OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER 13085
Component
Diesel Engine
Fluid
MOBIL 15W40 (18 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil is near the end of it's useful service life, recommend schedule an oil change. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

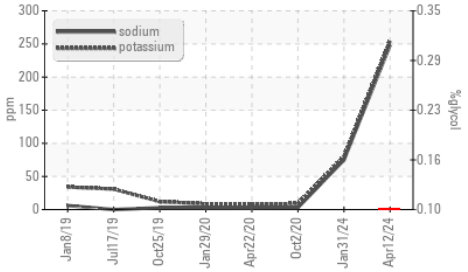
Test for glycol is positive. There is a high concentration of glycol present in the oil.

FLUID CONDITION

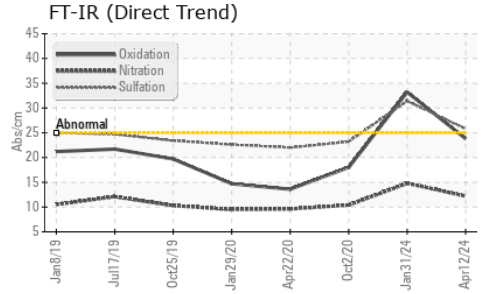
Molybdenum ppm levels are abnormally high. Sodium ppm levels are notably high. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0904387**	WC0904402	WC0478252
Sample Date		Client Info		**12 Apr 2024**	31 Jan 2024	02 Oct 2020
Machine Age	mls	Client Info		**106891**	100663	60102
Oil Age	mls	Client Info		**0**	25000	0
Filter Age	mls	Client Info		**0**	25000	0
Oil Changed		Client Info		**N/A**	Changed	N/A
Filter Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**SEVERE**	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>80	**19**	45	26
Chromium	ppm	ASTM D5185m	>5	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**1**	1	<1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>30	**10**	5	4
Lead	ppm	ASTM D5185m	>30	**1**	0	<1
Copper	ppm	ASTM D5185m	>150	**1**	2	<1
Tin	ppm	ASTM D5185m	>5	**1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	**13**	8	6
Potassium	ppm	ASTM D5185m	>20	▲ **255**	▲ 80	9
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol	%	*ASTM D2982		▲ **0.10**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.3**	0.7	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**12.2**	14.8	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.8**	31.4	23.2
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	>118	● **248**	▲ 75	3
Boron	ppm	ASTM D5185m		**71**	16	4
Barium	ppm	ASTM D5185m		**1**	0	<1
Molybdenum	ppm	ASTM D5185m		▲ **151**	76	51
Manganese	ppm	ASTM D5185m		**2**	<1	<1
Magnesium	ppm	ASTM D5185m		**677**	1018	884
Calcium	ppm	ASTM D5185m		**1608**	1283	1356
Phosphorus	ppm	ASTM D5185m		**799**	1198	1015
Zinc	ppm	ASTM D5185m		**933**	1480	1185
Sulfur	ppm	ASTM D5185m		**2946**	3051	2608
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.8**	33.2	18
Base Number (BN)	mg KOH/g	ASTM D2896		**7.7**	4.9	7.8
Visc @ 100°C	cSt	ASTM D445		**13.9**	14.2	13.1

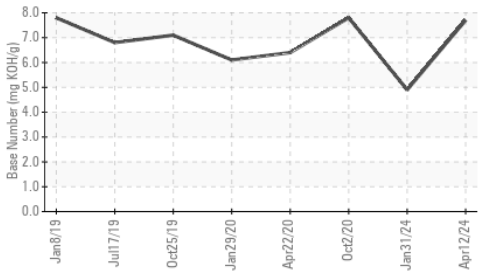
Glycol Contamination



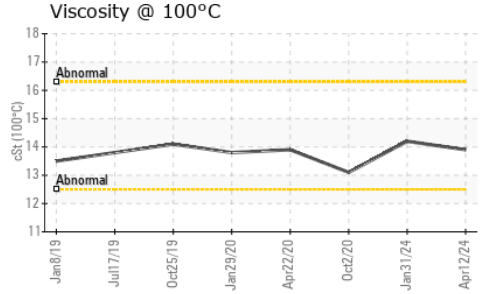
FT-IR (Direct Trend)



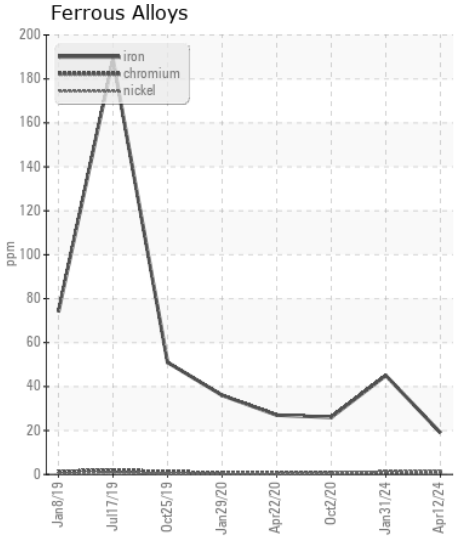
Base Number



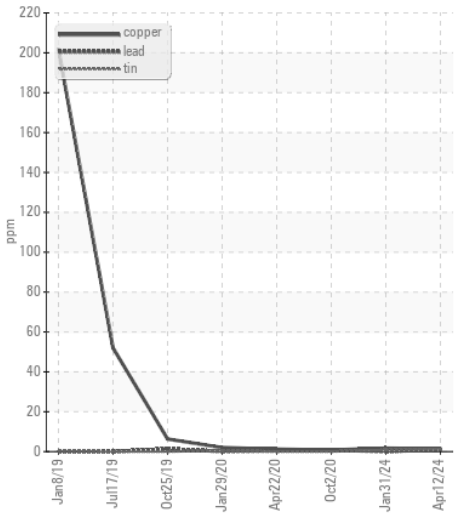
Viscosity @ 100°C



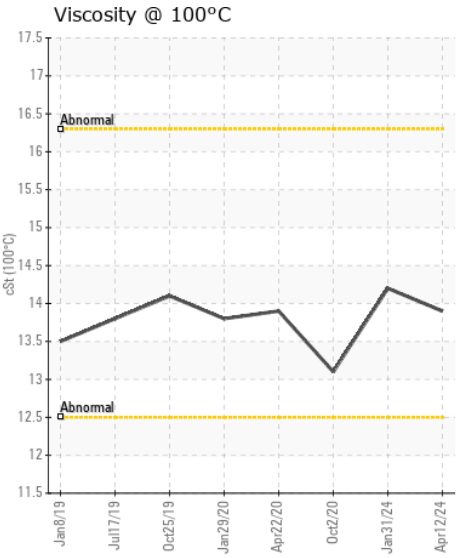
Ferrous Alloys



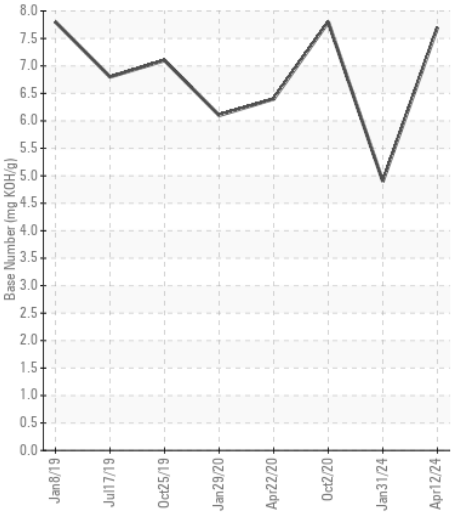
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0904387
Lab Number : 06152562
Unique Number : 10982640
Test Package : FLEET (Additional Tests: Glycol)

Received : 17 Apr 2024
Tested : 19 Apr 2024
Diagnosed : 19 Apr 2024 - Wes Davis

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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