



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR PR766 24176
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		LH0238157	LH0265125	LH0265103
Sample Date		Client Info		29 Mar 2024	07 Jan 2024	04 Dec 2023
Machine Age	hrs	Client Info		6049	4931	4477
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	N/A
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	7	5
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	1	2	2
Lead	ppm	ASTM D5185(m)	>30	0	<1	<1
Copper	ppm	ASTM D5185(m)	>125	1	1	2
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	LIGHT
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

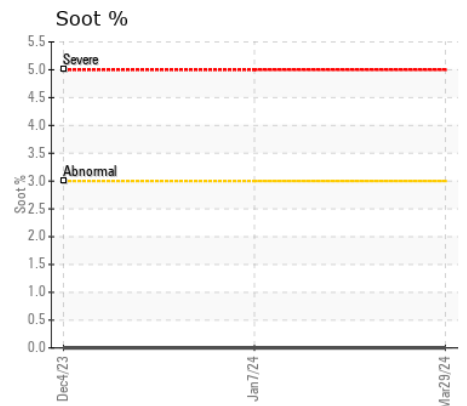
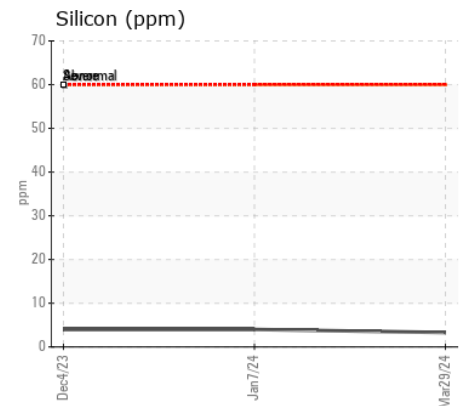
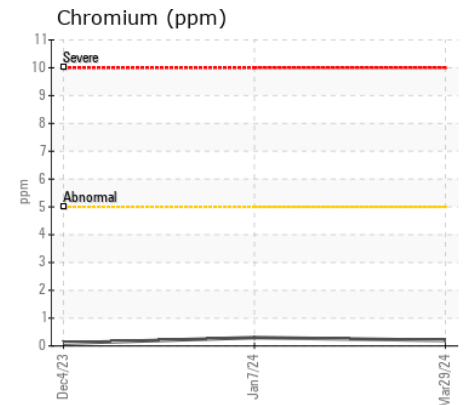
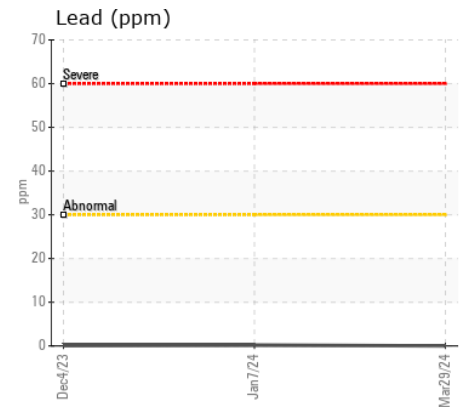
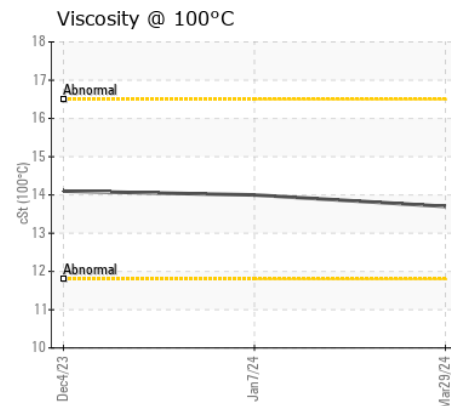
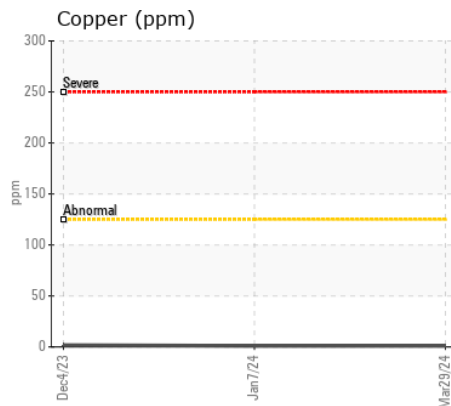
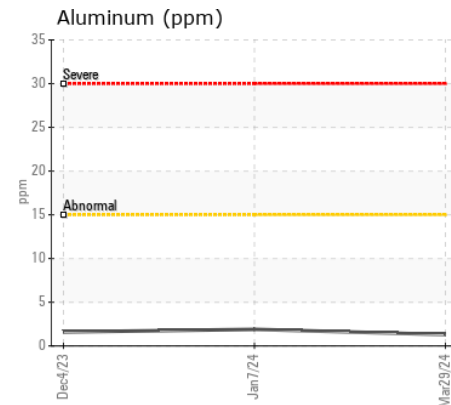
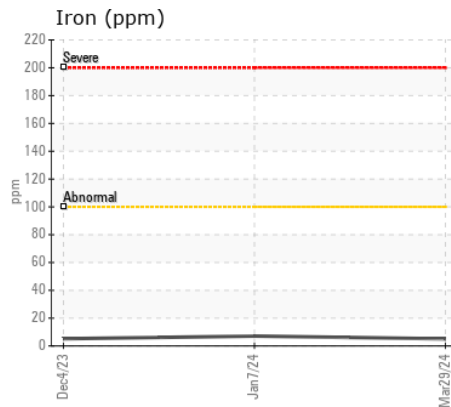
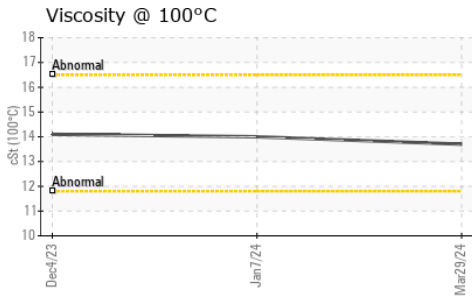
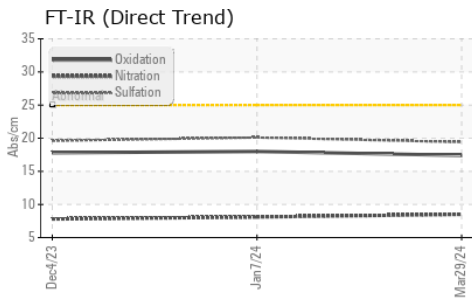
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	3	4	4
Potassium	ppm	ASTM D5185(m)	>20	<1	2	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	0.0
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	8.5	8.1	7.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.4	20.1	19.6
Silt	scalar	Visual*	NONE	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	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)	>20	4	4	4
Boron	ppm	ASTM D5185(m)		34	44	45
Barium	ppm	ASTM D5185(m)		<1	0	<1
Molybdenum	ppm	ASTM D5185(m)		52	57	57
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		1034	1080	1090
Calcium	ppm	ASTM D5185(m)		814	814	801
Phosphorus	ppm	ASTM D5185(m)		919	1016	990
Zinc	ppm	ASTM D5185(m)		1129	1170	1173
Sulfur	ppm	ASTM D5185(m)		2650	2940	2730
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.4	18.0	17.8
Visc @ 100°C	cSt	ASTM D7279(m)		13.7	14.0	14.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0238157 **Received** : 17 Jun 2024
Lab Number : 02642251 **Tested** : 18 Jun 2024
Unique Number : 5799790 **Diagnosed** : 18 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Visual)

ARGONAUT GOLD
 DUBREUILVILLE MINE
 DUBREUILVILLE, ON
 CA
 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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