



# RAPPORT D'ANALYSE D'HUILE

USURE	<b>NORMAL</b>
CONTAMINANTS	<b>NORMAL</b>
ÉTAT DU FLUIDE	<b>NORMAL</b>

Secteur

## Propulsion/Salle des Machines

Identité de la machine

### 12A02#02 (S/N M4109-R)

Composant

### Moteur diesel 2

Fluid

### PETRO CANADA RALUBE 40 CFS (720 LTR)

## RECOMMANDATION

Resample at the next service interval to monitor.

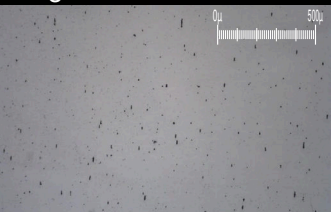
## USURE

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

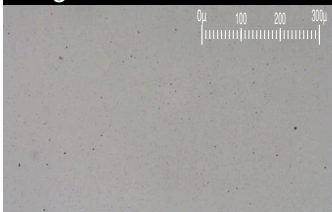
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



Test	UOM	Method	Limit/Abn	Current	History1	History2
Numéro d'échant.		Client Info		<b>WC0811240</b>	WC0751425	WC0751418
Date d'échant.		Client Info		<b>15 Mar 2024</b>	24 Oct 2023	05 Apr 2023
Âge d la Machine	hrs	Client Info		<b>18836</b>	18224	17739
Âge de l'huile	hrs	Client Info		<b>0</b>	790	305
Âge du filtre	hrs	Client Info		<b>0</b>	790	305
Huile changée		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filtre changé		Client Info		<b>Not Changd</b>	N/A	Not Changd
Statut de l'échant.				<b>NORMAL</b>	NORMAL	NORMAL

PQ		ASTM D8184*		<b>0</b>	0	0
Fer	ppm	ASTM D5185(m)	>100	<b>7</b>	6	4
Chrome	ppm	ASTM D5185(m)	>20	<b>1</b>	1	2
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Titane	ppm	ASTM D5185(m)		<b>0</b>	0	0
Argent	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	0
Aluminium	ppm	ASTM D5185(m)	>20	<b>2</b>	2	2
Plomb	ppm	ASTM D5185(m)	>40	<b>0</b>	<1	<1
Cuivre	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	<1
Étain	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Grosses particules		DR-Ferr*		<b>5.5</b>	7.0	3.7
Petites particules		DR-Ferr*		<b>3.3</b>	5.5	2.0
Total de particules		DR-Ferr*	>---	<b>8.8</b>	12.5	5.7
Pourcentage de grosses particules	%	DR-Ferr*		<b>25</b>	12	29.8
Indice de sévérité		DR-Ferr*		<b>12</b>	11	6
Frottement ferreux	Scale 0-10	ASTM D7684*		<b>2</b>	3	2
Glissement ferreux	Scale 0-10	ASTM D7684*				
Copeaux ferreux	Scale 0-10	ASTM D7684*				
Roulement ferreux	Scale 0-10	ASTM D7684*		<b>1</b>	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	
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.

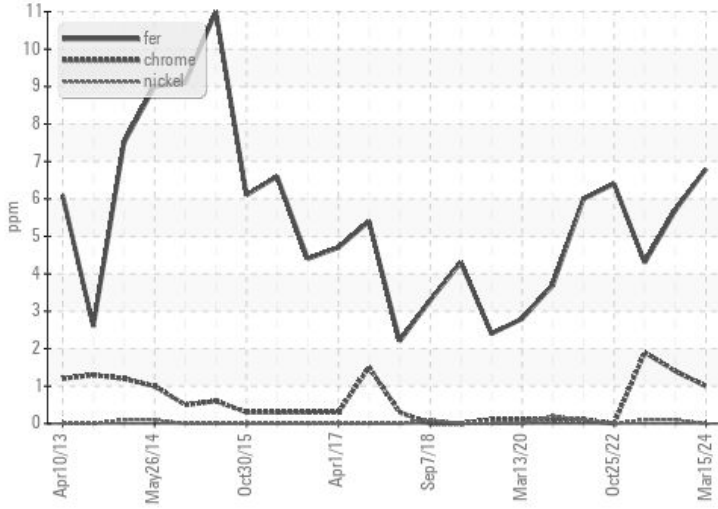
Silicium	ppm	ASTM D5185(m)	>25	<b>2</b>	3	3
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	3
Essence		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
L'eau		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
% de suie	%	ASTM D7844*	>2	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>13.5</b>	12.7	11.0
Sulfatation	Abs/.1mm	ASTM D7415*	>30	<b>14.7</b>	14.5	13.8
Eau émulsifiée	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Matière carbonée	Scale 0-10	ASTM D7684*				
Sable/saleté	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Fibres	Scale 0-10	ASTM D7684*				
Sphères	Scale 0-10	ASTM D7684*				
Autres particules	Scale 0-10	ASTM D7684*		<b>1</b>	1	1

## ÉTAT DU FLUIDE

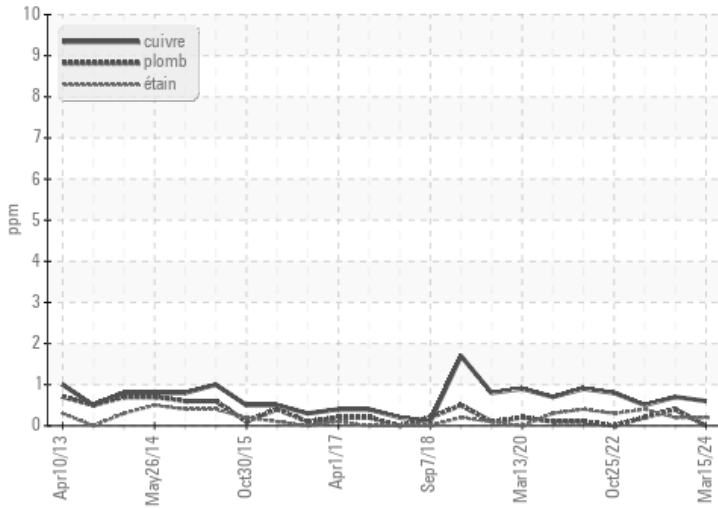
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<b>3</b>	3	3
Bore	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Baryum	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdène	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Manganèse	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnésium	ppm	ASTM D5185(m)	25	<b>18</b>	19	21
Calcium	ppm	ASTM D5185(m)	4300	<b>4615</b>	4589	4673
Phosphore	ppm	ASTM D5185(m)	1.6	<b>4</b>	5	4
Zinc	ppm	ASTM D5185(m)	2	<b>6</b>	7	7
Soufre	ppm	ASTM D5185(m)	1500	<b>2962</b>	3044	3157
Oxydation	Abs/.1mm	ASTM D7414*	>25	<b>11.5</b>	10.7	9.5
Indice d'alcalinité	mg KOH/g	ASTM D2896*	14.0	<b>13.94</b>	13.24	13.42
Visc 100°C	cSt	ASTM D7279(m)	14.8	<b>14.4</b>	14.5	14.4
Dégradation du lubrifiant	Scale 0-10	ASTM D7684*				

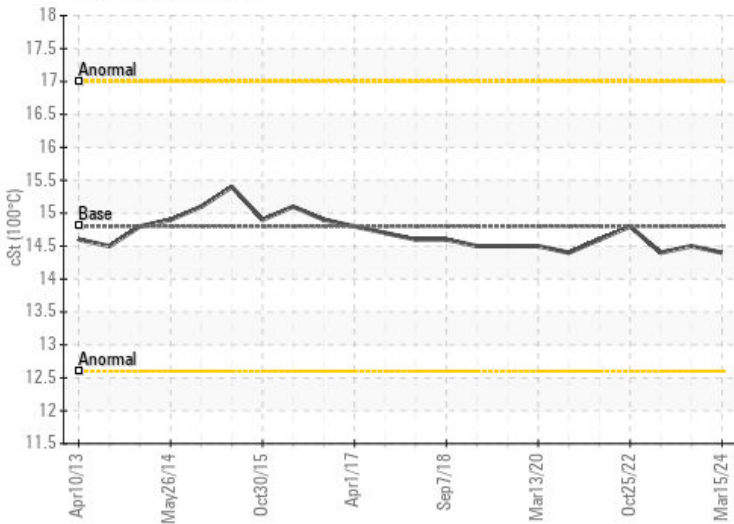
### Alliages ferreux



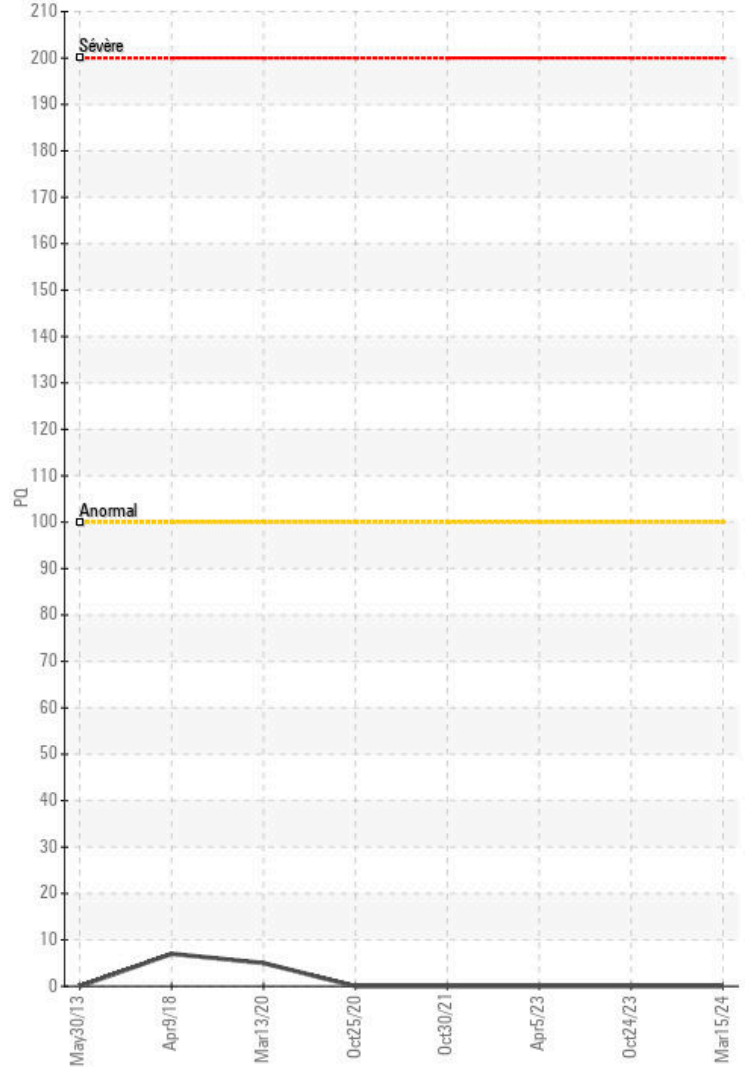
### Métaux non-ferreux



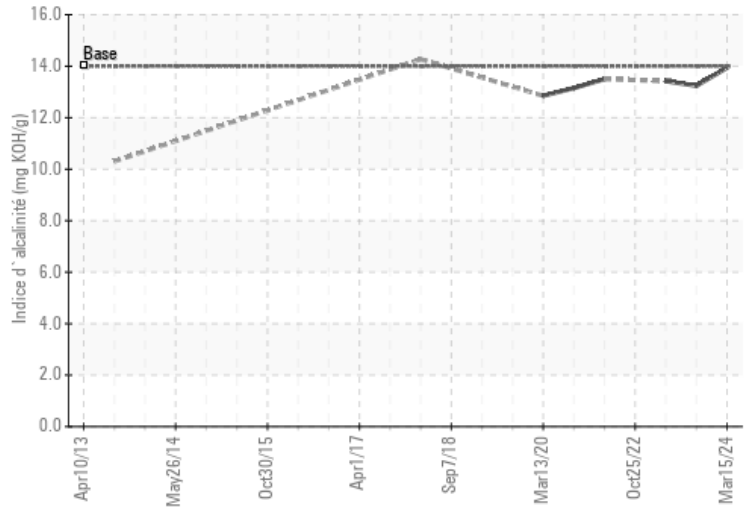
### Viscosité 100°C



### PQ



### Indice d'alcalinité



**Laboratoire** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**N° d'échantillon** : WC0811240  
**N° de laboratoire** : 02624166  
**Numéro unique** : 5749285  
**Analyse** : MAR 3

**Canadian Coast Guard**  
 CCGS Amundsen, 101 Boul. Champlain  
 Quebec, QC  
 CA G1K 7Y7

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.

Contact: Chief Engineer  
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 T: (418)953-8233  
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