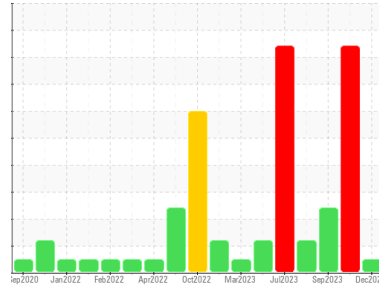




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
827020-1032

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

No evidence of coolant present in the oil. 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		GFL0103826	GFL0097347	GFL0089514
Sample Date	Client Info		06 Dec 2023	28 Nov 2023	05 Sep 2023
Machine Age	hrs	Client Info	17659	188422	17067
Oil Age	hrs	Client Info	590	188422	359
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			NORMAL	SEVERE	ABNORMAL

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >110	80	10	8
Chromium	ppm	ASTM D5185m >4	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >2	2	<1	<1
Aluminum	ppm	ASTM D5185m >25	17	3	1
Lead	ppm	ASTM D5185m >45	0	6	2
Copper	ppm	ASTM D5185m >85	10	<1	<1
Tin	ppm	ASTM D5185m >4	2	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	8	10	4
Barium	ppm	ASTM D5185m 0	9	0	0
Molybdenum	ppm	ASTM D5185m 60	71	107	102
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	894	963	1012
Calcium	ppm	ASTM D5185m 1070	1260	1104	1105
Phosphorus	ppm	ASTM D5185m 1150	1061	1120	1062
Zinc	ppm	ASTM D5185m 1270	1282	1324	1310
Sulfur	ppm	ASTM D5185m 2060	3208	3292	3655

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	15	10	8
Sodium	ppm	ASTM D5185m	0	▲ 53	▲ 48
Potassium	ppm	ASTM D5185m >20	5	▲ 431	▲ 399
Glycol	%	*ASTM D2982	NEG	◆ 0.10	NEG

INFRA-RED

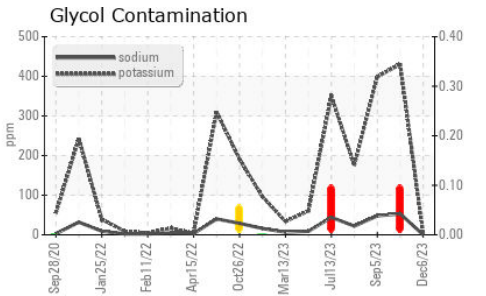
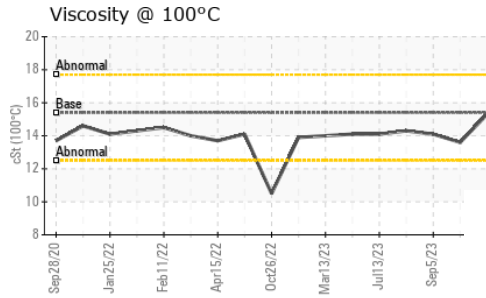
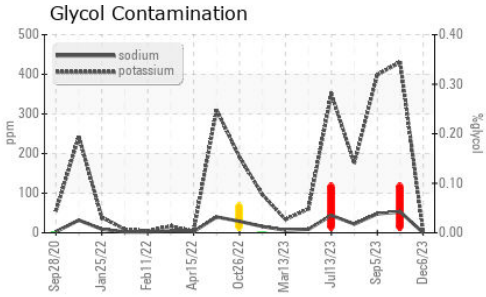
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	2.7	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	13.0	10.9	9.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.8	23.3	22.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.1	19.6	17.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.5	7.0	7.8



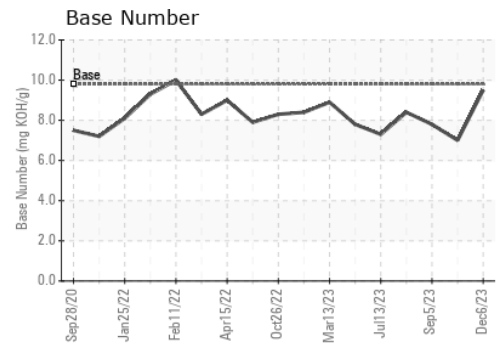
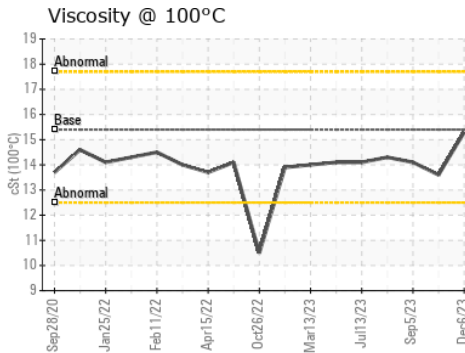
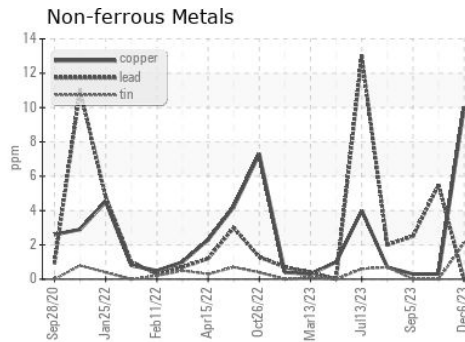
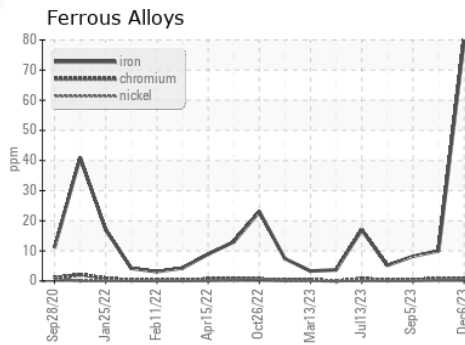
OIL ANALYSIS REPORT



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	15.3	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0103826
 Lab Number : 06045474
 Unique Number : 10806082
 Test Package : FLEET

GFL Environmental - 654S - Midlothian
 12230 Deergrove Road
 Midlothian, VA
 US 23112
 Contact: Corbin Umphlet
 cumphlet@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: