



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR HS8100 184920
Component
Diesel Engine
Fluid
PETRO CANADA 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0289636	LH0261787	LH0242629
Sample Date		Client Info		17 May 2024	07 Jul 2023	06 Jan 2023
Machine Age	hrs	Client Info		16088	14431	13294
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	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	6	11	20
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<1	<1	2
Lead	ppm	ASTM D5185(m)	>30	0	2	3
Copper	ppm	ASTM D5185(m)	>125	12	17	69
Tin	ppm	ASTM D5185(m)	>5	0	1	2
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

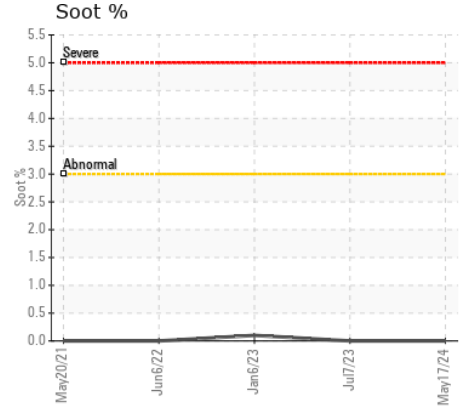
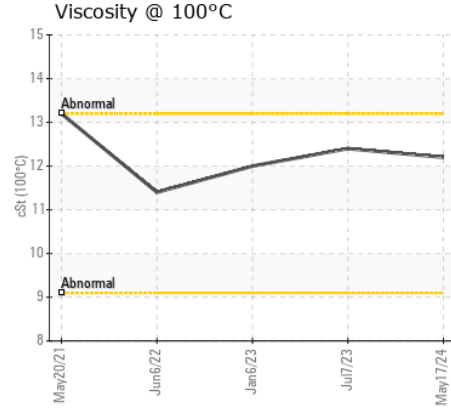
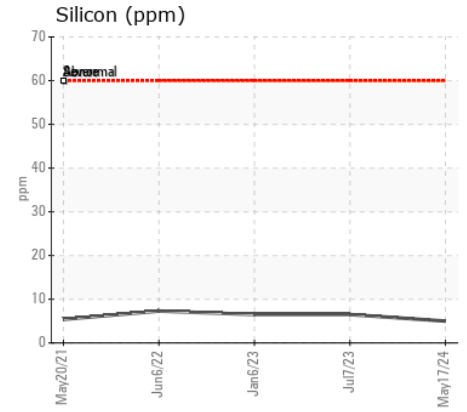
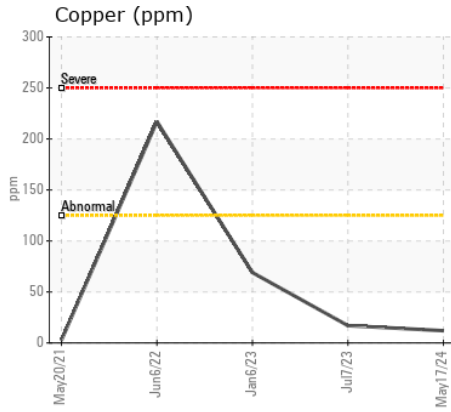
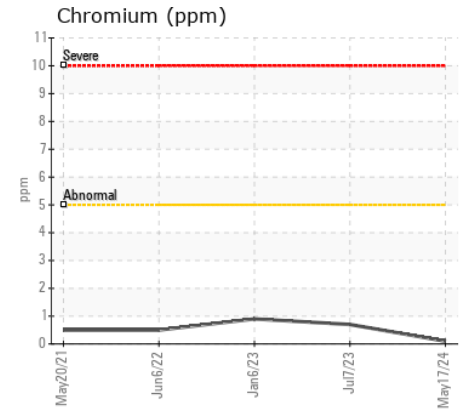
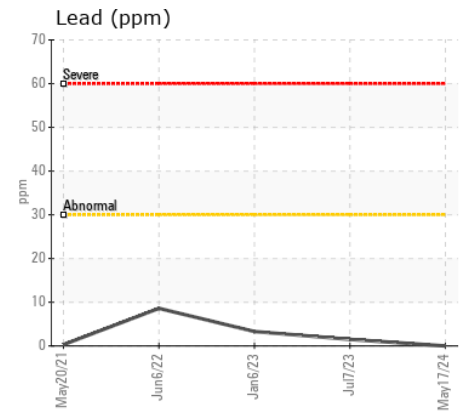
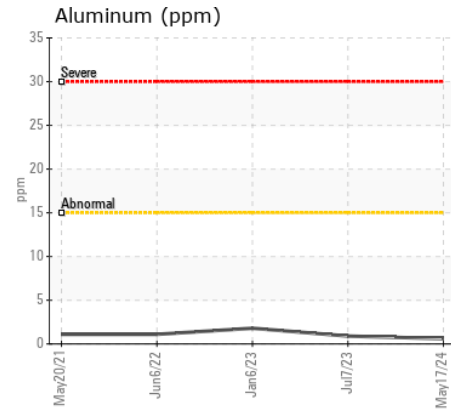
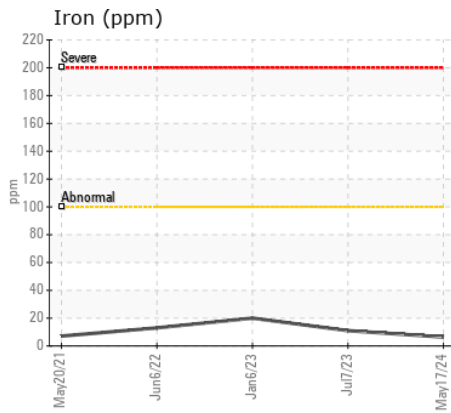
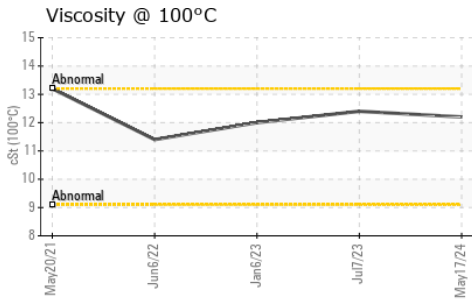
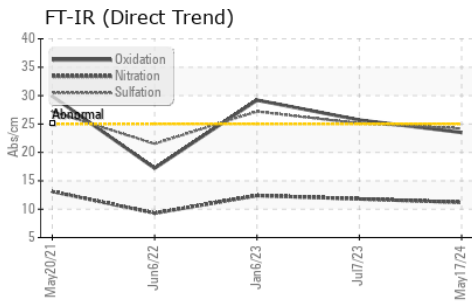
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	5	6	6
Potassium	ppm	ASTM D5185(m)	>20	3	6	1
Fuel		WC Method	>5	<1.0	<1.0	1.4
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	ASTM D7844*	>3	0	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	11.2	11.8	12.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.2	25.1	27.2
Silt	scalar	Visual*	NONE	VLITE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	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)		34	77	21
Boron	ppm	ASTM D5185(m)		13	19	23
Barium	ppm	ASTM D5185(m)		2	<1	2
Molybdenum	ppm	ASTM D5185(m)		62	61	60
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		1094	1173	991
Calcium	ppm	ASTM D5185(m)		927	876	1178
Phosphorus	ppm	ASTM D5185(m)		969	1066	1039
Zinc	ppm	ASTM D5185(m)		1177	1256	1256
Sulfur	ppm	ASTM D5185(m)		2445	2512	1903
Oxidation	Abs/.1mm	ASTM D7414*	>25	23.5	25.7	29.2
Visc @ 100°C	cSt	ASTM D7279(m)		12.2	12.4	12.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289636 **Received** : 29 May 2024
Lab Number : 02638411 **Tested** : 29 May 2024
Unique Number : 5787573 **Diagnosed** : 29 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

HIGGS & HIGGS
 RR # 4
 ST THOMAS, ON
 CA N5P 3S8
 Contact: Bernie Higgs

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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