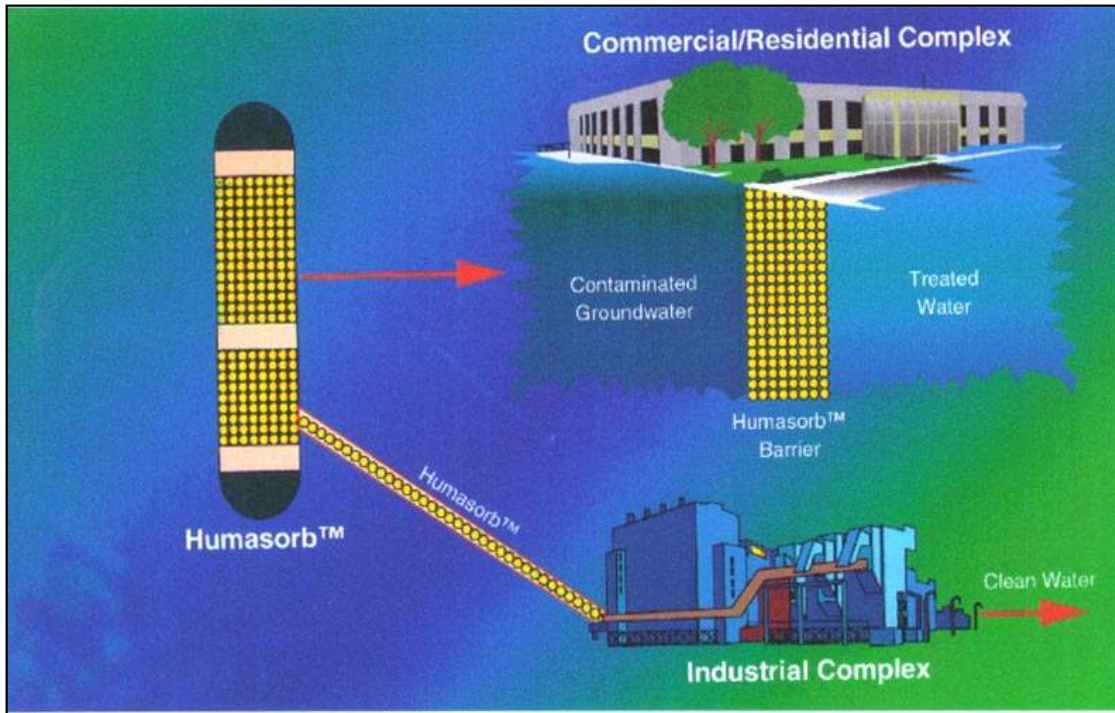


**ARCTECH**

*Preserving tomorrow's world... today*

**HUMASORB® is based on the natural properties of humic acid and incorporates high ion-exchange capacity, the ability to chelate metals, adsorb organics, and also reduce toxic forms of contaminants such as Cr (VI) and chlorinated organics into non-toxic components.**

## **Deployment of HUMASORB®**



*as an in-situ barrier*

*in pump and treat mode*

## **HUMASORB® EFFECTIVE ON:**

### **Metals:**

Barium, Lead, Cadmium, Chromium, Nickel, Mercury, Arsenic, Copper, Zinc, Aluminum, Cobalt, Beryllium, Iron, Zirconium, Gold, Manganese, Magnesium, Vanadium, Boron

### **Radionuclides:**

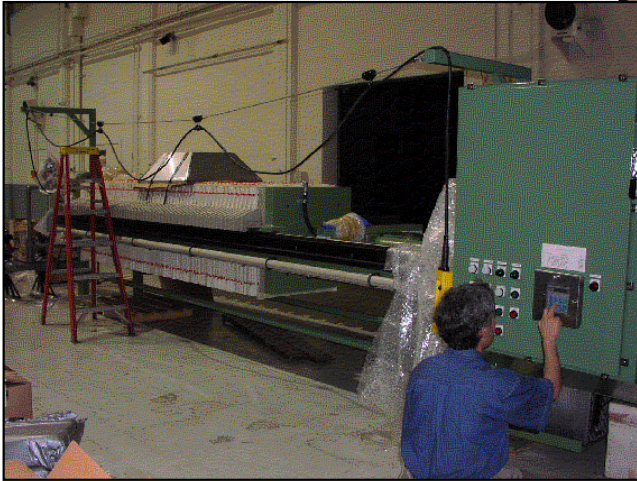
Uranium, Strontium, Cesium, Cerium (Plutonium Surrogate), Rhenium (Technetium Surrogate)

### **Organic Contaminants:**

TCE, PCE, PCB, Chloroform, Carbon Tetrachloride

# Successes of HUMASORB® Technology

## HUMASORB® Treatment Unit For Removal of Toxic Metals from Wastewaters at U.S. Army - Johnston Island



### Demonstration for resource recovery and treatment of acid mine water of Berkeley Pit Butte, Montana

- ❖ Successful treatment to recover metals such as copper and iron, and remove toxic metals such as cadmium to regulatory limits
- ❖ Fertilizer product recovered from the process successfully evaluated in field tests for growth of crops
- ❖ Demonstration established profitable approach

### Treatment of waste brines at U.S. Army Chemical Weapons Destruction Facility at Johnston Island in Pacific

- ❖ Treated waste brines to remove arsenic, mercury and lead
- ❖ Successful treatment to meet EPA TCLP requirements
- ❖ Provided solution to a problem for which no solution existed

### Treatability tests for removal of radio nuclides contaminants at DOE - Idaho Weapons Complex

- ❖ Effective for removal of cesium-137 and strontium-85 from Idaho Chemical Processing Plant (ICPP) Groundwater
- ❖ High affinity for radioactive strontium and cesium compared to background metals such as calcium
- ❖ Significant cost advantages compared to other media

# **Our HUMASORB® Process Mobile Unit is Available for Specific Technology Applications.**



**For More Information Contact:**

**ARCTECH, Inc.**  
**P.O. Box 382**  
**Centreville, Virginia 20122**

Phone: 571 338-5005

E-Mail: [dwalia@arctech.com](mailto:dwalia@arctech.com)

Or visit our website: [www.arctech.com](http://www.arctech.com)