



RAPPORT D'ANALYSE D'HUILE

| | |
|----------------|---------------|
| USURE | NORMAL |
| CONTAMINANTS | NORMAL |
| ÉTAT DU FLUIDE | NORMAL |

Identité de la machine

13B02#03 AUX GEN #3 (S/N 524 101 597)

Composant

Moteur auxiliaire Babord

Fluid

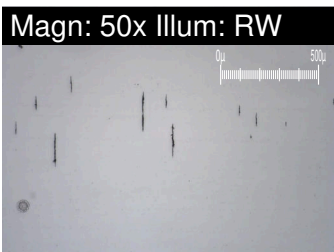
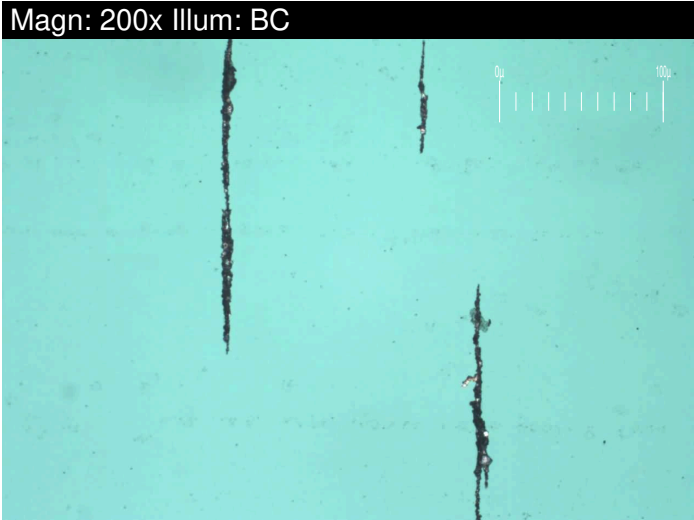
PETRO CANADA DURON-E XL 15W40 (320 LTR)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

USURE

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.



| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|-----------------------------------|------------|---------------|-----------|--------------------|-------------|-------------|
| Numéro d'échant. | | Client Info | | WC0878513 | WC0829220 | WC |
| Date d'échant. | | Client Info | | 16 Mar 2024 | 23 Oct 2023 | 02 Aug 2023 |
| Âge d la Machine | hrs | Client Info | | 29799 | 28151 | 26246 |
| Âge de l'huile | hrs | Client Info | | 1199 | 0 | 2088 |
| Âge du filtre | hrs | Client Info | | 1199 | 26246 | 2088 |
| Huile changée | | Client Info | | Not Chngd | Not Chngd | Changed |
| Filtre changé | | Client Info | | Not Chngd | N/A | Changed |
| Statut de l'échant. | | | | NORMAL | NORMAL | MARGINAL |
| PQ | | ASTM D8184* | | 0 | 0 | 0 |
| Fer | ppm | ASTM D5185(m) | >35 | 5 | 6 | 6 |
| Chrome | ppm | ASTM D5185(m) | >4 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Titane | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Argent | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminium | ppm | ASTM D5185(m) | >25 | <1 | <1 | <1 |
| Plomb | ppm | ASTM D5185(m) | >7 | 0 | <1 | 0 |
| Cuivre | ppm | ASTM D5185(m) | >65 | 1 | 2 | 1 |
| Étain | ppm | ASTM D5185(m) | >4 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Grosses particules | | DR-Ferr* | | 12.5 | 5.1 | 5.0 |
| Petites particules | | DR-Ferr* | | 5.4 | 4.8 | 4.8 |
| Total de particules | | DR-Ferr* | >--- | 17.9 | 9.9 | 9.8 |
| Pourcentage de grosses particules | % | DR-Ferr* | | 39.7 | 3 | 2 |
| Indice de sévérité | | DR-Ferr* | | 89 | 2 | 1 |
| Frottement ferreux | Scale 0-10 | ASTM D7684* | | 2 | 2 | 2 |
| Glissement ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Copeaux ferreux | Scale 0-10 | ASTM D7684* | | | | 1 |
| Roulement ferreux | Scale 0-10 | ASTM D7684* | | 1 | 1 | 1 |
| Rodage ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Sphères ferreuses | Scale 0-10 | ASTM D7684* | | | | |
| Oxydes ferreux noirs | Scale 0-10 | ASTM D7684* | | 1 | 1 | 1 |
| Oxydes rouges ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Corrosion ferreuse | Scale 0-10 | ASTM D7684* | | | | |
| Autres particules ferreuses | Scale 0-10 | ASTM D7684* | | | | |
| Frottement non-ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Glissement non-ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Copeaux non ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Roulement non-ferreux | Scale 0-10 | ASTM D7684* | | | | |
| Autres particules non-ferreuses | Scale 0-10 | ASTM D7684* | | | | |

CONTAMINANTS

There is no indication of any contamination in the oil.

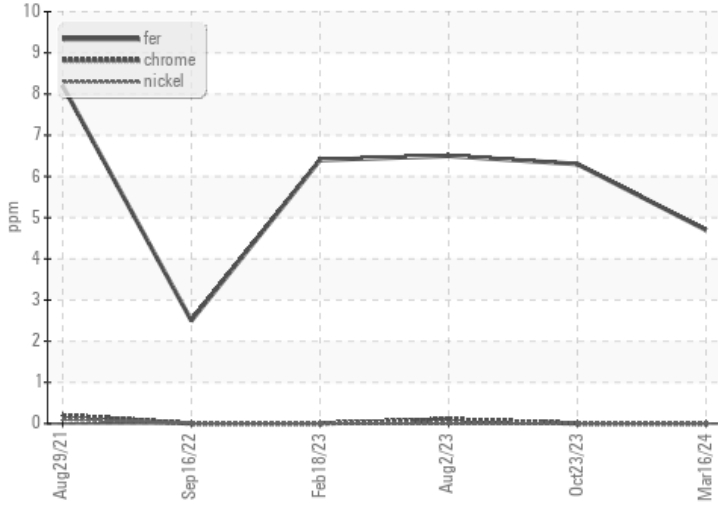
| | | | | | | |
|-------------------|------------|---------------|------|------|------|------|
| Silicium | ppm | ASTM D5185(m) | >20 | <1 | 3 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |
| Essence | | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| L'eau | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| % de suie | % | ASTM D7844* | | 0.1 | 0.2 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 6.4 | 7.5 | 7.4 |
| Sulfatation | Abs/.1mm | ASTM D7415* | >30 | 19.3 | 19.7 | 19.5 |
| Eau émulsifiée | scalar | Visual* | >0.1 | NEG | NEG | NEG |
| Matière carbonée | Scale 0-10 | ASTM D7684* | | | | |
| Sable/saleté | Scale 0-10 | ASTM D7684* | | 1 | 1 | 1 |
| Fibres | Scale 0-10 | ASTM D7684* | | | | |
| Sphères | Scale 0-10 | ASTM D7684* | | | | |
| Autres particules | Scale 0-10 | ASTM D7684* | | 1 | 1 | 1 |

ÉTAT DU FLUIDE

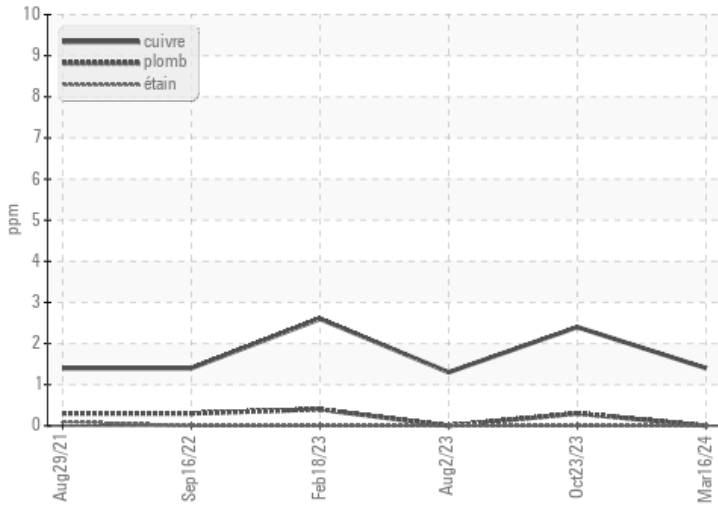
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|---------------------------|------------|---------------|-------|-------|------|------|
| Sodium | ppm | ASTM D5185(m) | | <1 | 1 | 1 |
| Bore | ppm | ASTM D5185(m) | 1 | 1 | 3 | 3 |
| Baryum | ppm | ASTM D5185(m) | 0 | 0 | <1 | 0 |
| Molybdène | ppm | ASTM D5185(m) | 60 | 61 | 63 | 60 |
| Manganèse | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnésium | ppm | ASTM D5185(m) | 1010 | 1012 | 1025 | 1028 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 1091 | 1100 | 1077 |
| Phosphore | ppm | ASTM D5185(m) | 1150 | 1026 | 1052 | 1089 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1228 | 1262 | 1242 |
| Soufre | ppm | ASTM D5185(m) | 2060 | 2595 | 2651 | 2608 |
| Oxydation | Abs/.1mm | ASTM D7414* | >25 | 15.6 | 16.6 | 15.0 |
| Indice d'alcalinité | mg KOH/g | ASTM D2896* | 10.0 | 10.63 | 8.95 | 9.55 |
| Visc 100°C | cSt | ASTM D7279(m) | 15.54 | 13.2 | 13.2 | 13.3 |
| Dégradation du lubrifiant | Scale 0-10 | ASTM D7684* | | | | |

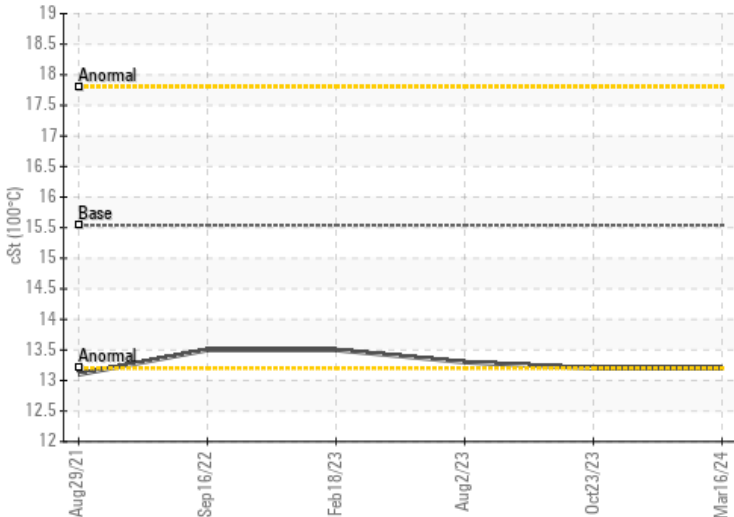
Alliages ferreux



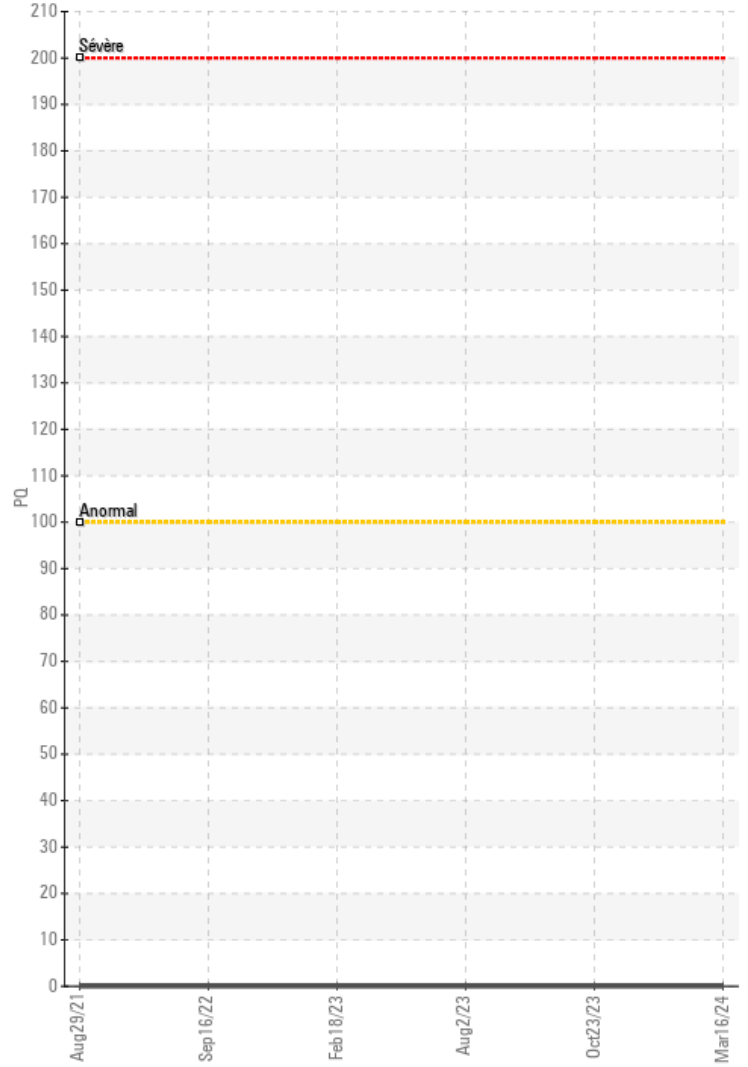
Métaux non-ferreux



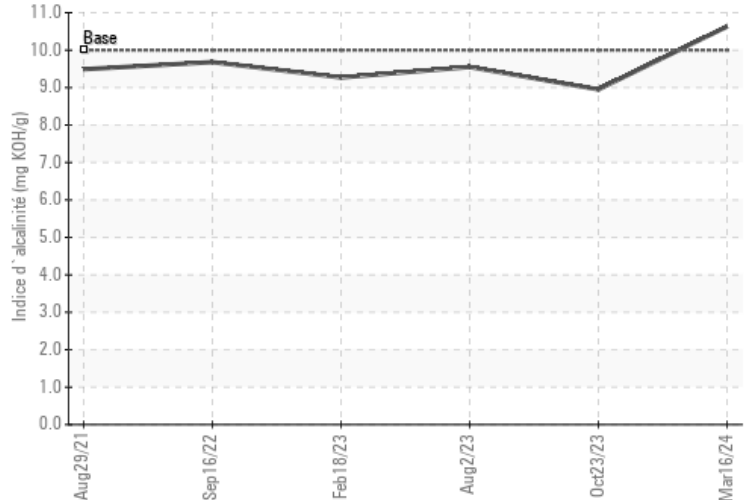
Viscosité 100°C



PQ



Indice d'alcalinité



ISO 17025:2017
Accredited
Laboratory

Laboratoire : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

N° d'échantillon : WC0878513

N° de laboratoire : 02624158

Numéro unique : 5749277

Analyse : MAR 3

Reçu : 25 Mar 2024

Tested : 26 Mar 2024

Diagnostiqué : 27 Mar 2024 - Kevin Marson

Canadian Coast Guard

CCGS Amundsen, 101 Boul. Champlain

Quebec, QC

CA G1K 7Y7

Contact: Chief Engineer

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T: (418)953-8233

F: x:

Pour discuter ce rapport, contacter le service à la clientèle au 1-800-268-2131.

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

La validez de los resultados y la interpretación se basan en la muestra y la información proporcionada.

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