

Machine Id
FREIGHTLINER 206104
Component
Diesel Engine
Fluid
 DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0071727	PC0071728	---
Sample Date	Client Info			27 Feb 2024	08 Mar 2023	---
Machine Age	kms	Client Info		135033	93433	---
Oil Age	kms	Client Info		135033	15000	---
Oil Changed	Client Info			Changed	N/A	---
Sample Status				ABNORMAL	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	NEG	NEG	---
Glycol	WC Method			NEG	NEG	---

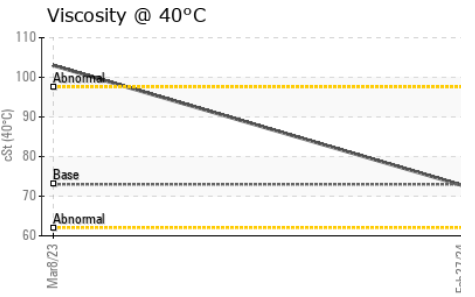
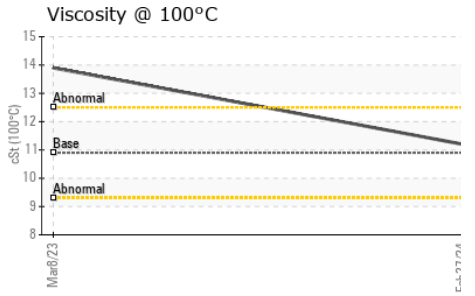
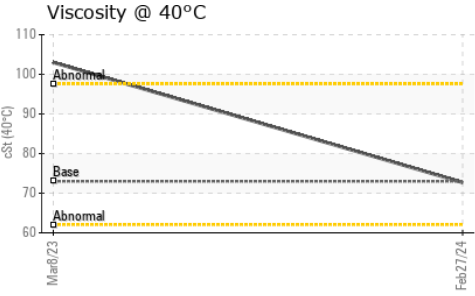
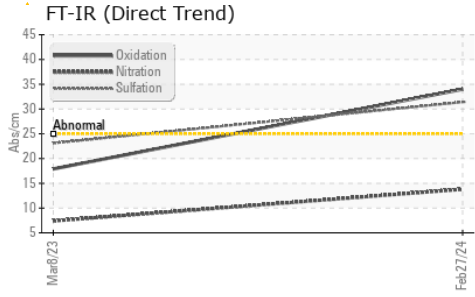
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	63	28	---
Chromium	ppm	ASTM D5185(m)	>5	4	<1	---
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)	>3	0	0	---
Aluminum	ppm	ASTM D5185(m)	>30	14	3	---
Lead	ppm	ASTM D5185(m)	>30	10	<1	---
Copper	ppm	ASTM D5185(m)	>150	2	<1	---
Tin	ppm	ASTM D5185(m)	>5	0	0	---
Antimony	ppm	ASTM D5185(m)		0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	5	37	---
Barium	ppm	ASTM D5185(m)	10	0	0	---
Molybdenum	ppm	ASTM D5185(m)	100	59	47	---
Manganese	ppm	ASTM D5185(m)		0	<1	---
Magnesium	ppm	ASTM D5185(m)	450	915	798	---
Calcium	ppm	ASTM D5185(m)	3000	1064	1191	---
Phosphorus	ppm	ASTM D5185(m)	1150	944	789	---
Zinc	ppm	ASTM D5185(m)	1350	1141	832	---
Sulfur	ppm	ASTM D5185(m)	4250	2238	2072	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	6	6	---
Sodium	ppm	ASTM D5185(m)		8	3	---
Potassium	ppm	ASTM D5185(m)	>20	26	4	---
Fuel	%	ASTM D7593*	>5	▲ 5.2	<1.0	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	1	0	---
Nitration	Abs/cm	ASTM D7624*	>20	13.8	7.4	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	31.4	23.1	---

OIL ANALYSIS REPORT

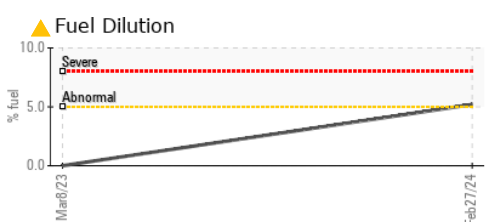
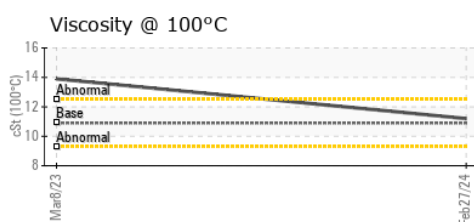
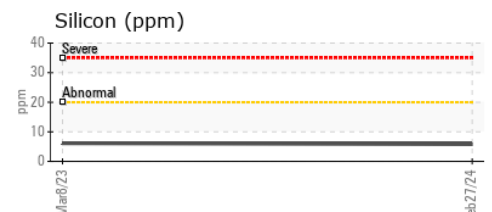
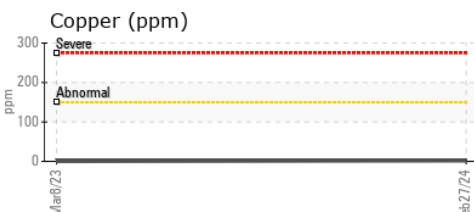
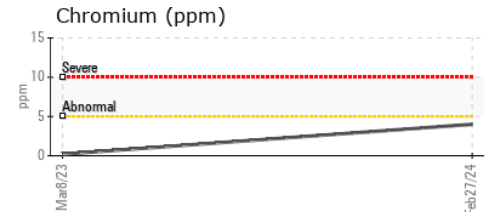
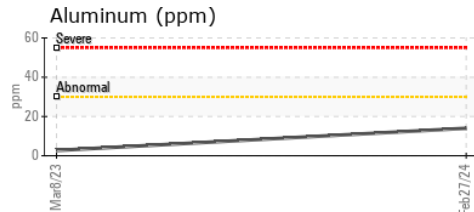
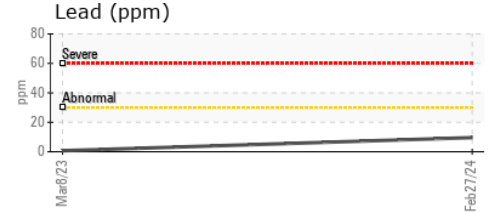
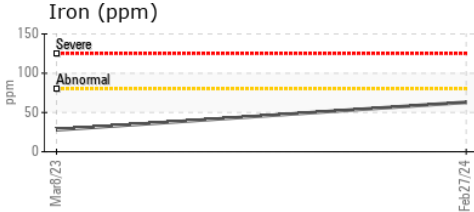


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	34.0	17.9	---

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
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	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	73	72.7	103	---
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	11.2	13.9	---
Viscosity Index (VI)	Scale	ASTM D2270*	138	145	136	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0071727 **Received** : 21 Mar 2024
Lab Number : **02623617** **Tested** : 26 Mar 2024
Unique Number : 5748736 **Diagnosed** : 26 Mar 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: FUELDILUTION, KV40, PercentFuel, VI, Visual)

City of Toronto
 1026 Finch Ave W.
 Toronto, ON
 CA M3J 2E1

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.

Contact: Fleet Diagnostics
 Fleetdiagnostics@toronto.ca
 T: (416) 39-5 6355
 F: