



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 17768

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (24 QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. 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		WC0867016	WC0669392	WC0631136
Sample Date		Client Info		11 Mar 2024	29 Jul 2022	08 Dec 2021
Machine Age	mls	Client Info		123533	102740	93658
Oil Age	mls	Client Info		8214	9082	3066
Filter Age	mls	Client Info		8214	9082	3066
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	40	18	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	3
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Light fuel dilution occurring.

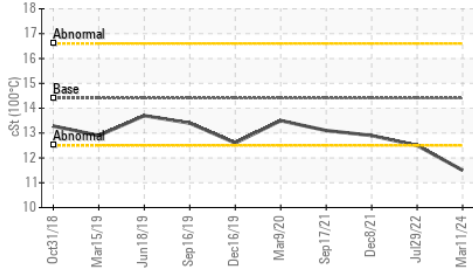
Silicon	ppm	ASTM D5185m	>25	6	3	3
Potassium	ppm	ASTM D5185m	>20	5	<1	1
Fuel	%	ASTM D3524	>3.0	▲ 1.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.6	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	11.3	12.2	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	24.2	21.8
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

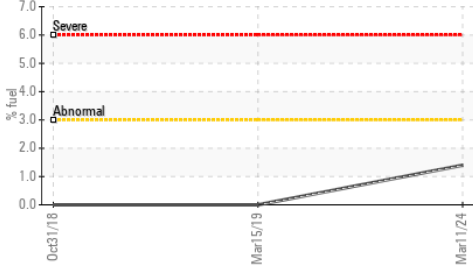
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	1	3	2
Boron	ppm	ASTM D5185m	250	25	21	6
Barium	ppm	ASTM D5185m	10	2	0	0
Molybdenum	ppm	ASTM D5185m	100	112	60	64
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	758	766	1018
Calcium	ppm	ASTM D5185m	3000	1269	1336	1161
Phosphorus	ppm	ASTM D5185m	1150	859	881	1117
Zinc	ppm	ASTM D5185m	1350	1136	1142	1214
Sulfur	ppm	ASTM D5185m	4250	2806	2979	2814
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.5	22.8	17.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.7	7.6	9.2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.5	12.5	12.9

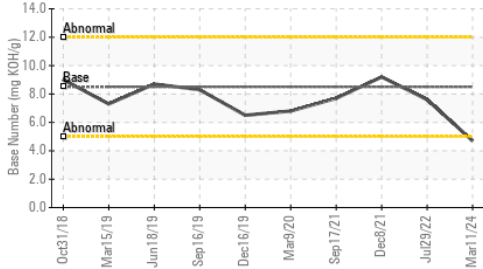
▲ Viscosity @ 100°C



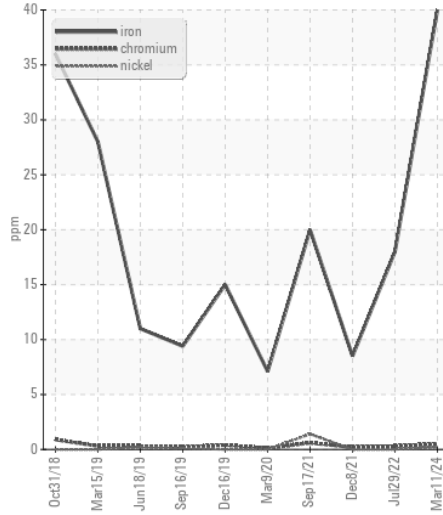
▲ Fuel Dilution



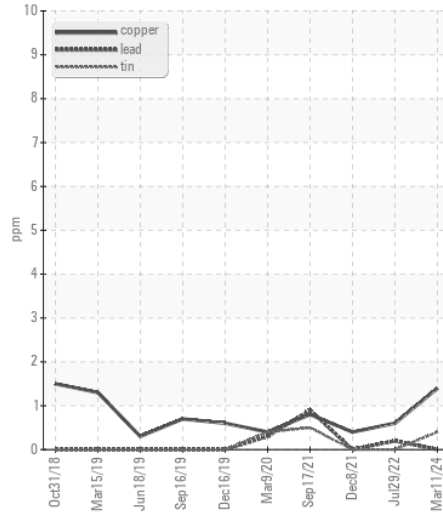
Base Number



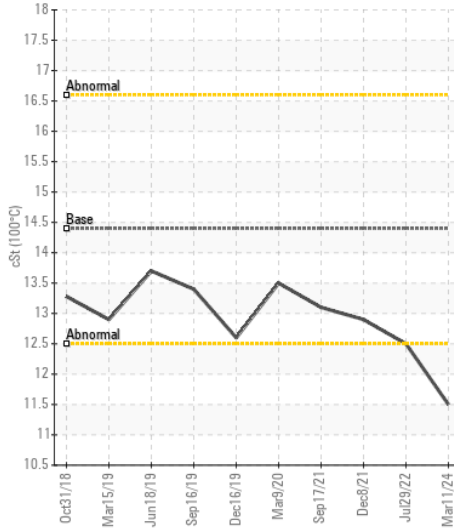
Ferrous Alloys



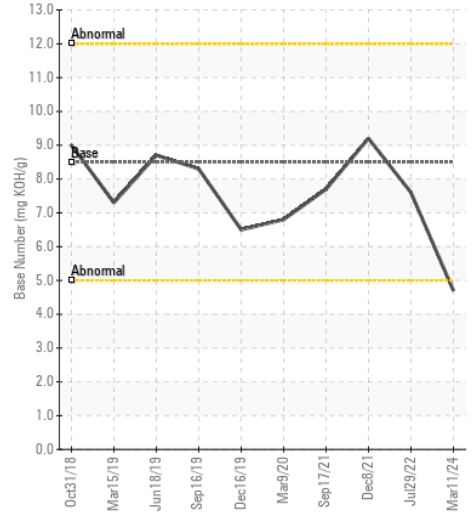
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : WC0867016

Lab Number : 06125389

Unique Number : 10939540

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 21 Mar 2024

Tested : 25 Mar 2024

Diagnosed : 25 Mar 2024 - Wes Davis

SALEM NATIONALEASE CORPORATION

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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)