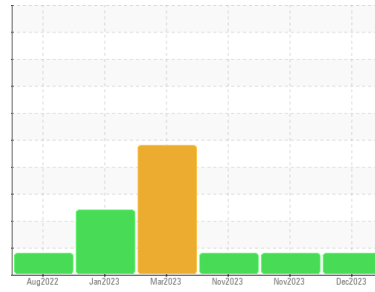




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
711041

Component
Gasoline Engine

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

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present 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	GFL0105807	GFL0089107	GFL0089094
Sample Date	Client Info	23 Dec 2023	24 Nov 2023	22 Nov 2023
Machine Age	hrs	6049	5990	5981
Oil Age	hrs	5990	4130	0
Oil Changed	Client Info	Changed	Changed	Not Changed
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	31	28	27
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >5	1	<1	1
Titanium	ppm ASTM D5185m	<1	<1	<1
Silver	ppm ASTM D5185m >2	<1	1	1
Aluminum	ppm ASTM D5185m >40	2	2	2
Lead	ppm ASTM D5185m >50	0	<1	<1
Copper	ppm ASTM D5185m >155	1	<1	<1
Tin	ppm ASTM D5185m >10	0	<1	<1
Vanadium	ppm ASTM D5185m	0	<1	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	50	95	92
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	36	12	16
Manganese	ppm ASTM D5185m 0	0	<1	<1
Magnesium	ppm ASTM D5185m 1010	603	258	326
Calcium	ppm ASTM D5185m 1070	1675	1728	1723
Phosphorus	ppm ASTM D5185m 1150	1043	1013	1056
Zinc	ppm ASTM D5185m 1270	1322	1131	1176
Sulfur	ppm ASTM D5185m 2060	3634	3146	3222

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	5	4	4
Sodium	ppm ASTM D5185m >400	2	2	3
Potassium	ppm ASTM D5185m >20	3	3	3
Fuel	% ASTM D3524 >4.0	▲ 3.9	▲ 4.7	▲ 4.1

INFRA-RED

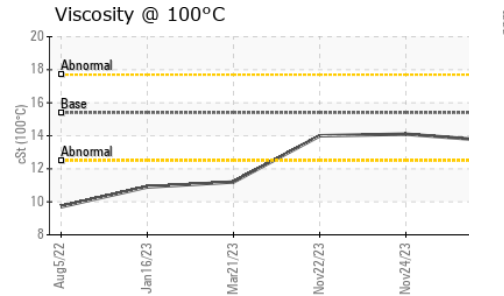
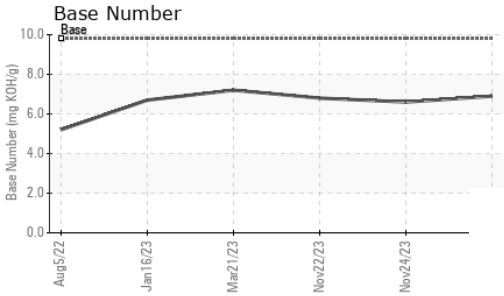
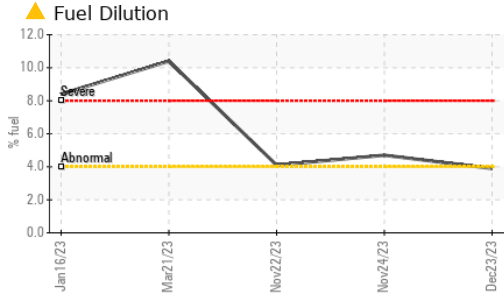
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.4	0.4	0.4
Nitration	Abs/cm *ASTM D7624 >20	9.4	9.9	10.0
Sulfation	Abs/.1mm *ASTM D7415 >30	21.3	22.1	21.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.8	19.7	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	6.9	6.6	6.8



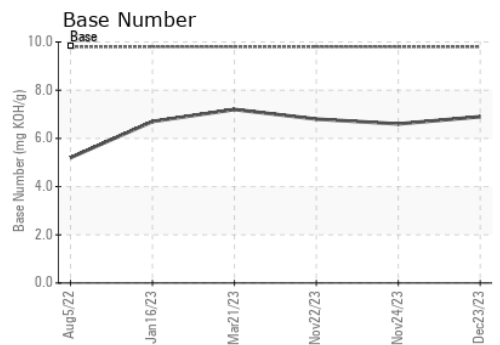
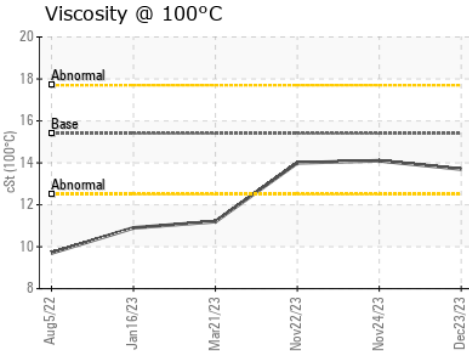
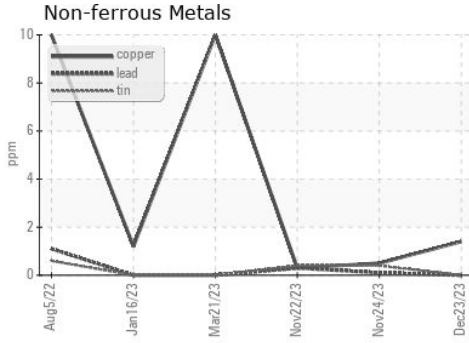
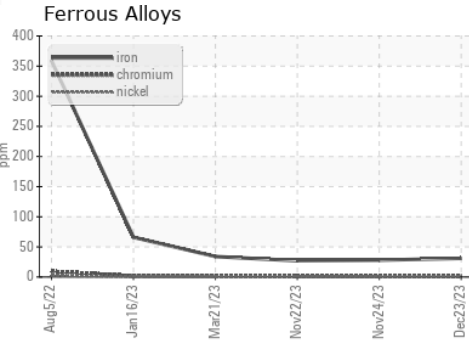
OIL ANALYSIS REPORT



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	13.7	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105807 **Received** : 27 Dec 2023
Lab Number : 06045846 **Diagnosed** : 28 Dec 2023
Unique Number : 10806454 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 F:

Certificate L2367
 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)