



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 8311
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (32 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0870710	WCM1195909	---
Sample Date		Client Info		28 Nov 2023	26 Apr 2010	---
Machine Age	mls	Client Info		114116	34551	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				NORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>130	28	63	---
Chromium	ppm	ASTM D5185m	>10	<1	1	---
Nickel	ppm	ASTM D5185m	>4	<1	1	---
Titanium	ppm	ASTM D5185m	>2	0	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>20	6	5	---
Lead	ppm	ASTM D5185m	>20	<1	▲ 107	---
Copper	ppm	ASTM D5185m	>125	3	▲ 102	---
Tin	ppm	ASTM D5185m	>4	<1	11	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

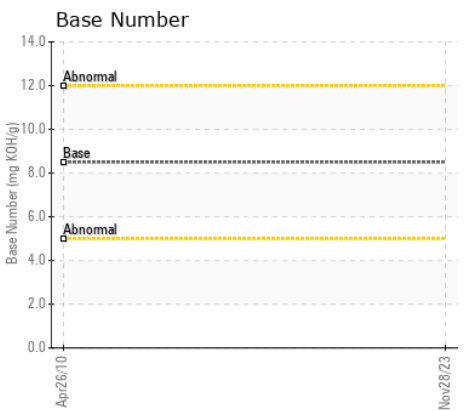
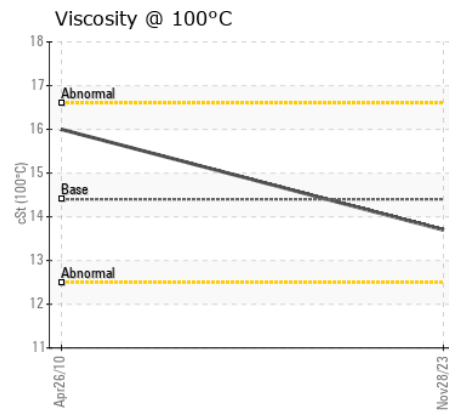
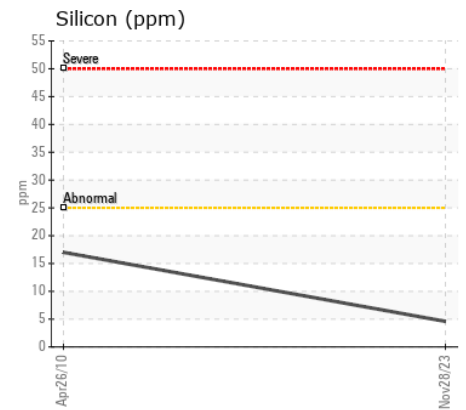
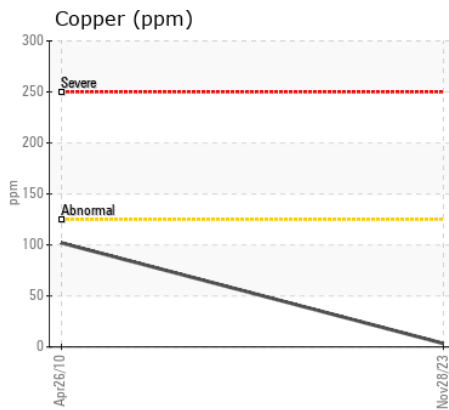
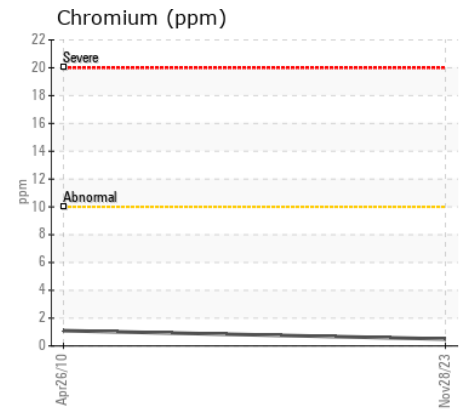
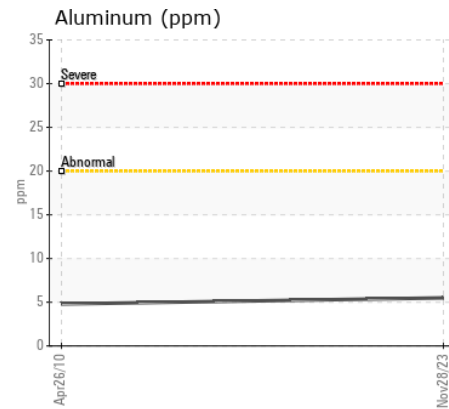
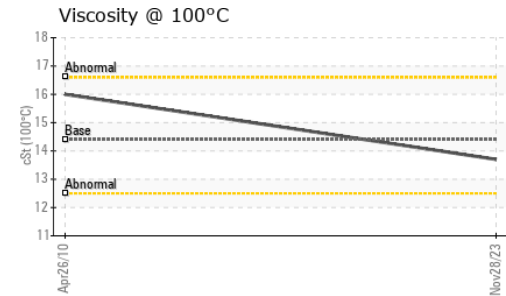
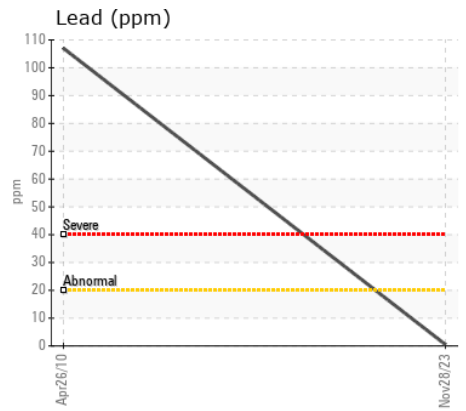
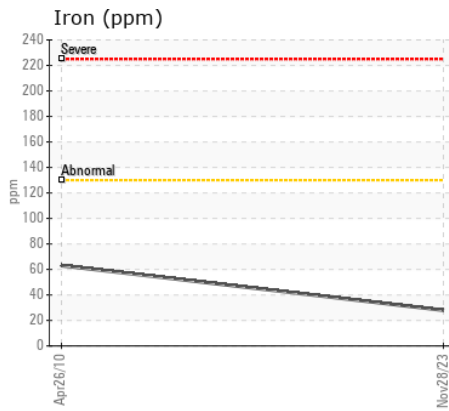
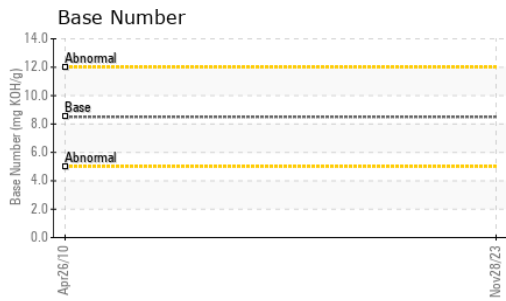
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	17	---
Potassium	ppm	ASTM D5185m	>20	8	0	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>6	0.3	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	7.8	8.	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.1	21.	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	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	13	4	---
Boron	ppm	ASTM D5185m	250	59	16	---
Barium	ppm	ASTM D5185m	10	4	0	---
Molybdenum	ppm	ASTM D5185m	100	81	15	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m	450	43	225	---
Calcium	ppm	ASTM D5185m	3000	2034	2085	---
Phosphorus	ppm	ASTM D5185m	1150	956	992	---
Zinc	ppm	ASTM D5185m	1350	1165	1174	---
Sulfur	ppm	ASTM D5185m	4250	3596	3188	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.3	16.	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	16.00	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0870710 **Received** : 12 Jan 2024
Lab Number : 06059791 **Diagnosed** : 15 Jan 2024
Unique Number : 10831173 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
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 T: (919)856-8076
 F: x:

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)