



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
FREIGHTLINER 23104
Component
Diesel Engine
Fluid
EXXON 15W40 (32 QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

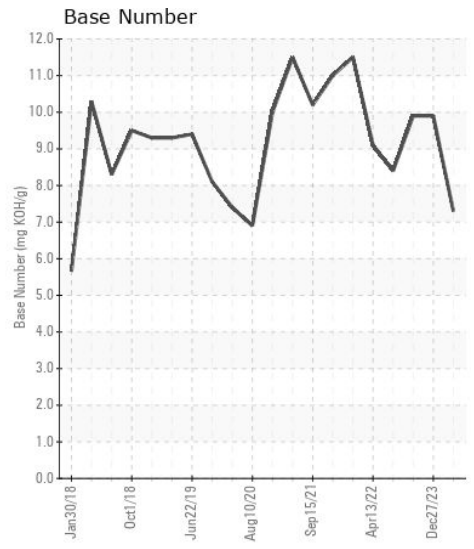
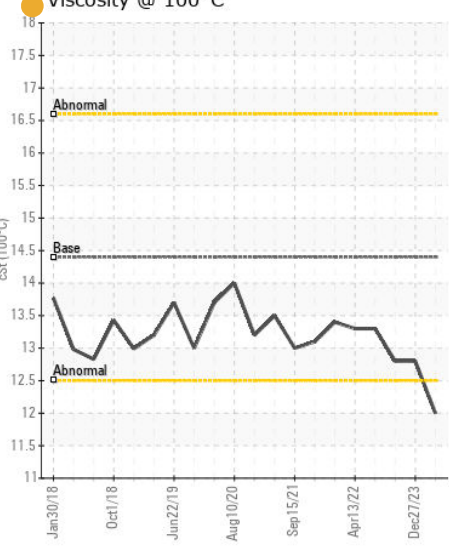
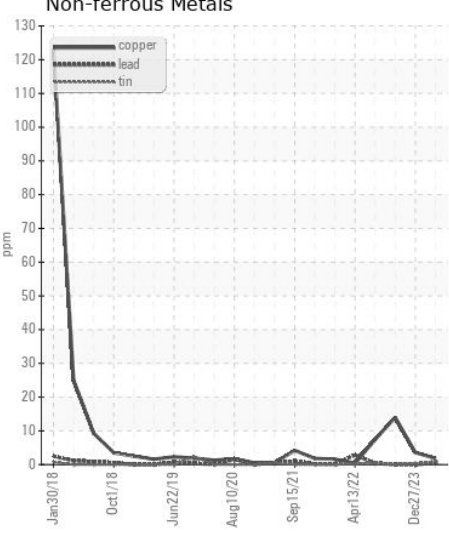
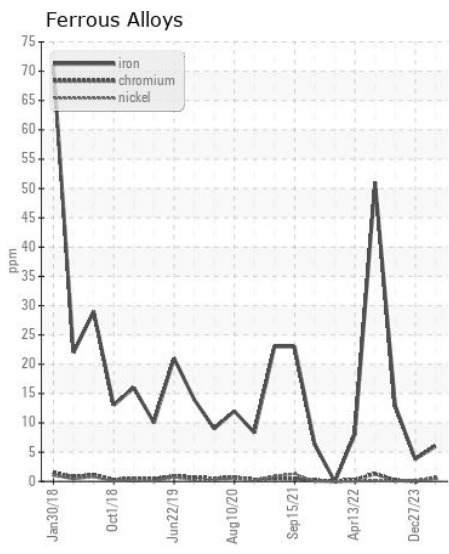
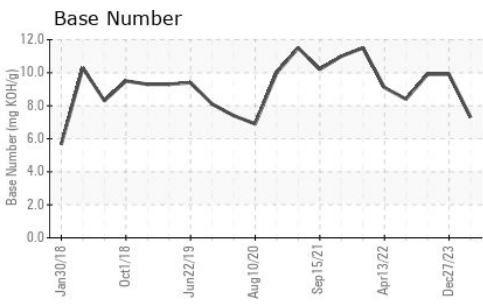
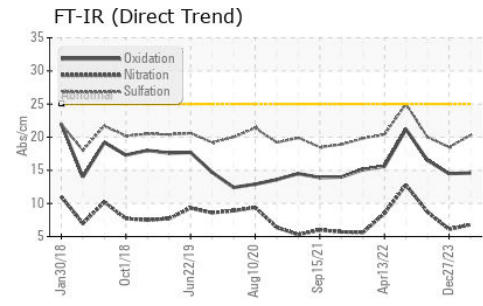
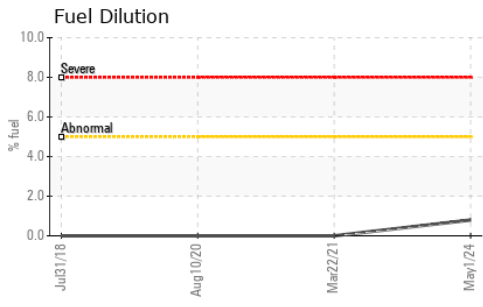
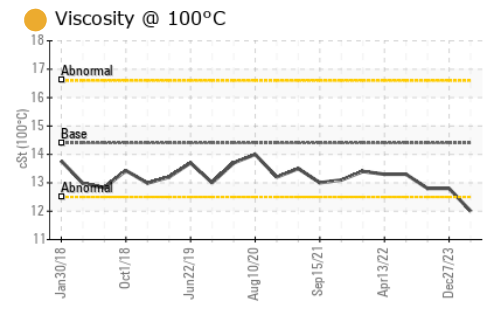
CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0936312	WC0869160	WC0828027
Sample Date		Client Info		01 May 2024	27 Dec 2023	21 Sep 2023
Machine Age	mls	Client Info		283451	0	271932
Oil Age	mls	Client Info		10000	0	0
Filter Age	mls	Client Info		10000	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ATTENTION	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>80	6	4	13
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>30	3	3	6
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>150	2	4	14
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	8	3	4
Potassium	ppm	ASTM D5185m	>20	2	1	8
Fuel	%	ASTM D3524	>5	0.8	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.8	6.1	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	18.5	20.0
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
Sodium	ppm	ASTM D5185m		<1	<1	0
Boron	ppm	ASTM D5185m		338	8	2
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		103	59	60
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		519	887	901
Calcium	ppm	ASTM D5185m		1322	1029	1102
Phosphorus	ppm	ASTM D5185m		900	1016	956
Zinc	ppm	ASTM D5185m		1180	1198	1198
Sulfur	ppm	ASTM D5185m		3391	3126	3321
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	14.5	16.5
Base Number (BN)	mg KOH/g	ASTM D2896		7.3	9.9	9.9
Visc @ 100°C	cSt	ASTM D445	14.4	12.0	12.8	12.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0936312 **Received** : 23 May 2024
Lab Number : 06190051 **Tested** : 30 May 2024
Unique Number : 11046803 **Diagnosed** : 30 May 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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)