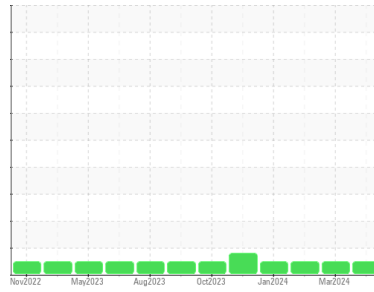




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
211006-632124

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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. No other contaminants were detected 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		GFL0104843	GFL0104806	GFL0104942
Sample Date	Client Info		04 Apr 2024	25 Mar 2024	13 Feb 2024
Machine Age	hrs	Client Info	4304	4256	4103
Oil Age	hrs	Client Info	201	4103	3959
Oil Changed		Client Info	N/A	N/A	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 >100	44	23	19
Chromium	ppm	ASTM D5185m >20	2	<1	<1
Nickel	ppm	ASTM D5185m >4	1	1	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	63	39	37
Lead	ppm	ASTM D5185m >40	<1	<1	0
Copper	ppm	ASTM D5185m >330	2	<1	1
Tin	ppm	ASTM D5185m >15	1	<1	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	2	6
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	86	54	59
Manganese	ppm	ASTM D5185m 0	2	<1	0
Magnesium	ppm	ASTM D5185m 1010	1381	865	910
Calcium	ppm	ASTM D5185m 1070	1511	969	994
Phosphorus	ppm	ASTM D5185m 1150	1453	982	990
Zinc	ppm	ASTM D5185m 1270	1807	1199	1177
Sulfur	ppm	ASTM D5185m 2060	4574	3298	2738

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	6	7
Sodium	ppm	ASTM D5185m	4	2	1
Potassium	ppm	ASTM D5185m >20	129	79	72

INFRA-RED

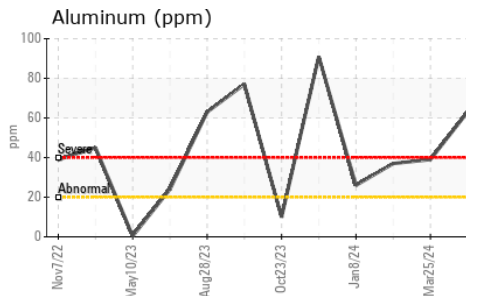
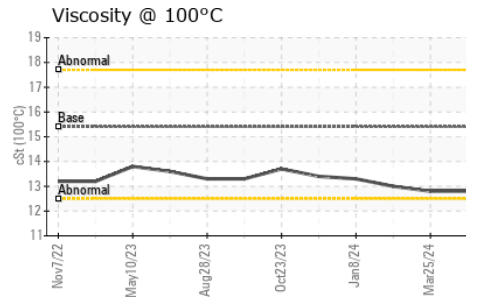
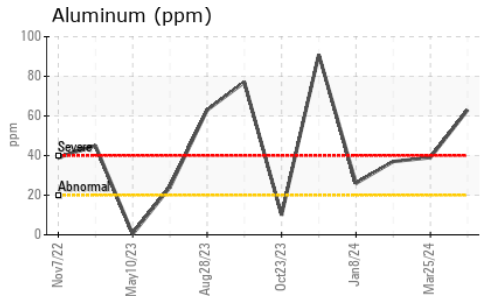
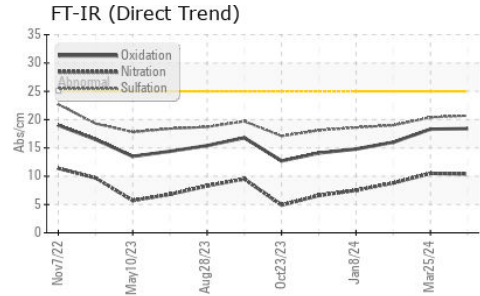
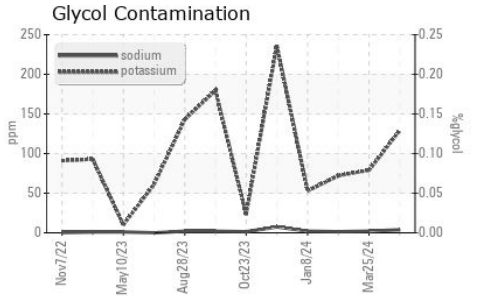
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.7	0.6	0.5
Nitration	Abs/cm	*ASTM D7624 >20	10.4	10.5	8.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.7	20.4	19.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.4	18.3	16.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.2	6.3	7.4



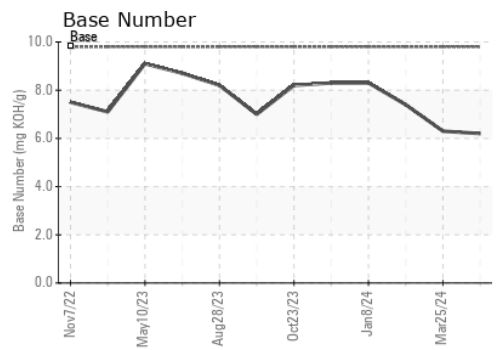
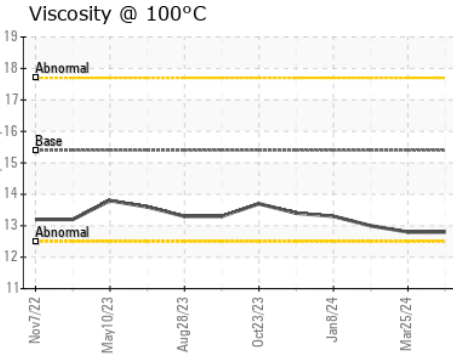
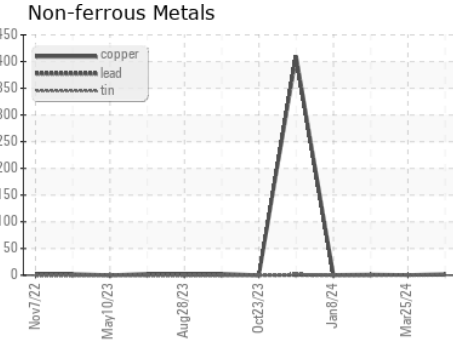
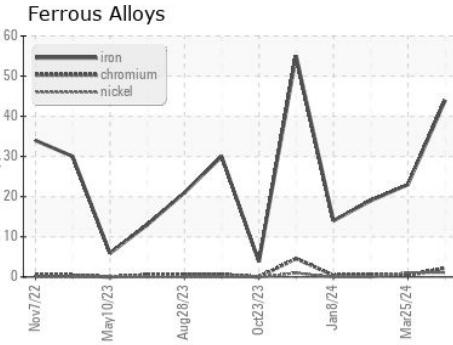
OIL ANALYSIS REPORT



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	12.8	12.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104843
Lab Number : 06143651
Unique Number : 10968459
Test Package : FLEET

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801
 Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802
 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)