FLEET WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	MARGINAL

Machine Id
FREIGHTLINER 44209
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (44 QTS)

RECOMMENDATION

Oil and filter 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

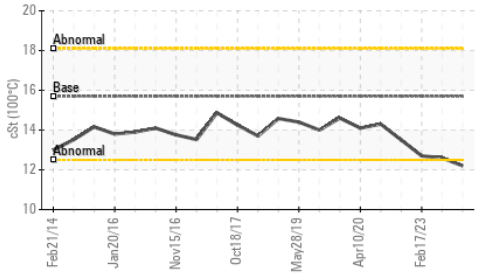
Fuel content negligible. There is no indication of any contamination in the oil.

FLUID CONDITION

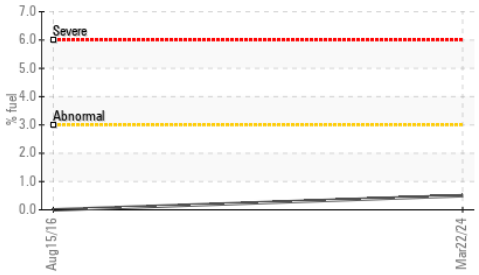
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0842056	WC0817614	WC0755949
Sample Date		Client Info		22 Mar 2024	22 Jul 2023	17 Feb 2023
Machine Age	mls	Client Info		272476	267450	261485
Oil Age	mls	Client Info		0	5965	6500
Filter Age	mls	Client Info		0	5965	6500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>90	17	18	26
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	8	7
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	15	3	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	4	4
Potassium	ppm	ASTM D5185m	>20	2	8	6
Fuel	%	ASTM D3524	>3.0	0.5	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.2	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.8	7.8	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	19.4	19.1
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		2	0	<1
Boron	ppm	ASTM D5185m	316	43	6	7
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	69	66	69
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	24	887	897	919
Calcium	ppm	ASTM D5185m	2292	1176	1083	1189
Phosphorus	ppm	ASTM D5185m	1064	1006	1008	1051
Zinc	ppm	ASTM D5185m	1160	1274	1244	1269
Sulfur	ppm	ASTM D5185m	4996	3626	3695	3523
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	15.4	15.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.7	9.2	9.5
Visc @ 100°C	cSt	ASTM D445	15.7	▲ 12.2	12.6	12.7

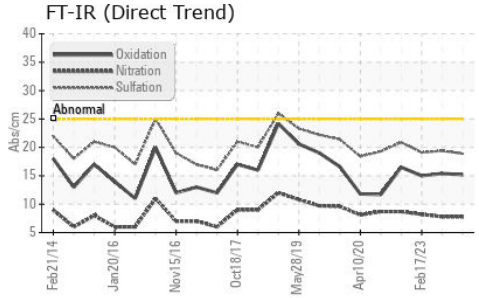
Viscosity @ 100°C



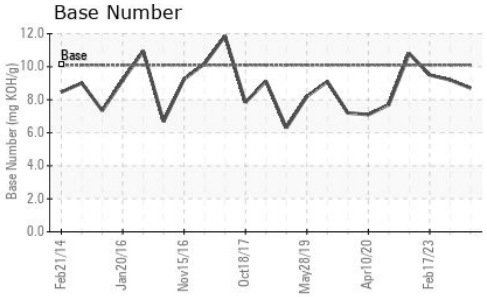
Fuel Dilution



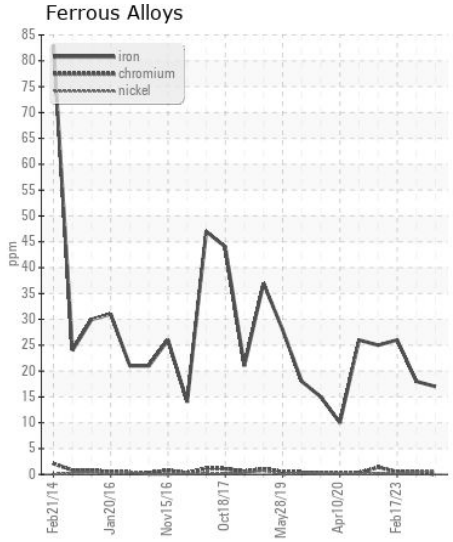
FT-IR (Direct Trend)



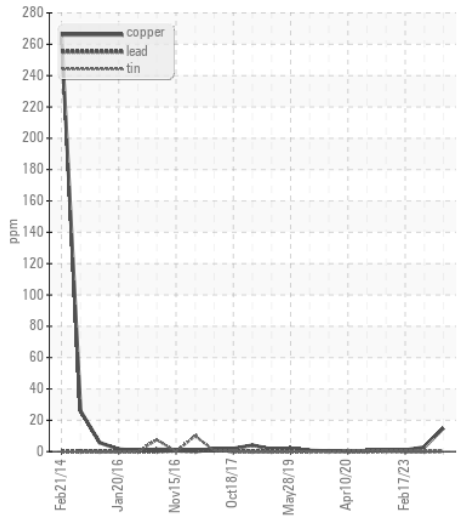
Base Number



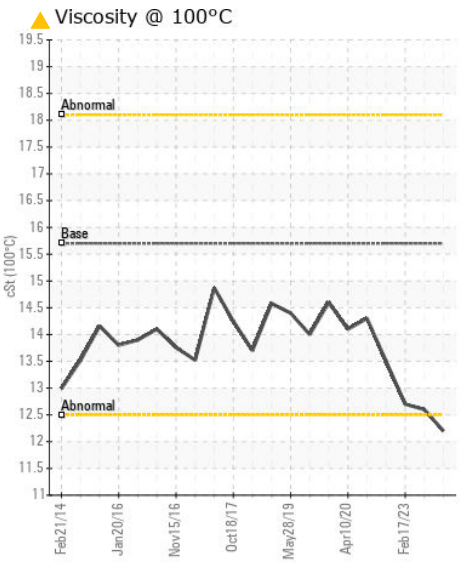
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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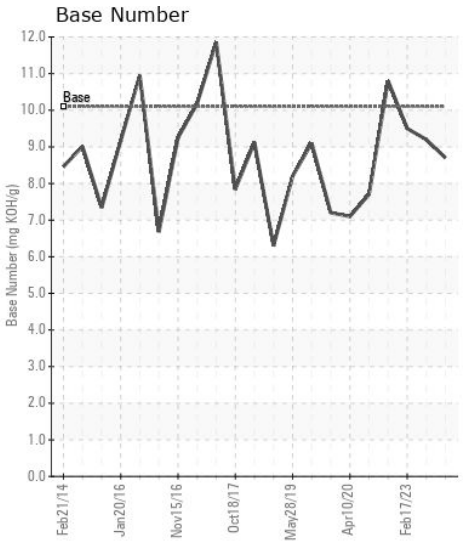

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0842056
Lab Number : 06190133
Unique Number : 11046885
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 23 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Jonathan Hester

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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