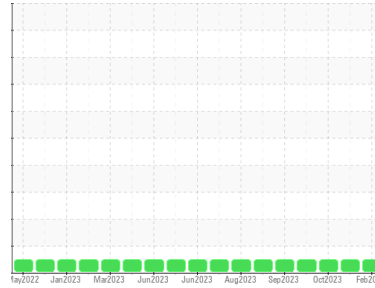




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
711007

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	GFL0110880	GFL0103010	GFL0098830	
Sample Date	Client Info	07 Feb 2024	30 Dec 2023	27 Oct 2023	
Machine Age	hrs	Client Info	5775	5634	5389
Oil Age	hrs	Client Info	141	245	49
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 >100	19	8	11
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >4	0	0	<1
Titanium	ppm ASTM D5185m	<1	0	0
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	25	13	6
Lead	ppm ASTM D5185m >40	0	0	<1
Copper	ppm ASTM D5185m >330	1	1	<1
Tin	ppm ASTM D5185m >15	<1	0	<1
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	5	2	6
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	57	59
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	1021	933	872
Calcium	ppm ASTM D5185m 1070	1063	984	931
Phosphorus	ppm ASTM D5185m 1150	1125	1007	1007
Zinc	ppm ASTM D5185m 1270	1311	1191	1197
Sulfur	ppm ASTM D5185m 2060	3348	2946	2859

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	4	6
Sodium	ppm ASTM D5185m	4	5	1
Potassium	ppm ASTM D5185m >20	52	27	10

INFRA-RED

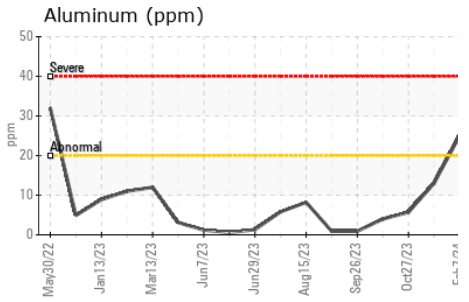
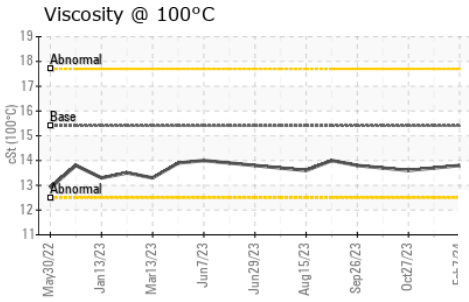
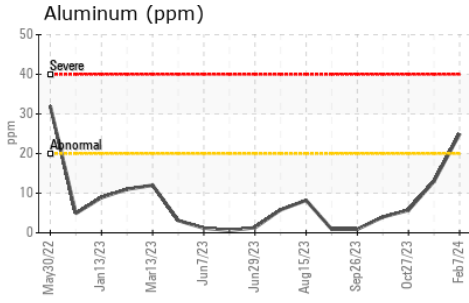
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	0.3	0.5
Nitration	Abs/cm *ASTM D7624 >20	7.6	6.4	7.8
Sulfation	Abs/.1mm *ASTM D7415 >30	18.7	18.2	19.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.2	13.7	15.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.3	8.6	8.1



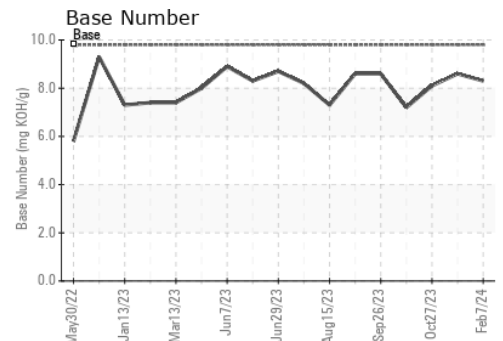
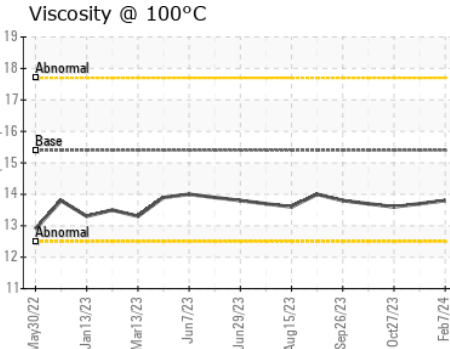
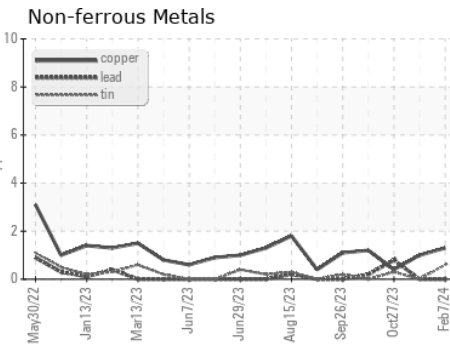
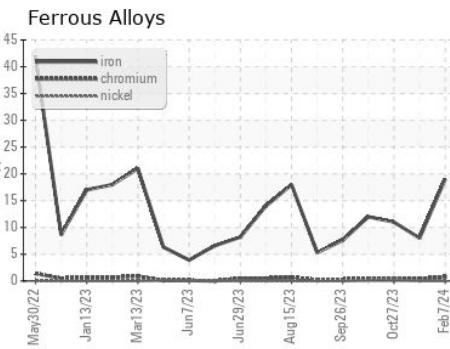
OIL ANALYSIS REPORT



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	13.8	13.7	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0110880
 Lab Number : 06089320
 Unique Number : 10876765
 Test Package : FLEET

Received : 14 Feb 2024
 Tested : 15 Feb 2024
 Diagnosed : 15 Feb 2024 - Wes Davis

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Brad Koenig
 bkoenig@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)

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F: