



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		LH0289723	LH0285030	LH0237701
Sample Date		Client Info		02 May 2024	08 Feb 2024	11 Aug 2023
Machine Age	hrs	Client Info		4540	4053	3069
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	Changed
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	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	<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	0	<1	<1
Copper	ppm	ASTM D5185(m)	>125	<1	2	2
Tin	ppm	ASTM D5185(m)	>5	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

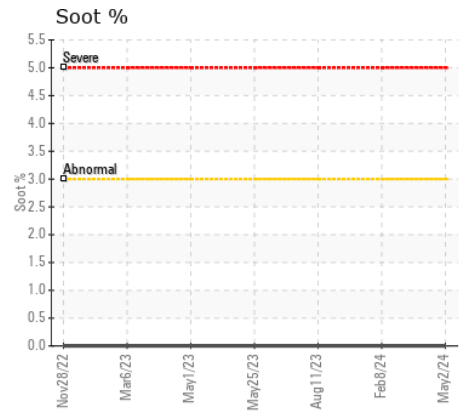
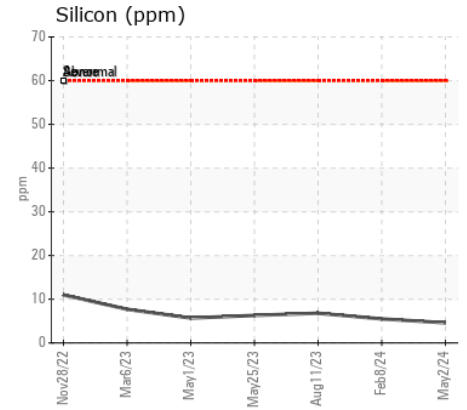
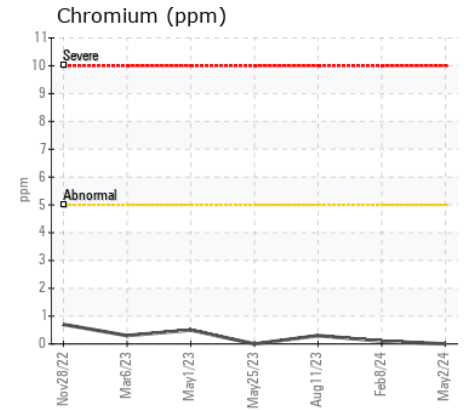
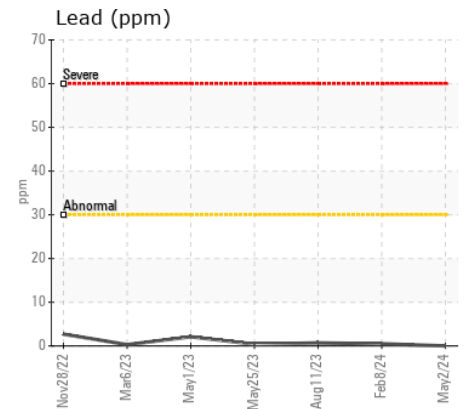
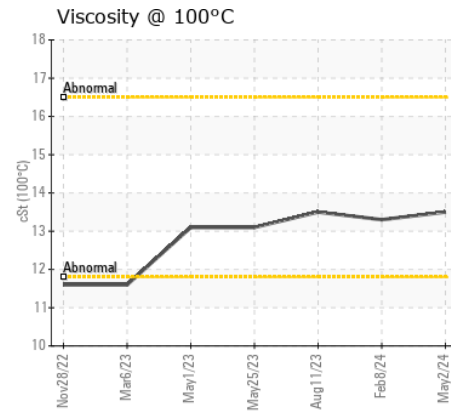
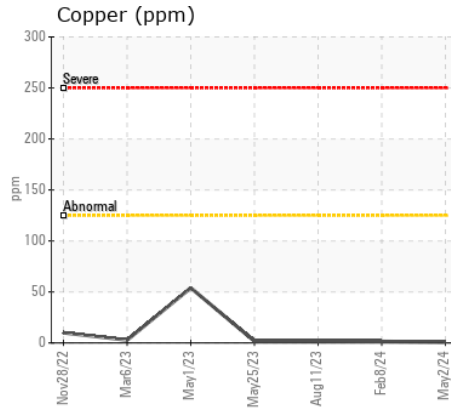
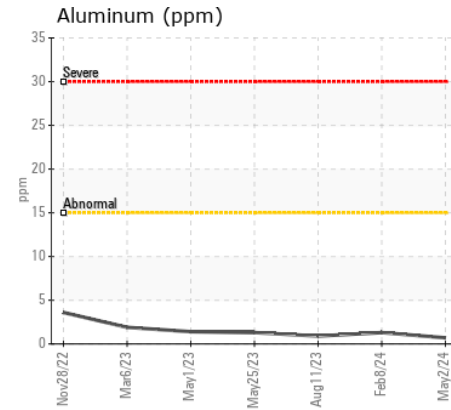
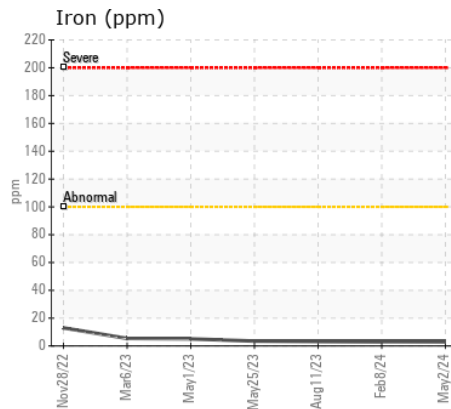
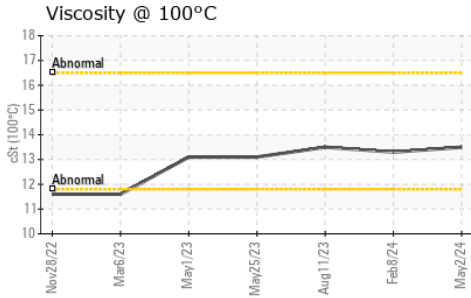
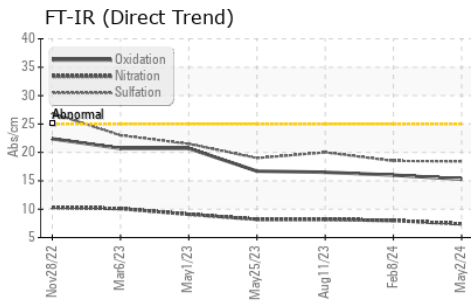
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	5	6	7
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	7.4	8.0	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.4	18.5	20.0
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	1	2
Boron	ppm	ASTM D5185(m)		<1	<1	2
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		59	60	59
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		984	982	996
Calcium	ppm	ASTM D5185(m)		1056	1077	1111
Phosphorus	ppm	ASTM D5185(m)		1002	1028	1092
Zinc	ppm	ASTM D5185(m)		1206	1198	1236
Sulfur	ppm	ASTM D5185(m)		2532	2703	2612
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.3	16.0	16.5
Visc @ 100°C	cSt	ASTM D7279(m)		13.5	13.3	13.5



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289723
Lab Number : 02633417
Unique Number : 5774570
Test Package : MOB 1
Received : 06 May 2024
Tested : 06 May 2024
Diagnosed : 06 May 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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