



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(336303)
Machine Id
LIEBHERR R938 050385-1650
Component
Diesel Engine
Fluid
PETRO CANADA SUPREME 5W30 (30 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0182169	LH0238476	---
Sample Date		Client Info		02 Oct 2023	03 Oct 2022	---
Machine Age	hrs	Client Info		1892	1274	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	10	19	---
Chromium	ppm	ASTM D5185(m)	>5	<1	1	---
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)	>3	0	0	---
Aluminum	ppm	ASTM D5185(m)	>15	4	3	---
Lead	ppm	ASTM D5185(m)	>30	<1	3	---
Copper	ppm	ASTM D5185(m)	>125	6	25	---
Tin	ppm	ASTM D5185(m)	>5	<1	1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

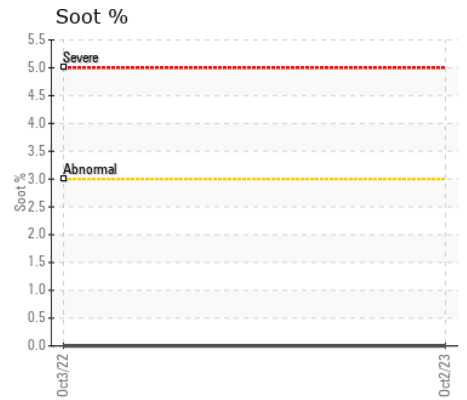
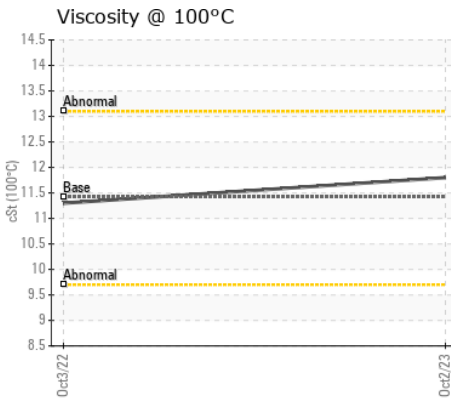
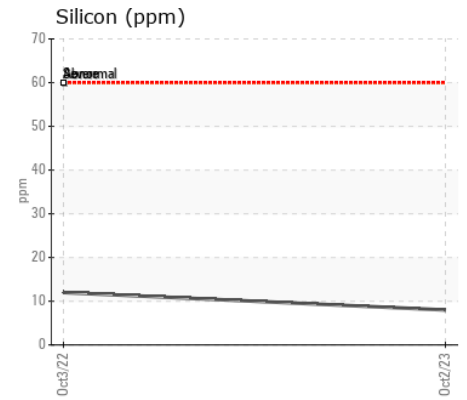
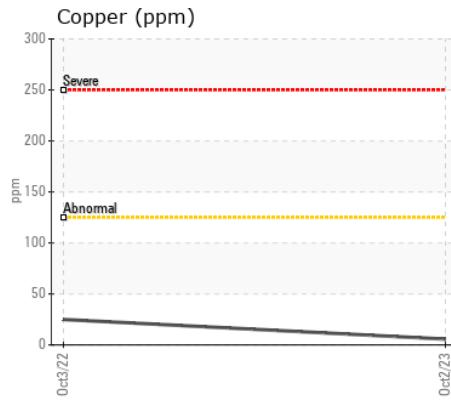
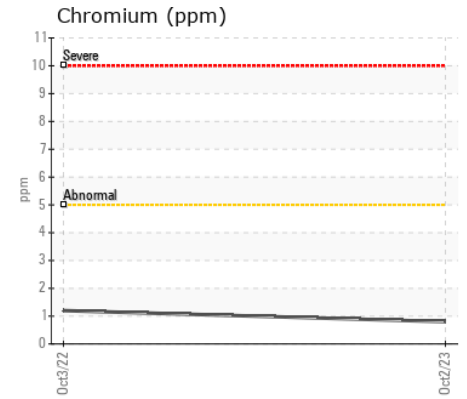
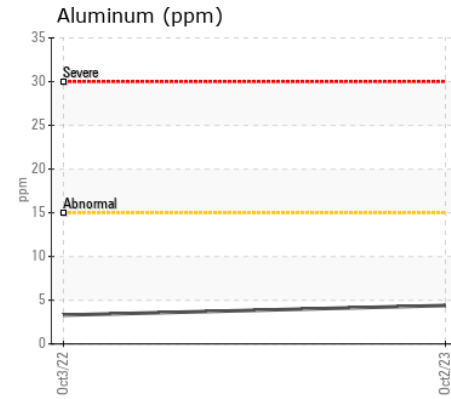
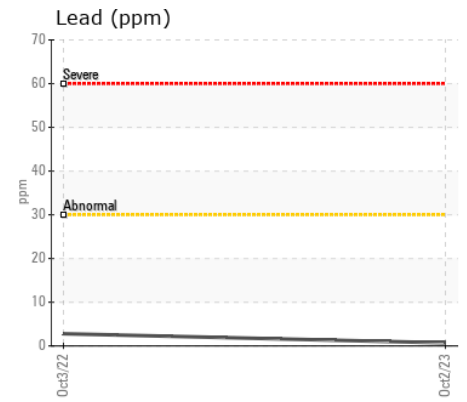
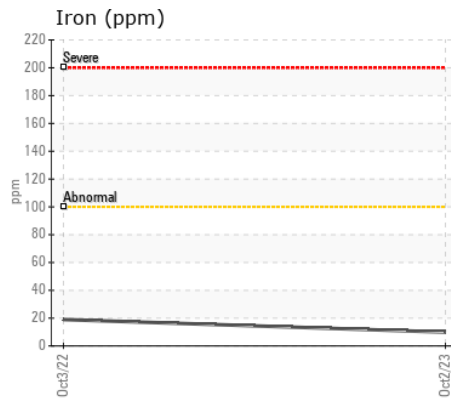
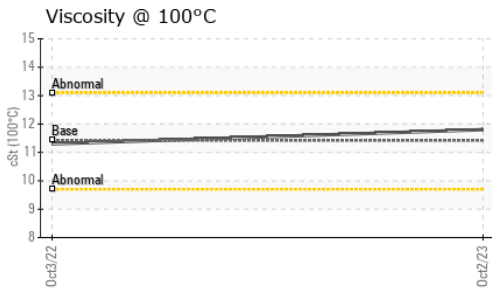
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	8	12	---
Potassium	ppm	ASTM D5185(m)	>20	7	6	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	ASTM D7844*	>3	0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	11.0	11.8	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.0	26.7	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		4	5	---
Boron	ppm	ASTM D5185(m)	186	19	20	---
Barium	ppm	ASTM D5185(m)	<1	<1	5	---
Molybdenum	ppm	ASTM D5185(m)	79	62	58	---
Manganese	ppm	ASTM D5185(m)	0	0	<1	---
Magnesium	ppm	ASTM D5185(m)	578	1157	1126	---
Calcium	ppm	ASTM D5185(m)	1002	855	959	---
Phosphorus	ppm	ASTM D5185(m)	745	1013	978	---
Zinc	ppm	ASTM D5185(m)	837	1227	1170	---
Sulfur	ppm	ASTM D5185(m)	2502	2917	2541	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.8	27.3	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.42	11.8	11.3	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **E. CUMMINGS CONTRACTING INC.**
Sample No. : LH0182169 **Received** : 04 Jan 2024 852 MAIN STREET
Lab Number : 02606514 **Diagnosed** : 05 Jan 2024 WOODSTOCK, NB
Unique Number : 5707600 **Diagnostician** : Wes Davis CA E7M 2G1
Test Package : MOBCE (Additional Tests: Visual) Contact: Service Manager

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.

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