

# INDUSTRIAL

Take regular samples representative of normal operating conditions. Send them to POLARIS Laboratories® for testing and analysis.



POLARIS Laboratories® processes the sample. Testing is completed, results are analyzed, recommendations are made and a report is generated.



POLARIS Laboratories® emails the results to the customer. The customer evaluates the recommended course of action.



Customer takes action and performs the necessary maintenance.



Fluid Analysis can put you a step ahead in the fast-paced arena of industrial plant production. If a “run to fail” philosophy often dictates your maintenance plan, give yourself the power to prevent small problems from becoming catastrophic failures. Quit making up for lost production time and start planning equipment downtime. Boost profits and your company’s bottom line. It costs so little to protect so much.

**PROVEN IMPACT**  
**PROVEN UPTIME**  
**PROVEN SAVINGS**

Fluid Analysis can detect equipment failures in progress and point you straight to the root cause of problems, enabling you to prevent catastrophic shutdowns and costly losses in production. The two biggest enemies for any industrial application are wear and contamination. Base sampling frequency on the equipment's criticality to production as well as the environmental conditions under which it is forced to operate. The fact that a component's failure could shut down an entire line of production is worth far more consideration than replacement value alone.

## STANDBY GENERATORS

Your generator set relies on three fluids to operate properly; fuel, coolant and oil. A problem with any of these will cause unplanned shutdowns and lead to expensive repairs.

### TEST PACKAGES - OIL

**BASIC** - Monitors both the unit and the fluid for wear and contamination

- 24 Metals by ICP
- Viscosity @ 100°C
- % Fuel Dilution
- % Soot
- % Water

**ADVANCED** - Safely extend oil drain intervals by determining the fluid's suitability for continued use

- All Basic Package Tests
- Base Number
- Oxidation/Nitration

### TEST PACKAGES - DIESEL FUEL

**BASIC** - Detects problems causing fuel filter plugging and determines the fuel's impact on fuel filter life

- 24 Metals by ICP
- Pour Point
- Water and Sediment
- Bacteria, Fungi and Mold
- Thermal Stability

**ADVANCED** - Determines if the product in bulk storage tanks complies with required supplier specifications

- All Basic Package Tests
- Viscosity
- PPM Sulfur
- API Gravity
- Flash Point
- Cetane Index
- Cloud Point
- Distillation
- \* Additional testing available

### TEST PACKAGES - COOLANT

**BASIC** - Basic testing monitors the corrosive attributes of the coolant itself – acidic or alkaline – in addition to chemical or mechanical attack on metal – additive or inhibitor present:

- Visual (color, oil and/or fuel contamination, foam magnetic/non-magnetic precipitation and odor)
- pH
- Glycol
- Freeze Point
- Boil Point
- Nitrite
- TDS (Total Dissolved Solids)
- Specific Conductance
- Carboxylic Acid Pass/Fail (Shell, Chevron or Cat ELC only)
- SCA Number
- Total Hardness
- Corrosion, Contaminant and Inhibitor Metals (Iron, Copper, Aluminum, Lead, Tin, Zinc, Silver, Calcium, Magnesium, Silicon, Phosphate, Boron, Molybdenum, Sodium, Potassium)
- ELC Basic Coolant Analysis Additive (Benzoate, 2-Ethylhexanoic acid, Sebacic acid, Octanoic acid, p-Toluic, MBT, TT Z, BZT)

**ADVANCED** - Advanced testing identifies possible sources of problems detected in Basic Coolant Analysis such as combustion gas leaks, air contamination, electrical ground problems, localized overheating, chemical breakdown or other contamination sources inside or outside the system. It includes all tests in Basic Coolant Analysis plus:

- Contaminants (Chloride and Sulfate)
- Inhibitors (Nitrite and Nitrate)
- Degradation Acids (Glycolate, Formate, Acetate and Oxalate)

## TURBINES

Turbine reliability is always critical and oil changes or failures is always expensive.

### TEST PACKAGES - OIL

**BASIC** - Monitors both the unit and the fluid for wear and contamination

- 24 Metals by ICP
- Viscosity @ 40°C
- Acid Number
- % Water
- ISO Particle Count

**ADVANCED** - Safely extend oil drain intervals by determining the fluid's suitability for continued use

- All Basic Package Tests
- Oxidation
- RPVOT
- Water Separability Characteristics
- Ruler (LSV - % phenols/amines)

## HYDRAULICS

Hydraulic Systems operate under extremely close tolerances demanding regular monitoring for fluid cleanliness.

## GEARBOXES

Gearboxes should also be closely monitored for dirt and water contamination, although the type of wear occurring is usually the biggest concern.

## COMPRESSORS

Compressors may not be the most expensive equipment to replace but are often the most critical to production.

### TEST PACKAGES

**BASIC**

- 24 Metals by ICP
- % Water by Crackle
- Viscosity @ 40°C

**ADVANCED**

- 24 Metals by ICP
- % Water by Crackle
- Viscosity @ 40°C
- Acid Number
- Oxidation
- ISO Particle Count/Particle Quantifier (PQ) – ferrous density