Pumping Power Over Pollution: NETZSCH NEMO® Crushed Tank Bottom Challenge in Alaska

The Problem: Dirty Vapor Emissions

Tank terminals across Alaska face a messy, recurring aggravation—heavy, abrasive sludge accumulating at the bottom of storage tanks. These "tank bottoms" contain a thick mixture of oil, water, and solids that must be regularly removed to keep operations running smoothly.

Traditionally, vacuum trucks did the dirty work and are designed to naturally vent the vapors into the environment. But, with tightening environmental regulations and serious concerns about vapor emissions, these old-school methods are becoming unacceptable—especially in Alaska's sensitive ecosystems.

Mission Critical: A Smarter, Cleaner Alternative for Managing Emissions

An Alaska-based tank terminal needed more than a fix. They needed a transformation and here is what they required:

- Pump thick, abrasive oily water sludge with ease
- Maintain up to 450 gpm / 102 m^3/h flow rate
- Withstand discharge pressures of up to 180 psi / 12.4 bar and suction pressures of up to 40 psi / 2.7 bar
- Protect the media integrity for downstream centrifuge separation

The system had to be robust, reliable, and environmentally compliant.

The Game Changer: NETZSCH NEMO® Progressing Cavity Pump

NETZSCH delivered with the NEMO® NM105BY progressing cavity pump—built tough for abrasive duty, but gentle enough to preserve the integrity of the media for separation.

The Process: Clean Starts Here

Step 1: Extraction Without Emissions-
Sludge is collected from the tank bottom—no vacuum trucks needed.

Step 2: Precision Pumping
The NETZSCH NEMO® pump transfers the high- viscosity mix at 450 gpm / 102 m^3/h, holding steady under pressure and minimizing shear.

Sludge collected at the bottom of tanks

NEMO® Progressing Cavity Pumps easily transfer the high viscosity mix with limited vapor emission

The undamaged mixture flows into a centrifuge

Step 3: Separation Process
The undamaged mixture flows into a centrifuge, where the water, oil, and solids are cleanly separated.

Solids are incinerated

Step 4: Sustainable Disposal & Recovery
Solids are incinerated responsibly. Water and oil are recovered for reuse or additional treatment.

The Payoff: Cleaner, Smarter, Stronger

- **A Victory for the Environment**
  Vacuum truck elimination = drastic vapor emission reduction. A major win for compliance and the environment.
- **Low Shear, High Precision**
  Gentle pumping protects the mixture, ensuring maximum efficiency in downstream separation.
- **Built for Rough Conditions**
  NEMO® progressing cavity pumps are designed to handle abrasive, oily water sludges with changing viscosities—no drop in performance, no downtime.

The Result: Future-Proof Pumping

This Alaska installation proves what's possible when modern pumping tech meets real-world grit. NETZSCH's solution didn't just replace vacuum trucks—it outperformed them by greatly reducing vapor emissions.

For terminal operators under pressure to deliver low vapor emissions in harsh environments, the message is clear:

Stop vapor emissions. Use a smarter, NETZSCH pump solution.

Tank Bottoms Cleaning Pump Data

Pump type:	NEMO® NM105BY
Flow Rate:	up to 450 gpm / 102 m^3/h
Pressure:	up to 180 psi / 12.4 bar
Medium:	Oily water sludge
Temperature:	Ambient

Contact NETZSCH:

NETZSCH customers rely on our rigorous standards in design, engineering and manufacturing to deliver products with absolute functional reliability and exceptional quality. NETZSCH service, like NETZSCH quality, is geared to surpass our customers' expectations.

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