



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR HS895 188297
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0287918	LH0260274	LH0195196
Sample Date		Client Info		18 Jun 2024	02 May 2023	18 Mar 2021
Machine Age	hrs	Client Info		16385	13473	6156
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	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	5	45	15
Chromium	ppm	ASTM D5185(m)	>5	0	1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	1	4	2
Lead	ppm	ASTM D5185(m)	>30	0	1	<1
Copper	ppm	ASTM D5185(m)	>125	<1	4	3
Tin	ppm	ASTM D5185(m)	>5	0	1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

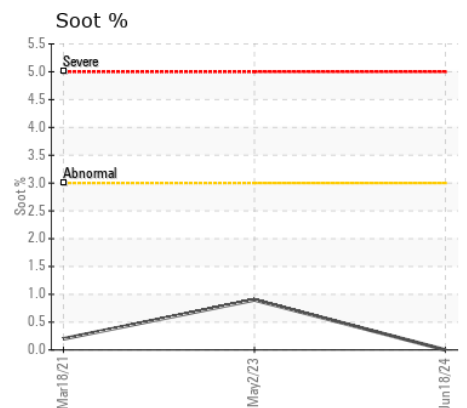
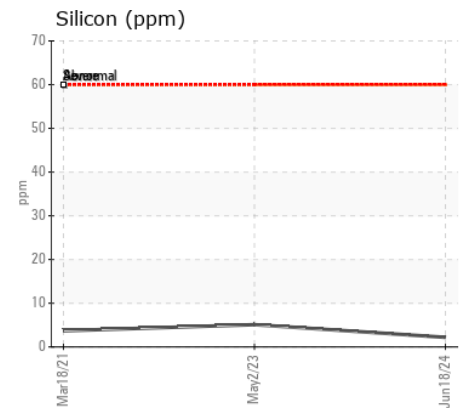
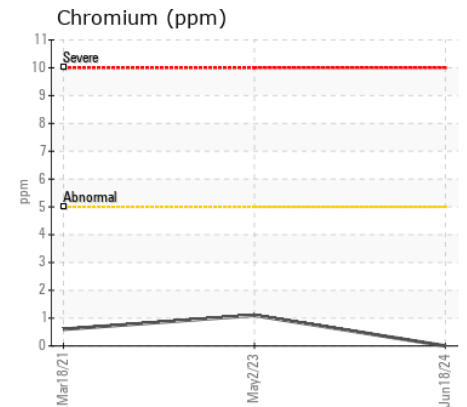
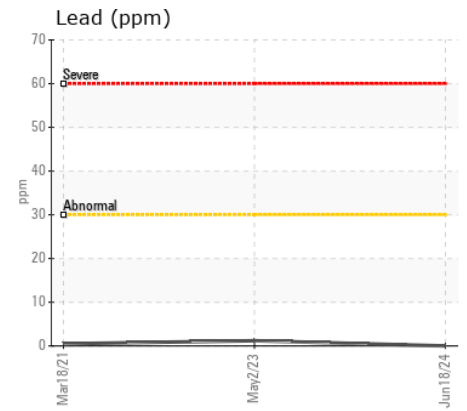
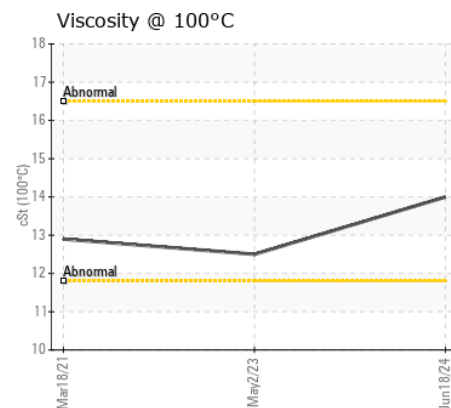
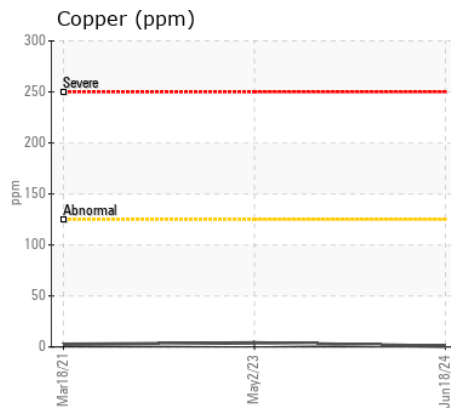
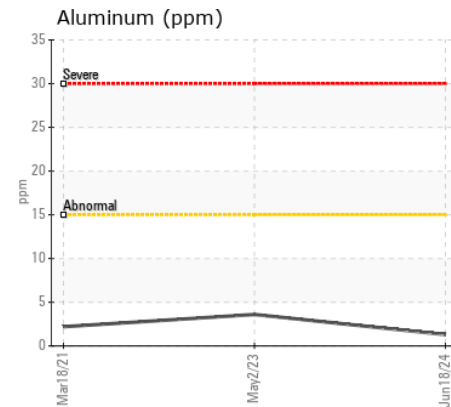
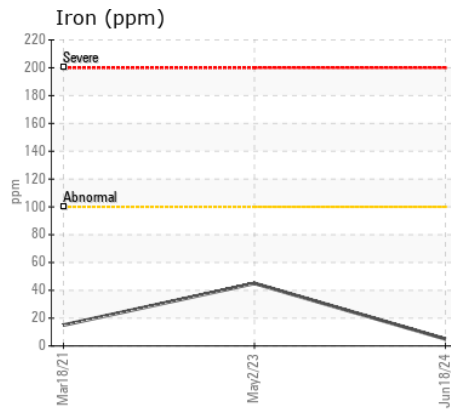
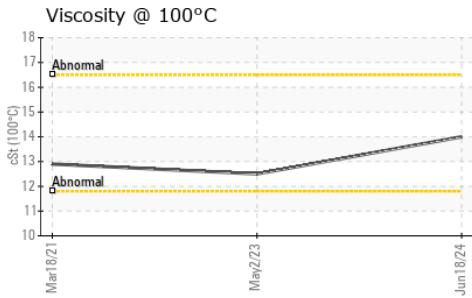
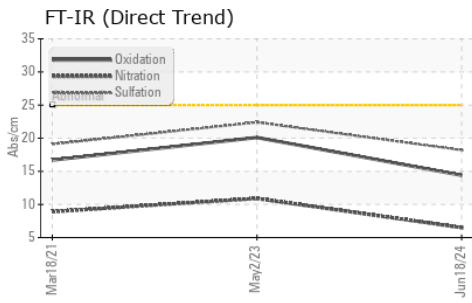
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	2	5	4
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	0.9	0.2
Nitration	Abs/cm	ASTM D7624*	>20	6.5	10.9	8.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.2	22.4	19.1
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	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)	>20	1	2	2
Boron	ppm	ASTM D5185(m)		2	2	3
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		57	62	59
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		938	1011	970
Calcium	ppm	ASTM D5185(m)		996	1134	1055
Phosphorus	ppm	ASTM D5185(m)		982	1126	1011
Zinc	ppm	ASTM D5185(m)		1165	1287	1281
Sulfur	ppm	ASTM D5185(m)		2534	2428	2710
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.4	20.1	16.7
Visc @ 100°C	cSt	ASTM D7279(m)		14.0	12.5	12.9



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0287918 **Received** : 26 Jun 2024
Lab Number : 02644101 **Tested** : 26 Jun 2024
Unique Number : 5801640 **Diagnosed** : 27 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Visual)

Harbour Development
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 St John, NB
 CA E2J 4Y8
 Contact: Darien Edison
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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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