



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 2-165
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (46 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0834193	WC0740673	WC0606559
Sample Date		Client Info		10 Jan 2024	13 Mar 2023	20 Dec 2021
Machine Age	hrs	Client Info		0	38589	37158
Oil Age	hrs	Client Info		0	783	1088
Filter Age	hrs	Client Info		0	783	1088
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	35	21	19
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	2
Lead	ppm	ASTM D5185m	>40	4	1	2
Copper	ppm	ASTM D5185m	>330	7	10	6
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

CONTAMINATION

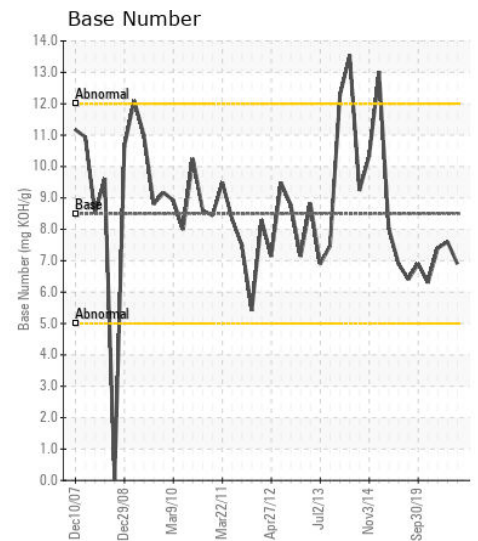
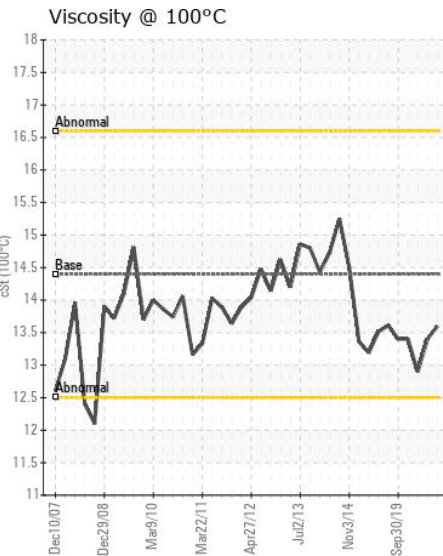
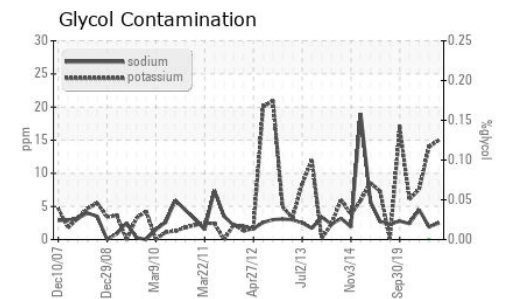
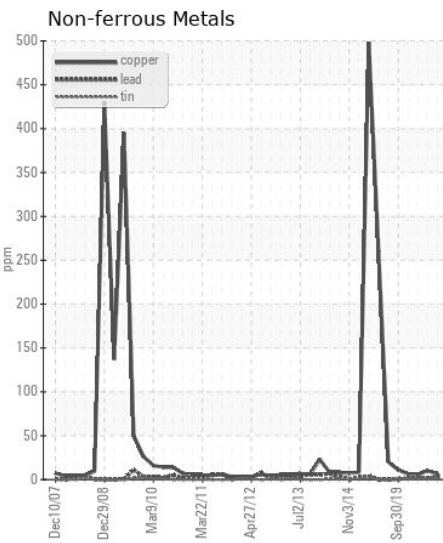
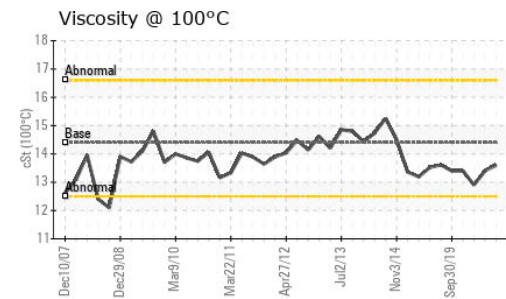
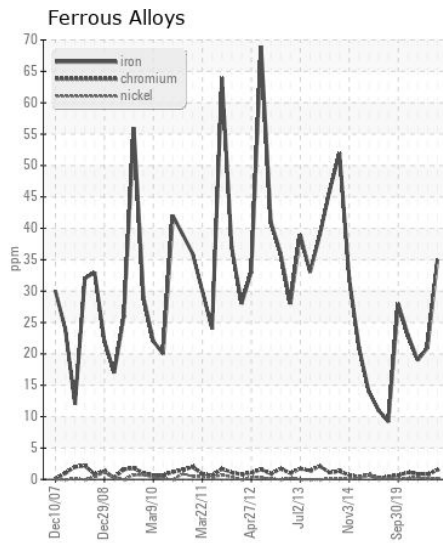
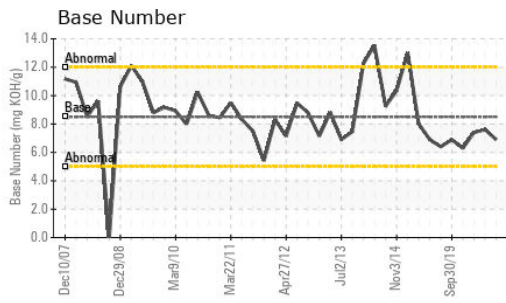
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	8	5
Potassium	ppm	ASTM D5185m	>20	15	14	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	0.0	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.9	9.7	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	19.9	20
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	2	2	4
Boron	ppm	ASTM D5185m	250	59	109	77
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	24	47	6
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	782	656	760
Calcium	ppm	ASTM D5185m	3000	1338	1362	1449
Phosphorus	ppm	ASTM D5185m	1150	765	689	751
Zinc	ppm	ASTM D5185m	1350	869	802	840
Sulfur	ppm	ASTM D5185m	4250	2992	2491	2632
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	15.2	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.9	7.6	7.4
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.4	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0834193 **Received** : 17 Jan 2024
Lab Number : 06063361 **Diagnosed** : 19 Jan 2024
Unique Number : 10834743 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

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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