



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		LEC0050220	LEC0049548	LEC0049233
Sample Date		Client Info		12 Jun 2024	06 May 2024	14 Apr 2024
Machine Age	mls	Client Info		191229	1262007	169808
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	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	22	18	20
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		2	2	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	7	5	7
Lead	ppm	ASTM D5185m	>30	1	3	<1
Copper	ppm	ASTM D5185m	>150	2	<1	2
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

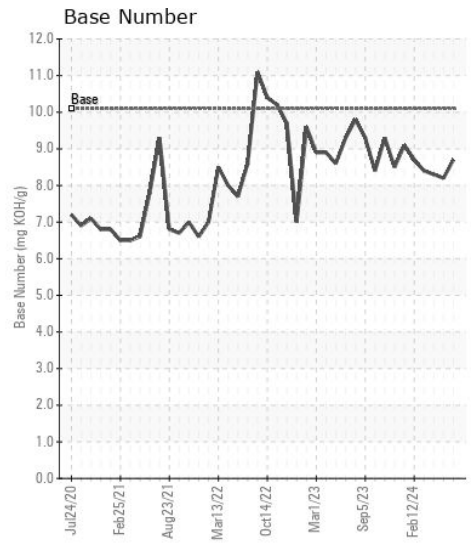
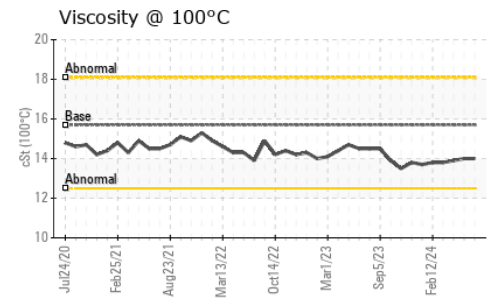
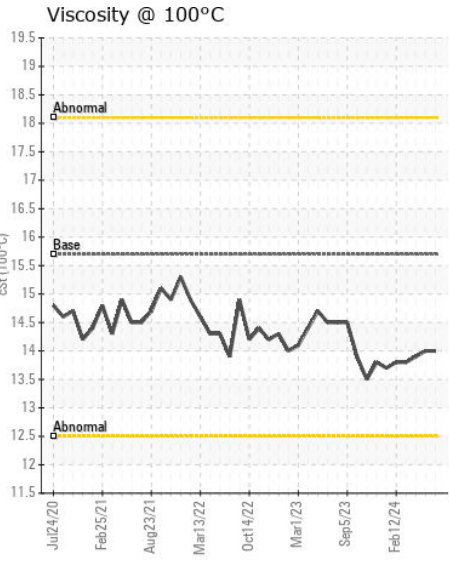
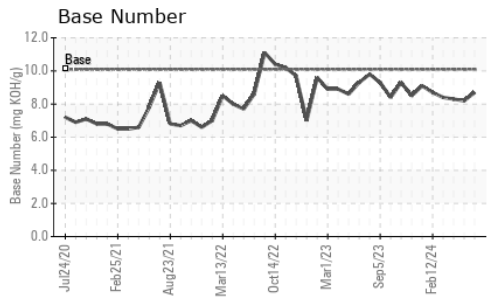
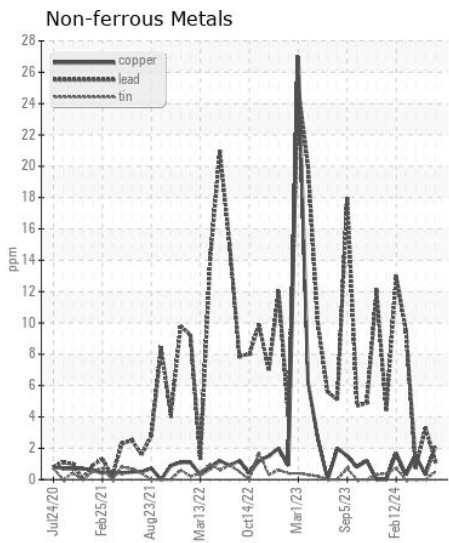
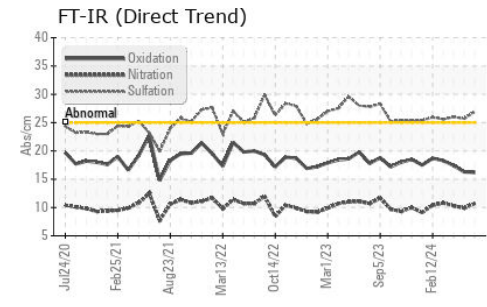
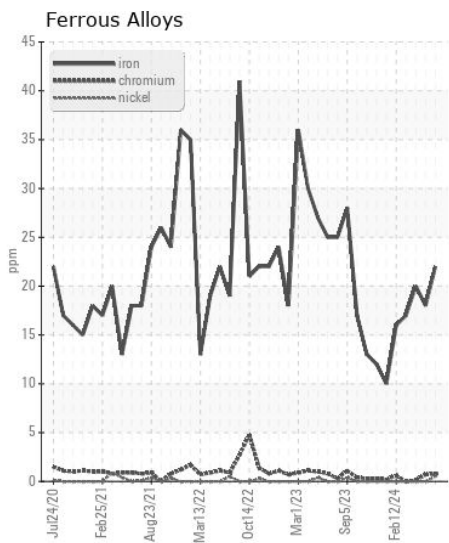
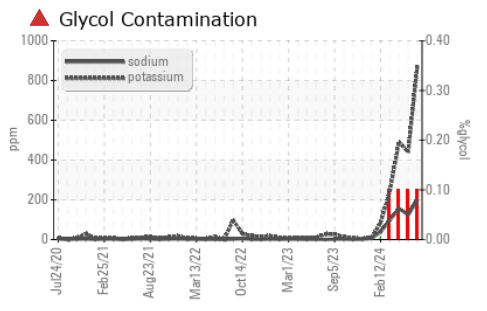
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>120	8	6	6
Potassium	ppm	ASTM D5185m	>20	877	439	492
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.10	0.10	0.10
Soot %	%	*ASTM D7844	>3	2.2	1.9	1.6
Nitration	Abs/cm	*ASTM D7624	>20	10.7	9.9	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.9	25.7	26.0
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.

Sodium	ppm	ASTM D5185m		199	124	156
Boron	ppm	ASTM D5185m	316	247	224	215
Barium	ppm	ASTM D5185m	0.0	2	<1	0
Molybdenum	ppm	ASTM D5185m	1.2	196	145	167
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	24	405	456	535
Calcium	ppm	ASTM D5185m	2292	1359	1505	1525
Phosphorus	ppm	ASTM D5185m	1064	932	1018	961
Zinc	ppm	ASTM D5185m	1160	1177	1212	1141
Sulfur	ppm	ASTM D5185m	4996	3277	3813	3537
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	16.3	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.7	8.2	8.3
Visc @ 100°C	cSt	ASTM D445	15.7	14.0	14.0	13.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0050220
Lab Number : 06219485
Unique Number : 11097682
Test Package : CONST (Additional Tests: TBN)

Received : 25 Jun 2024
Tested : 26 Jun 2024
Diagnosed : 26 Jun 2024 - Sean Felton

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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)