



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
FREIHGTLINER 577039
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. 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		WC0910875	WC0635459	WC0635460
Sample Date		Client Info		03 Jun 2024	03 Mar 2023	18 Dec 2022
Machine Age	kms	Client Info		1602321	1461725	1430117
Oil Age	kms	Client Info		29120	63318	58814
Filter Age	kms	Client Info		29120	50000	30000
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	N/A	Not Changd
Sample Status				SEVERE	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	30	▲ 106	63
Chromium	ppm	ASTM D5185(m)	>20	<1	2	1
Nickel	ppm	ASTM D5185(m)	>2	0	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>30	1	2	1
Lead	ppm	ASTM D5185(m)	>30	0	19	10
Copper	ppm	ASTM D5185(m)	>30	<1	3	2
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

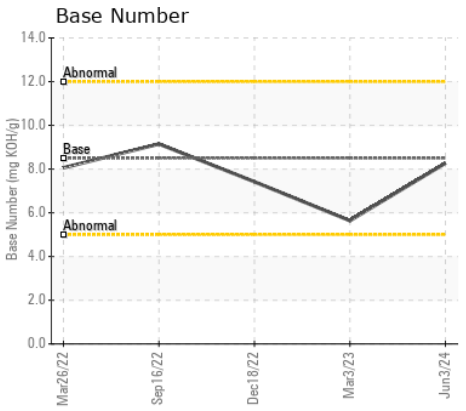
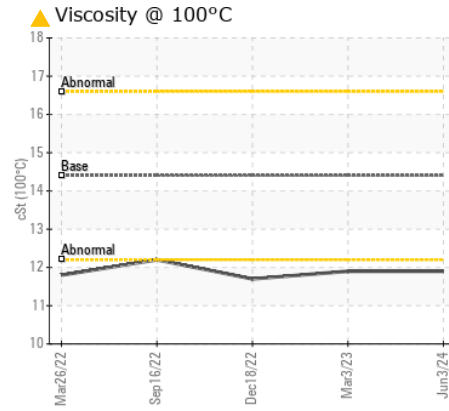
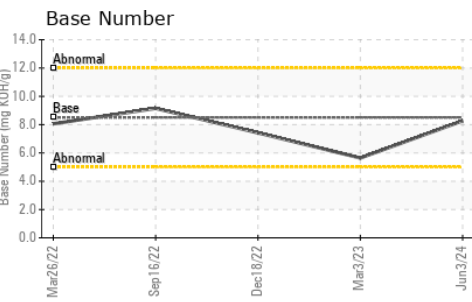
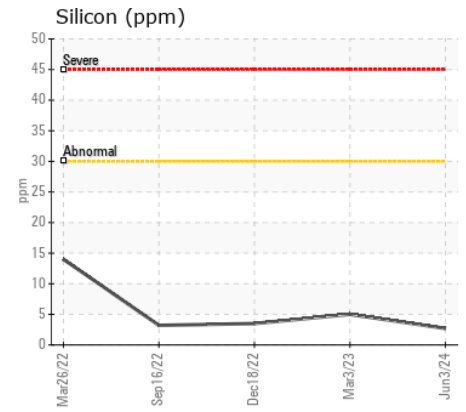
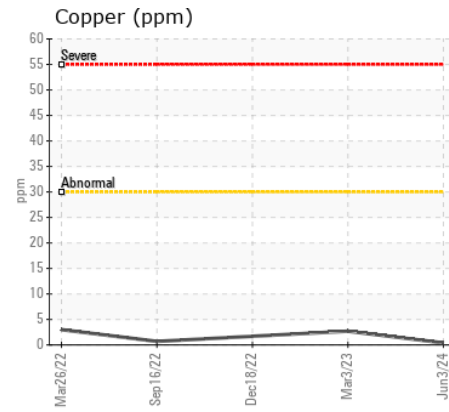
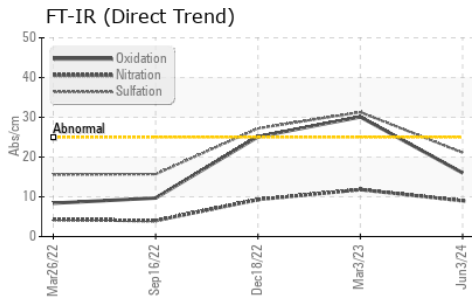
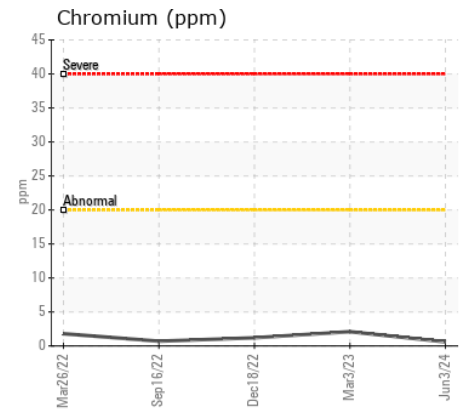
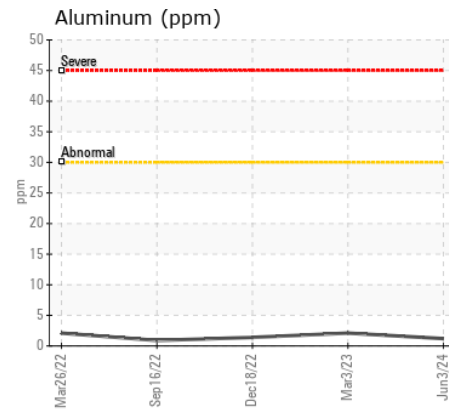
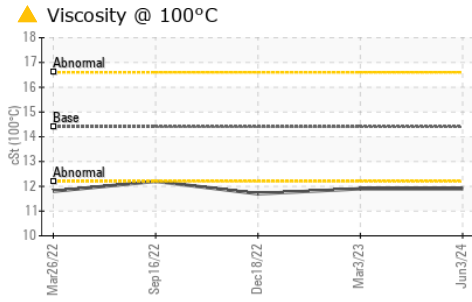
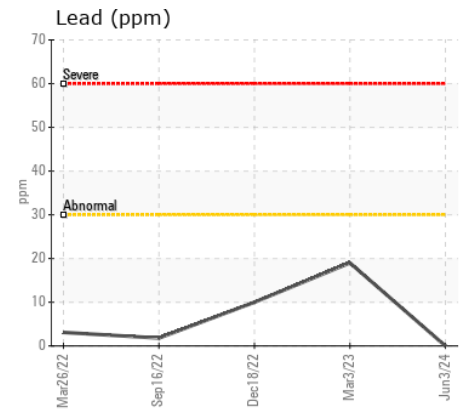
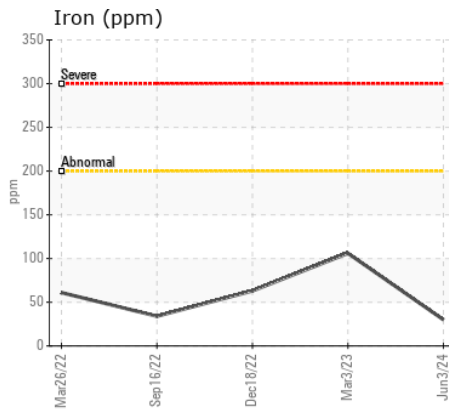
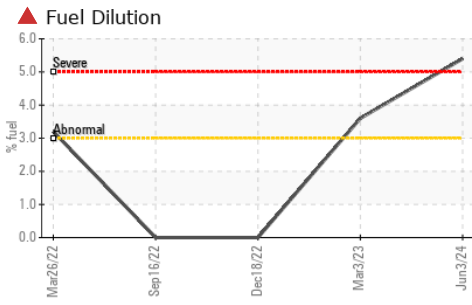
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>30	3	5	4
Potassium	ppm	ASTM D5185(m)	>20	1	3	1
Fuel	%	ASTM D7593*	>3.0	▲ 5.4	▲ 3.6	0.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	1.1	1.6	1.3
Nitration	Abs/cm	ASTM D7624*	>20	9.0	11.8	9.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1	31.3	27.2
Silt	scalar	Visual*	NONE	VLITE	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 oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>158	2	5	3
Boron	ppm	ASTM D5185(m)	250	37	16	3
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	75	60	59
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	88	779	895
Calcium	ppm	ASTM D5185(m)	3000	2008	1307	1095
Phosphorus	ppm	ASTM D5185(m)	1150	966	991	998
Zinc	ppm	ASTM D5185(m)	1350	1083	1134	1123
Sulfur	ppm	ASTM D5185(m)	4250	2818	2489	2468
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0	30.1	25.1
Base Number (BN)	mg KOH/g	ASTM D2896*	8.5	8.27	5.64	7.42
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 11.9	▲ 11.9	▲ 11.7



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0910875 **Received** : 05 Jun 2024
Lab Number : 02639792 **Tested** : 07 Jun 2024
Unique Number : 5788954 **Diagnosed** : 07 Jun 2024 - Wes Davis
Test Package : MOB1+ (Additional Tests: FUELDILUTION, PercentFuel)

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.

Henry Vanderleek
 613 Concession 2, R.R. 6
 Niagara on the Lake, ON
 CA L0S 1J0
 Contact: Henry Vanderleek
 henry.van@sympatico.ca
 T: (905)262-0221
 F: (905)262-6242