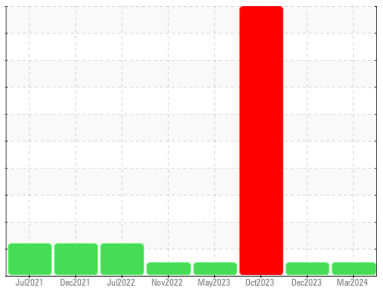
OIL ANALYSIS REPORT

Machine Id
4612M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



NORMAL

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		**GFL0108747**	GFL0105622	GFL0093195
Sample Date		Client Info		**20 Mar 2024**	13 Dec 2023	03 Oct 2023
Machine Age	hrs	Client Info		**19798**	19404	18924
Oil Age	hrs	Client Info		**19798**	18924	18024
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**NORMAL**	NORMAL	SEVERE

CONTAMINATION	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	**<1.0**	<1.0	<1.0
Water	WC Method	>0.2	**NEG**	NEG	NEG
Glycol	WC Method		**NEG**	NEG	▲ 0.10

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**25**	19	82
Chromium	ppm	ASTM D5185m	>20	**1**	<1	4
Nickel	ppm	ASTM D5185m	>2	**<1**	0	1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	2	8
Lead	ppm	ASTM D5185m	>40	**<1**	<1	5
Copper	ppm	ASTM D5185m	>330	**<1**	<1	8
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	<1	14
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**61**	59	88
Manganese	ppm	ASTM D5185m	0	**<1**	0	1
Magnesium	ppm	ASTM D5185m	1010	**941**	1061	959
Calcium	ppm	ASTM D5185m	1070	**1079**	1199	1083
Phosphorus	ppm	ASTM D5185m	1150	**972**	1120	991
Zinc	ppm	ASTM D5185m	1270	**1232**	1288	1294
Sulfur	ppm	ASTM D5185m	2060	**2664**	3101	2901

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	6	▲ 36
Sodium	ppm	ASTM D5185m		**3**	60	● 684
Potassium	ppm	ASTM D5185m	>20	**1**	3	▲ 20

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.4**	0.8	1.5
Nitration	Abs/cm	*ASTM D7624	>20	**11.1**	9.0	13.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.1**	20.7	26.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.0**	16.8	23.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**6.9**	8.2	6.9

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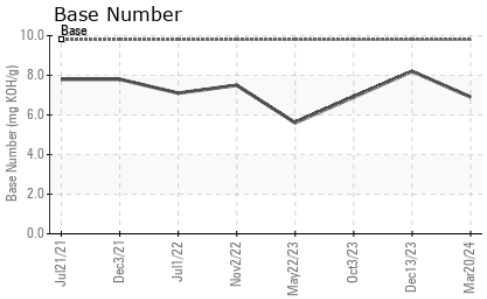
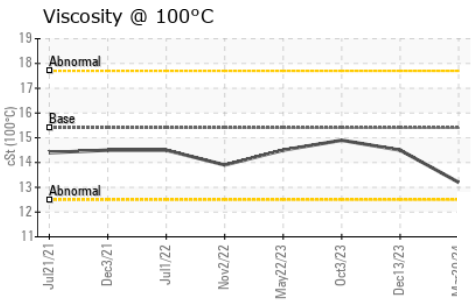


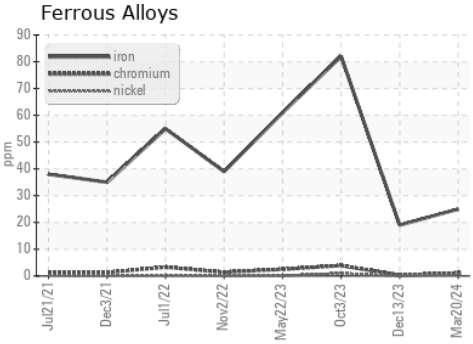


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

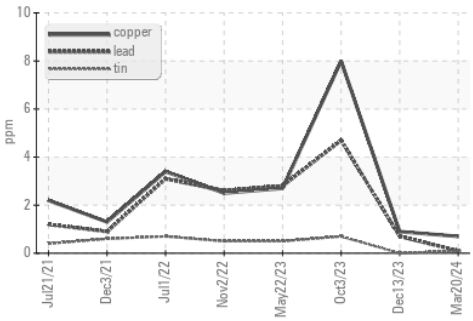
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.2**	14.5	14.9

GRAPHS

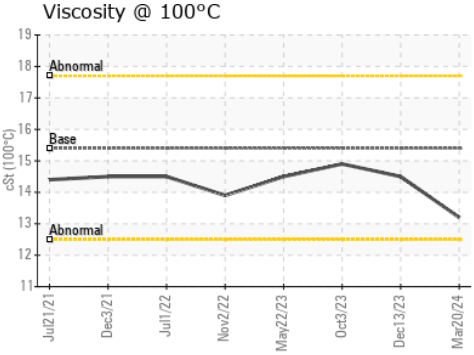
Ferrous Alloys

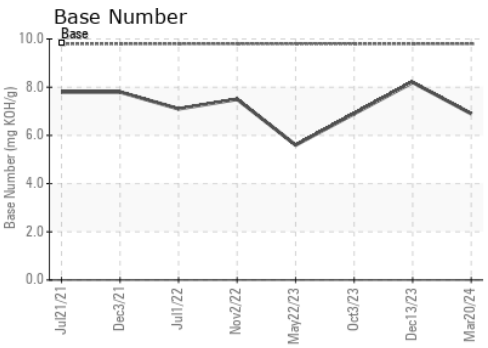


Non-ferrous Metals



Viscosity @ 100°C





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108747
Lab Number : 06126180
Unique Number : 10940331
Test Package : FLEET

Received : 22 Mar 2024
Tested : 24 Mar 2024
Diagnosed : 24 Mar 2024 - Wes Davis

Certificate L2367

GFL Environmental - 415 - Michigan East
6200 Elmridge
Sterling Heights, MI
US 48313
Contact: Frank Wolak
fwolak@gflenv.com
T: (586)825-9514
F:

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)