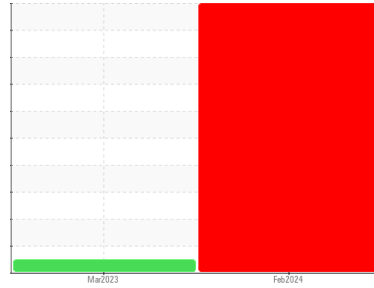


# OIL ANALYSIS REPORT



Machine Id  
**CATERPILLAR 3047**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SAE 10W30 (--- GAL)**

Sample Rating Trend



**WEAR**



## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. We advise that you monitor for an abnormal oil pressure drop and noise. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Copper ppm levels are severe. Lead ppm levels are noted. Bearing wear is indicated.

### Contamination

Test for glycol is positive. There is a light concentration of glycol present in the oil.

### Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PC0083175</b>	PC0066007	---
Sample Date	Client Info		<b>07 Feb 2024</b>	17 Mar 2023	---
Machine Age	hrs	Client Info	<b>16388</b>	14482	---
Oil Age	hrs	Client Info	<b>525</b>	600	---
Oil Changed	Client Info		<b>Changed</b>	N/A	---
Sample Status			<b>SEVERE</b>	NORMAL	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water	WC Method	>0.2	<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	<b>29</b>	35	---
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	---
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	1	---
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185(m)	>25	<b>2</b>	2	---
Lead	ppm	ASTM D5185(m)	>40	<b>▲ 15</b>	3	---
Copper	ppm	ASTM D5185(m)	>330	<b>◆ 568</b>	6	---
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	2	---
Antimony	ppm	ASTM D5185(m)		<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	1	<b>8</b>	20	---
Barium	ppm	ASTM D5185(m)	1	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185(m)	1	<b>60</b>	55	---
Manganese	ppm	ASTM D5185(m)	1	<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185(m)	10	<b>849</b>	883	---
Calcium	ppm	ASTM D5185(m)	2942	<b>1409</b>	1443	---
Phosphorus	ppm	ASTM D5185(m)	1102	<b>955</b>	1132	---
Zinc	ppm	ASTM D5185(m)	1351	<b>1166</b>	1282	---
Sulfur	ppm	ASTM D5185(m)	3903	<b>2355</b>	2679	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	---

## CONTAMINANTS

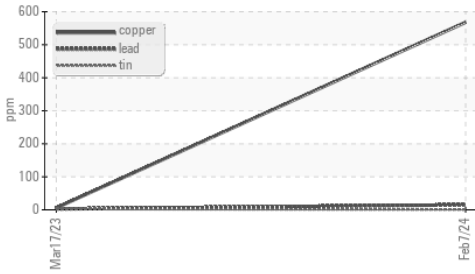
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>6</b>	16	---
Sodium	ppm	ASTM D5185(m)		<b>▲ 148</b>	14	---
Potassium	ppm	ASTM D5185(m)	>20	<b>▲ 62</b>	9	---
Glycol	%	ASTM D7922*		<b>▲ 0.028</b>	NEG	---

## INFRA-RED

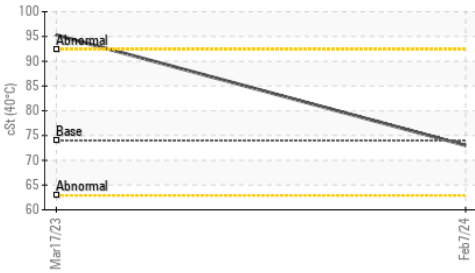
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.5</b>	0.1	---
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.4</b>	8.1	---
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>21.4</b>	21.8	---

# OIL ANALYSIS REPORT

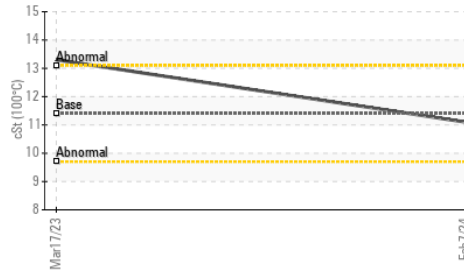
**Non-ferrous Metals**



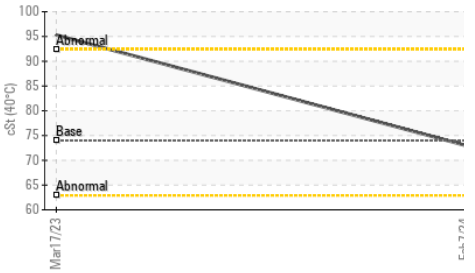
**Viscosity @ 40°C**



**Viscosity @ 100°C**



**Viscosity @ 40°C**



**FLUID DEGRADATION**

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25	16.1	---

**VISUAL**

method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2	NEG	---
Free Water	scalar Visual*		NEG	---

**FLUID PROPERTIES**

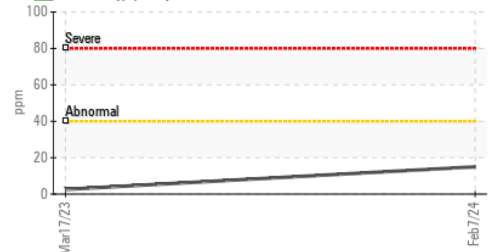
method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	74.0	95.3	---
Visc @ 100°C	cSt ASTM D7279(m)	11.4	13.3	---
Viscosity Index (VI)	Scale ASTM D2270*	146	138	---

**GRAPHS**

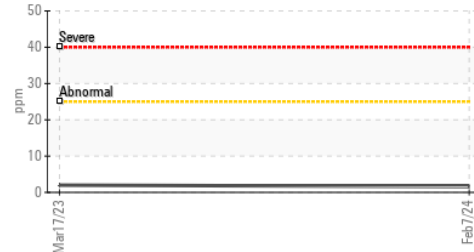
**Iron (ppm)**



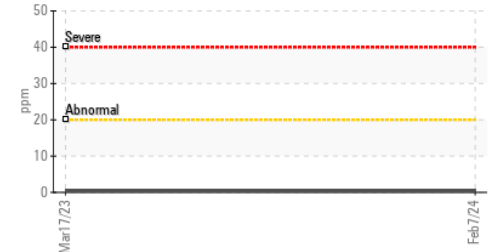
**Lead (ppm)**



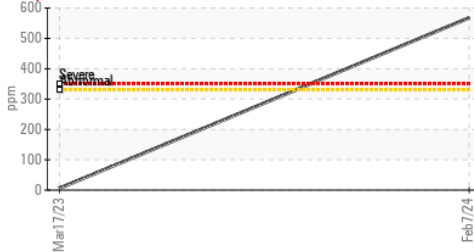
**Aluminum (ppm)**



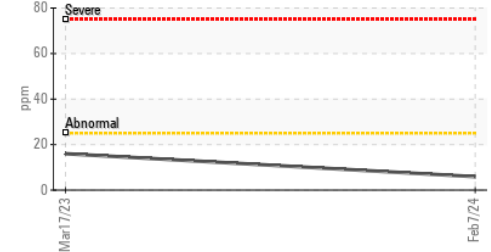
**Chromium (ppm)**



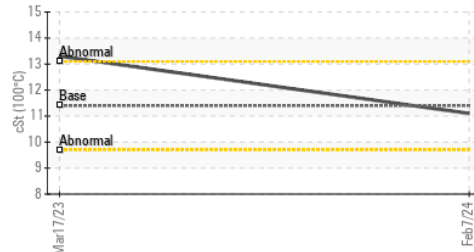
**Copper (ppm)**



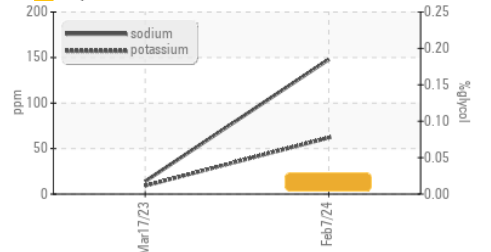
**Silicon (ppm)**



**Viscosity @ 100°C**



**Glycol Contamination**



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0083175 **Received** : 09 Feb 2024  
**Lab Number** : 02614373 **Tested** : 09 Feb 2024  
**Unique Number** : 5723468 **Diagnosed** : 12 Feb 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, VI )

**B FREGEAU & FILS INC**  
 402 RUE ST DENIS  
 ST ALEXANDRE, QC  
 CA J0J 1S0  
 Contact: Steve M.  
 stevem@bfregeau.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.