



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
Freightliner T89 (S/N 1FVXFAA899DAH6381)
 Component
Diesel Engine
 Fluid
INVENTORY EXPRESS 15W40 (44 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0906428	WC0790242	---
Sample Date		Client Info		25 Apr 2024	22 Mar 2023	---
Machine Age	kms	Client Info		1501759	1444380	---
Oil Age	kms	Client Info		0	0	---
Filter Age	kms	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	55	32	---
Chromium	ppm	ASTM D5185(m)	>5	2	2	---
Nickel	ppm	ASTM D5185(m)	>2	0	0	---
Titanium	ppm	ASTM D5185(m)		<1	<1	---
Silver	ppm	ASTM D5185(m)	>3	0	0	---
Aluminum	ppm	ASTM D5185(m)	>30	4	3	---
Lead	ppm	ASTM D5185(m)	>30	4	8	---
Copper	ppm	ASTM D5185(m)	>150	10	3	---
Tin	ppm	ASTM D5185(m)	>5	<1	<1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

Fuel content negligible. Light concentration of carbon/soot present in the oil.

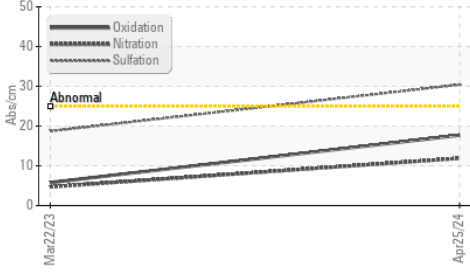
Silicon	ppm	ASTM D5185(m)	>20	6	4	---
Potassium	ppm	ASTM D5185(m)	>20	1	2	---
Fuel	%	ASTM D7593*	>5	0.6	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	ASTM D7844*	>3	▲ 4.4	1.2	---
Nitration	Abs/cm	ASTM D7624*	>20	11.9	4.7	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	30.4	18.7	---
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	---

FLUID CONDITION

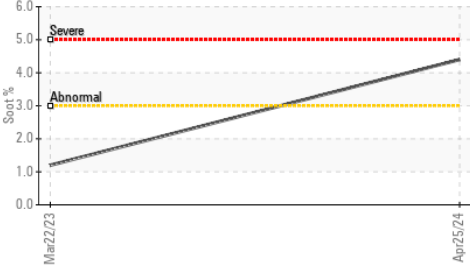
The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		6	3	---
Boron	ppm	ASTM D5185(m)		41	28	---
Barium	ppm	ASTM D5185(m)		1	0	---
Molybdenum	ppm	ASTM D5185(m)		67	65	---
Manganese	ppm	ASTM D5185(m)		<1	<1	---
Magnesium	ppm	ASTM D5185(m)		289	127	---
Calcium	ppm	ASTM D5185(m)		1951	2305	---
Phosphorus	ppm	ASTM D5185(m)		959	1053	---
Zinc	ppm	ASTM D5185(m)		1164	1158	---
Sulfur	ppm	ASTM D5185(m)		2703	3079	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.7	5.8	---
Visc @ 100°C	cSt	ASTM D7279(m)		16.4	15.0	---

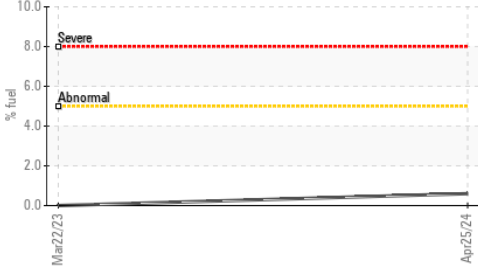
▲ FT-IR (Direct Trend)



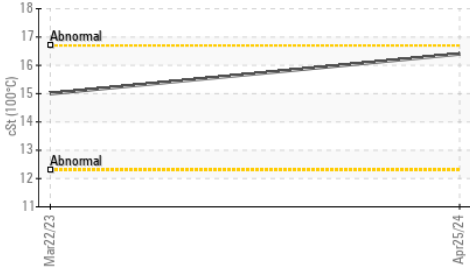
▲ Soot %



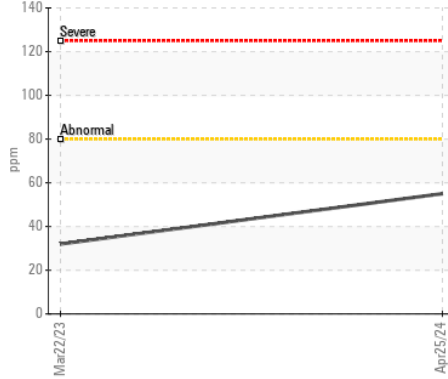
Fuel Dilution



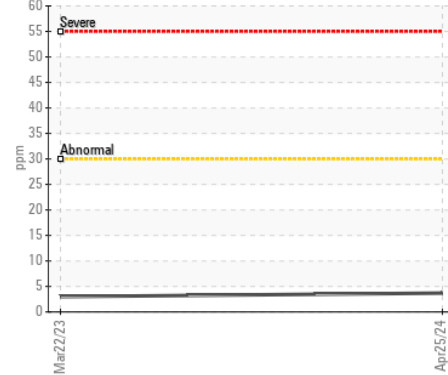
Viscosity @ 100°C



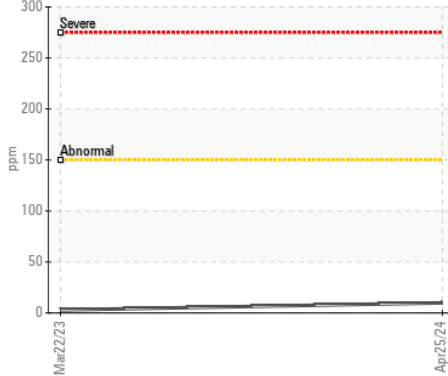
Iron (ppm)



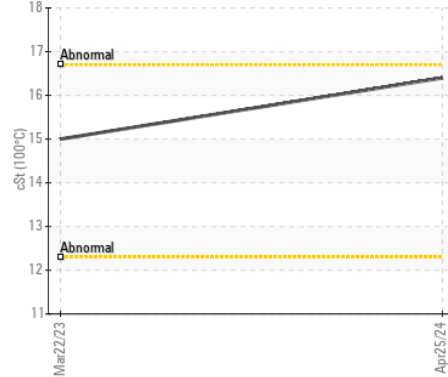
Aluminum (ppm)



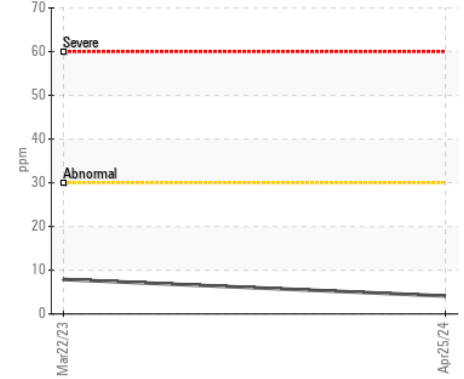
Copper (ppm)



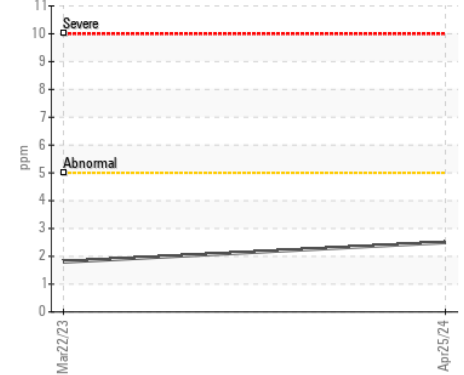
Viscosity @ 100°C



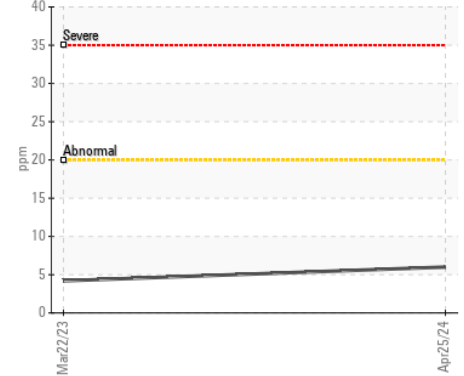
Lead (ppm)



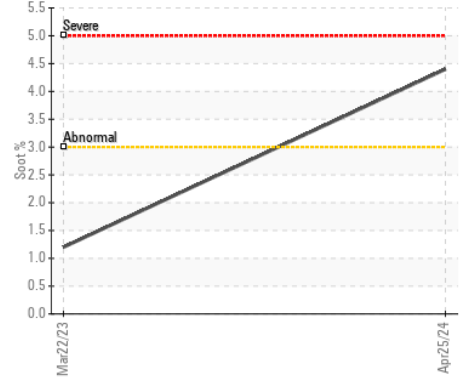
Chromium (ppm)



Silicon (ppm)



▲ Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0906428 **Received** : 26 Apr 2024
Lab Number : 02631620 **Tested** : 30 Apr 2024
Unique Number : 5772773 **Diagnosed** : 30 Apr 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

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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