

# Oil Reclaimers Crack Metal-Working Emulsions

### *Problem*

Many oil reclamation facilities treat wastewaters generated in-house from oil dehydration processes, and several attempt to process other generators' oily water streams. When these are man-made, chemically-stabilized emulsions, existing processes fail to handle the persistent oil-in-water emulsions. A powerful demulsifier is needed to deoil these streams.

### *Solution*

ECA\* 501E, formulated from highly charged cationic reverse demulsifiers, was found to work on many types of spent coolant from metal-working operations. Depending on emulsion stability and water clarity desired, ECA 501E at 1000-3000 ppm was found to release oil and solids in a form amenable to further processing and oil recovery.

### *Results*

#### **Case I**

An oil recycler in the Northeast treats metal-working wastes from 5 different generators in one large tank. The gray high-oil streams are treated with 1200 ppm ECA 501E, by extended circulation. After 1-3 days, a compact layer of oil and solids lifts out of hazy, yellowish water. The deoiled water is then combined and treated with the plant's effluent.

#### **Case II**

A TSDF facility in the Southeast handles spent coolants from over 60 generators. These highly turbid, highly stabilized emulsions contain 1-3% oil. Where other chemicals have failed, ECA 501E is working consistently at 1000-3000 ppm. Occasionally helped by ferric chloride, pH adjustment and a polymer, an oily floc separates from clear, pale yellow water. Analyzing at less than 100 ppm Oil&Grease, the treated water is then sewerred.

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