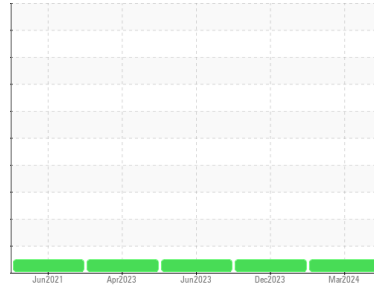




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
638M
 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		GFL0117672	GFL0105747	GFL0086697
Sample Date	Client Info		23 Mar 2024	18 Dec 2023	14 Jun 2023
Machine Age	hrs	Client Info	10659	9949	9823
Oil Age	hrs	Client Info	9823	9823	9133
Oil Changed	Client Info		Not Chngd	Not Chngd	Changed
Sample Status			NORMAL	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 >120	27	2	9
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	<1	0	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	5	2	2
Lead	ppm	ASTM D5185m >40	<1	0	<1
Copper	ppm	ASTM D5185m >330	3	15	2
Tin	ppm	ASTM D5185m >15	1	0	1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<1	16	2
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	61	60	59
Manganese	ppm	ASTM D5185m 0	<1	0	<1
Magnesium	ppm	ASTM D5185m 1010	994	882	968
Calcium	ppm	ASTM D5185m 1070	1151	985	1110
Phosphorus	ppm	ASTM D5185m 1150	1017	853	994
Zinc	ppm	ASTM D5185m 1270	1240	1125	1265
Sulfur	ppm	ASTM D5185m 2060	2974	2729	3366

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	9	4
Sodium	ppm	ASTM D5185m	4	0	4
Potassium	ppm	ASTM D5185m >20	0	1	2

INFRA-RED

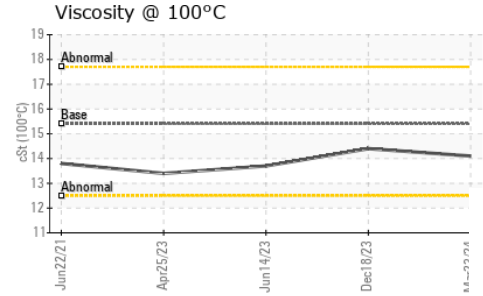
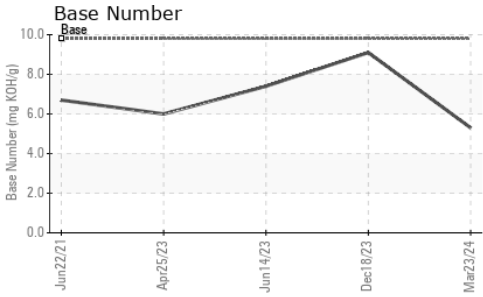
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	1.4	0.1	0.6
Nitration	Abs/cm	*ASTM D7624 >20	10.6	4.4	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.0	17.7	20.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.5	13.2	17.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.3	9.1	7.4



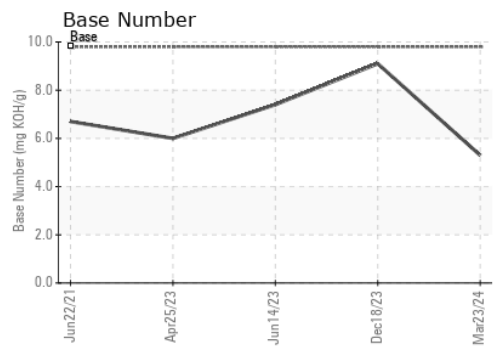
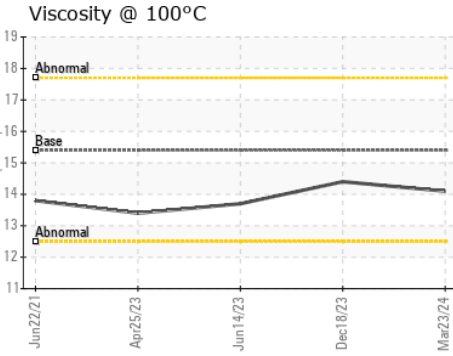
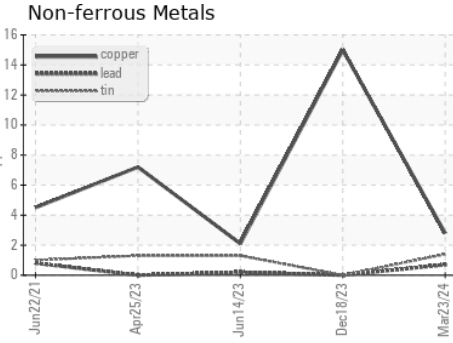
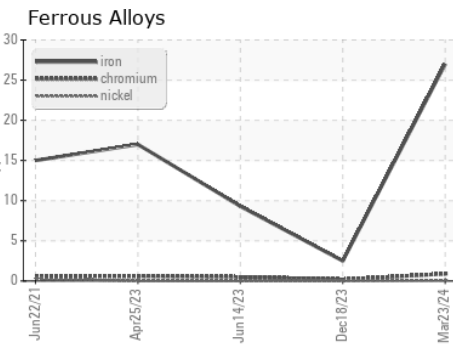
OIL ANALYSIS REPORT



PARAMETER	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	14.1	14.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0117672
 Lab Number : 06129303
 Unique Number : 10943454
 Test Package : FLEET

Received : 26 Mar 2024
 Tested : 27 Mar 2024
 Diagnosed : 27 Mar 2024 - Wes Davis

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)