



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(366409)
Machine Id
LIEBHERR R945 053994-1866
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (40 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0285030	LH0237701	LH0202863
Sample Date		Client Info		08 Feb 2024	11 Aug 2023	25 May 2023
Machine Age	hrs	Client Info		4053	3069	2611
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	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	3	3	4
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>5	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	1	<1	1
Lead	ppm	ASTM D5185(m)	>30	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>125	2	2	2
Tin	ppm	ASTM D5185(m)	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

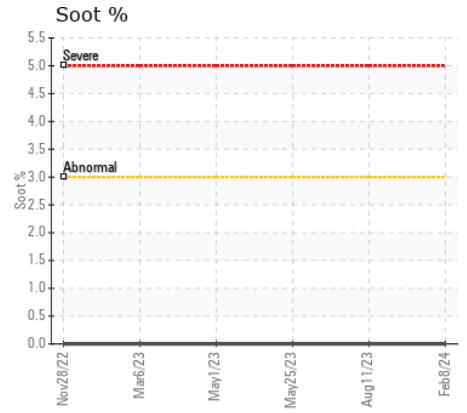
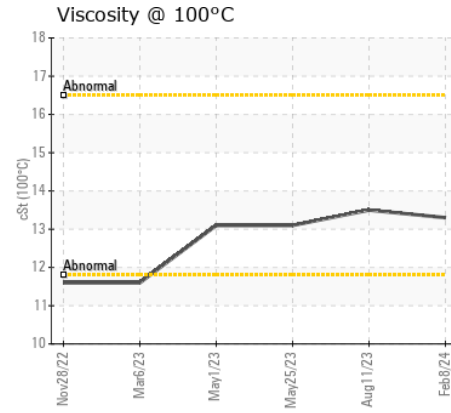
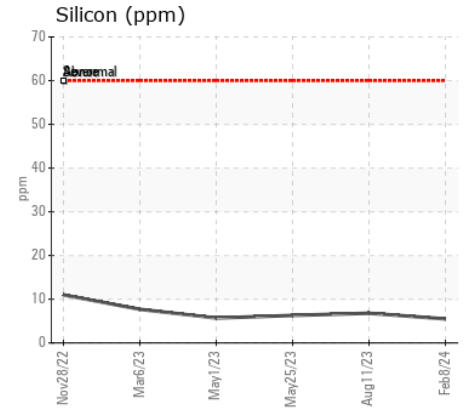
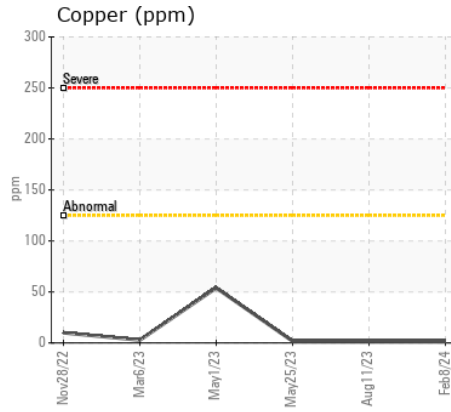
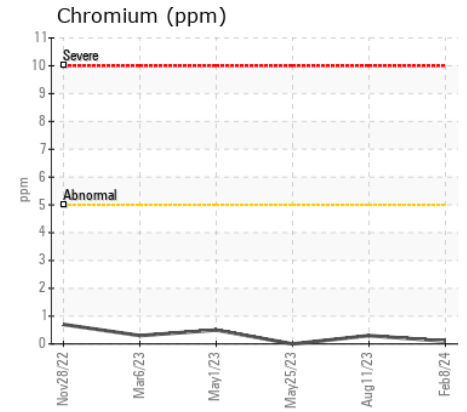
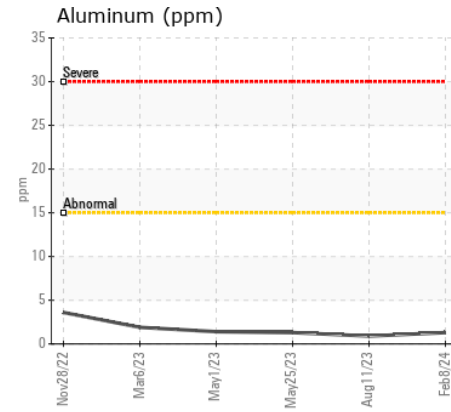
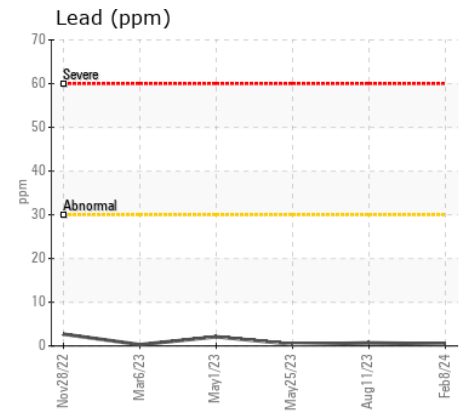
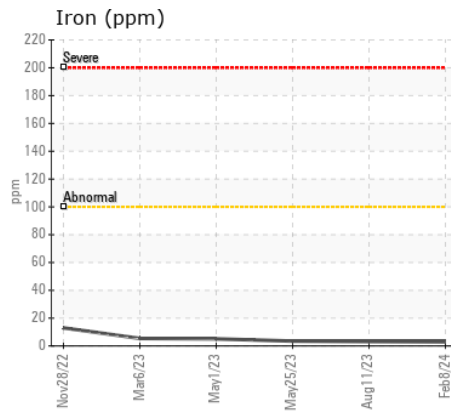
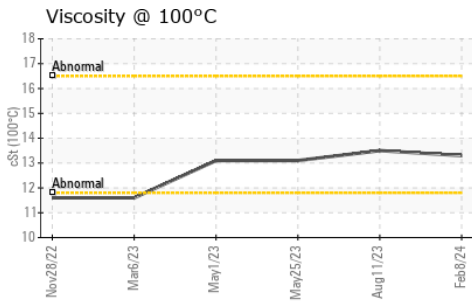
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	6	7	6
Potassium	ppm	ASTM D5185(m)	>20	<1	<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	0	0
Nitration	Abs/cm	ASTM D7624*	>20	8.0	8.2	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.5	20.0	19.0
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	2	2
Boron	ppm	ASTM D5185(m)		<1	2	3
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		60	59	59
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		982	996	993
Calcium	ppm	ASTM D5185(m)		1077	1111	1104
Phosphorus	ppm	ASTM D5185(m)		1028	1092	1097
Zinc	ppm	ASTM D5185(m)		1198	1236	1203
Sulfur	ppm	ASTM D5185(m)		2703	2612	2653
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0	16.5	16.7
Visc @ 100°C	cSt	ASTM D7279(m)		13.3	13.5	13.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0285030
Lab Number : 02617380
Unique Number : 5734490
Test Package : MOB 1
Received : 22 Feb 2024
Tested : 22 Feb 2024
Diagnosed : 22 Feb 2024 - Wes Davis

THOMAS CAVANAGH CONSTRUCTION LTD
 RR # 2, 9094 CAVANAGH ROAD
 ASHTON, ON
 CA K0A 1B0
 Contact: Keith

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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