



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Machine Id
LIEBHERR A924C-LI 064062-1049

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 10W40 (30 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0284322	LH0274197	LH0261037
Sample Date		Client Info		19 Feb 2024	26 Oct 2023	14 Jun 2023
Machine Age	hrs	Client Info		14179	13784	13298
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				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	9	16	25
Chromium	ppm	ASTM D5185(m)	>5	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	1	<1	2
Lead	ppm	ASTM D5185(m)	>30	<1	<1	1
Copper	ppm	ASTM D5185(m)	>125	<1	2	2
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

Light fuel dilution occurring. No other contaminants were detected in the oil.

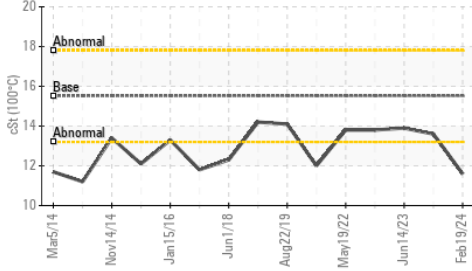
Silicon	ppm	ASTM D5185(m)	>60	6	6	6
Potassium	ppm	ASTM D5185(m)	>20	1	<1	2
Fuel	%	ASTM D7593*	>5	1.1	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.5	1.2	1.5
Nitration	Abs/cm	ASTM D7624*	>20	6.9	8.1	9.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.8	21.0	22.9
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

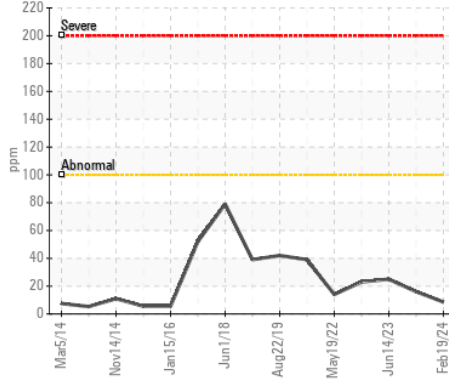
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		2	2	2
Boron	ppm	ASTM D5185(m)	2	7	3	19
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	56	61	51
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	905	967	832
Calcium	ppm	ASTM D5185(m)	1070	1144	1102	1310
Phosphorus	ppm	ASTM D5185(m)	1150	1019	996	1084
Zinc	ppm	ASTM D5185(m)	1270	1180	1208	1233
Sulfur	ppm	ASTM D5185(m)	2060	2750	2438	2560
Oxidation	Abs/.1mm	ASTM D7414*	>25	13.9	14.8	16.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.52	▲ 11.6	13.6	13.9

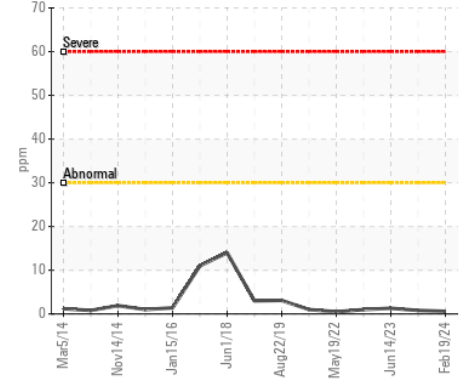
▲ Viscosity @ 100°C



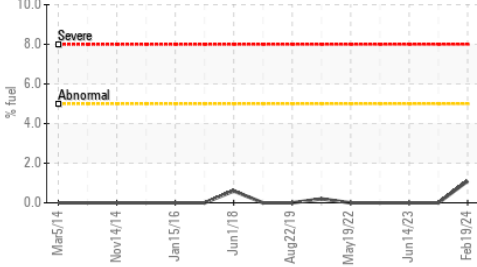
Iron (ppm)



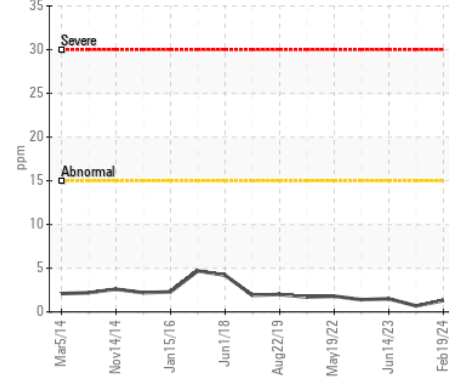
Lead (ppm)



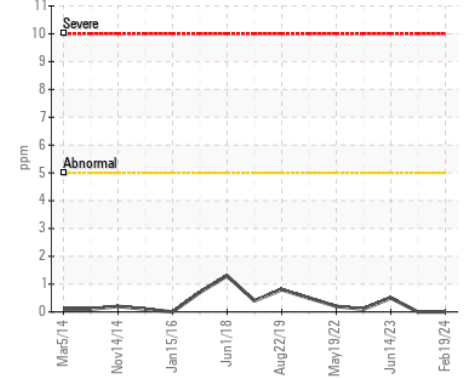
Fuel Dilution



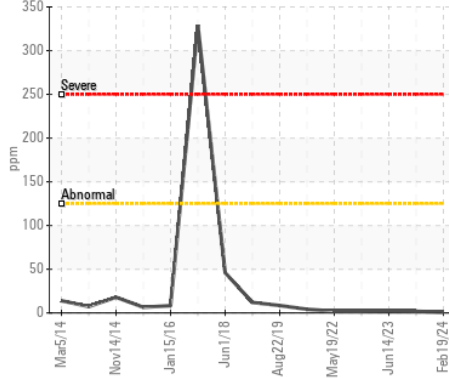
Aluminum (ppm)



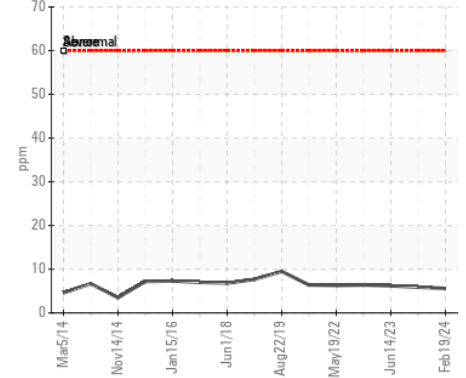
Chromium (ppm)



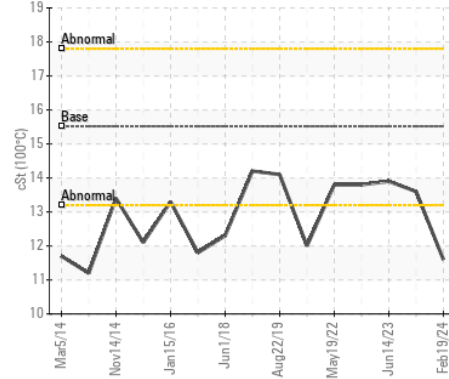
Copper (ppm)



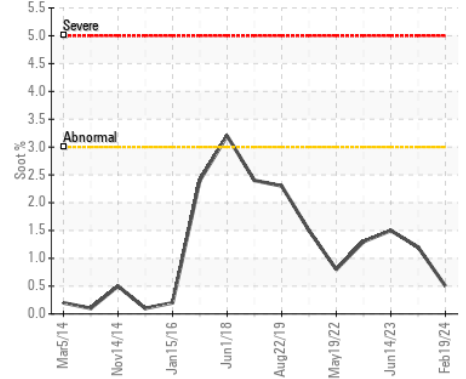
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : LH0284322

Lab Number : 02617382

Unique Number : 5734492

Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 22 Feb 2024

Tested : 23 Feb 2024

Diagnosed : 23 Feb 2024 - Kevin Marson

MARCEL DUVAL FER ET METAUX INC.

661 RANG STE-MARIE

ST. SEBASTIEN, QC

CA J0J 2C0

Contact: Service Manager

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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F: