



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area
DOUG HANNA
Machine Id
FREIGHTLINER 166
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil 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		WC0887227	WC0887226	WC0887221
Sample Date		Client Info		11 Jun 2024	25 Apr 2024	28 Dec 2023
Machine Age	kms	Client Info		3390665	3368704	3339472
Oil Age	kms	Client Info		0	0	34502
Filter Age	kms	Client Info		0	0	34502
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	33	38	57
Chromium	ppm	ASTM D5185(m)	>5	<1	1	1
Nickel	ppm	ASTM D5185(m)	>2	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>30	1	2	4
Lead	ppm	ASTM D5185(m)	>30	6	3	8
Copper	ppm	ASTM D5185(m)	>150	<1	<1	1
Tin	ppm	ASTM D5185(m)	>5	<1	<1	2
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

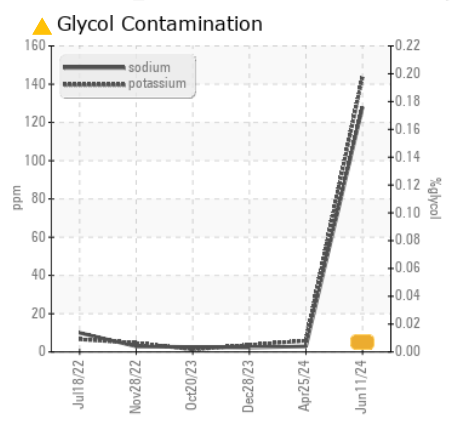
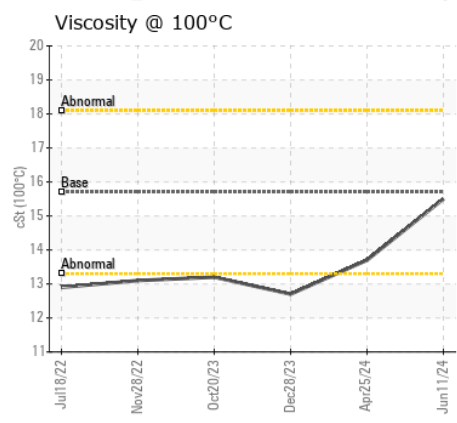
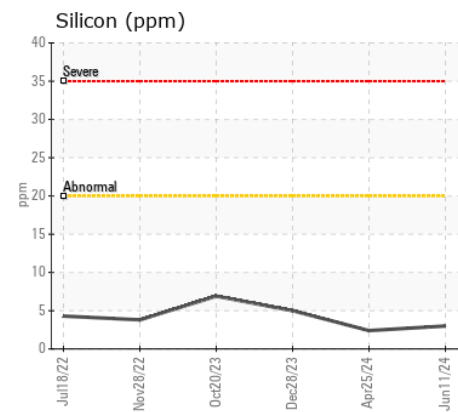
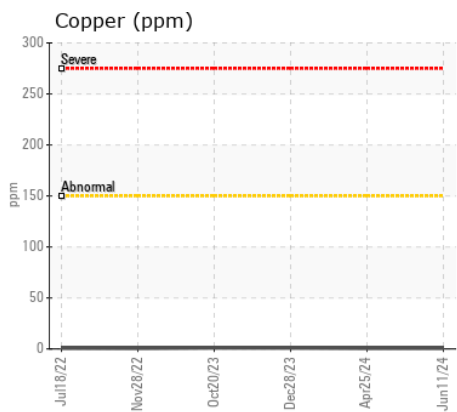
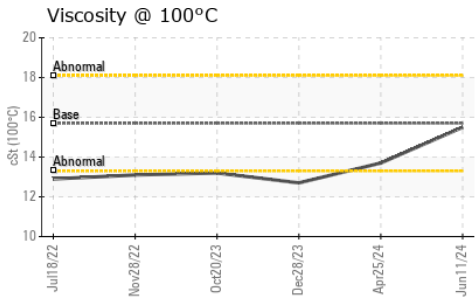
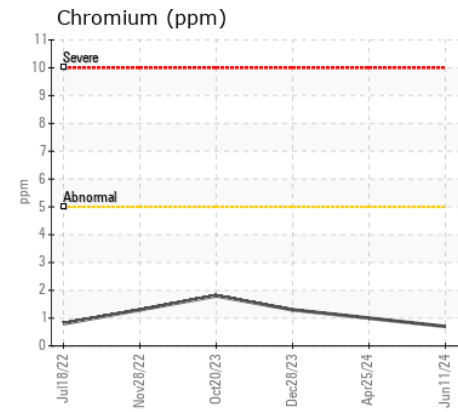
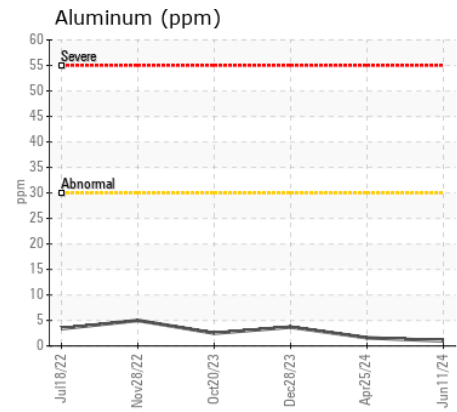
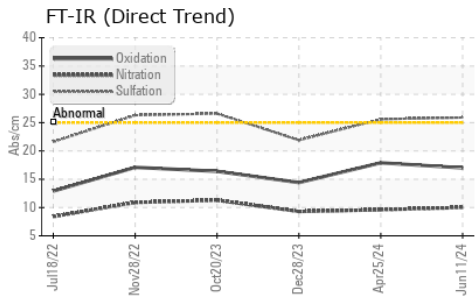
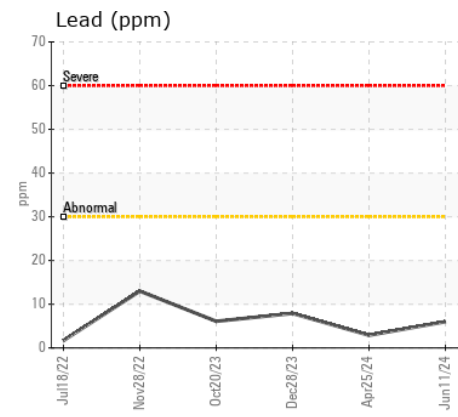
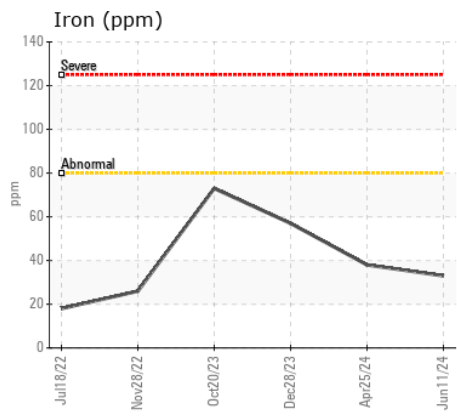
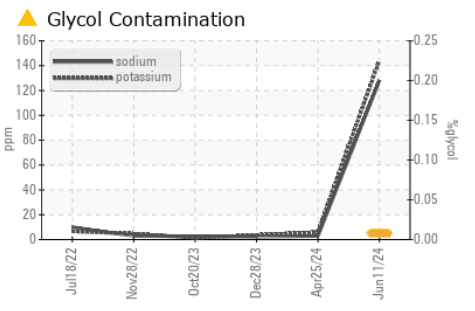
Test for glycol is positive. There is a light concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	3	2	5
Potassium	ppm	ASTM D5185(m)	>20	▲ 144	6	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		▲ 0.012	NEG	NEG
Soot %	%	ASTM D7844*	>3	2.7	2.1	1.8
Nitration	Abs/cm	ASTM D7624*	>20	10.0	9.6	9.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.9	25.6	21.9
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		● 128	3	2
Boron	ppm	ASTM D5185(m)	35	43	90	28
Barium	ppm	ASTM D5185(m)	0	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	13	20	86
Manganese	ppm	ASTM D5185(m)	0	<1	<1	0
Magnesium	ppm	ASTM D5185(m)	10	27	90	115
Calcium	ppm	ASTM D5185(m)	2340	1955	2107	2080
Phosphorus	ppm	ASTM D5185(m)	1110	840	901	978
Zinc	ppm	ASTM D5185(m)	1210	1004	1089	1127
Sulfur	ppm	ASTM D5185(m)	3890	2603	2678	2996
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.0	17.9	14.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	15.5	13.7	12.7



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0887227
Lab Number : 02641923
Unique Number : 5799462
Test Package : MOB 1 (Additional Tests: Glycol)

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*To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.*