EPT
CLEAN OIL

LUBRICANT CHEMISTRY MANAGEMENT

ECR® Combo
PRODUCT BULLETIN

Industry-leading EHC fluid management for dissolved and solid contamination.

THE ONLY INTEGRATED SYSTEM TO CONDITION EHC FLUIDS TO THE REQUIREMENTS OUTLINED IN ASTM D8323.

ECR® Combo offers two distinct filtration technologies, removing fine solids and dissolved contaminants from phosphate esters, offering the best of both worlds in a single system.

Solid contamination is removed with electrostatic collector elements, engineered to remove sub-micron particles that are too fine to be captured with normal filters. Through electrophoretic and dielectrophoretic processes, the ECR collector media removes hard and soft contaminants as small as 0.01 microns.

Dissolved contamination is addressed with patented ion-exchange ICB® filters, engineered to remove acids and soluble varnish at the molecular level. Other acid-scavengers are unable to remove phosphate ester varnish and its precursors

Together, ECR Combo, unites two leading filtration technologies to maintain the quality, life and reliability of your EHC fluids.

For complete control over EHC fluid quality, TMR® N_2 can be installed separately for water management.

FLUID PROPERTY	ASTM D8323 LIMIT	COMPETING SYSTEM	ECR COMBO
Acid Number	≤0.10	●	●
MPC	ΔE≤20		●
Patch weight	≤4 mg/50 ml		●
Phenol	<8000		●
Metals	<10 ppm total		●
Resistivity	>10 GΩcm		●
ASTM Color	≤6		●

ECR® COMBO FEATURES AND BENEFITS

- Significantly reduce varnish potential (MPC).
- Significantly reduce solid contamination (patch weight).
- Best in class performance for acid number and fluid resistivity improvement.
- Improves fluid color.

CASE STUDY

Location: *AB, CANADA*

MW: *320 MW*

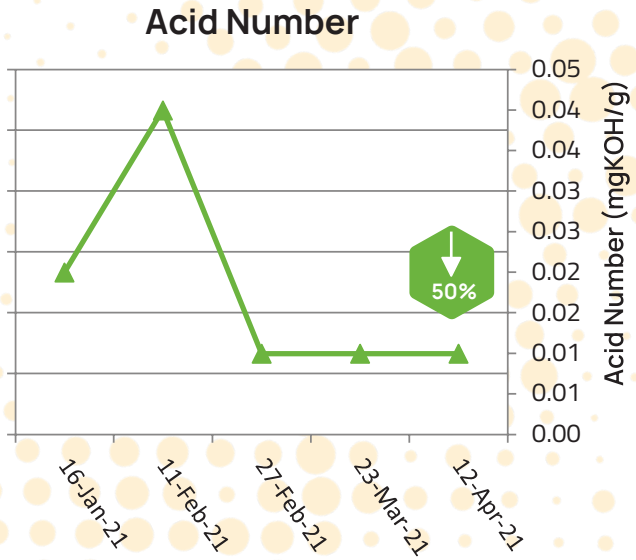
Turbine Type: *ST*

Oil Type: *Reolube Turbofluid 46 XC*

Volume: *132 Gallons / 500 Liters*

DEMONSTRATRING RESULTS AS PER ASTM D8323

This site was experiencing EHC reliability issues as the result of varnish accumulation. In response an ECR® was installed leading to a 35% MPC ΔL improvement as fine, insoluble varnish was removed. Nevertheless, the fluid's patch weight and MPC values suggested that soluble varnish remained despite the site's good maintenance practices which included the use of a conventional acid-scavenger. ECR effectively removes insoluble varnish but has little impact on soluble varnish which is dissolved. To remove soluble varnish, ICB® is required. ICB® is a patented ion-exchange technology and it is the only acid-scavenger that removes varnish in phosphate ester applications. Since varnish exists in both soluble and insoluble forms, ECR Combo, was deployed offering unique, dual varnish-removal abilities. The result was the near-complete (97%) removal of varnish in all of its forms and the elimination of the end user's reliability related concerns.



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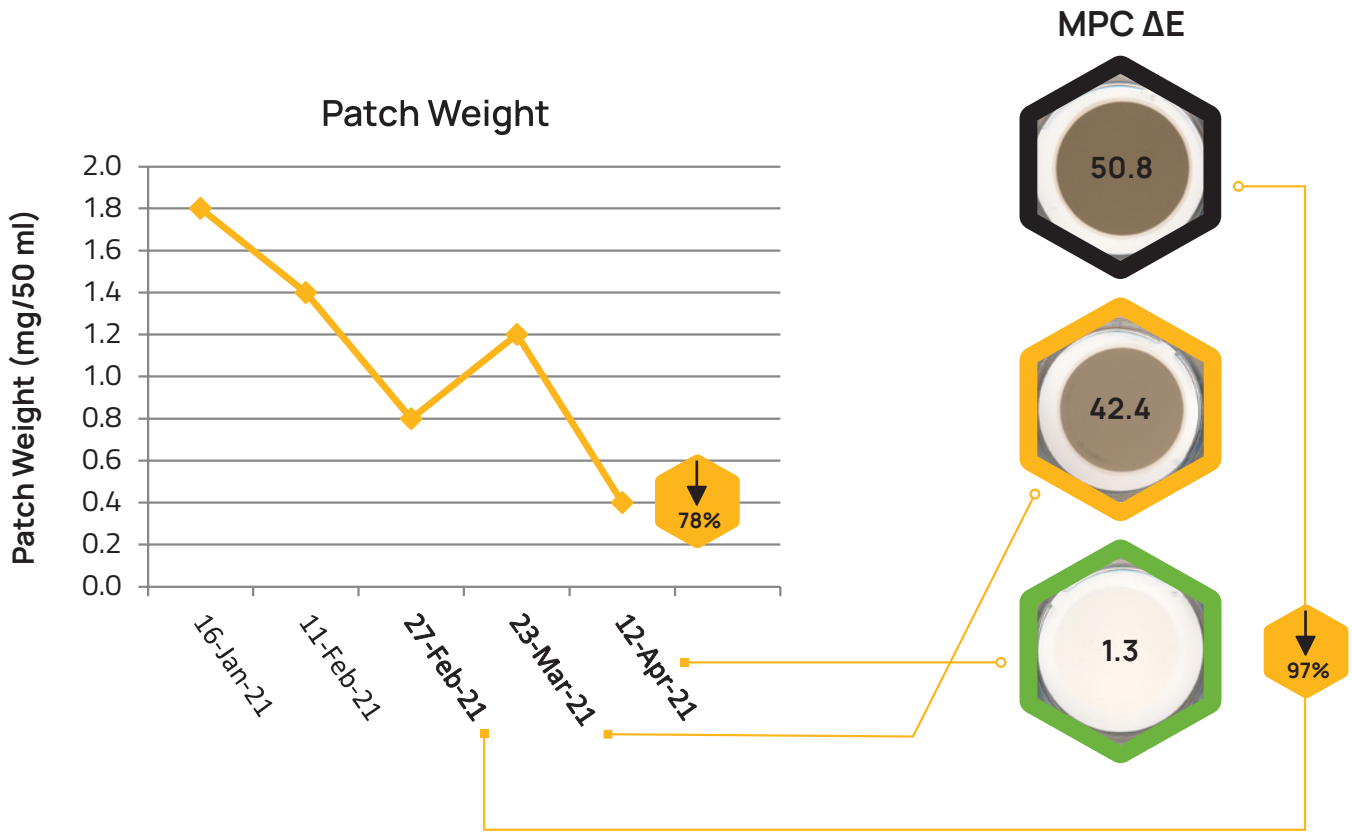
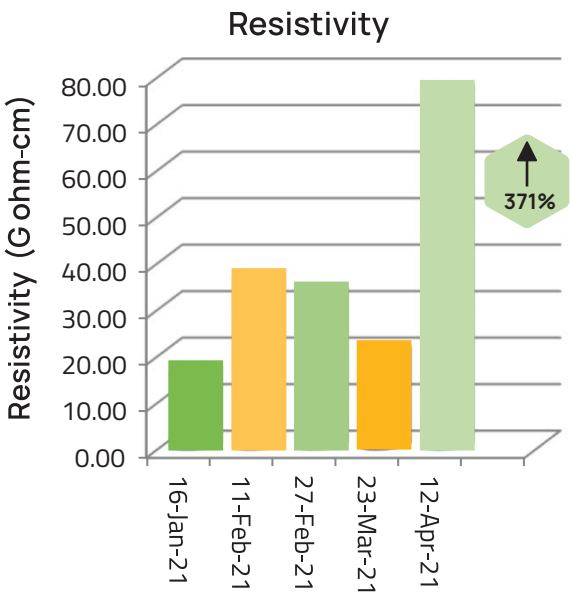
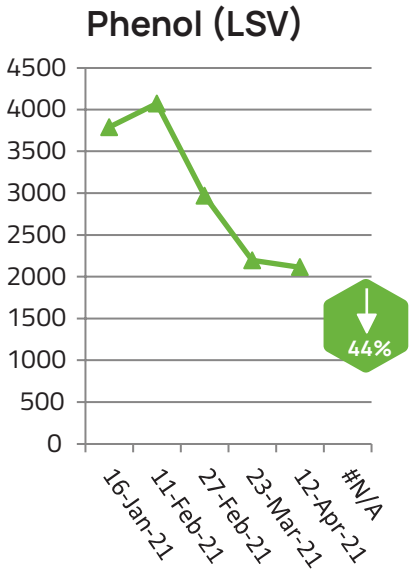
CASE STUDY CONTINUED







*Phenol in this application is a contaminant and not additive.

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