



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 45910
Component
Diesel Engine
Fluid
SHELL 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0906501	WC0872012	WC0787866
Sample Date		Client Info		10 Apr 2024	21 Nov 2023	25 Feb 2023
Machine Age	mls	Client Info		167874	164205	158156
Oil Age	mls	Client Info		3000	7000	9000
Filter Age	mls	Client Info		3000	7000	9000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	10	16	19
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	5	7	7
Lead	ppm	ASTM D5185m	>50	<1	<1	0
Copper	ppm	ASTM D5185m	>55	1	2	1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

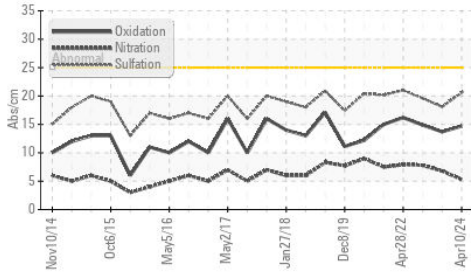
Silicon	ppm	ASTM D5185m	>15	5	5	4
Potassium	ppm	ASTM D5185m	>20	5	10	9
Fuel		WC Method	>3.0	<1.0	▲ 1.1	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	5.3	6.8	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	18.1	19.6
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

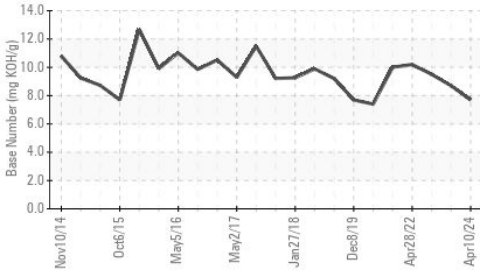
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>150	<1	<1	<1
Boron	ppm	ASTM D5185m		422	11	8
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		84	64	67
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		397	884	970
Calcium	ppm	ASTM D5185m		1273	1072	1216
Phosphorus	ppm	ASTM D5185m		1050	965	1016
Zinc	ppm	ASTM D5185m		1175	1174	1291
Sulfur	ppm	ASTM D5185m		3430	2755	3814
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.7	13.7	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.7	8.7	9.5
Visc @ 100°C	cSt	ASTM D445		13.3	▲ 11.8	12.6

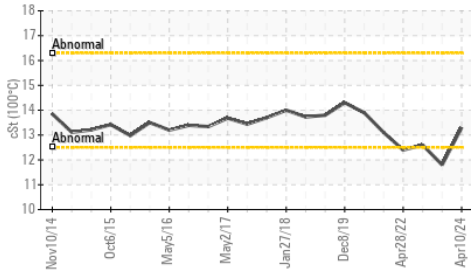
FT-IR (Direct Trend)



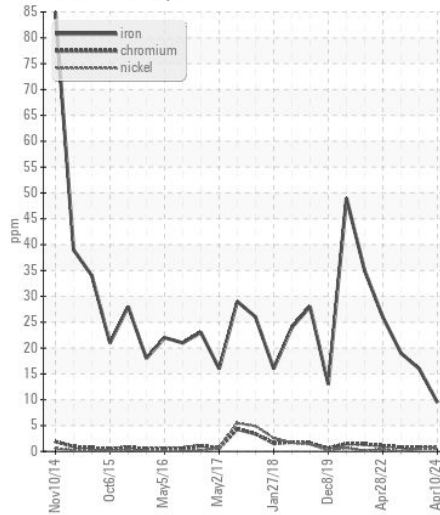
Base Number



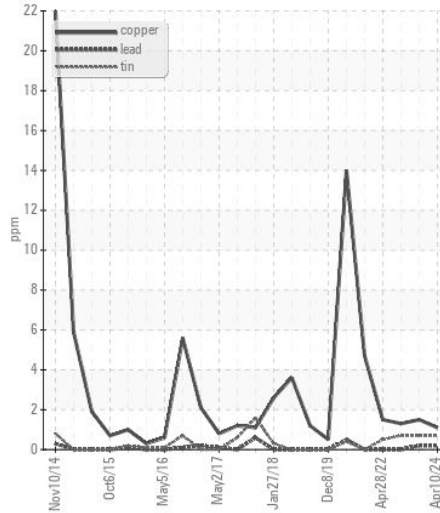
Viscosity @ 100°C



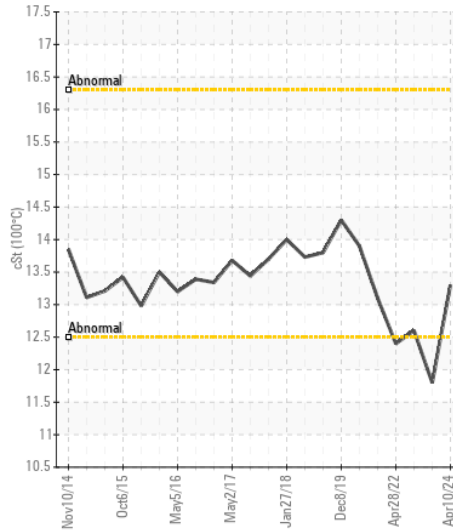
Ferrous Alloys



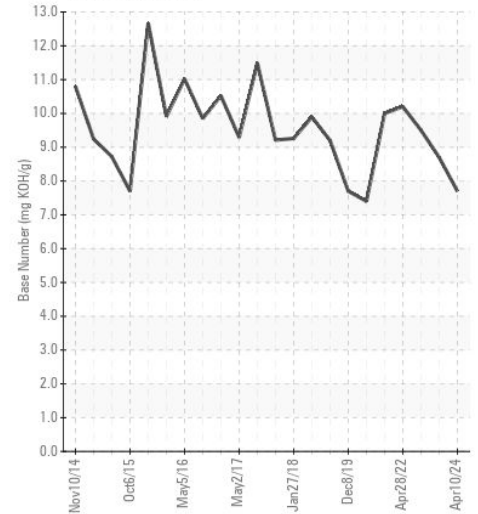
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0906501
Lab Number : 06156712
Unique Number : 10992135
Test Package : FLEET

Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Wes Davis

SALEM NATIONALEASE CORPORATION
 198 PARK PLAZA DRIVE
 WINSTON SALEM, NC
 US 27105

Contact: Audrey Hopkins
 Audrey.Hopkins@salemcorp.com

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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F: x: