



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Machine Id
FREIGHTLINER 12533
Component
Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (22 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0913842	WCMFB48603	---
Sample Date		Client Info		21 Mar 2024	03 May 2016	---
Machine Age	mls	Client Info		0	0	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				SEVERE	NORMAL	---

WEAR

Piston and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>90	▲ 87	16	---
Chromium	ppm	ASTM D5185m	>20	2	<1	---
Nickel	ppm	ASTM D5185m	>2	<1	0	---
Titanium	ppm	ASTM D5185m	>2	<1	0	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	▲ 26	11	---
Lead	ppm	ASTM D5185m	>40	0	0	---
Copper	ppm	ASTM D5185m	>330	4	1	---
Tin	ppm	ASTM D5185m	>15	<1	7	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

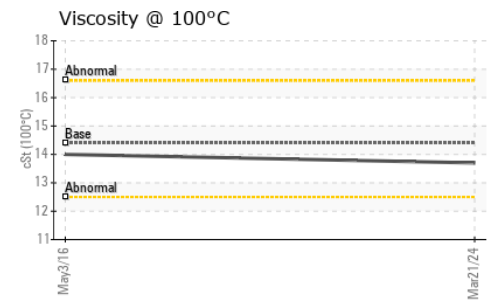
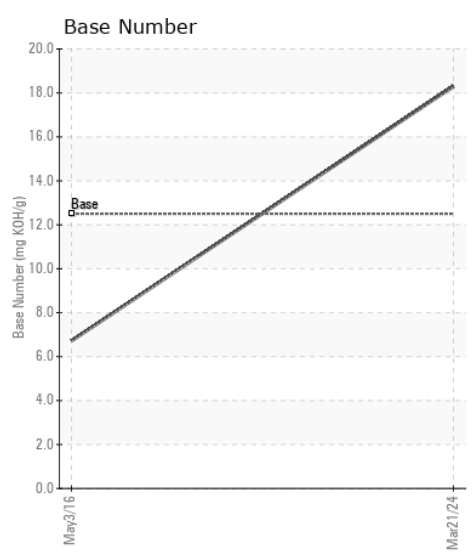
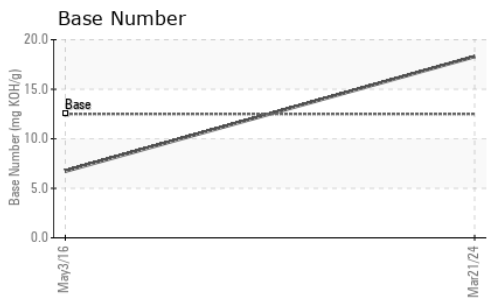
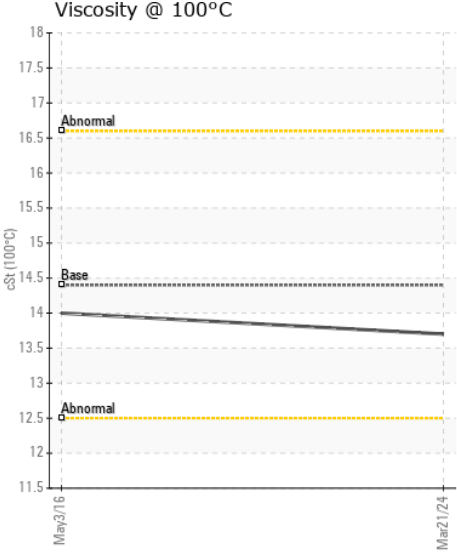
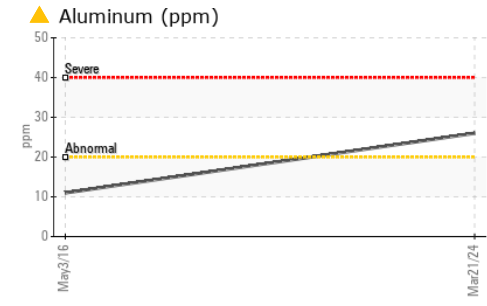
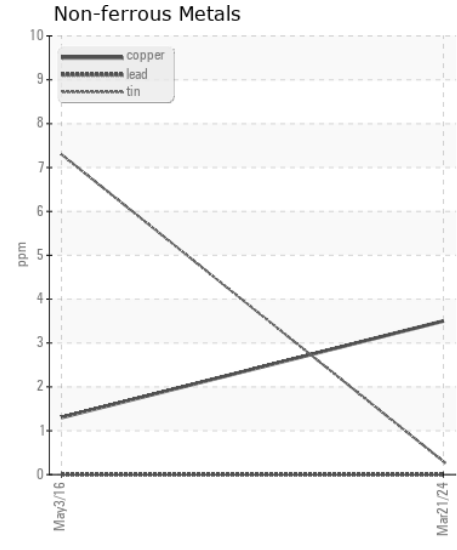
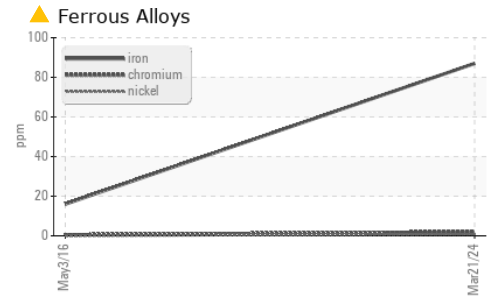
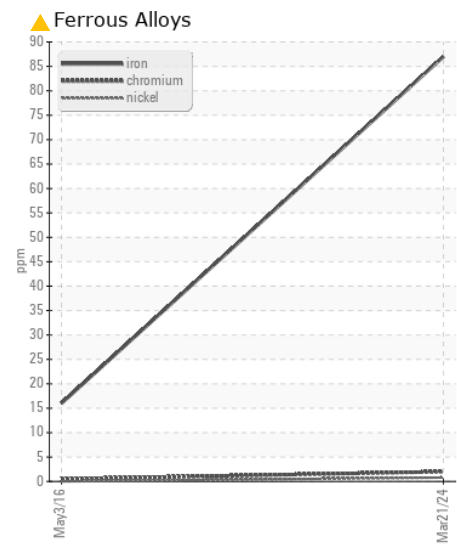
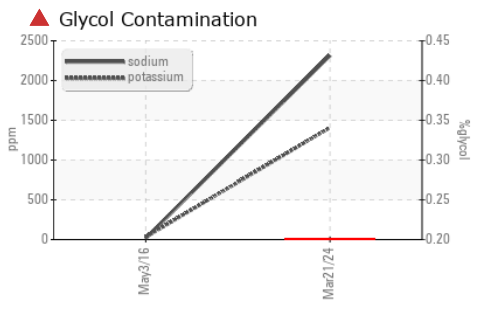
Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>25	14	4	---
Potassium	ppm	ASTM D5185m	>20	▲ 1410	32	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		▲ 0.20	NEG	---
Soot %	%	*ASTM D7844	>6	0.6	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	14.3	7.	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.3	17.	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 2315	16	---
Boron	ppm	ASTM D5185m	151	239	313	---
Barium	ppm	ASTM D5185m	0.4	3	0	---
Molybdenum	ppm	ASTM D5185m	250	251	87	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	0	675	373	---
Calcium	ppm	ASTM D5185m	2046	1502	1486	---
Phosphorus	ppm	ASTM D5185m	1043	725	994	---
Zinc	ppm	ASTM D5185m	943	948	1116	---
Sulfur	ppm	ASTM D5185m	5012	2969	3084	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	13.	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	18.3	6.72	---
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	14.00	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0913842 **Received** : 21 Mar 2024
Lab Number : 06125383 **Tested** : 26 Mar 2024
Unique Number : 10939534 **Diagnosed** : 26 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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)