



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER P2170097
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (44 QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0879990	WC0845684	WC0801924
Sample Date		Client Info		19 Mar 2024	29 Dec 2023	27 Jul 2023
Machine Age	mls	Client Info		218213	212315	201129
Oil Age	mls	Client Info		0	25000	0
Filter Age	mls	Client Info		0	25000	0
Oil Changed		Client Info		N/A	Changed	N/A
Filter Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>65	16	3	7
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>3	<1	0	<1
Titanium	ppm	ASTM D5185m	>5	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>35	4	3	6
Lead	ppm	ASTM D5185m	>10	<1	0	0
Copper	ppm	ASTM D5185m	>180	1	3	6
Tin	ppm	ASTM D5185m	>8	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	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.

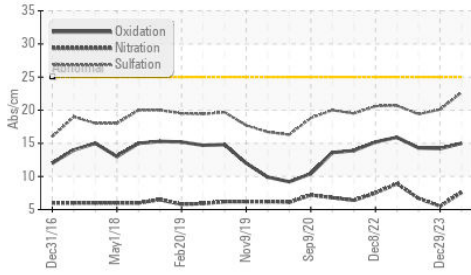
Silicon	ppm	ASTM D5185m	>15	9	3	3
Potassium	ppm	ASTM D5185m	>20	4	1	6
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.6	5.5	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	20.1	19.4
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

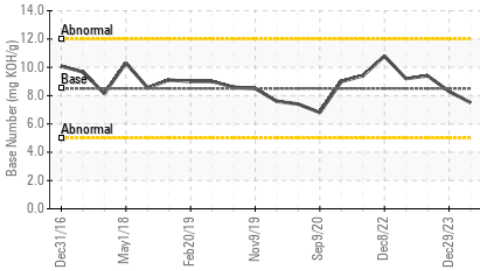
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	1	<1	<1
Boron	ppm	ASTM D5185m	250	284	263	6
Barium	ppm	ASTM D5185m	10	0	0	1
Molybdenum	ppm	ASTM D5185m	100	99	77	62
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	507	663	942
Calcium	ppm	ASTM D5185m	3000	1625	1331	1114
Phosphorus	ppm	ASTM D5185m	1150	1121	1090	992
Zinc	ppm	ASTM D5185m	1350	1437	1361	1220
Sulfur	ppm	ASTM D5185m	4250	4086	3547	3372
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	14.2	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.5	8.3	9.4
Visc @ 100°C	cSt	ASTM D445	14.4	13.4	13.5	13.3

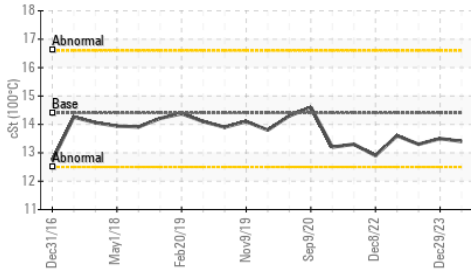
FT-IR (Direct Trend)



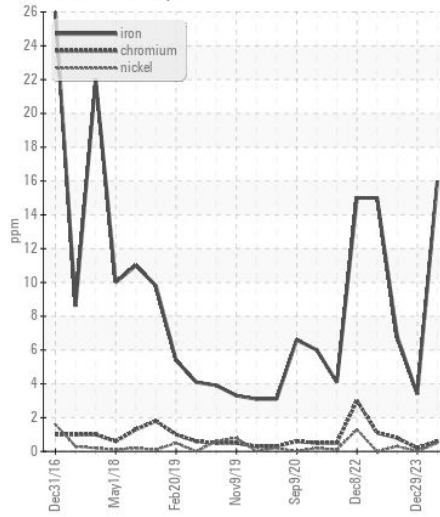
Base Number



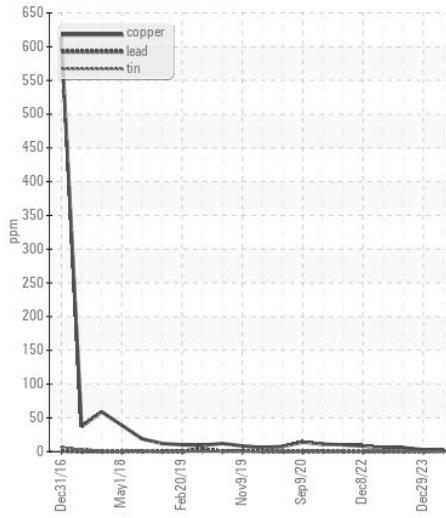
Viscosity @ 100°C



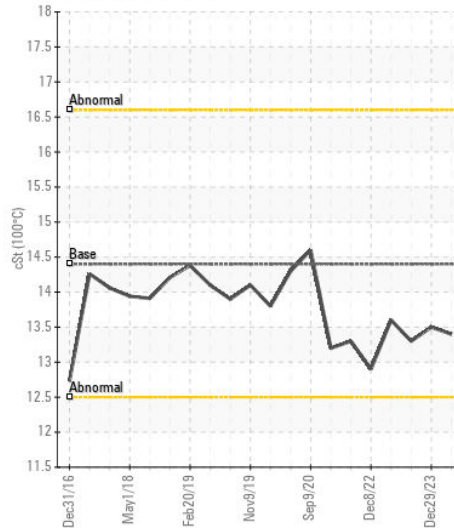
Ferrous Alloys



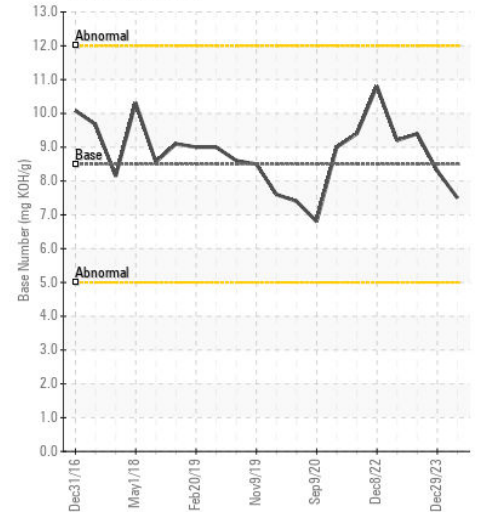
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0879990
Lab Number : 06145738
Unique Number : 10970546
Test Package : FLEET

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

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

Contact: Audrey Hopkins
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 T: (336)767-9642

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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