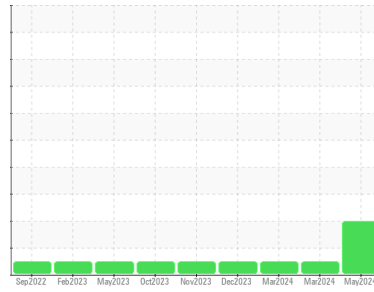




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
712030
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

An increase in the iron level is noted. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0122496	GFL0108796	GFL0108782
Sample Date	Client Info		22 May 2024	18 Mar 2024	08 Mar 2024
Machine Age	hrs	Client Info	8231	7636	7520
Oil Age	hrs	Client Info	7636	7520	6773
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	NORMAL	NORMAL

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	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	▲ 73	7	7
Chromium	ppm	ASTM D5185m >20	3	0	0
Nickel	ppm	ASTM D5185m >2	2	0	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	<1	0	0
Aluminum	ppm	ASTM D5185m >20	6	2	2
Lead	ppm	ASTM D5185m >40	13	0	0
Copper	ppm	ASTM D5185m >330	18	0	0
Tin	ppm	ASTM D5185m >15	2	0	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	6	2	1
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	46	56	59
Manganese	ppm	ASTM D5185m 0	<1	0	<1
Magnesium	ppm	ASTM D5185m 1010	685	960	927
Calcium	ppm	ASTM D5185m 1070	839	1095	1076
Phosphorus	ppm	ASTM D5185m 1150	748	1048	1065
Zinc	ppm	ASTM D5185m 1270	1044	1314	1266
Sulfur	ppm	ASTM D5185m 2060	2260	3640	3364

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	7	2	2
Sodium	ppm	ASTM D5185m	4	2	4
Potassium	ppm	ASTM D5185m >20	3	1	0

INFRA-RED

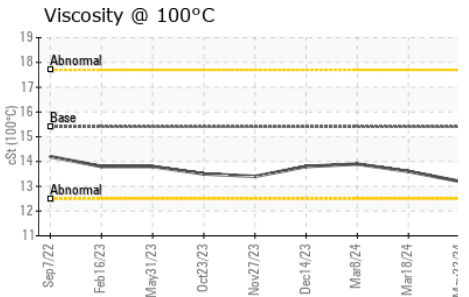
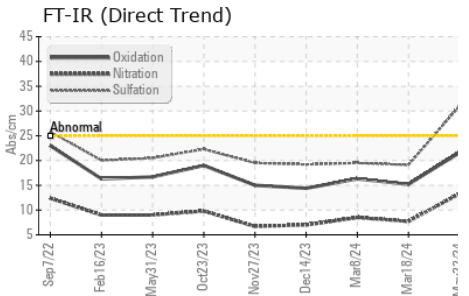
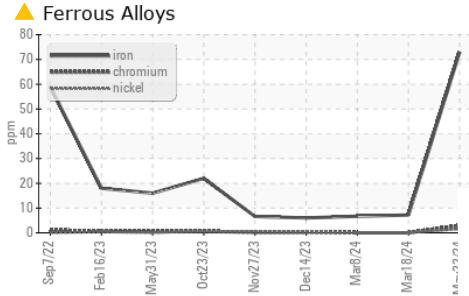
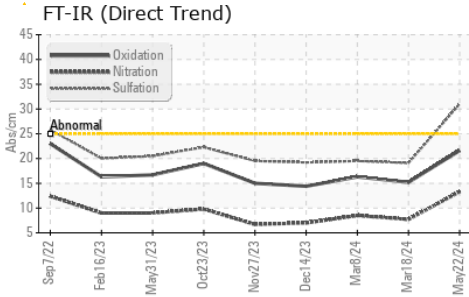
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	5	0.5	0.5
Nitration	Abs/cm	*ASTM D7624 >20	13.3	7.7	8.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	31.0	19.1	19.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.6	15.2	16.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ 0.1	8.3	7.8



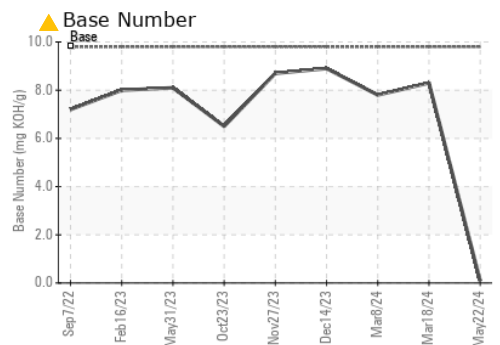
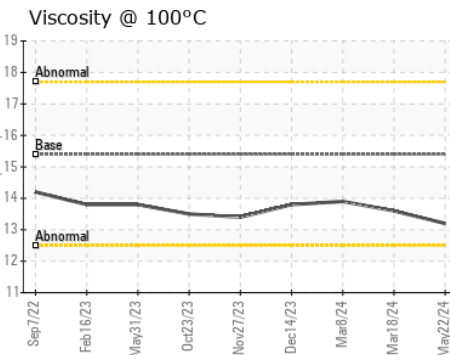
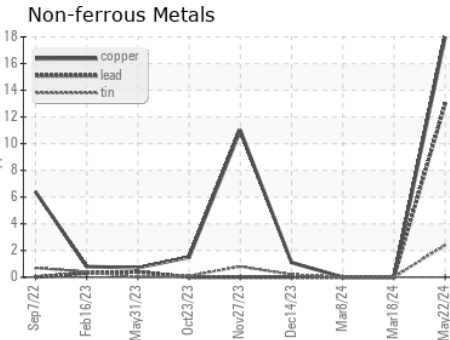
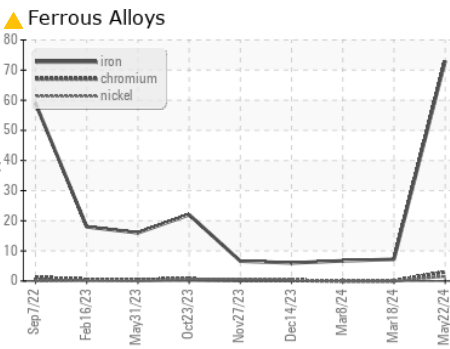
OIL ANALYSIS REPORT



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	13.2	13.6	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122496
Lab Number : 06190327
Unique Number : 11047079
Test Package : FLEET

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Don Baldrige

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)