



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH30M 1253-146764

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 5W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0276509	---	---
Sample Date		Client Info		08 Feb 2024	---	---
Machine Age	hrs	Client Info		1019	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	6	---	---
Chromium	ppm	ASTM D5185m	>4	<1	---	---
Nickel	ppm	ASTM D5185m	>4	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>8	1	---	---
Lead	ppm	ASTM D5185m	>10	1	---	---
Copper	ppm	ASTM D5185m	>74	72	---	---
Tin	ppm	ASTM D5185m	>4	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

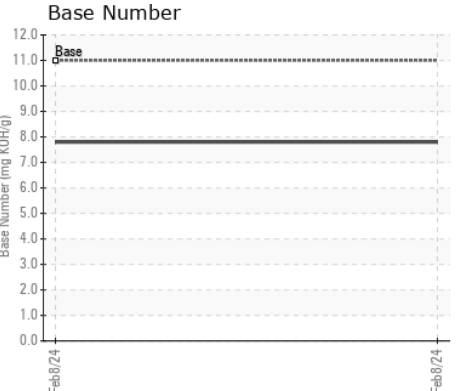
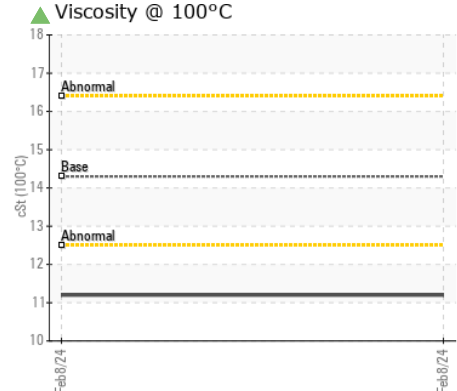
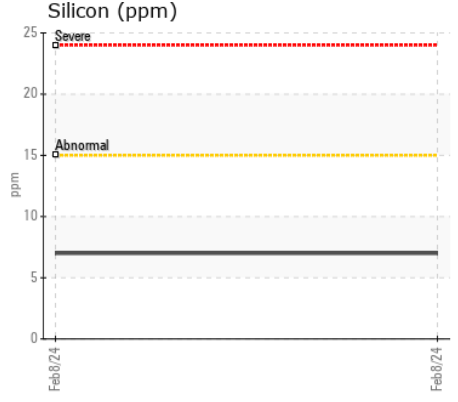
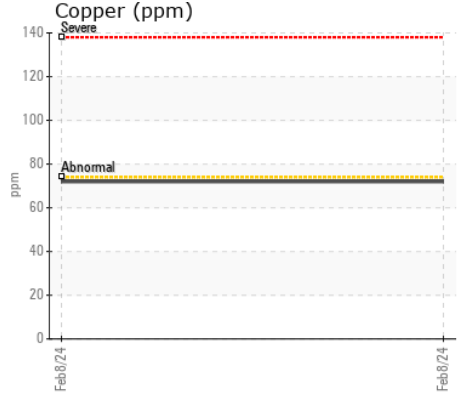
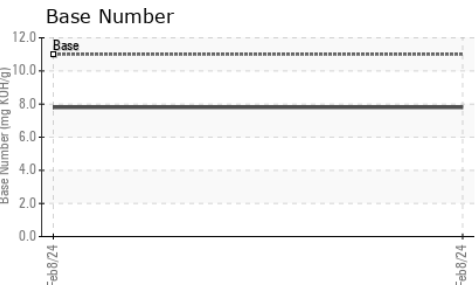
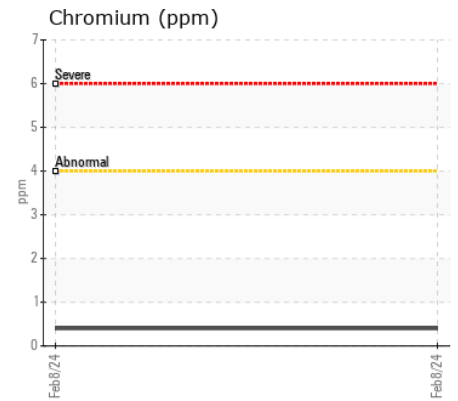
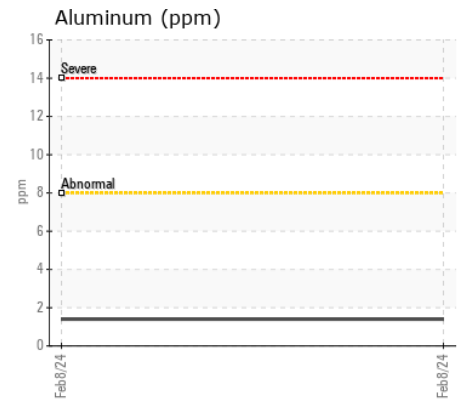
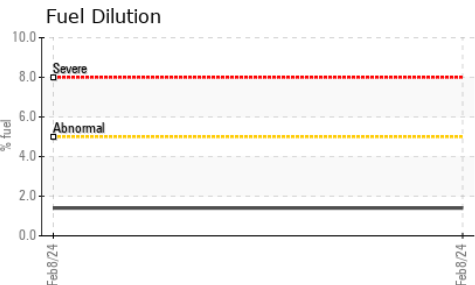
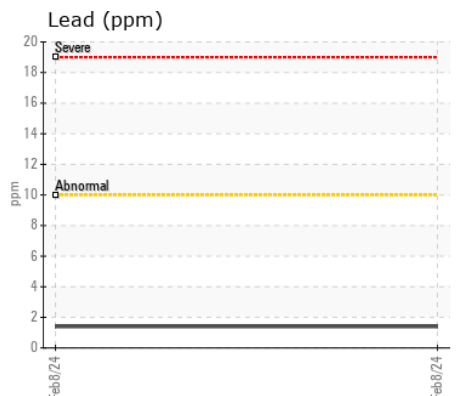
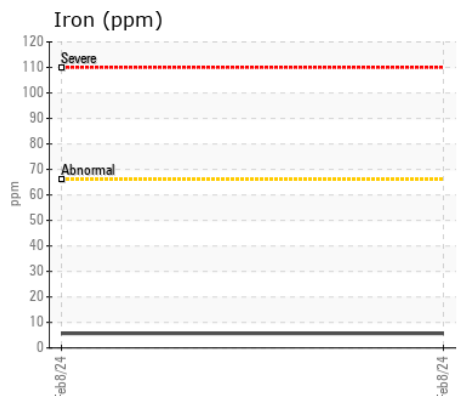
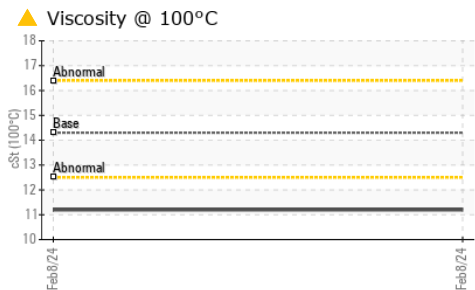
Fuel content negligible. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>15	7	---	---
Potassium	ppm	ASTM D5185m	>20	<1	---	---
Fuel	%	ASTM D3524	>5	1.4	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	10.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		0	---	---
Boron	ppm	ASTM D5185m	65	86	---	---
Barium	ppm	ASTM D5185m	0	6	---	---
Molybdenum	ppm	ASTM D5185m	65	47	---	---
Manganese	ppm	ASTM D5185m	0	<1	---	---
Magnesium	ppm	ASTM D5185m	1160	868	---	---
Calcium	ppm	ASTM D5185m	820	1315	---	---
Phosphorus	ppm	ASTM D5185m	1160	634	---	---
Zinc	ppm	ASTM D5185m	1260	864	---	---
Sulfur	ppm	ASTM D5185m	3000	2116	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.0	7.8	---	---
Visc @ 100°C	cSt	ASTM D445	14.3	▲ 11.2	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0276509 **Received** : 14 Feb 2024
Lab Number : 06089235 **Tested** : 16 Feb 2024
Unique Number : 10876680 **Diagnosed** : 16 Feb 2024 - Sean Felton
Test Package : MOBCE (Additional Tests: FuelDilution, PercentFuel, TBN)

TRAM CONSTRUCTION
 9279 E KY 8
 GARRISON, KY
 US 41141
 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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