



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 17697
Component
Diesel Engine
Fluid
MOBIL 15W40 (20 QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

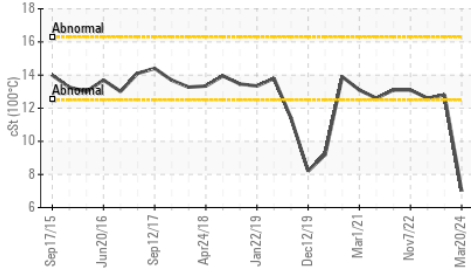
Light fuel dilution occurring.

FLUID CONDITION

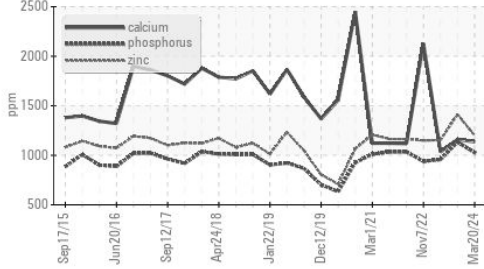
Magnesium ppm levels are abnormally high. Calcium ppm levels are abnormally low. Visc @ 100°C is abnormally low. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0904484	WC0815414	WC0767362
Sample Date		Client Info		20 Mar 2024	19 Jun 2023	12 Jan 2023
Machine Age	mls	Client Info		133008	126182	25000
Oil Age	mls	Client Info		9000	10000	25000
Filter Age	mls	Client Info		9000	10000	25000
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>90	34	13	8
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	<1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	0	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
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	5	3	3
Potassium	ppm	ASTM D5185m	>20	<1	0	1
Fuel	%	ASTM D3524	>3.0	▲ 1.9	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.7	8.3	6.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	19.7	18.5
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	>118	2	<1	2
Boron	ppm	ASTM D5185m		3	3	5
Barium	ppm	ASTM D5185m		0	0	1
Molybdenum	ppm	ASTM D5185m		66	66	60
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		▲ 955	1054	858
Calcium	ppm	ASTM D5185m		▲ 1136	1159	1035
Phosphorus	ppm	ASTM D5185m		1029	1133	958
Zinc	ppm	ASTM D5185m		1201	1412	1153
Sulfur	ppm	ASTM D5185m		3544	4299	3151
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	15.5	13.9
Base Number (BN)	mg KOH/g	ASTM D2896		8.6	9.5	9.6
Visc @ 100°C	cSt	ASTM D445		▲ 7.0	12.8	12.6

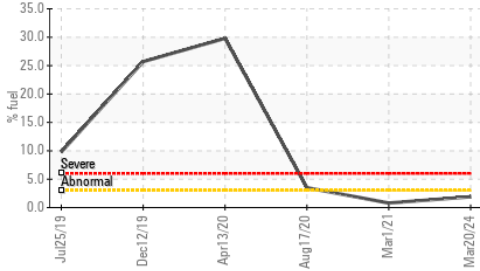
▲ Viscosity @ 100°C



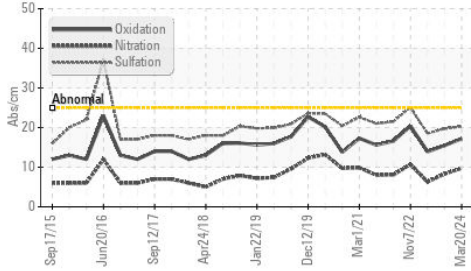
▲ Additives



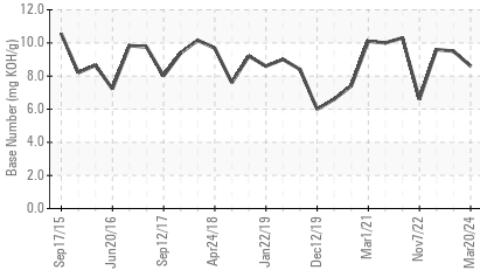
▲ Fuel Dilution



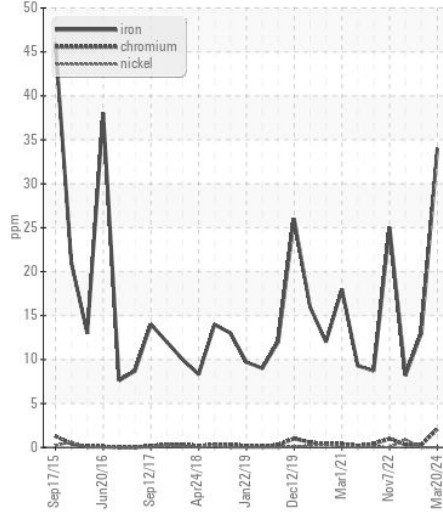
FT-IR (Direct Trend)



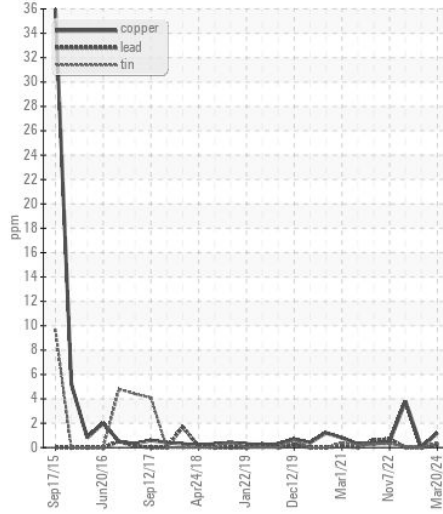
Base Number



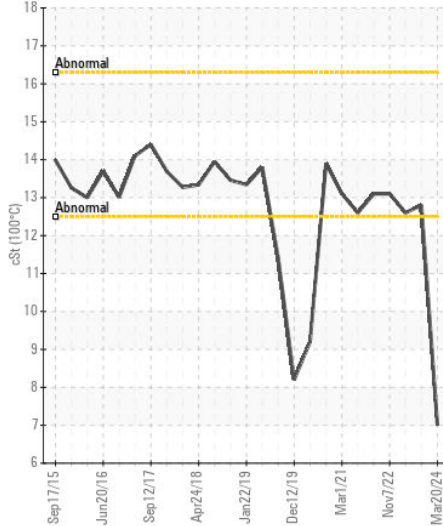
Ferrous Alloys



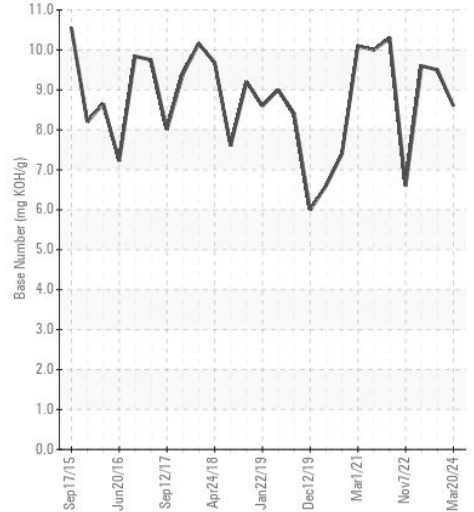
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0904484 **Received** : 12 Apr 2024
Lab Number : 06148018 **Tested** : 17 Apr 2024
Unique Number : 10978096 **Diagnosed** : 17 Apr 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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)