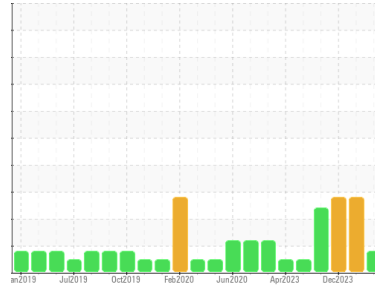




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
928083-205246

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0114440	GFL0104005	GFL0100472
Sample Date	Client Info	18 Mar 2024	14 Feb 2024	06 Dec 2023
Machine Age	hrs	30858	262292	254104
Oil Age	hrs	0	0	254104
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	SEVERE	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
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	14	36	13
Chromium	ppm ASTM D5185m >20	1	2	1
Nickel	ppm ASTM D5185m >4	<1	0	0
Titanium	ppm ASTM D5185m	<1	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	3	2	2
Lead	ppm ASTM D5185m >40	<1	0	0
Copper	ppm ASTM D5185m >330	2	4	29
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	3	<1
Barium	ppm ASTM D5185m 0	1	0	0
Molybdenum	ppm ASTM D5185m 60	71	46	49
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	890	640	826
Calcium	ppm ASTM D5185m 1070	1126	753	924
Phosphorus	ppm ASTM D5185m 1150	1024	688	899
Zinc	ppm ASTM D5185m 1270	1192	851	1080
Sulfur	ppm ASTM D5185m 2060	3105	1935	2516

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	4	6
Sodium	ppm ASTM D5185m	33	50	24
Potassium	ppm ASTM D5185m >20	10	4	10
Fuel	% ASTM D3524 >5	▲ 6.4	▲ 21.8	▲ 17.3

INFRA-RED

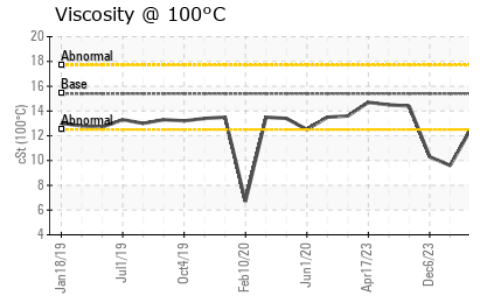
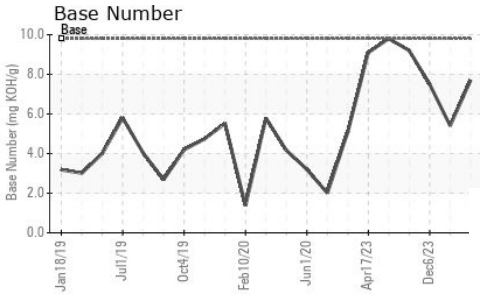
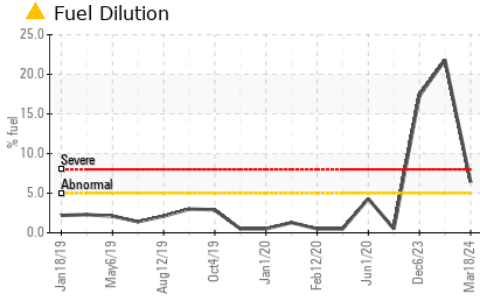
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	0.7	0.6
Nitration	Abs/cm *ASTM D7624 >20	9.8	13.0	9.5
Sulfation	Abs/.1mm *ASTM D7415 >30	20.0	22.6	20.0

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.8	23.8	16.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.7	5.4	7.5



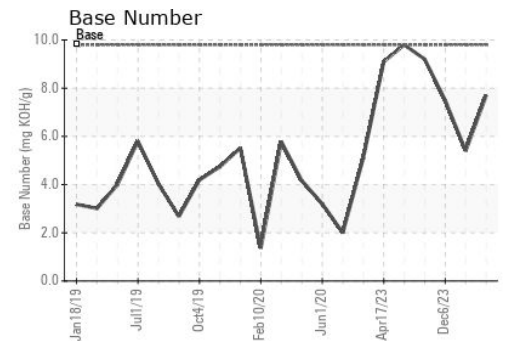
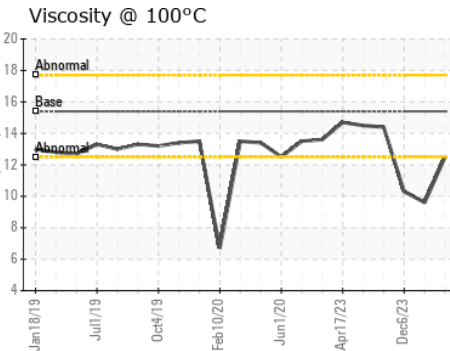
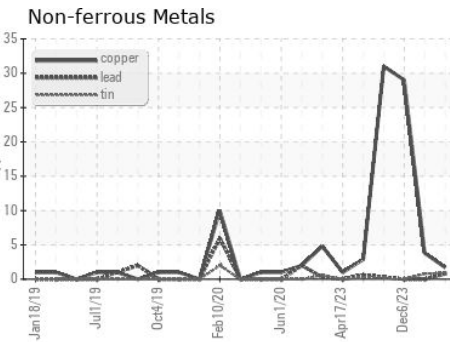
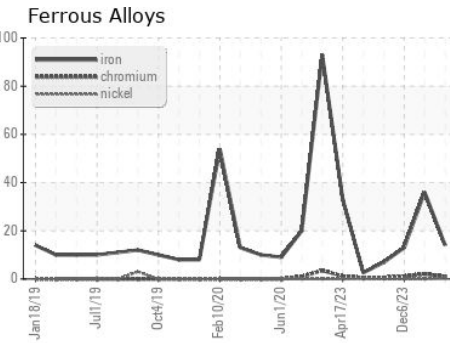
OIL ANALYSIS REPORT



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	12.5	▲ 9.6 ▲ 10.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0114440

Lab Number : 06128524

Unique Number : 10942675

Test Package : FLEET (Additional Tests: PercentFuel)

Received : 25 Mar 2024

Tested : 27 Mar 2024

Diagnosed : 27 Mar 2024 - Wes Davis

GFL Environmental - 865 - East Mount Hauling

7213 East Mount Houston Road

Houston, TX

US 77050

Contact: Saul Castillo

saul.castillo@gflenv.com

T:

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)