



LOBEPRO

ROTARY PUMPS

Application Report

Black Liquor pumped from storage tank to ship

Equipment:

SL 266 D Rotary Pump powered by a Perkins 1104T

Application:

To pump off Black Liquor, a by-product of paper mill production. The material looks like a cross between roofing tar and seaweed with a viscosity of 10,000 cPs at 140°F and specific gravity of 1.05. The application requires transferring the black liquor from a storage tank and pumping it through 700' of 8" pipe through multiple fittings and up 30 feet in elevation to an awaiting ship. The port terminal manager's objective was to transfer 1000 barrels per hour.

Job description:

After hearing about the application and the fact that the customer had not had much success pumping this material with other types of pumps, LobePro

decided to put together a diesel driven unit for the port terminal to try out. Our Pensacola sister company branch manager Matt Hall and service man Shane Davis went on site and assisted in hooking the unit up using high pressure Coast Guard rated hoses.

The initial pump off was excellent for the first few hours with the black liquor at 140°F then the discharge amount slowly decreased through the rest of the pump off by which time the black liquor was down to 105°F.

"I am very pleased with the pump and the production that we got off of it. I think that we have our problems licked with this product"

- Port Terminal Manager

105°F the viscosity was 20,000 cPs and at 140°F the viscosity was reduced to 10,000 cPs.

The 10,000 cPs viscosity at 140°F is easier for the pump to move through the pipeline. We

shared the viscosity results with the port terminal's management and they agreed that they needed to evenly heat up their product to a temperature of 140°F and maintain this temperature through out the pumping cycle to meet their pumping objectives. This required repairing a broken heating coil in their heater. We also discussed changing the size of the pipe from 8" to 12" to reduce the friction loss during the pumping process.

During the next pump off our SL266D pump maintained a 1,200-1,300 barrel per hour pump off rate with a discharge pressure of 100 PSI for 22 hours until the ship was loaded. The port terminal's managers were very pleased with the production and plan to continue with this material and pump at their terminal.

LobePro specializes in positive solutions to our customer's pumping problems. We work to understand the problem and find the right solution. By taking the extra time to analyse the material, the LobePro team was able to collaborate with the port terminal management and create an effective and long-lasting solution to the port terminal's pump needs.

