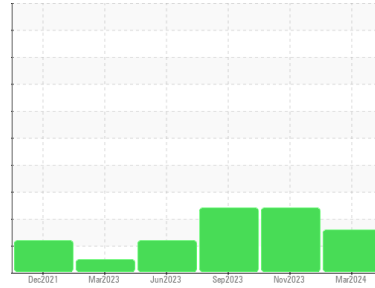




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
255001-838

Component
Gasoline Engine

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

DIAGNOSIS

Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor. (Customer Sample Comment: Actual mileage 188982 sample only)

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN level is low. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0116271	GFL0094853	GFL0088271
Sample Date	Client Info	18 Mar 2024	06 Nov 2023	11 Sep 2023
Machine Age	mls	191236	180842	177458
Oil Age	mls	7683	11253	7869
Oil Changed	Client Info	Not Chngd	Not Chngd	Not Chngd
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

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 >150	24	23	16
Chromium	ppm ASTM D5185m >20	2	1	<1
Nickel	ppm ASTM D5185m >5	<1	<1	0
Titanium	ppm ASTM D5185m	<1	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >40	5	4	3
Lead	ppm ASTM D5185m >50	<1	0	0
Copper	ppm ASTM D5185m >155	1	<1	<1
Tin	ppm ASTM D5185m >10	<1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	33	21	25
Barium	ppm ASTM D5185m 0	<1	<1	0
Molybdenum	ppm ASTM D5185m 60	75	86	83
Manganese	ppm ASTM D5185m 0	1	1	2
Magnesium	ppm ASTM D5185m 1010	522	492	506
Calcium	ppm ASTM D5185m 1070	961	876	876
Phosphorus	ppm ASTM D5185m 1150	648	540	604
Zinc	ppm ASTM D5185m 1270	701	703	675
Sulfur	ppm ASTM D5185m 2060	2668	2213	2566

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	11	17	12
Sodium	ppm ASTM D5185m >400	8	2	4
Potassium	ppm ASTM D5185m >20	2	3	1
Fuel	% ASTM D3524 >4.0	1.8	▲ 4.7	▲ 5.0

INFRA-RED

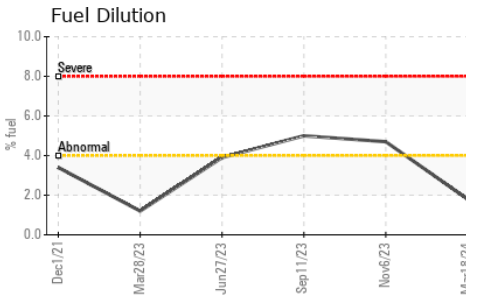
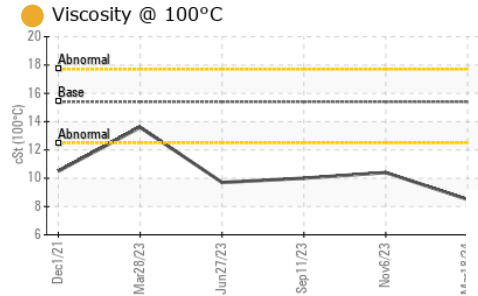
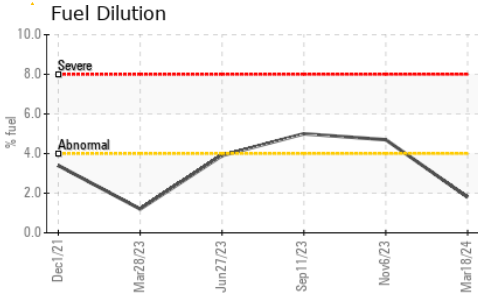
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	13.6	16.0	13.1
Sulfation	Abs/.1mm *ASTM D7415 >30	25.6	31.8	27.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	22.8	30.9	24.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	▲ 3.3	▲ 2.6	▲ 2.5



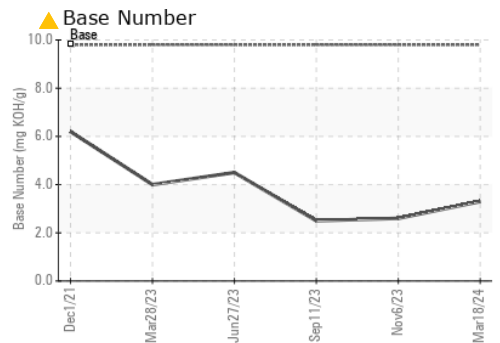
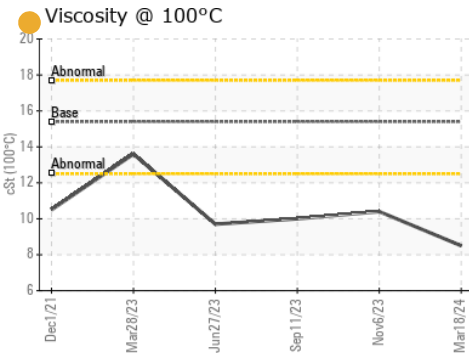
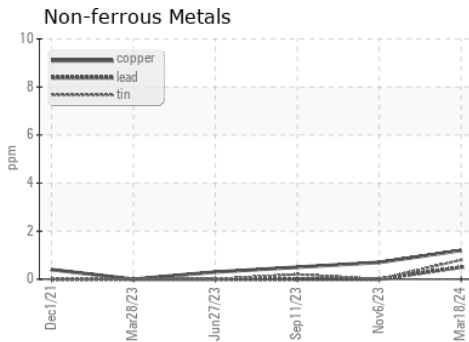
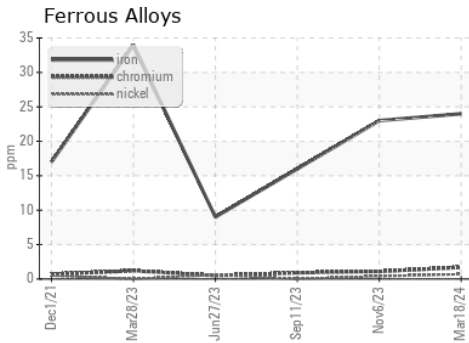
OIL ANALYSIS REPORT



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	● 8.5	▲ 10.4	▲ 10.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116271 **Received** : 21 Mar 2024
Lab Number : 06125429 **Tested** : 26 Mar 2024
Unique Number : 10939580 **Diagnosed** : 26 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 625 - Harrison Hauling
 4102 Industrial Pkwy
 Harrison, MI
 US 48625
 Contact: Glenda Standen
 gstanden@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: