



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 59167
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL 10W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0904529	WC0897148	WC0811012
Sample Date		Client Info		29 Apr 2024	31 Jan 2024	20 May 2023
Machine Age	mls	Client Info		628615	0	593068
Oil Age	mls	Client Info		25000	0	0
Filter Age	mls	Client Info		25000	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	22	10	9
Chromium	ppm	ASTM D5185m	>6	1	<1	<1
Nickel	ppm	ASTM D5185m	>3	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>50	10	7	4
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>50	2	1	0
Tin	ppm	ASTM D5185m	>6	<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

CONTAMINATION

There is no indication of any contamination in the oil.

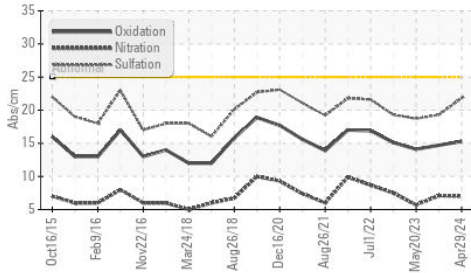
Silicon	ppm	ASTM D5185m	>50	6	3	3
Potassium	ppm	ASTM D5185m	>20	3	0	1
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.0	7.1	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	19.3	18.7
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

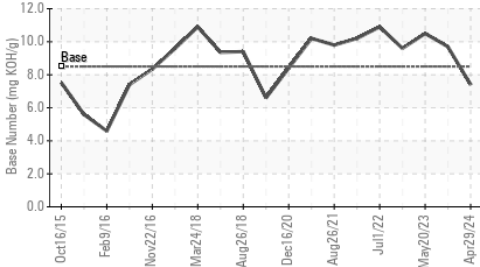
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		1	0	0
Boron	ppm	ASTM D5185m	250	291	2	<1
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	82	62	60
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	525	991	1020
Calcium	ppm	ASTM D5185m	3000	1275	1019	1054
Phosphorus	ppm	ASTM D5185m	1150	1055	996	1058
Zinc	ppm	ASTM D5185m	1350	1238	1239	1325
Sulfur	ppm	ASTM D5185m	4250	3159	2947	4044
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	14.7	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.4	9.7	10.5
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.1	13.9

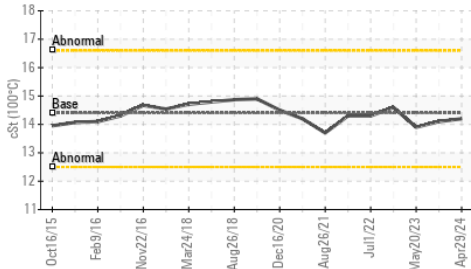
FT-IR (Direct Trend)



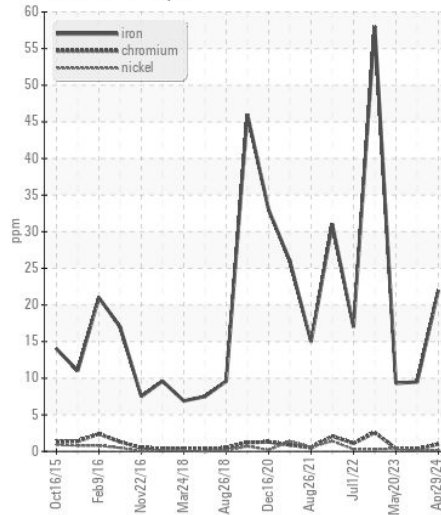
Base Number



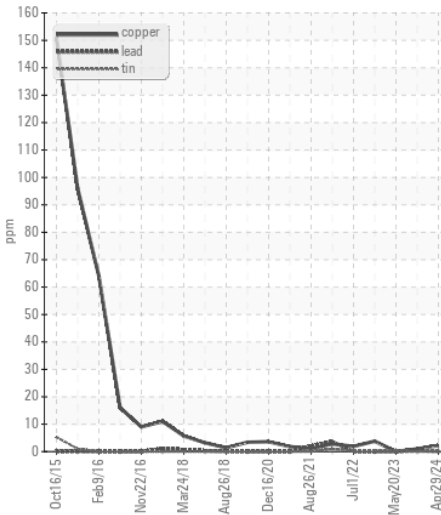
Viscosity @ 100°C



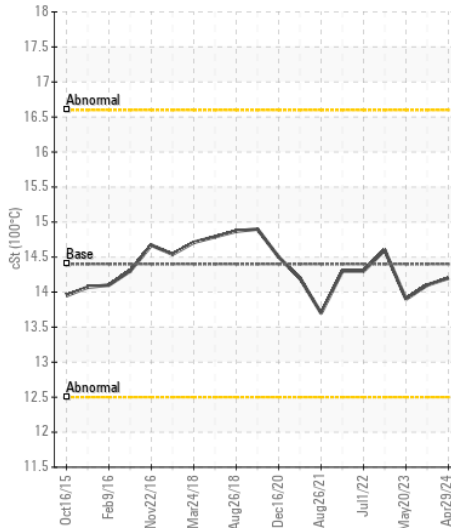
Ferrous Alloys



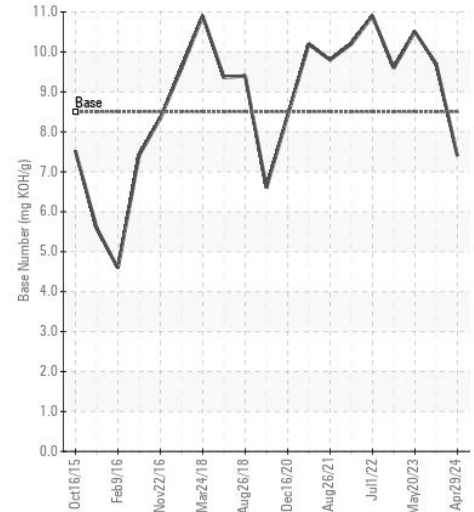
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0904529

Lab Number : 06174845

Unique Number : 11020898

Test Package : FLEET

Received : 09 May 2024

Tested : 10 May 2024

Diagnosed : 13 May 2024 - Sean Felton

SALEM NATIONALEASE CORPORATION

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US 27105

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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)