

**HARD  
FACTS  
ABOUT  
A JOB  
DONE  
WELL**

# ALYESKA'S MICROSCOPIC CLEAN-UP CREW

Millions of microbes are being used to reduce pollutants in the effluent at Alyeska's Marine Terminal in Valdez. The microbes occur naturally in the terminal's Ballast Water Treatment system; Alyeska adds nutrients and oxygen to help the microbes consume impurities in the ballast water off-loaded by incoming tankers.

## *Microbes & Chemicals*

The specific microbes used in Alyeska's treatment process utilize the chemical nutrients to digest benzene, ethylbenzene, toluene and xylene (collectively known as BETX), as well as other substances.

Alyeska voluntarily initiated the microbiological treatment process at the Valdez Marine Terminal treatment facility in 1986. Although BETX effluent levels were already within permit levels established by

rules are used to remove the majority of insoluble oil and grease particles. The water is then passed into the impound basin, where the biological treatment takes place.

This combination of treatment processes has allowed Alyeska to establish and maintain a record of high compliance with permitted levels of oil and grease, pH, BETX, organic carbon and naphthalene. From 1984 to 1988, Alyeska's daily compliance record was 100% for oil and grease; 97.66% for BETX; and 99.99% for pH. In addition, polynuclear aromatic hydrocarbons and naphthalene were below analytically quantifiable levels.\*

## *A Job Done Well*

While microbes might appear to be an unlikely element of environmental

**Pseudomonas species:** bar equals one micrometer



the DEC and the EPA, the new biological approach has reduced impurity levels by over 90 percent from permitted levels over the past year.

## *Treatments & Results*

Biological treatment is only one component of the Ballast Water Treatment process. Gravity separation, skimming and dissolved air flotation tech-

protection, Alyeska uses whatever means are necessary to do a hard job well.

For more information, contact Corporate Affairs, Alyeska Pipeline Service Company, 1835 S. Bragaw, Anchorage, Alaska 99512.

\*Source: Monthly Discharge Monitoring Reports (DMRs), required by NPDES permit, submitted to the Alaska Department of Environmental Conservation.

## *On The Job*

Rex Brown and John Runnels insure that Alyeska's BWT system operates efficiently and performs effectively.

As a Marine Process Supervisor at Valdez Marine Terminal, Rex Brown's responsibilities include the supervision of several permit-related processes, including Ballast Water Treatment. Rex has been an Alaskan since

1968 and an Alyeska employee for over 13 years. He also serves on the board of United Way in Valdez.

John Runnels is a Marine Operations Supervisor, responsible for one of four shifts working on marine operations. He has responsibility for operation of the Ballast Water Treatment system during his period of duty. John joined Alyeska when he came to Alaska from Houston over eight years ago.



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