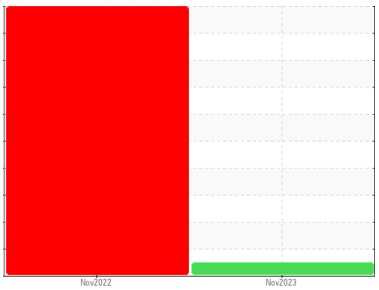
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
CATERPILLAR 3048
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Test for glycol is negative. There is no indication of any contamination in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0075844**	PC0066012	---
Sample Date		Client Info		**20 Nov 2023**	03 Nov 2022	---
Machine Age	hrs	Client Info		**15042**	13752	---
Oil Age	hrs	Client Info		**500**	40	---
Oil Changed		Client Info		**Changed**	N/A	---
Sample Status				**NORMAL**	SEVERE	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	1.2	---
Water		WC Method	>0.2	**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**38**	7	---
Chromium	ppm	ASTM D5185(m)	>20	**2**	0	---
Nickel	ppm	ASTM D5185(m)	>2	**0**	<1	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	---
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	---
Aluminum	ppm	ASTM D5185(m)	>25	**1**	<1	---
Lead	ppm	ASTM D5185(m)	>40	**13**	17	---
Copper	ppm	ASTM D5185(m)	>330	**512**	58	---
Tin	ppm	ASTM D5185(m)	>15	**2**	<1	---
Antimony	ppm	ASTM D5185(m)		**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

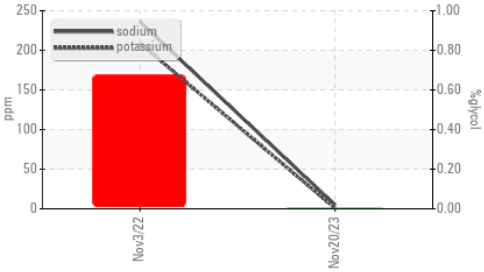
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**2**	6	---
Barium	ppm	ASTM D5185(m)	0	**<1**	0	---
Molybdenum	ppm	ASTM D5185(m)	50	**59**	60	---
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	---
Magnesium	ppm	ASTM D5185(m)	950	**951**	744	---
Calcium	ppm	ASTM D5185(m)	1050	**1076**	1148	---
Phosphorus	ppm	ASTM D5185(m)	995	**960**	977	---
Zinc	ppm	ASTM D5185(m)	1180	**1186**	1072	---
Sulfur	ppm	ASTM D5185(m)	2600	**2269**	2479	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**14**	4	---
Sodium	ppm	ASTM D5185(m)		**5**	▲ 236	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	▲ 209	---
Glycol	%	ASTM D7922*		**0.0**	⬢ 0.672	---

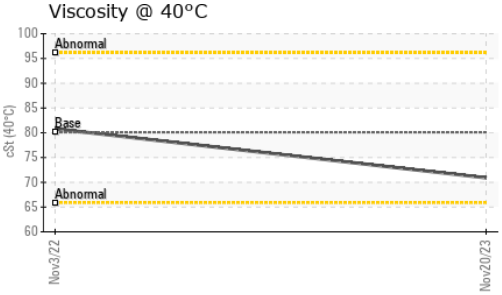
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0	---
Nitration	Abs/cm	ASTM D7624*	>20	**9.1**	8.5	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.0**	18.1	---

OIL ANALYSIS REPORT

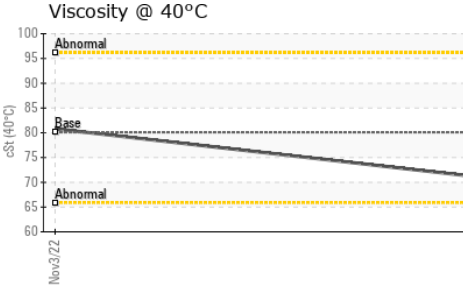
Glycol Contamination



Viscosity @ 40°C



Viscosity @ 40°C



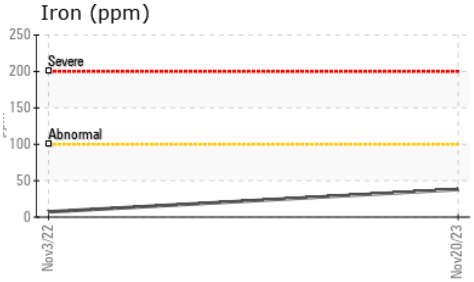
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.8**	14.2	---

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	▲ .2%	---
Free Water	scalar	Visual*		**NEG**	▲ 1%	---

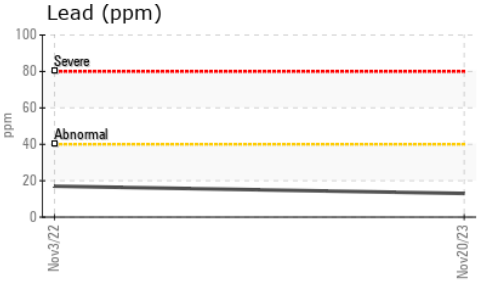
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	**70.9**	▲ 80.8	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**11.0**	▲ 11.8	---
Viscosity Index (VI)	Scale	ASTM D2270*	144	**145**	139	---

GRAPHS

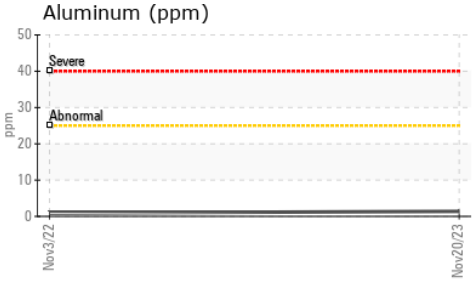
Iron (ppm)



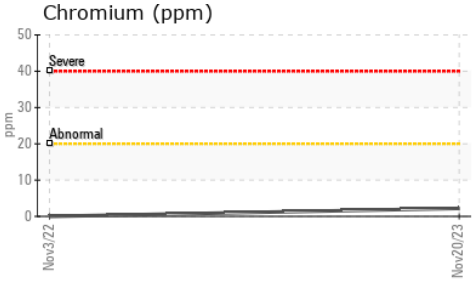
Lead (ppm)



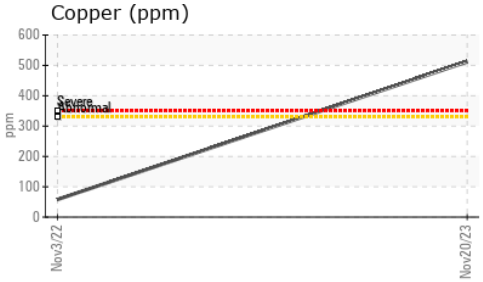
Aluminum (ppm)



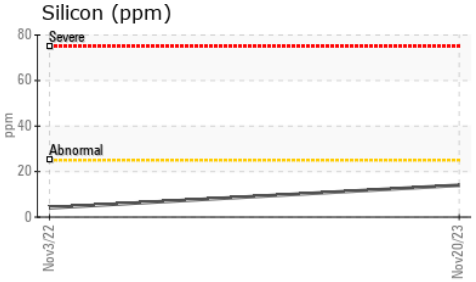
Chromium (ppm)



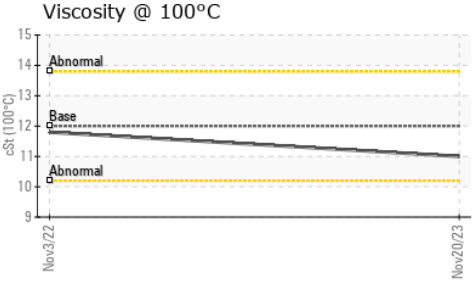
Copper (ppm)



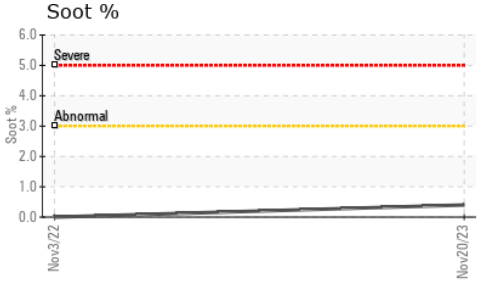
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0075844 **Received** : 28 Nov 2023
Lab Number : 02599253 **Diagnosed** : 28 Nov 2023
Unique Number : 5684333 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI)

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.

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