



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR LH40M 112208-1215
 Component
Diesel Engine
 Fluid
PETRO CANADA 10W40 (32 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0278756	LH0256574	LH0193026
Sample Date		Client Info		22 Feb 2024	22 Mar 2023	14 Jul 2021
Machine Age	hrs	Client Info		12935	11044	6336
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	3	3	3
Chromium	ppm	ASTM D5185(m)	>5	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	2	<1	<1
Lead	ppm	ASTM D5185(m)	>30	<1	0	<1
Copper	ppm	ASTM D5185(m)	>125	<1	<1	2
Tin	ppm	ASTM D5185(m)	>5	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

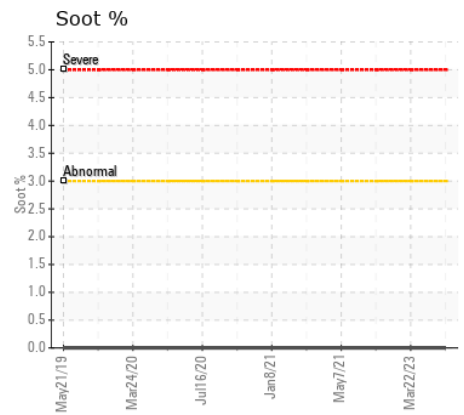
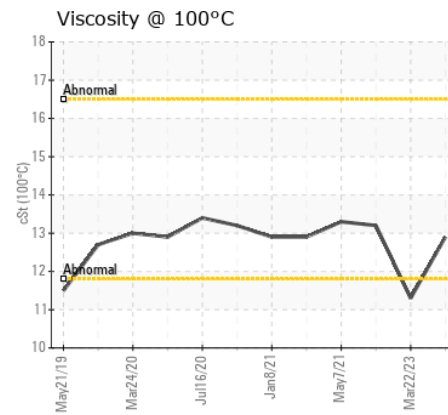
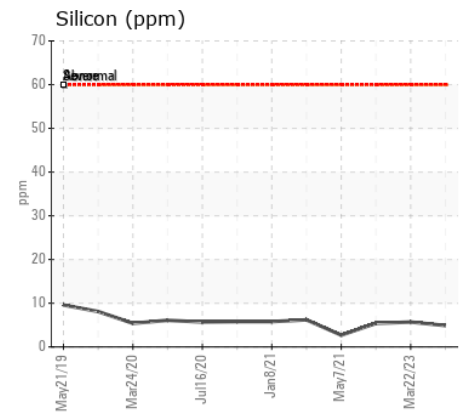
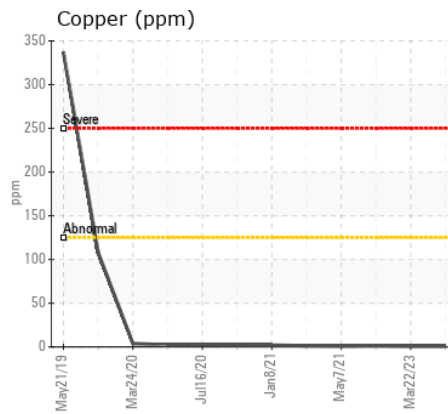
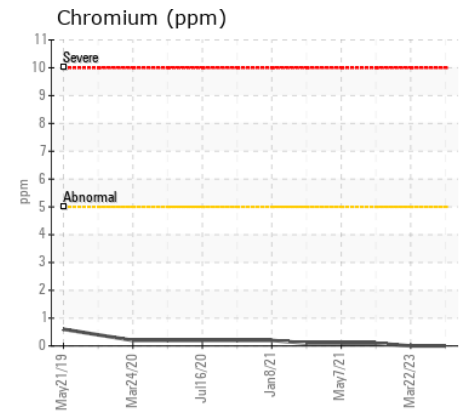
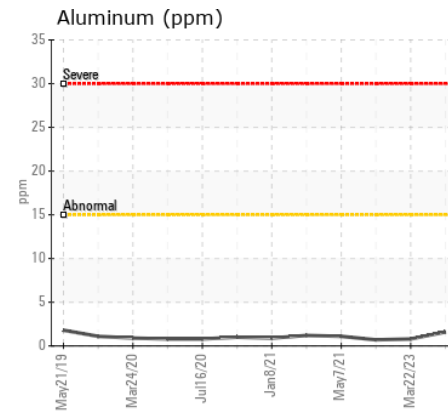
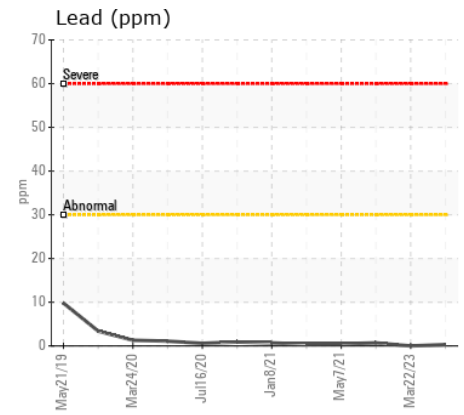
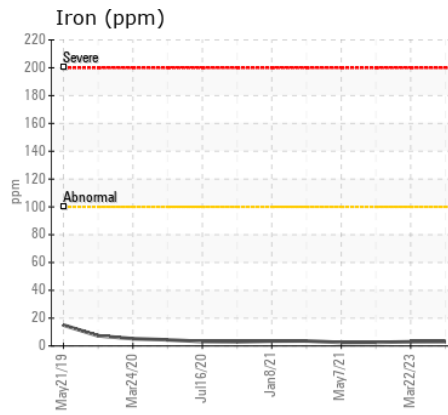
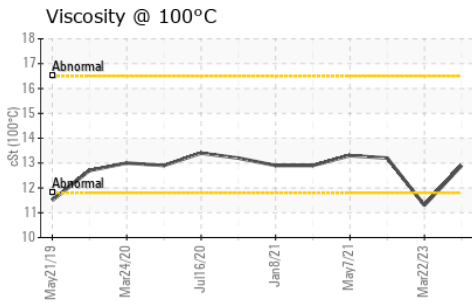
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	5	6	5
Potassium	ppm	ASTM D5185(m)	>20	<1	0	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	8.6	10.0	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.3	22.5	18.8
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	<1	4	2
Boron	ppm	ASTM D5185(m)		<1	39	1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		57	59	57
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		943	1091	1010
Calcium	ppm	ASTM D5185(m)		1040	882	1029
Phosphorus	ppm	ASTM D5185(m)		1002	1092	1053
Zinc	ppm	ASTM D5185(m)		1143	1196	1198
Sulfur	ppm	ASTM D5185(m)		2709	2863	2576
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0	19.1	15.8
Visc @ 100°C	cSt	ASTM D7279(m)		12.9	11.3	13.2



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0278756 **Received** : 01 Mar 2024
Lab Number : 02619181 **Tested** : 01 Mar 2024
Unique Number : 5736291 **Diagnosed** : 01 Mar 2024 - Wes Davis
Test Package : MOB 1

KIMCO STEEL SALES LTD.
 1325 JOHN COUNTER BLVD
 KINGSTON, ON
 CA K7L 4W1
 Contact: David Roy
 doug@kimcosteel.com
 T: (800)267-0902
 F: (613)548-4653

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.