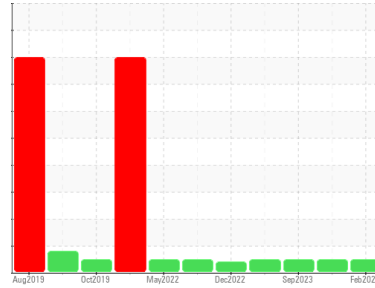




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
429056-402461

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Engine oil sample)

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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0114497	GFL0093311	GFL0093229
Sample Date	Client Info		24 Feb 2024	28 Oct 2023	07 Sep 2023
Machine Age	hrs	Client Info	12632	11867	11479
Oil Age	hrs	Client Info	12632	11867	21826
Oil Changed	Client Info		Not Chngd	Not Chngd	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	12	14	16
Chromium	ppm	ASTM D5185m >4	0	<1	1
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	1	1	3
Lead	ppm	ASTM D5185m >45	0	<1	3
Copper	ppm	ASTM D5185m >85	<1	1	<1
Tin	ppm	ASTM D5185m >4	0	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<1	0	0
Barium	ppm	ASTM D5185m 0	0	4	0
Molybdenum	ppm	ASTM D5185m 60	64	64	62
Manganese	ppm	ASTM D5185m 0	0	0	<1
Magnesium	ppm	ASTM D5185m 1010	1122	939	1039
Calcium	ppm	ASTM D5185m 1070	1219	1108	1163
Phosphorus	ppm	ASTM D5185m 1150	1238	967	1043
Zinc	ppm	ASTM D5185m 1270	1536	1230	1319
Sulfur	ppm	ASTM D5185m 2060	3648	3040	3641

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	4	6	7
Sodium	ppm	ASTM D5185m	4	0	4
Potassium	ppm	ASTM D5185m >20	2	3	2

INFRA-RED

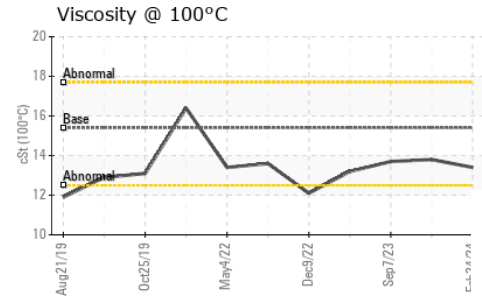
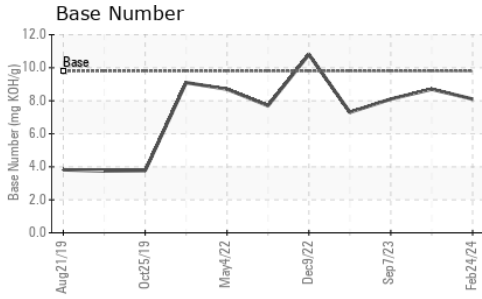
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.4	0.7
Nitration	Abs/cm	*ASTM D7624 >20	7.9	7.2	7.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.1	19.1	18.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.0	14.8	13.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.1	8.7	8.1



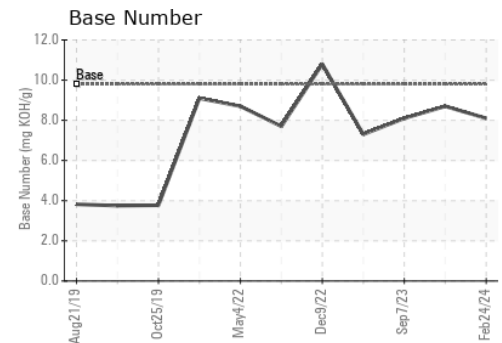
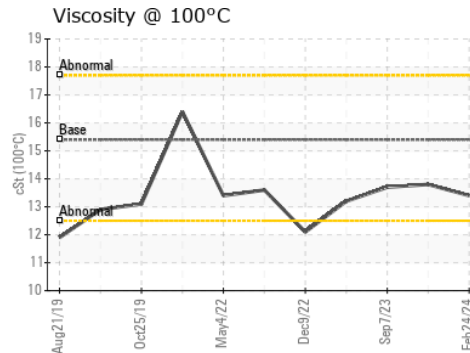
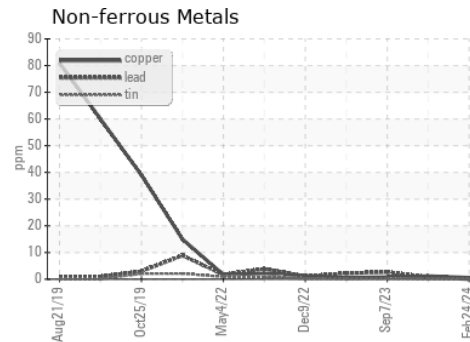
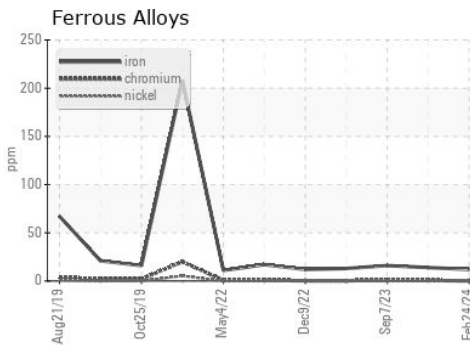
OIL ANALYSIS REPORT



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	13.4	13.8	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0114497
Lab Number : **06106674**
Unique Number : 10910171
Test Package : FLEET

Received : 01 Mar 2024
Tested : 05 Mar 2024
Diagnosed : 05 Mar 2024 - Sean Felton

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)

T:
F: