



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 19945
Component
Diesel Engine
Fluid
EXXON 15W40 (48 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0871939	WC0847839	WC0817641
Sample Date		Client Info		27 Dec 2023	07 Oct 2023	17 Jul 2023
Machine Age	mls	Client Info		493200	476874	461796
Oil Age	mls	Client Info		16332	15078	2926
Filter Age	mls	Client Info		16332	15078	2926
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	10	9	13
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	3
Lead	ppm	ASTM D5185m	>150	3	4	4
Copper	ppm	ASTM D5185m	>90	<1	1	<1
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

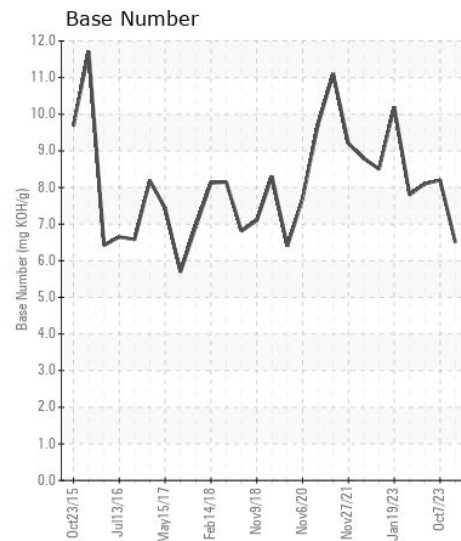
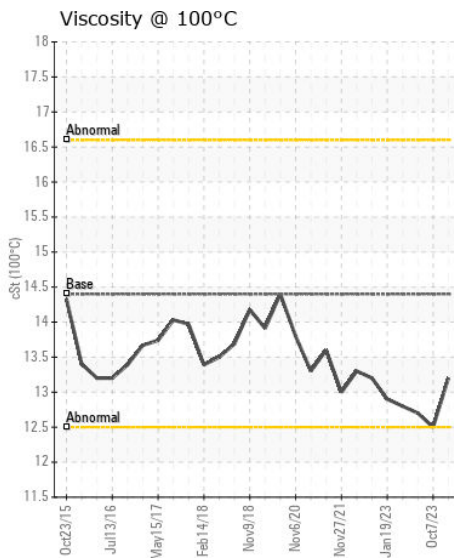
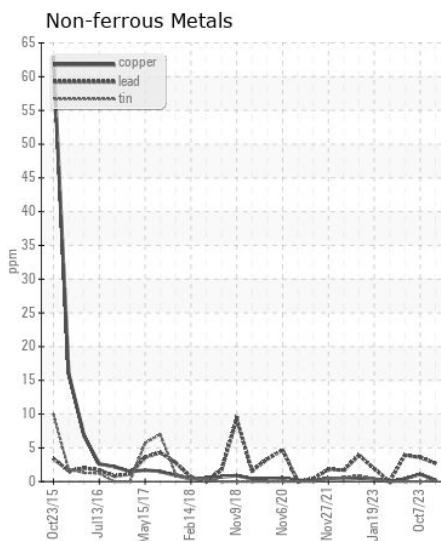
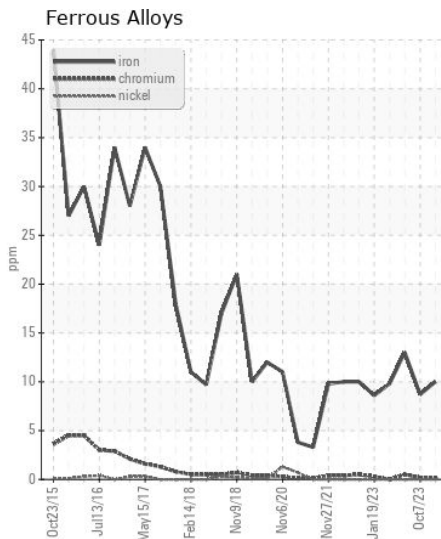
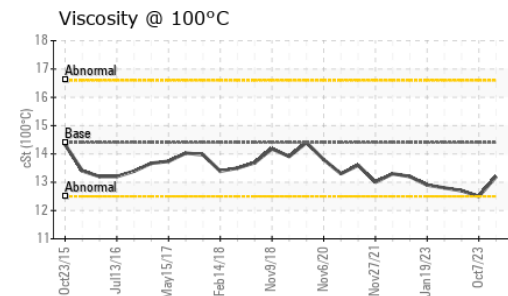
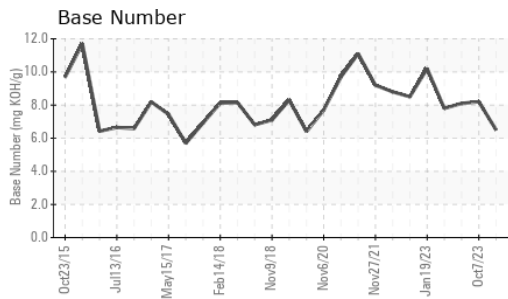
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>35	6	4	5
Potassium	ppm	ASTM D5185m	>20	4	6	5
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	0.4	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	8.7	9.0	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	20.3	21.3
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		2	2	2
Boron	ppm	ASTM D5185m		228	6	8
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		84	72	77
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		537	964	1010
Calcium	ppm	ASTM D5185m		1346	1284	1264
Phosphorus	ppm	ASTM D5185m		1099	1053	1108
Zinc	ppm	ASTM D5185m		1333	1321	1366
Sulfur	ppm	ASTM D5185m		3313	3203	3880
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.8	16.3	17.4
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	8.2	8.1
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	12.5	12.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0871939 **Received** : 18 Jan 2024
Lab Number : 06064872 **Diagnosed** : 21 Jan 2024
Unique Number : 10836254 **Diagnostician** : Don Baldrige
Test Package : FLEET

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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)