



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 2-230
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		WC0834203	WC0847623	WC0794770
Sample Date		Client Info		21 Dec 2023	02 Oct 2023	20 Jun 2023
Machine Age	hrs	Client Info		9422	8639	7860
Oil Age	hrs	Client Info		783	779	790
Filter Age	hrs	Client Info		783	779	790
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	48	60	28
Chromium	ppm	ASTM D5185m	>20	3	4	2
Nickel	ppm	ASTM D5185m	>2	1	2	<1
Titanium	ppm	ASTM D5185m	>2	<1	1	1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	23	20	9
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>30	26	14	8
Tin	ppm	ASTM D5185m	>15	1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

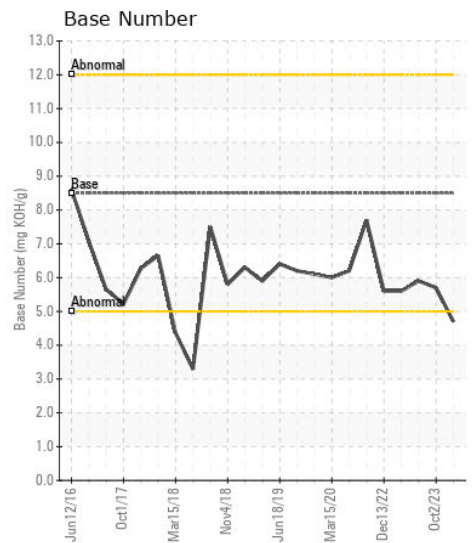
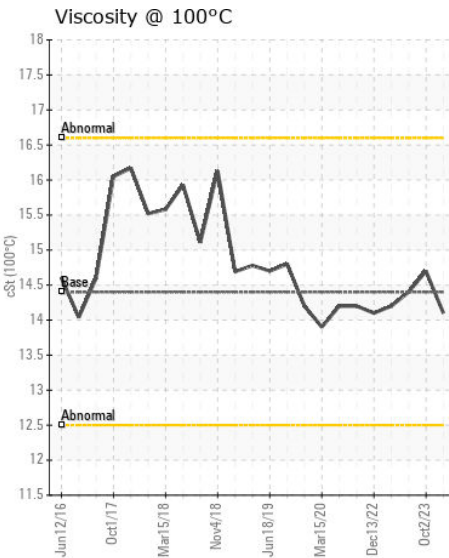
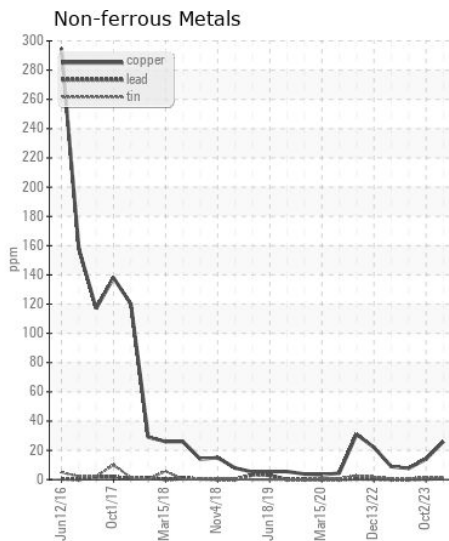
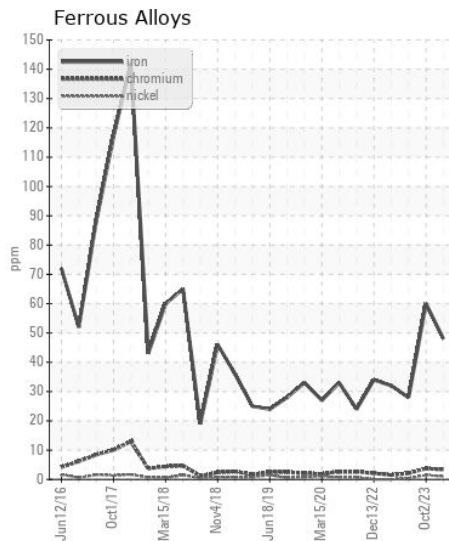
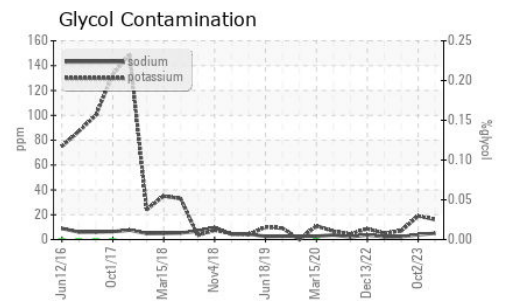
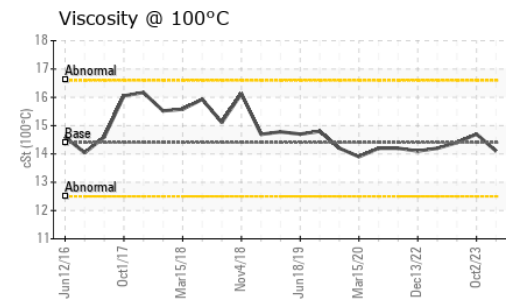
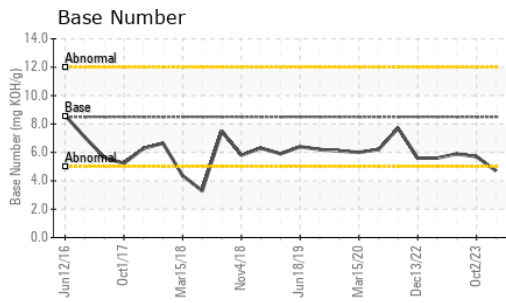
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	11	23	7
Potassium	ppm	ASTM D5185m	>20	16	19	7
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	1.1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	11.9	11.5	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.8	25.3	26.1
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	5	4	2
Boron	ppm	ASTM D5185m	250	25	29	25
Barium	ppm	ASTM D5185m	10	0	3	0
Molybdenum	ppm	ASTM D5185m	100	6	11	3
Manganese	ppm	ASTM D5185m		1	2	<1
Magnesium	ppm	ASTM D5185m	450	844	718	778
Calcium	ppm	ASTM D5185m	3000	1491	1402	1469
Phosphorus	ppm	ASTM D5185m	1150	821	699	714
Zinc	ppm	ASTM D5185m	1350	967	815	873
Sulfur	ppm	ASTM D5185m	4250	3136	2592	3388
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.6	21.5	22.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.7	5.7	5.9
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	14.7	14.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0834203 **Received** : 08 Jan 2024
Lab Number : 06054687 **Diagnosed** : 10 Jan 2024
Unique Number : 10820636 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

ALASKA WEST EXPRESS
 1095 SANDURI STREET
 FAIRBANKS, AK
 US 99701
 Contact: TOM DOUTHIT
 tdouthit@lynden.com
 T: (907)452-4355
 F: (907)328-1956

Certificate L2367
 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)