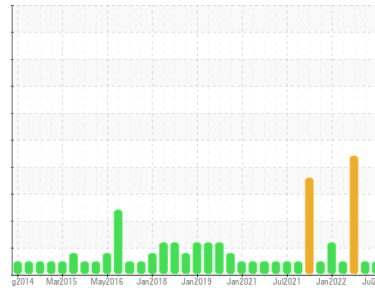




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(DM8031)
Machine Id
FREIGHTLINER 11093-223100
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0128325	GFL0111386	GFL0049623
Sample Date	Client Info		11 Jul 2024	03 Feb 2024	18 Jul 2022
Machine Age	hrs	Client Info	21414	0	129254
Oil Age	hrs	Client Info	0	0	129254
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	0.7	▲ 13.1
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >130	37	26	▲ 129
Chromium	ppm	ASTM D5185m >10	1	1	4
Nickel	ppm	ASTM D5185m >4	<1	<1	2
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	6	4	11
Lead	ppm	ASTM D5185m >20	0	<1	<1
Copper	ppm	ASTM D5185m >125	2	1	4
Tin	ppm	ASTM D5185m >4	<1	<1	1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	5	6	9
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	63	69	70
Manganese	ppm	ASTM D5185m 0	0	<1	1
Magnesium	ppm	ASTM D5185m 1010	1016	1057	937
Calcium	ppm	ASTM D5185m 1070	1174	1097	1116
Phosphorus	ppm	ASTM D5185m 1150	1109	1021	938
Zinc	ppm	ASTM D5185m 1270	1365	1350	1234
Sulfur	ppm	ASTM D5185m 2060	3582	3037	3241

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	5	13
Sodium	ppm	ASTM D5185m	12	8	▲ 310
Potassium	ppm	ASTM D5185m >20	4	4	13

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	0.4	0.1	0.9
Nitration	Abs/cm	*ASTM D7624 >20	12.7	8.9	17.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.5	19.0	29.5

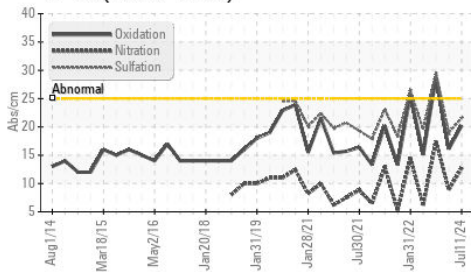
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.2	16.1	28.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.0	8.4	6.6

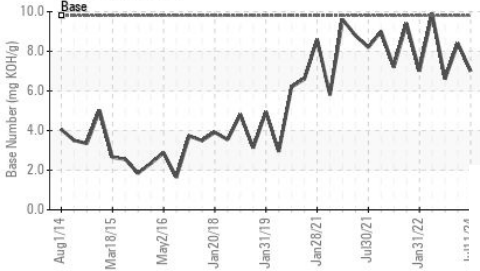


OIL ANALYSIS REPORT

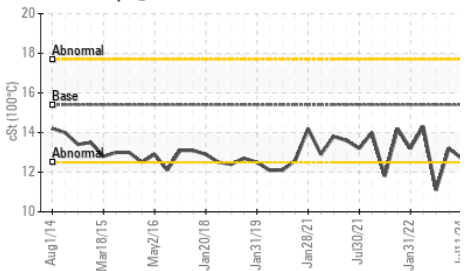
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

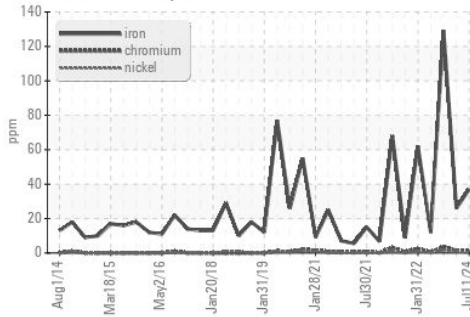


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

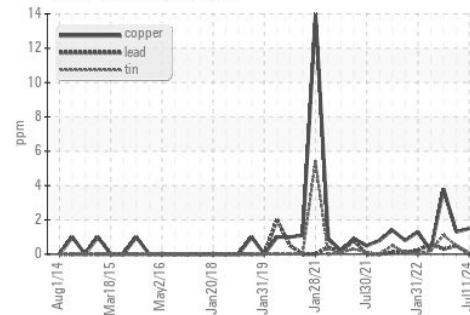
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	13.2 ▲ 11.1

GRAPHS

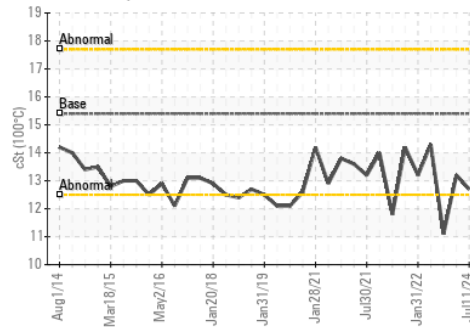
Ferrous Alloys



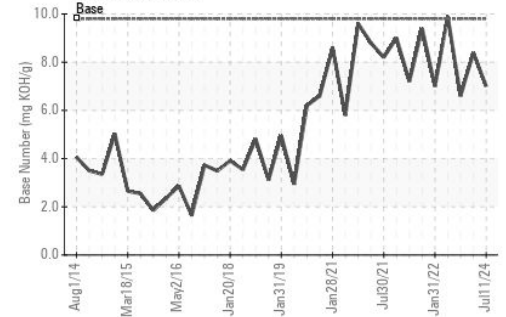
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0128325
Lab Number : 06239800
Unique Number : 11128634
Test Package : FLEET

GFL Environmental - 004 - Newport - Central Coast
 427 Roberts Road
 Newport, NC
 US 28570

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)

F: (252)223-6010