MOB I WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
FREIGHTLINER 1631
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

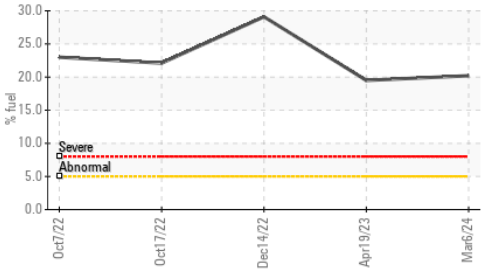
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

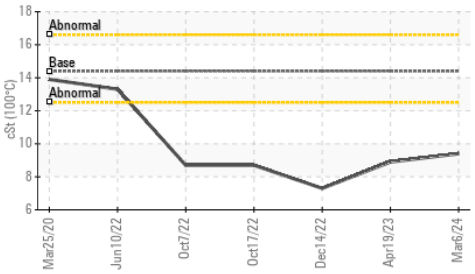
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0906163	WC0806594	WC0761285
Sample Date		Client Info		06 Mar 2024	19 Apr 2023	14 Dec 2022
Machine Age	mls	Client Info		233265	222110	214223
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>100	19	10	11
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	0	2
Lead	ppm	ASTM D5185m	>40	1	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	4	4	7
Potassium	ppm	ASTM D5185m	>20	3	2	2
Fuel	%	ASTM D3524	>5	▲ 20.2	▲ 19.5	▲ 29.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.5	0.7
Nitration	Abs/cm	*ASTM D7624	>20	10.6	7.3	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.7	20.7	17.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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
Sodium	ppm	ASTM D5185m	>158	1	0	2
Boron	ppm	ASTM D5185m	250	33	46	24
Barium	ppm	ASTM D5185m	10	0	0	1
Molybdenum	ppm	ASTM D5185m	100	68	35	48
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	91	350	24
Calcium	ppm	ASTM D5185m	3000	1826	1371	1258
Phosphorus	ppm	ASTM D5185m	1150	891	598	590
Zinc	ppm	ASTM D5185m	1350	1014	736	727
Sulfur	ppm	ASTM D5185m	4250	3465	1941	2192
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.6	20.8	12.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.6	7.2	6.9
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 9.4	▲ 8.9	▲ 7.3

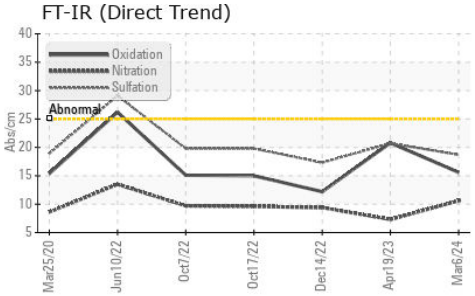
Fuel Dilution



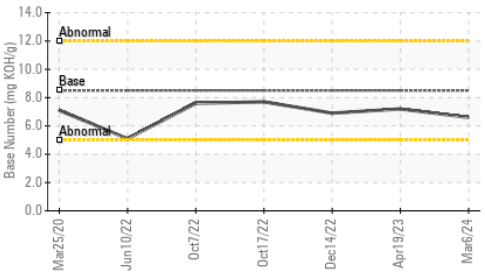
Viscosity @ 100°C



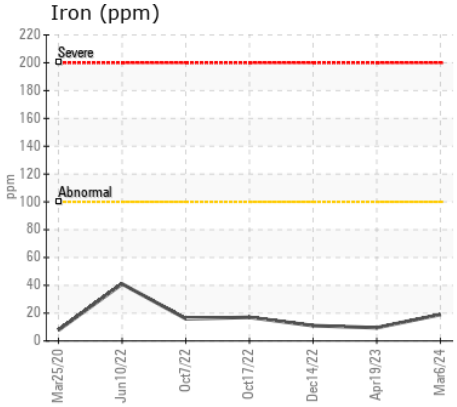
FT-IR (Direct Trend)



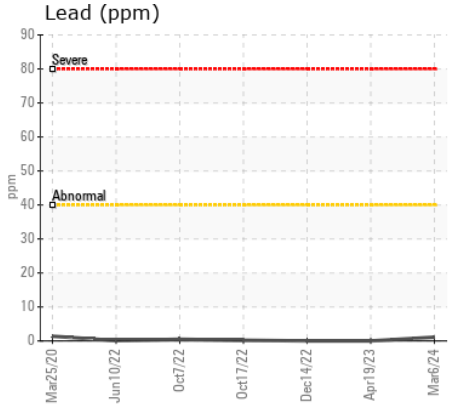
Base Number



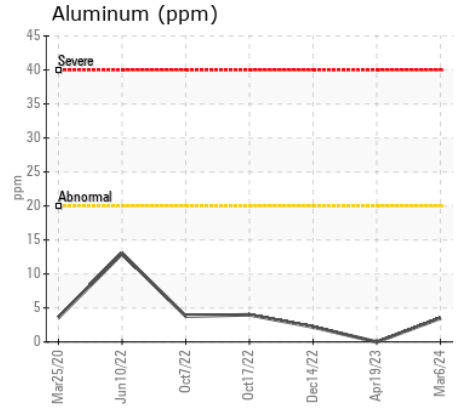
Iron (ppm)



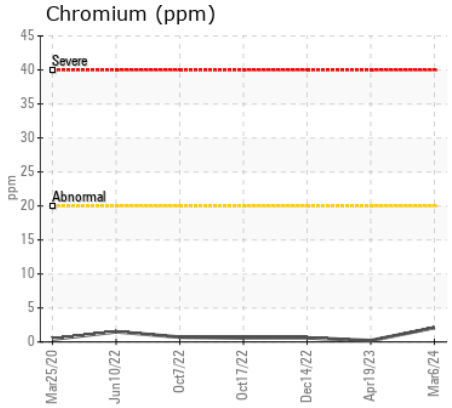
Lead (ppm)



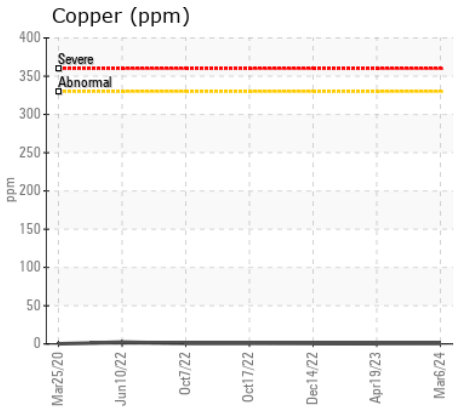
Aluminum (ppm)



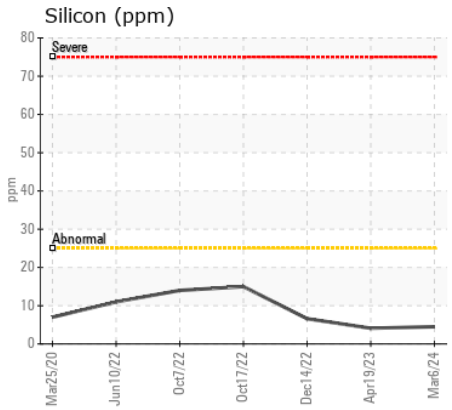
Chromium (ppm)



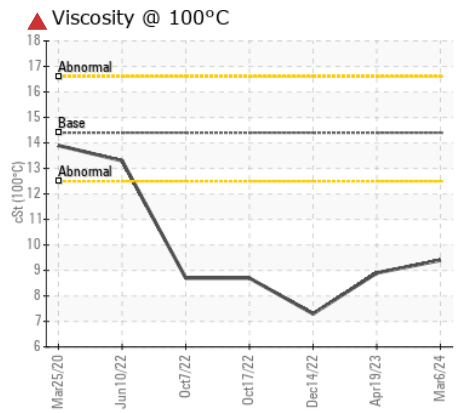
Copper (ppm)



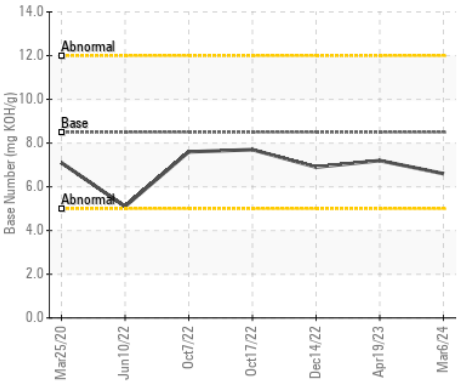
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0906163
Lab Number : 06195117
Unique Number : 11057240
Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

Received : 30 May 2024
Tested : 04 Jun 2024
Diagnosed : 04 Jun 2024 - Wes Davis

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)

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