



Monolec® R & O Compressor / Turbine Oil (6403) Almaplex® Industrial Lubricant (1275) LEAPSM Oil Analysis Program

Town of Bridgewater WWTP – Bridgewater, Mass. Gear Reducers & Pillow Block Bearings

- Extended drain interval in gear reducers by 12 or more years
- Saved 1,680 gallons of lubricants
- Saved 360 labor hours valued at \$11,700
- Recorded minimal or no wear on gear sets

Customer Profile

The Town of Bridgewater, Mass., is 28 miles south of Boston. Founded by Love Brewster, a passenger on the Mayflower, Bridgewater is home to more than 25,000 residents. The town operates a secondary water pollution control facility, which has been awarded the EPA National Award for Outstanding Operations and Maintenance. The Bridgewater WWTP, which has been an LE customer for several decades, processes up to 1.5 million gallons of sewage daily and provides compost to residents and commercial clients.

Application

To stabilize the organic matter in the wastewater, the Bridgewater facility employs a rotating biological contactor (RBC) process, supported by primary and secondary clarifying operations and other functions found at most water pollution control facilities. This RBC process uses a series of rotating large-diameter plastic discs mounted on a horizontal shaft. The rotating discs submerge microorganisms into the wastewater. The facility's 14 RBC units are powered by 5-hp motors and Peerless-Winsmith gear reducers; the horizontal shafts are supported by two pillow block bearings supporting loads up to 14 tons.



Challenge

Peerless-Winsmith recommends that the oil in the gear reducers, with a sump capacity of 5 gallons each, be changed every six months. Bob Correia, senior operator and maintenance manager, and Jonas Kazlauskas, water and sewer superintendent, were looking for a solution to extend the drain interval while still providing superior protection to the equipment. In addition, they were looking for a grease that was water-resistant and would cope with the slow-moving, highly loaded pillow block bearings.

LE Solution

Bob and Jonas found what they were looking for with LE's Monolec® R & O Compressor / Turbine Oil (6403) for all 14 of the gear reducers and LE's Almaplex® Industrial Lubricant (1275) in the pillow block bearings and throughout the plant. They also use the LEAP oil analysis program to monitor the physical condition and wear rates of the gear reducers.

Monolec 6403 is a long-life, versatile, rust- and oxidation-inhibited, anti-wear, premium grade industrial lubricant that offers excellent water separation. The lubricant is engineered to combat the effects of water, contaminants, high temperature, and heavy loads that accelerate wear; and to provide much longer equipment and oil life.



Almaplex 1275 – a general purpose EP grease recommended for industrial and fleet use – is very effective in severe operations caused by moisture and high loads. It contains Almasol®, LE’s proprietary wear-reducing additive, plus a special aluminum complex base that imparts high mechanical stability, excellent water resistance, resistance to elevated temperatures and good heat reversion properties.

Results

Instead of the six-month oil change intervals recommended by Peerless-Winsmith, the Bridgewater WWTP is achieving significantly longer oil life with the LE oil. Many of the gear reducers have had the Monolec 6403 in use for 12 years and counting, with no change. In fact, one reducer has logged more than 20 years with the LE oil. All of the gears are in good condition, showing minimal or no significant wear.

Using Monolec 6403 and LEAP, the Town of Bridgewater WWTP has gone from a semi-annual oil change to an oil

change every 12 years or more. At the time of this report, the Town of Bridgewater eliminated 316 oil changes, saved more than 1,680 gallons of oil, and saved a minimum of 336 labor hours (valued at \$11,760).

- 14 RBC gear reducers x 5 gallons each x 2 oil changes/year (OEM recommendation) x 12 years = 1,680 gallons
- 14 RBC gear reducers x 1 hour labor x 2 oil changes/year x 12 years = 336 hours
- \$35 average labor cost x 336 hours = \$11,760

Other LE Products Used

- Almaplex Industrial Lubricant (1275)
- Duolec Vari-Purpose Gear Lubricant (1604)
- Monolec R & O Compressor / Turbine Oil (6405)
- Monolec Power Fluid (7500)
- Monolec Ultra® Engine Oil (8800)



Bob Correia



Jonas Kazlauskas

Thank you to Bob Correia, the senior operator and maintenance manager, and Jonas Kazlauskas, water and sewer superintendent, and to Dave Piangerelli, LE lubrication consultant, for providing the information used in this report.



Dave Piangerelli

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