



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 846-5240

Component
Diesel Engine

Fluid
{not provided} (--- Shots)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RPL0013521	RPL0012304	RPL0009071
Sample Date		Client Info		10 Nov 2023	25 May 2023	01 Mar 2023
Machine Age	mls	Client Info		104474	83384	72224
Oil Age	mls	Client Info		104474	11160	10000
Filter Age	mls	Client Info		104474	11160	10000
Oil Changed		Client Info		Changed	Filtered	Filtered
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	30	14	9
Chromium	ppm	ASTM D5185m	>5	2	1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>30	10	6	5
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	49	36	39
Tin	ppm	ASTM D5185m	>5	2	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

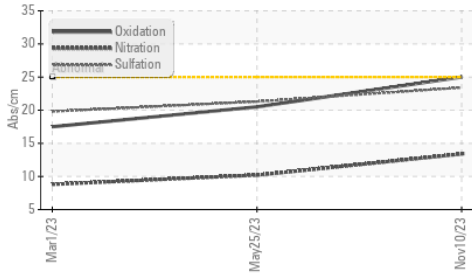
Silicon	ppm	ASTM D5185m	>20	12	8	6
Potassium	ppm	ASTM D5185m	>20	21	13	10
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	13.4	10.2	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.4	21.3	19.8
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

FLUID CONDITION

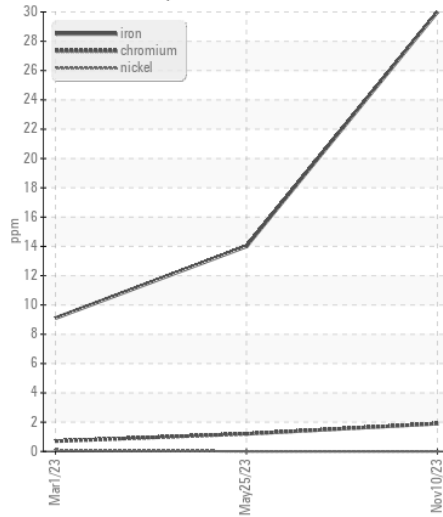
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	3	2
Boron	ppm	ASTM D5185m		14	23	29
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		56	54	53
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		810	817	721
Calcium	ppm	ASTM D5185m		1228	1225	1194
Phosphorus	ppm	ASTM D5185m		732	706	691
Zinc	ppm	ASTM D5185m		877	896	862
Sulfur	ppm	ASTM D5185m		2316	2482	2253
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.0	20.5	17.5
Base Number (BN)	mg KOH/g	ASTM D2896		4.6	6.7	7.9
Visc @ 100°C	cSt	ASTM D445		13.4	12.9	12.7

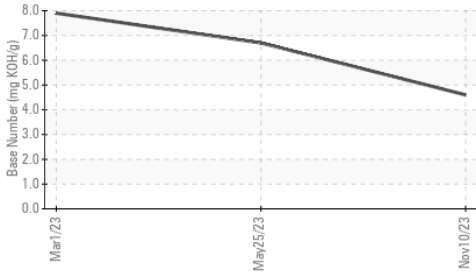
FT-IR (Direct Trend)



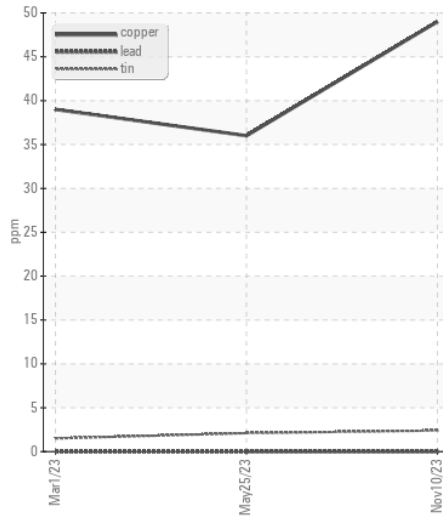
Ferrous Alloys



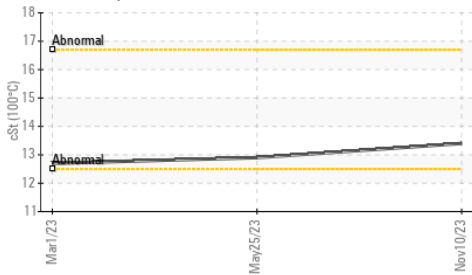
Base Number



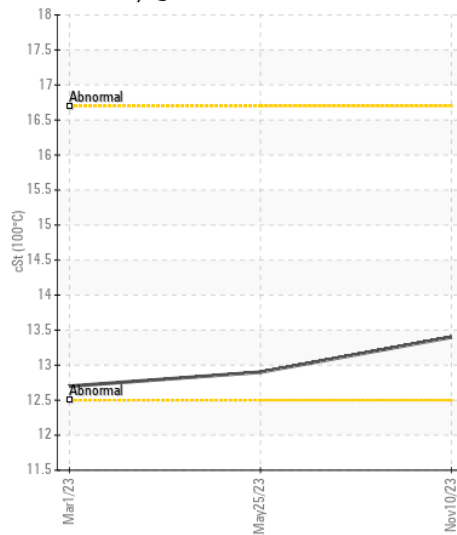
Non-ferrous Metals



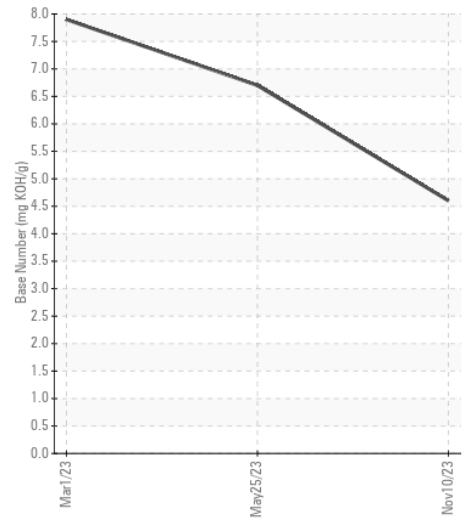
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RPL0013521 **Received** : 22 Apr 2024
Lab Number : 06155677 **Tested** : 23 Apr 2024
Unique Number : 10991100 **Diagnosed** : 24 Apr 2024 - Don Baldrige
Test Package : FLEET

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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)