



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 597
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		WC0870794	WC0821288	WC0761303
Sample Date		Client Info		19 Feb 2024	01 Jun 2023	28 Nov 2022
Machine Age	mls	Client Info		259190	248645	244060
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	4	31	16
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	4	4	2
Lead	ppm	ASTM D5185m	>30	2	6	3
Copper	ppm	ASTM D5185m	>150	0	4	3
Tin	ppm	ASTM D5185m	>5	0	<1	<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

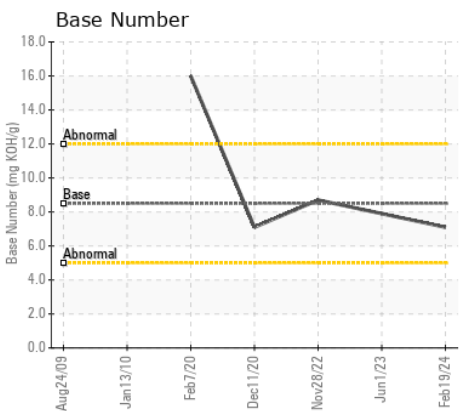
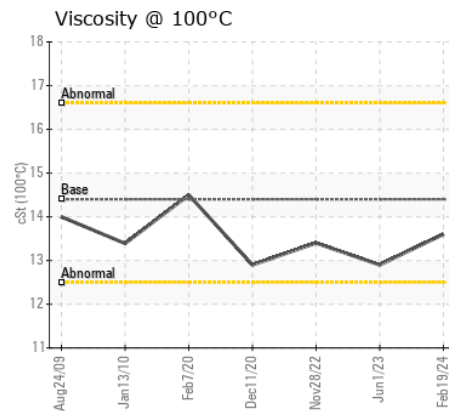
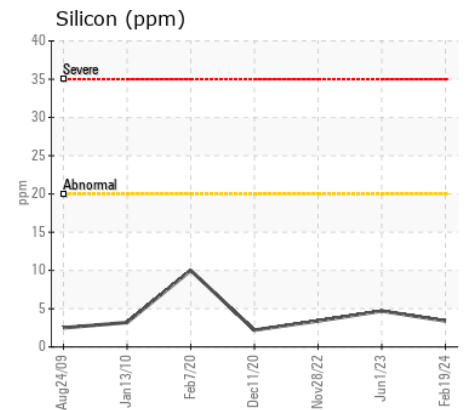
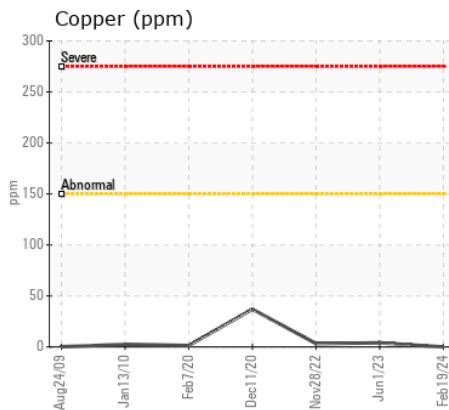
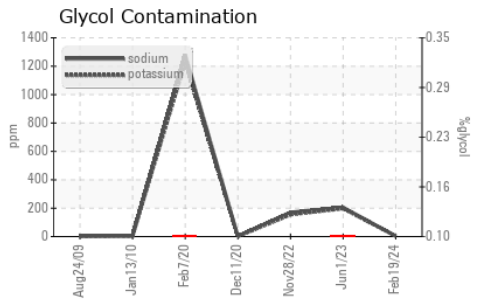
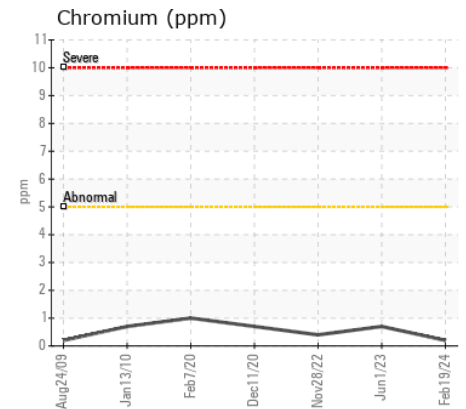
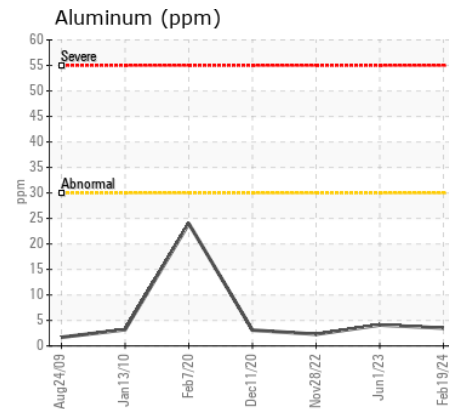
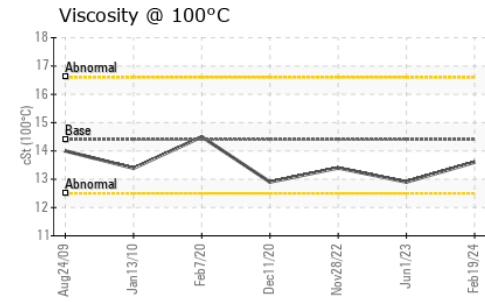
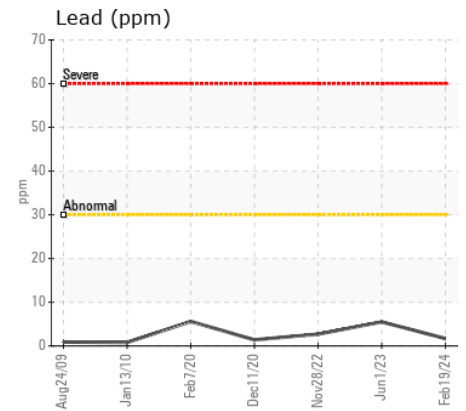
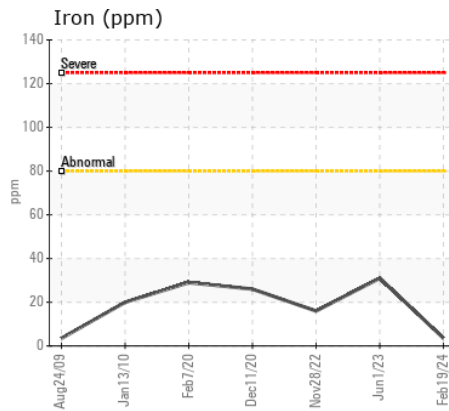
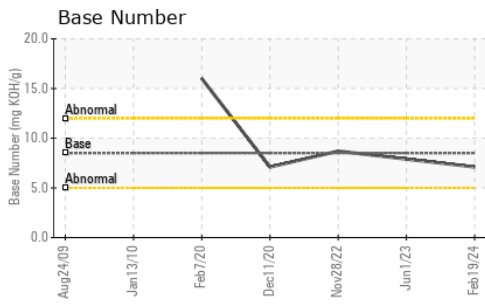
No evidence of coolant present in the oil. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	3	5	3
Potassium	ppm	ASTM D5185m	>20	2	▲ 196	▲ 154
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	▲ 0.10	NEG
Soot %	%	*ASTM D7844	>3	0.4	1	0.6
Nitration	Abs/cm	*ASTM D7624	>20	7.6	10.7	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	20.2	18.3
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	4	● 206	▲ 171
Boron	ppm	ASTM D5185m	250	69	25	31
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	85	91	76
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	133	79	60
Calcium	ppm	ASTM D5185m	3000	2065	2362	1881
Phosphorus	ppm	ASTM D5185m	1150	1075	1064	877
Zinc	ppm	ASTM D5185m	1350	1259	1297	1084
Sulfur	ppm	ASTM D5185m	4250	3631	4289	3489
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.5	14.5	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.1	7.9	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	12.9	13.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0870794 **Received** : 26 Feb 2024
Lab Number : 06100784 **Tested** : 28 Feb 2024
Unique Number : 10899014 **Diagnosed** : 28 Feb 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

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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)