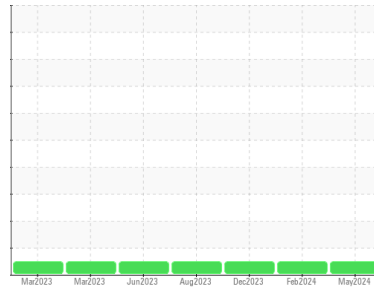




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

713057

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

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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		GFL0117811	GFL0104006	GFL0100541
Sample Date	Client Info		09 May 2024	14 Feb 2024	15 Dec 2023
Machine Age	hrs	Client Info	4049	3424	2993
Oil Age	hrs	Client Info	0	3424	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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	>110	8	9	9
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	14	15	31
Lead	ppm	ASTM D5185m	>45	<1	0	0
Copper	ppm	ASTM D5185m	>85	1	<1	1
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	4	19	5
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	52	45	58
Manganese	ppm	ASTM D5185m	0	<1	<1	1
Magnesium	ppm	ASTM D5185m	1010	952	718	882
Calcium	ppm	ASTM D5185m	1070	1138	1236	1079
Phosphorus	ppm	ASTM D5185m	1150	950	959	1028
Zinc	ppm	ASTM D5185m	1270	1124	1163	1180
Sulfur	ppm	ASTM D5185m	2060	3195	2953	2838

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>30	6	3	4
Sodium	ppm	ASTM D5185m		5	4	7
Potassium	ppm	ASTM D5185m	>20	43	45	97

INFRA-RED

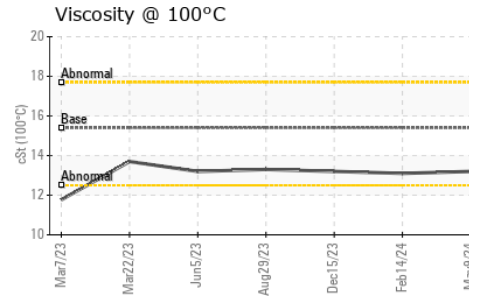
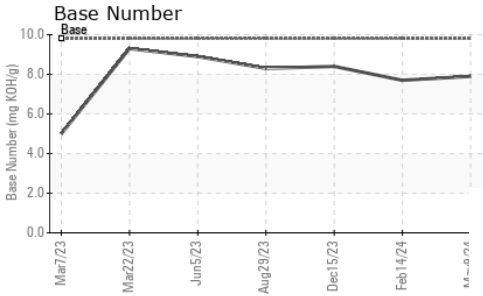
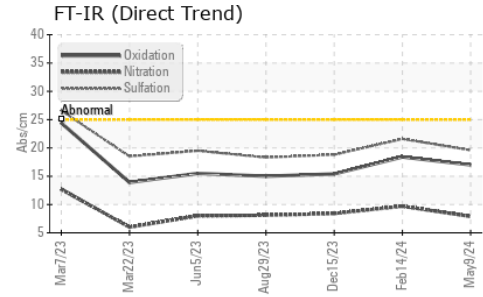
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.2	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.9	9.7	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	21.6	18.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	18.4	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	7.7	8.4



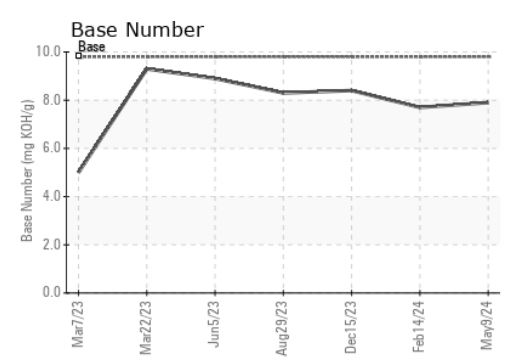
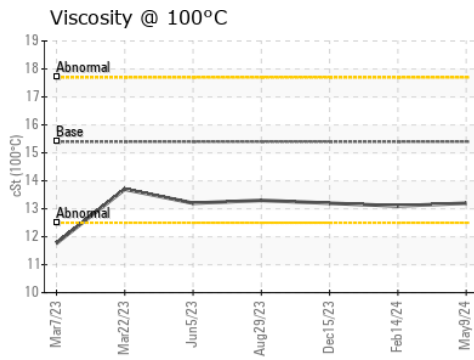
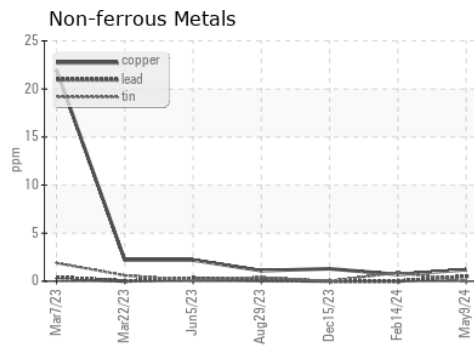
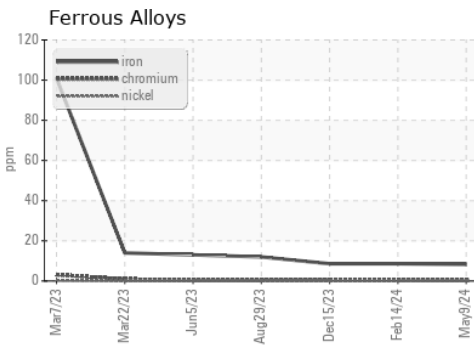
OIL ANALYSIS REPORT



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	13.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117811 **Received** : 30 May 2024
Lab Number : 06196118 **Tested** : 31 May 2024
Unique Number : 11058241 **Diagnosed** : 31 May 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@gflenv.com

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)