



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH22M 110435-1250
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (20 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0280954	LH0284000	LH0260468
Sample Date		Client Info		20 Mar 2024	31 Jan 2024	14 Aug 2023
Machine Age	hrs	Client Info		12555	12137	11129
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	15	20	20
Chromium	ppm	ASTM D5185(m)	>5	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	2	4	2
Lead	ppm	ASTM D5185(m)	>30	0	1	0
Copper	ppm	ASTM D5185(m)	>125	7	20	1
Tin	ppm	ASTM D5185(m)	>5	0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

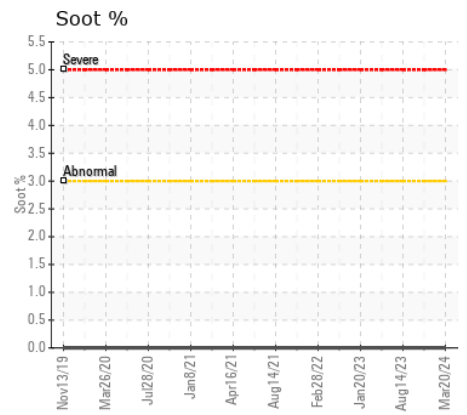
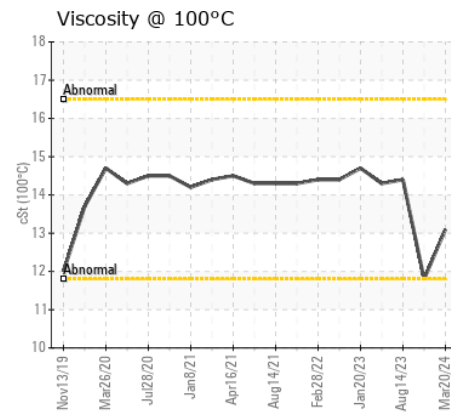
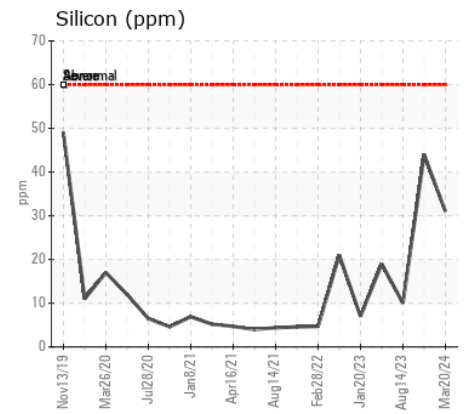
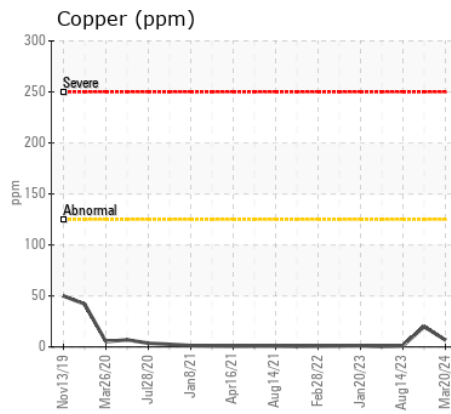
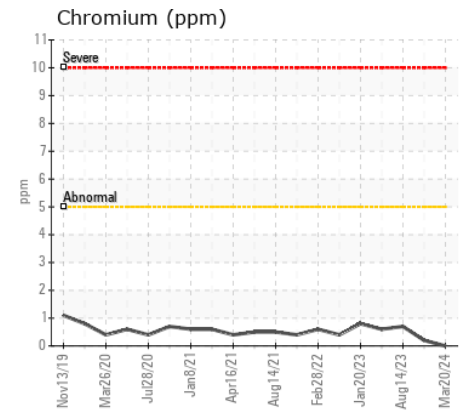
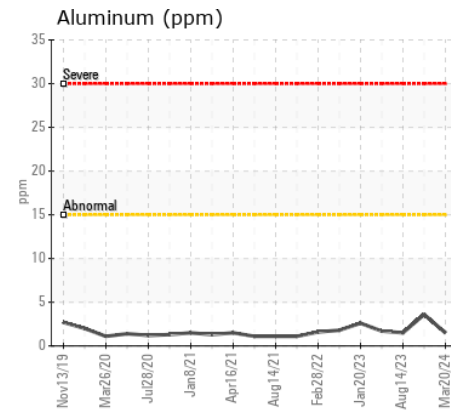
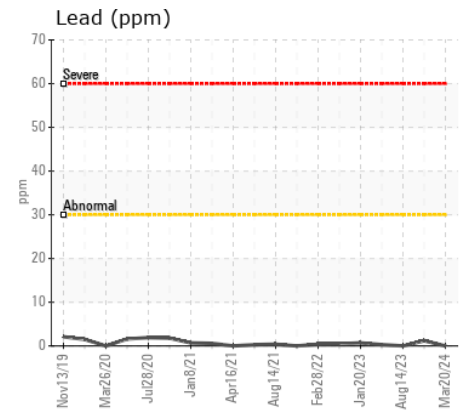
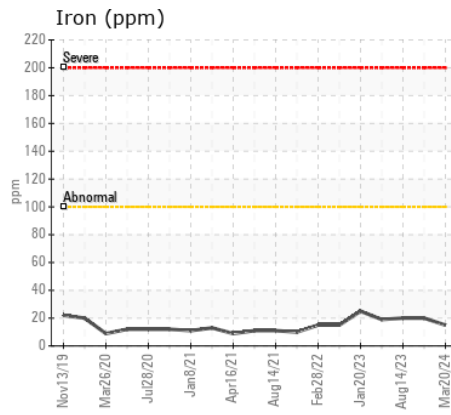
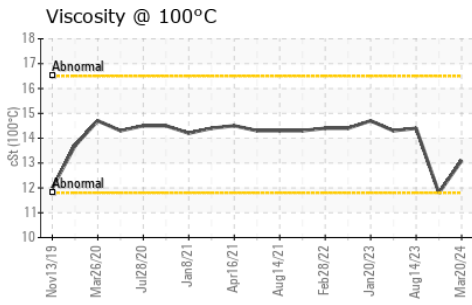
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	31	44	10
Potassium	ppm	ASTM D5185(m)	>20	0	2	<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	0	0
Nitration	Abs/cm	ASTM D7624*	>20	7.7	10.3	10.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.7	36.0	23.6
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	2	3	3
Boron	ppm	ASTM D5185(m)		17	83	1
Barium	ppm	ASTM D5185(m)		<1	3	0
Molybdenum	ppm	ASTM D5185(m)		53	38	66
Manganese	ppm	ASTM D5185(m)		0	4	<1
Magnesium	ppm	ASTM D5185(m)		911	749	1104
Calcium	ppm	ASTM D5185(m)		1292	1834	1156
Phosphorus	ppm	ASTM D5185(m)		943	809	1110
Zinc	ppm	ASTM D5185(m)		1155	945	1349
Sulfur	ppm	ASTM D5185(m)		2384	2273	2483
Oxidation	Abs/.1mm	ASTM D7414*	>25	22.5	43.0	20.9
Visc @ 100°C	cSt	ASTM D7279(m)		13.1	11.8	14.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0280954 **Received** : 27 Mar 2024
Lab Number : 02624907 **Tested** : 27 Mar 2024
Unique Number : 5750026 **Diagnosed** : 27 Mar 2024 - Wes Davis
Test Package : MOB 1

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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