MOB I WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 752
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (17 QTS)

RECOMMENDATION

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

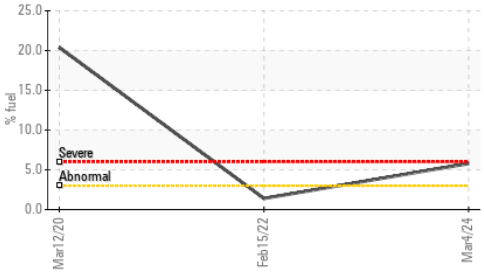
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

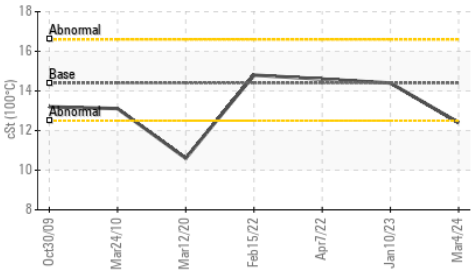
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0906157	WC0772880	WC0681396
Sample Date		Client Info		04 Mar 2024	10 Jan 2023	07 Apr 2022
Machine Age	mls	Client Info		229123	214106	205536
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				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>90	27	29	63
Chromium	ppm	ASTM D5185m	>20	2	1	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	5	9
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	2	2	6
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	6	5	7
Potassium	ppm	ASTM D5185m	>20	13	16	25
Fuel	%	ASTM D3524	>3.0	▲ 5.8	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.6	1.8	2.5
Nitration	Abs/cm	*ASTM D7624	>20	12.2	12.5	15.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.9	22.9	30.0
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	3	22	38
Boron	ppm	ASTM D5185m	250	23	27	19
Barium	ppm	ASTM D5185m	10	0	2	0
Molybdenum	ppm	ASTM D5185m	100	82	78	89
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	96	51	142
Calcium	ppm	ASTM D5185m	3000	1913	2076	2217
Phosphorus	ppm	ASTM D5185m	1150	900	980	1050
Zinc	ppm	ASTM D5185m	1350	1092	1194	1199
Sulfur	ppm	ASTM D5185m	4250	3506	4123	3182
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.7	16.0	23.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.8	8.0	6.8
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 12.4	14.4	14.6

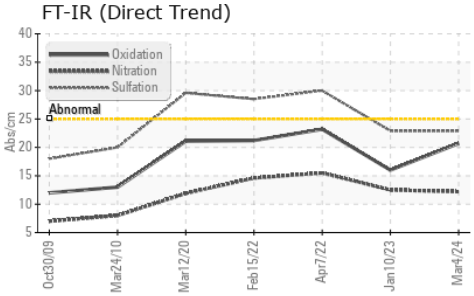
Fuel Dilution



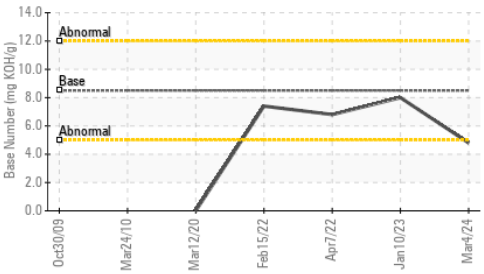
Viscosity @ 100°C



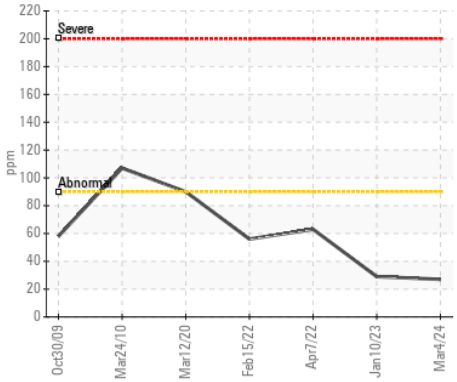
FT-IR (Direct Trend)



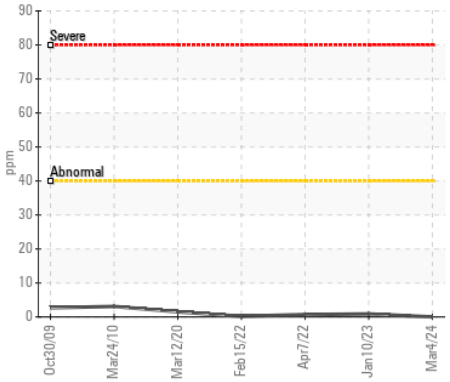
Base Number



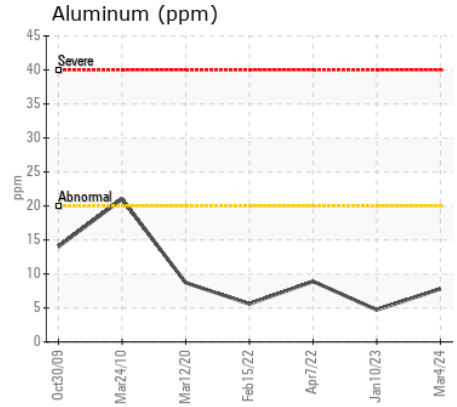
Iron (ppm)



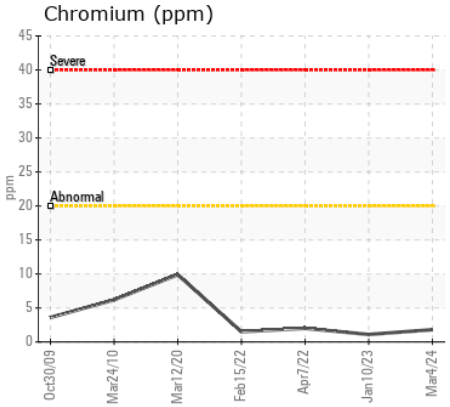
Lead (ppm)



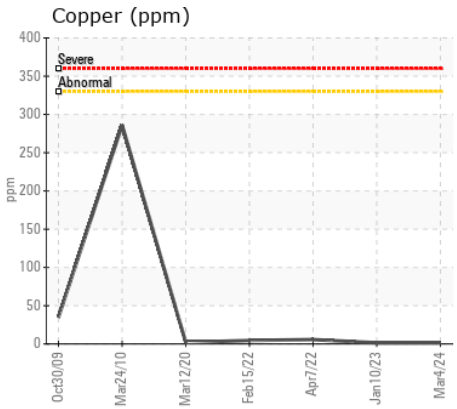
Aluminum (ppm)



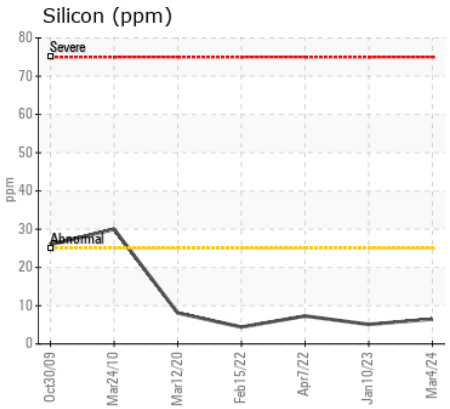
Chromium (ppm)



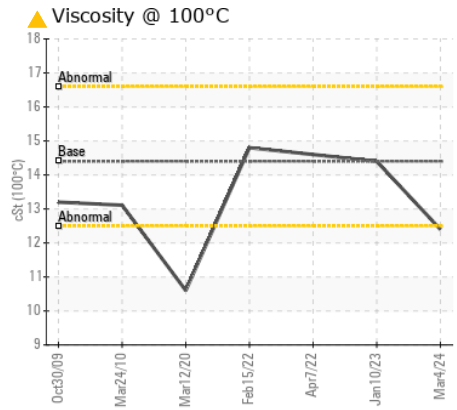
Copper (ppm)



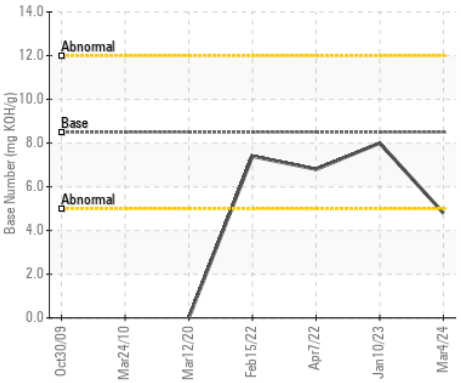
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0906157
Lab Number : 06189019
Unique Number : 11045771
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

Received : 23 May 2024
Tested : 28 May 2024
Diagnosed : 28 May 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)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
1551 ROCK QUARRY ROAD
RALEIGH, NC
US 27610
Contact: DEVIN WEBER
dweber@wcpss.net
T: (919)856-8076
F: x: