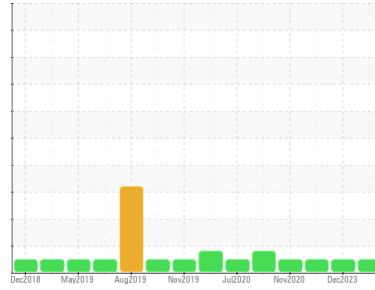




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
728045-361691

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		GFL0107999	GFL0065746	GFL0054458
Sample Date	Client Info		06 Mar 2024	17 Dec 2023	30 Nov 2022
Machine Age	hrs	Client Info	0	0	10057
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	Not 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	11	15	29
Chromium	ppm	ASTM D5185m >20	<1	<1	5
Nickel	ppm	ASTM D5185m >4	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	<1
Silver	ppm	ASTM D5185m >3	0	0	2
Aluminum	ppm	ASTM D5185m >20	2	2	5
Lead	ppm	ASTM D5185m >40	0	0	1
Copper	ppm	ASTM D5185m >330	<1	<1	1
Tin	ppm	ASTM D5185m >15	<1	0	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	2	8	23
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	59	61	55
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	889	1014	618
Calcium	ppm	ASTM D5185m 1070	1000	1113	1671
Phosphorus	ppm	ASTM D5185m 1150	1000	1034	793
Zinc	ppm	ASTM D5185m 1270	1176	1285	1007
Sulfur	ppm	ASTM D5185m 2060	3239	3173	2988
Lithium	ppm	ASTM D5185m	---	---	---

CONTAMINANTS

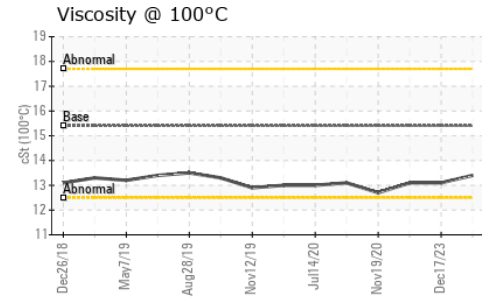
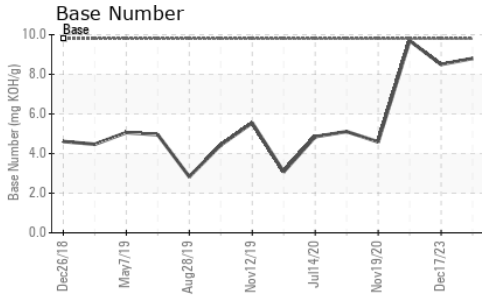
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	6	10
Sodium	ppm	ASTM D5185m	4	6	7
Potassium	ppm	ASTM D5185m >20	7	11	1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.4	0.5
Nitration	Abs/cm	*ASTM D7624 >20	6.8	7.5	8.1
Sulfation	Abs./1mm	*ASTM D7415 >30	18.0	18.9	19.8



OIL ANALYSIS REPORT

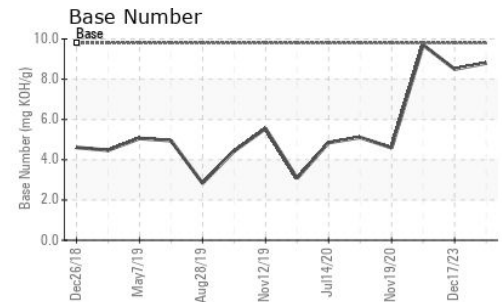
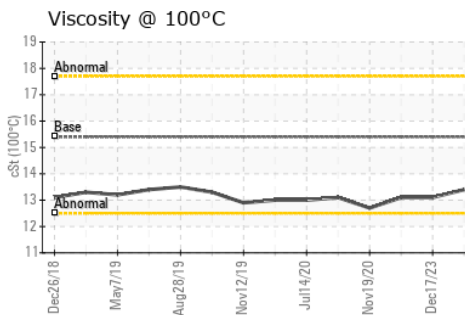
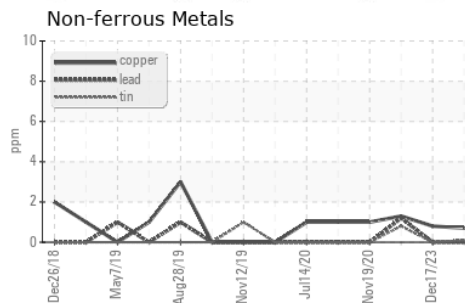
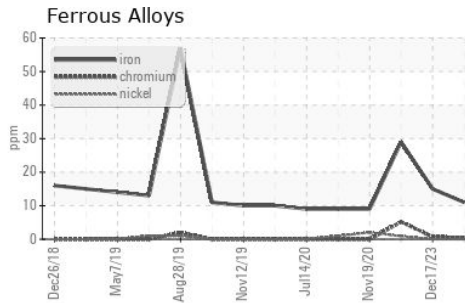


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	13.8	14.2	14.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8	8.5	9.7

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.1	13.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0107999
Lab Number : **06118171**
Unique Number : 10927004
Test Package : FLEET

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

GFL Environmental - 823 - Central Missouri Hauling
 24461 Oak Grove Lane
 Sedalia, MO
 US 65301

Contact: Terry Randolph
 trandolph@gflenv.com

T: (660)631-2116

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)