



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR R924 38847
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (29 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0288053	LH0226715	LH0191824
Sample Date		Client Info		19 Apr 2024	25 May 2022	22 Mar 2021
Machine Age	hrs	Client Info		11005	8011	5934
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	8	8	15
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	4	3	5
Lead	ppm	ASTM D5185(m)	>30	<1	2	3
Copper	ppm	ASTM D5185(m)	>125	8	2	4
Tin	ppm	ASTM D5185(m)	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

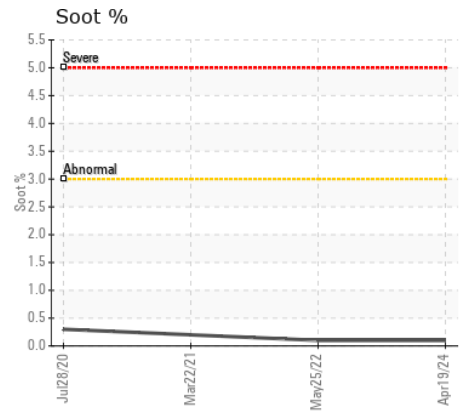
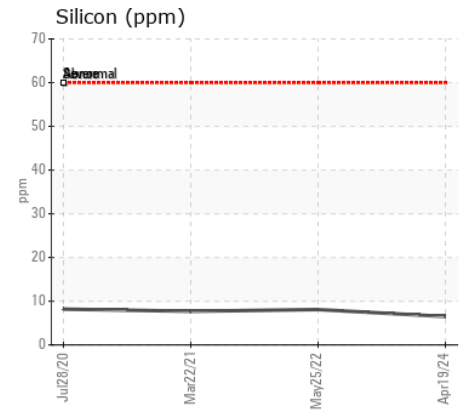
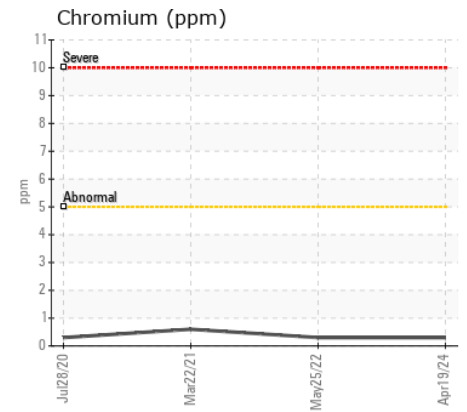
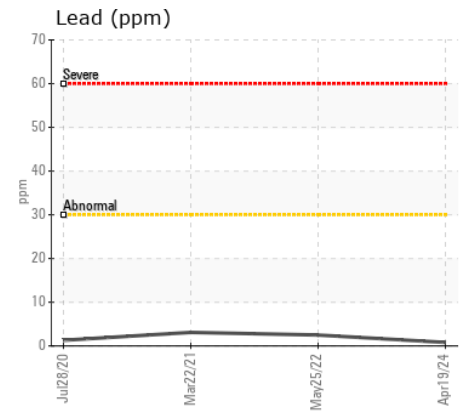
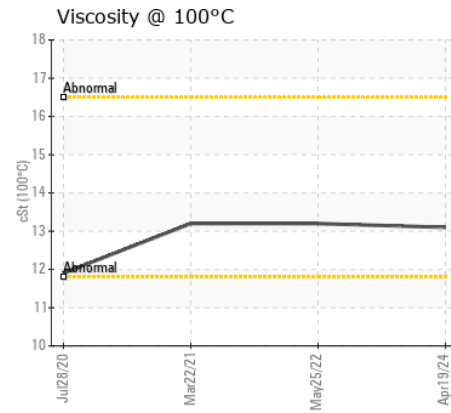
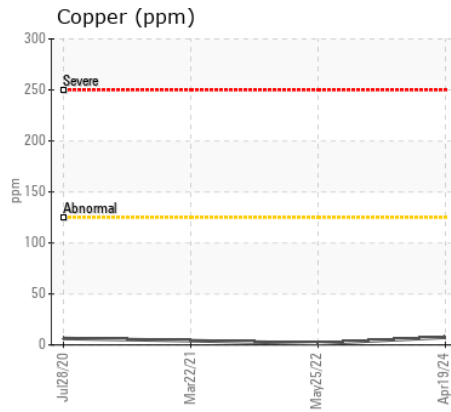
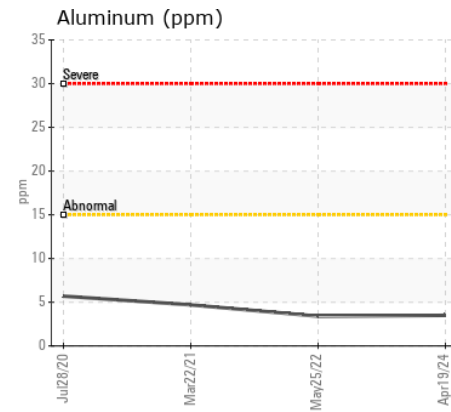
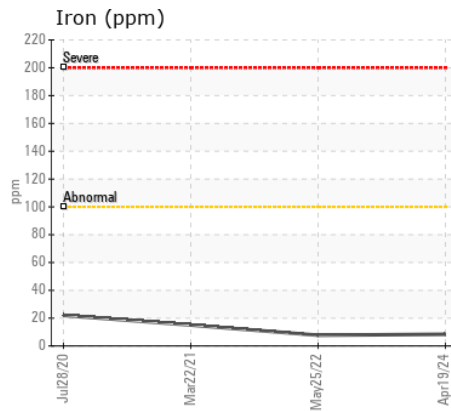
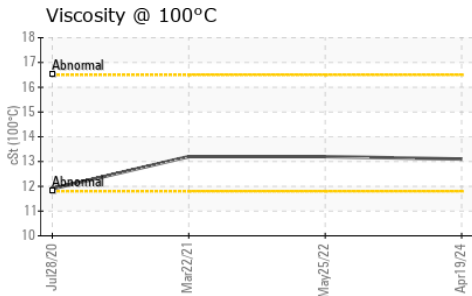
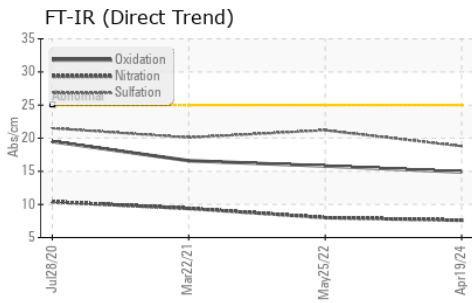
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	6	8	8
Potassium	ppm	ASTM D5185(m)	>20	3	<1	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.1	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	7.6	8.0	9.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.8	21.2	20.1
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	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>20	4	2	6
Boron	ppm	ASTM D5185(m)		<1	1	7
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		59	61	55
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		987	1031	976
Calcium	ppm	ASTM D5185(m)		1083	1125	1067
Phosphorus	ppm	ASTM D5185(m)		1012	1101	993
Zinc	ppm	ASTM D5185(m)		1201	1273	1248
Sulfur	ppm	ASTM D5185(m)		2521	2657	2696
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.9	15.8	16.6
Visc @ 100°C	cSt	ASTM D7279(m)		13.1	13.2	13.2



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0288053 **Received** : 02 May 2024
Lab Number : 02632654 **Tested** : 02 May 2024
Unique Number : 5773807 **Diagnosed** : 02 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

ECOWASTE INDUSTRIES
 4 SPRUCE ST
 NEW WESTMINSTER, BC
 CA V3L 5G6
 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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F: