



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
Store 9 - Marietta
Machine Id
FREIGHTLINER 1041

Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (10 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0048379	LEC0048080	LEC0045876
Sample Date		Client Info		16 Mar 2024	12 Feb 2024	08 Jan 2024
Machine Age	mls	Client Info		157453	144223	129722
Oil Age	mls	Client Info		10000	10000	10000
Filter Age	mls	Client Info		10000	10000	10000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	17	16	10
Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		2	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>30	4	6	6
Lead	ppm	ASTM D5185m	>30	10	13	4
Copper	ppm	ASTM D5185m	>150	<1	2	0
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

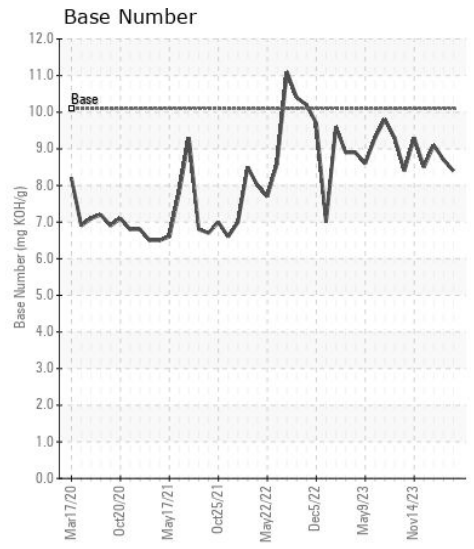
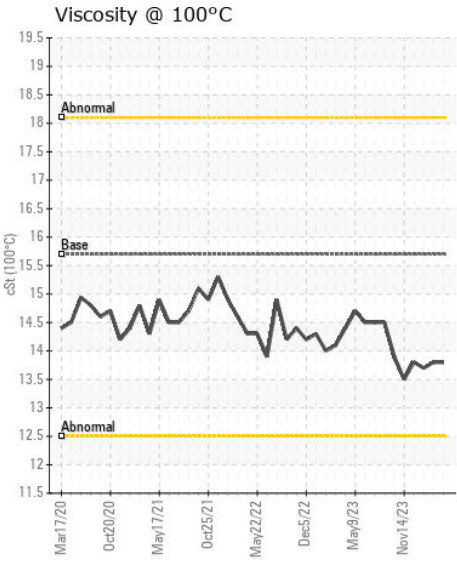
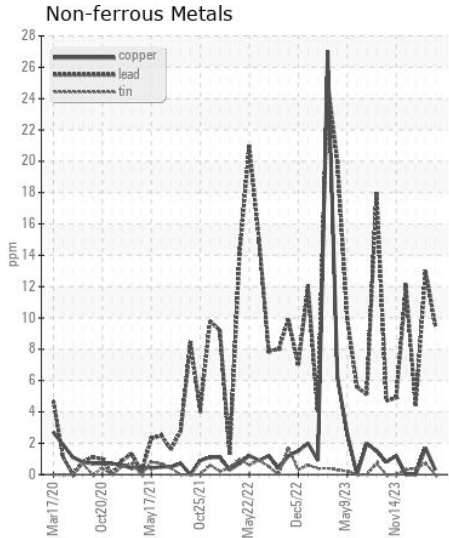
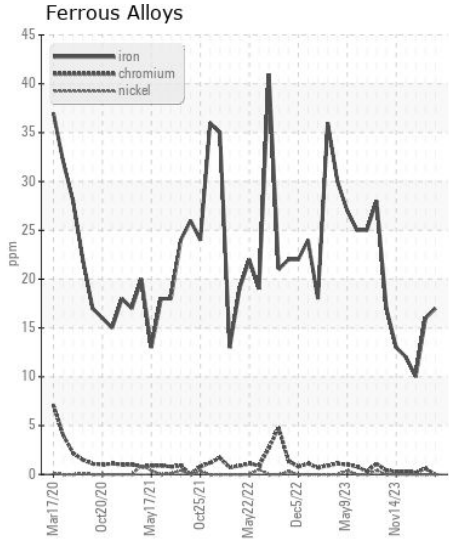
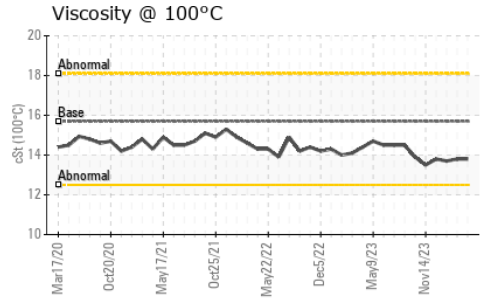
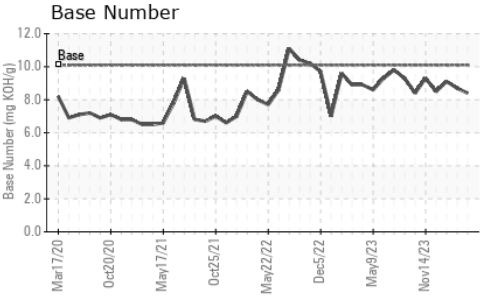
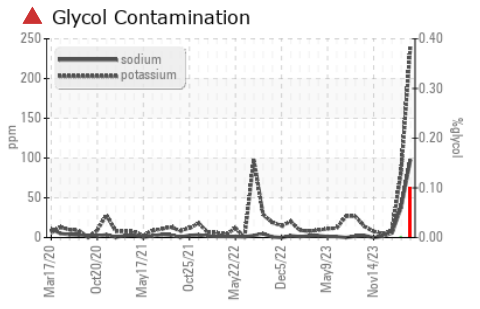
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>120	6	7	6
Potassium	ppm	ASTM D5185m	>20	242	84	9
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.10	0.0	NEG
Soot %	%	*ASTM D7844	>3	1.5	1.5	1.2
Nitration	Abs/cm	*ASTM D7624	>20	10.8	10.4	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.6	25.9	25.4
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.

Sodium	ppm	ASTM D5185m		98	38	6
Boron	ppm	ASTM D5185m	316	147	184	239
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	156	148	133
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	24	701	713	675
Calcium	ppm	ASTM D5185m	2292	1615	1578	1476
Phosphorus	ppm	ASTM D5185m	1064	761	758	771
Zinc	ppm	ASTM D5185m	1160	893	932	855
Sulfur	ppm	ASTM D5185m	4996	3167	2601	2478
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	18.7	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.4	8.7	9.1
Visc @ 100°C	cSt	ASTM D445	15.7	13.8	13.8	13.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048379
Lab Number : 06123326
Unique Number : 10937477
Test Package : CONST (Additional Tests: Glycol, TBN)

Received : 20 Mar 2024
Tested : 22 Mar 2024
Diagnosed : 22 Mar 2024 - Jonathan Hester

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)

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