



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 54372
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (16 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0883269	WC0796003	WC0796054
Sample Date		Client Info		11 Jan 2024	17 Aug 2023	19 Jun 2023
Machine Age	mls	Client Info		0	340637	331480
Oil Age	mls	Client Info		10000	10000	10000
Filter Age	mls	Client Info		0	0	10000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>130	26	29	53
Chromium	ppm	ASTM D5185m	>10	2	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	4	12	34
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>125	49	171	350
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

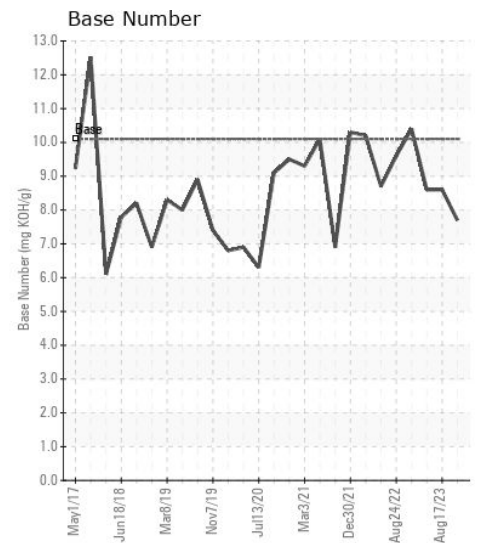
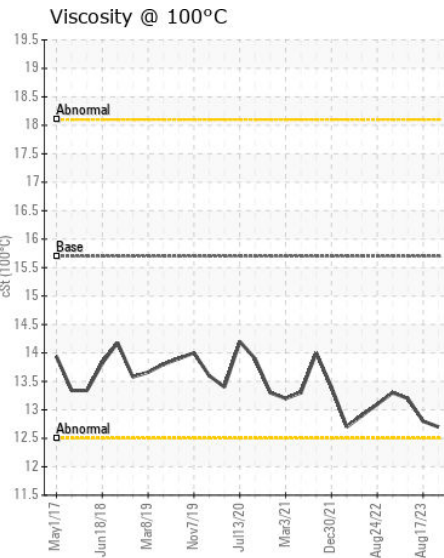
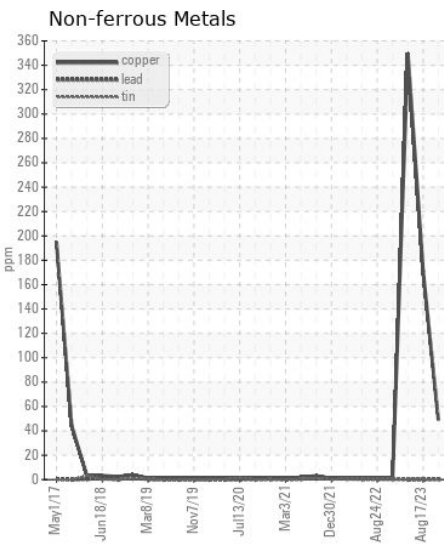
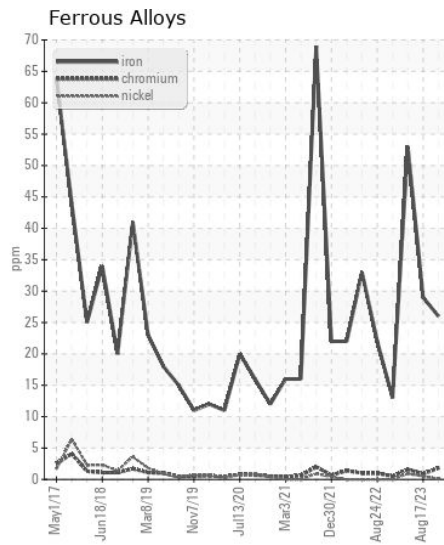
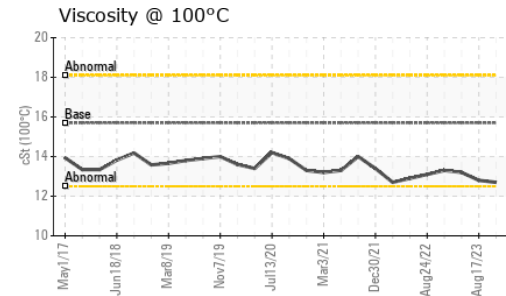
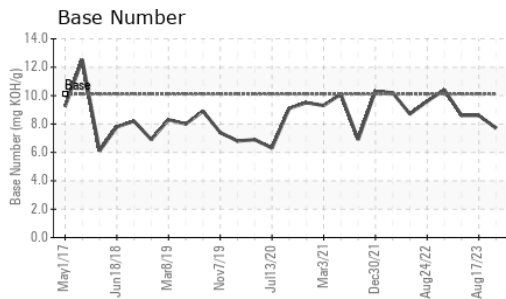
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	6	6
Potassium	ppm	ASTM D5185m	>20	2	4	8
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	>6	0.4	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.7	9.5	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	21.5	22.0
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

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		1	3	8
Boron	ppm	ASTM D5185m	316	14	3	8
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	70	72	60
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m	24	905	1065	941
Calcium	ppm	ASTM D5185m	2292	1206	1249	1144
Phosphorus	ppm	ASTM D5185m	1064	1029	1138	1000
Zinc	ppm	ASTM D5185m	1160	1273	1413	1260
Sulfur	ppm	ASTM D5185m	4996	2980	3770	3393
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	17.8	19.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.7	8.6	8.6
Visc @ 100°C	cSt	ASTM D445	15.7	12.7	12.8	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0883269 **Received** : 16 Jan 2024
Lab Number : 06061783 **Diagnosed** : 18 Jan 2024
Unique Number : 10833165 **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)