



RAPPORT D'ANALYSE D'HUILE

USURE **NORMAL**

CONTAMINANTS **NORMAL**

ÉTAT DU FLUIDE **NORMAL**

Secteur

Propulsion/Salle des Machines

Identité de la machine

12A02#05 (S/N M4111)

Composant

Moteur diesel 5

Fluid

PETRO CANADA RALUBE 40 CFS (720 LTR)

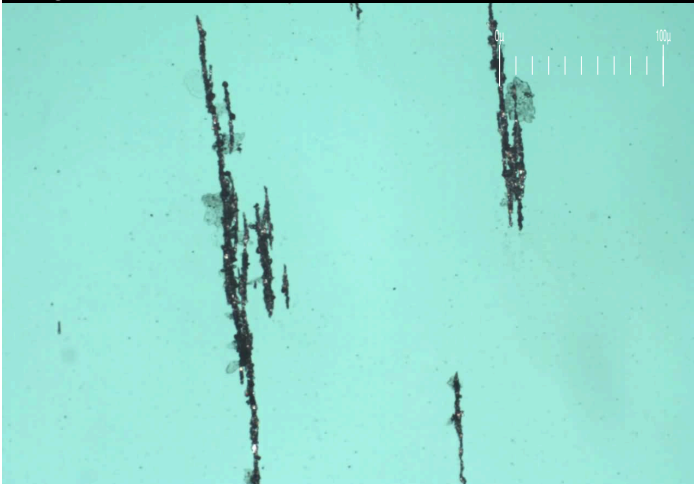
RECOMMENDATION

Resample at the next service interval to monitor.

USURE

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

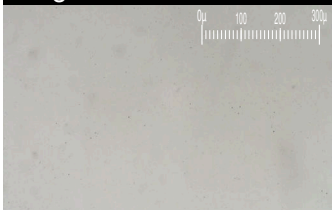
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



Test	UOM	Method	Limit/Abn	Current	History1	History2
Numéro d'échant.		Client Info		WC	WC0811243	WC0751407
Date d'échant.		Client Info		05 Feb 2024	01 Jan 2024	23 Oct 2023
Âge d la Machine	hrs	Client Info		21540	21245	21185
Âge de l'huile	hrs	Client Info		2511	2216	2156
Âge du filtre	hrs	Client Info		2511	2216	2156
Huile changée		Client Info		Not Changd	Not Changd	Not Changd
Filtre changé		Client Info		Not Changd	Not Changd	N/A
Statut de l'échant.				NORMAL	NORMAL	NORMAL

PQ		ASTM D8184*		0	0	---
Fer	ppm	ASTM D5185(m)	>100	8	7	7
Chrome	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	0
Titane	ppm	ASTM D5185(m)		0	0	0
Argent	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminium	ppm	ASTM D5185(m)	>20	3	2	2
Plomb	ppm	ASTM D5185(m)	>40	<1	0	0
Cuivre	ppm	ASTM D5185(m)	>330	<1	<1	<1
Étain	ppm	ASTM D5185(m)	>15	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Grosses particules		DR-Ferr*		6.1	0.2	---
Petites particules		DR-Ferr*		5.9	1.0	---
Total de particules		DR-Ferr*	>---	12	1.2	---
Pourcentage de grosses particules	%	DR-Ferr*		1.7	0	---
Indice de sévérité		DR-Ferr*		1	0	---
Frottement ferreux	Scale 0-10	ASTM D7684*		3	2	
Glissement ferreux	Scale 0-10	ASTM D7684*				
Copeaux ferreux	Scale 0-10	ASTM D7684*				
Roulement ferreux	Scale 0-10	ASTM D7684*		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	
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.

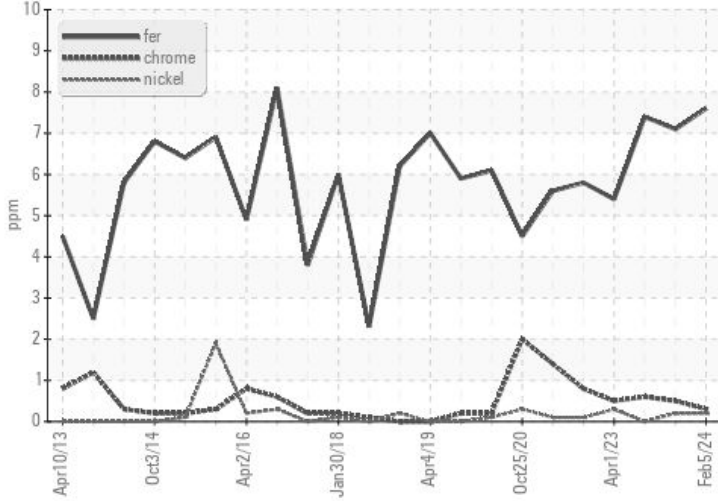
Silicium	ppm	ASTM D5185(m)	>25	3	3	4
Potassium	ppm	ASTM D5185(m)	>20	1	0	<1
Essence		WC Method	>5	<1.0	<1.0	<1.0
L'eau		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
% de suie	%	ASTM D7844*	>2	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	13.3	13.5	13.5
Sulfatation	Abs/.1mm	ASTM D7415*	>30	15.2	15.0	14.9
Eau émulsifiée	scalar	Visual*	>0.2	NEG	NEG	NEG
Matière carbonée	Scale 0-10	ASTM D7684*				
Sable/saleté	Scale 0-10	ASTM D7684*		1	1	
Fibres	Scale 0-10	ASTM D7684*				
Sphères	Scale 0-10	ASTM D7684*				
Autres particules	Scale 0-10	ASTM D7684*		1	1	

ÉTAT DU FLUIDE

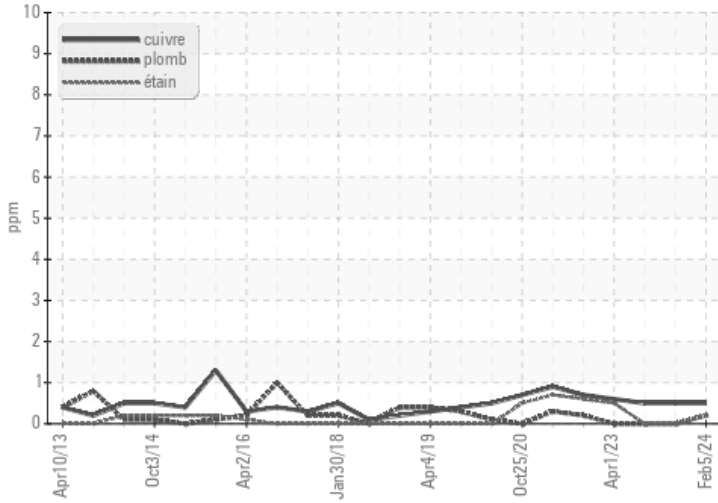
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		3	2	2
Bore	ppm	ASTM D5185(m)	0	0	<1	<1
Baryum	ppm	ASTM D5185(m)	0	0	0	<1
Molybdène	ppm	ASTM D5185(m)	0	0	0	0
Manganèse	ppm	ASTM D5185(m)	0	0	0	0
Magnésium	ppm	ASTM D5185(m)	25	15	15	15
Calcium	ppm	ASTM D5185(m)	4300	4728	4629	4759
Phosphore	ppm	ASTM D5185(m)	1.6	3	3	4
Zinc	ppm	ASTM D5185(m)	2	4	4	5
Soufre	ppm	ASTM D5185(m)	1500	3266	3233	3078
Oxydation	Abs/.1mm	ASTM D7414*	>25	11.5	11.6	11.5
Indice d'alcalinité	mg KOH/g	ASTM D2896*	14.0	13.96	14.56	---
Visc 100°C	cSt	ASTM D7279(m)	14.8	14.5	14.5	14.6
Dégradation du lubrifiant	Scale 0-10	ASTM D7684*				

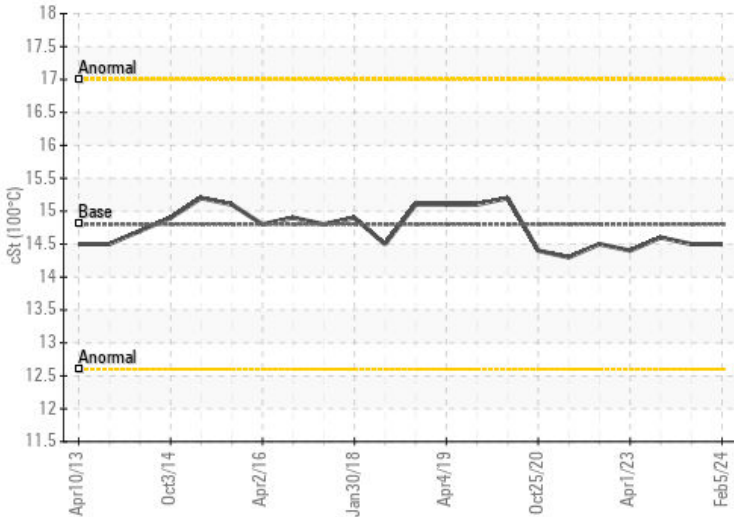
Alliages ferreux



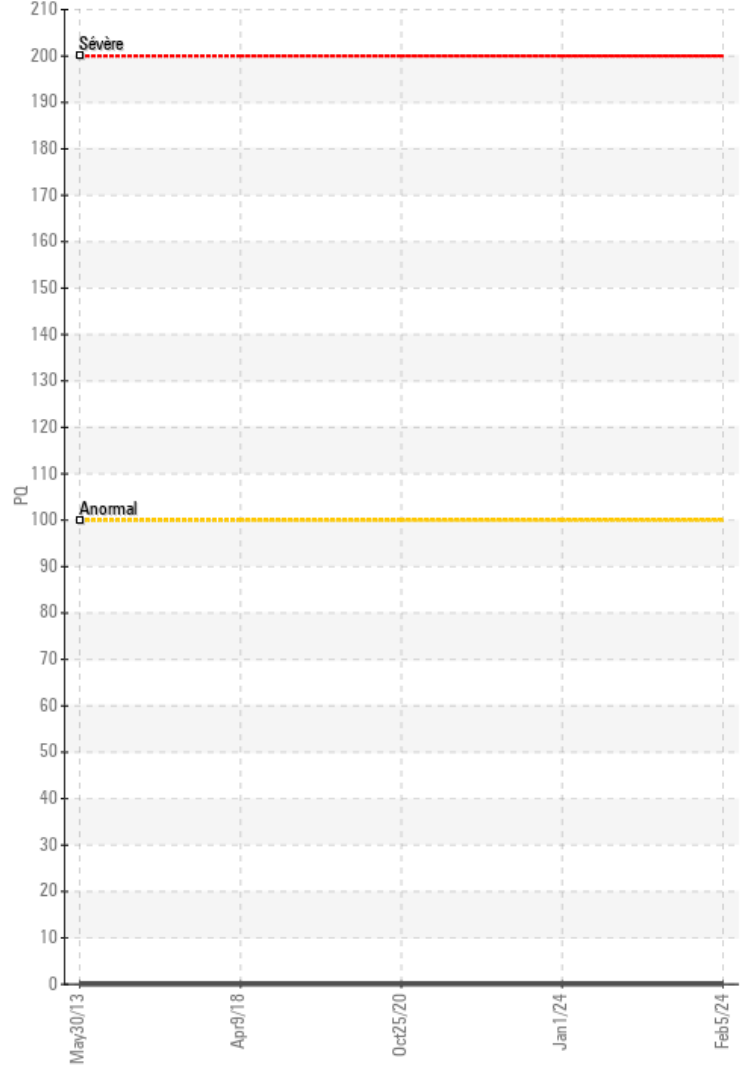
Métaux non-ferreux



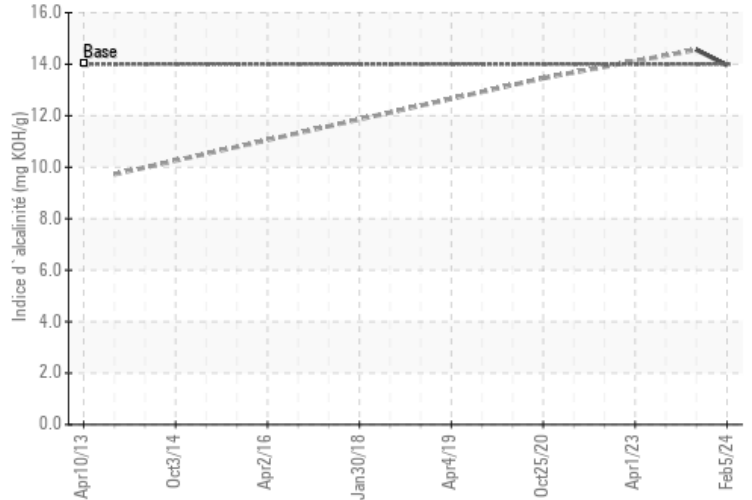
Viscosité 100°C



PQ



Indice d'alcalinité



ISO 17025:2017
Accredited
Laboratory

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

N° d'échantillon : WC

N° de laboratoire : 02614593

Numéro unique : 5723688

Analyse : MAR 3

Reçu : 09 Feb 2024

Tested : 14 Feb 2024

Diagnostiqué : 14 Feb 2024 - Kevin Marson

Canadian Coast Guard

CCGS Amundsen, 101 Boul. Champlain

Quebec, QC

CA G1K 7Y7

Contact: Chief Engineer

amundsense@ccgs-ngcc.gc.ca

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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