



OIL ANALYSIS REPORT

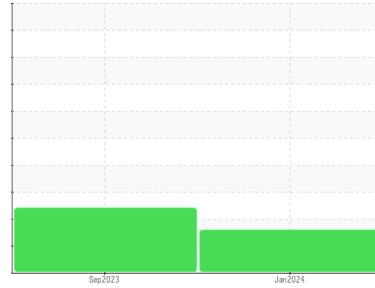
Sample Rating Trend

DEGRADATION

Area
GFL891 ON HOLD
Machine Id
429075

Component
Diesel Engine
Fluid

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



DIAGNOSIS

▲ Recommendation

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 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	GFL0048374	GFL0093521	---
Sample Date	Client Info	11 Jan 2024	25 Sep 2023	---
Machine Age	hrs	4788	4778	---
Oil Age	hrs	250	4664	---
Oil Changed	Client Info	Changed	Not Changd	---
Sample Status		ABNORMAL	ABNORMAL	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	▲ 3.7	---
Water	WC Method >0.2	NEG	NEG	---
Glycol	WC Method	NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	78	83	---
Chromium	ppm ASTM D5185m >20	2	2	---
Nickel	ppm ASTM D5185m >4	<1	<1	---
Titanium	ppm ASTM D5185m	<1	0	---
Silver	ppm ASTM D5185m >3	<1	0	---
Aluminum	ppm ASTM D5185m >20	15	12	---
Lead	ppm ASTM D5185m >40	<1	<1	---
Copper	ppm ASTM D5185m >330	16	15	---
Tin	ppm ASTM D5185m >15	<1	<1	---
Vanadium	ppm ASTM D5185m	<1	<1	---
Cadmium	ppm ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	4	15	---
Barium	ppm ASTM D5185m 0	0	0	---
Molybdenum	ppm ASTM D5185m 60	68	69	---
Manganese	ppm ASTM D5185m 0	4	3	---
Magnesium	ppm ASTM D5185m 1010	249	256	---
Calcium	ppm ASTM D5185m 1070	1819	2038	---
Phosphorus	ppm ASTM D5185m 1150	908	919	---
Zinc	ppm ASTM D5185m 1270	1154	1207	---
Sulfur	ppm ASTM D5185m 2060	3247	4177	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	14	14	---
Sodium	ppm ASTM D5185m	3	7	---
Potassium	ppm ASTM D5185m >20	25	28	---

INFRA-RED

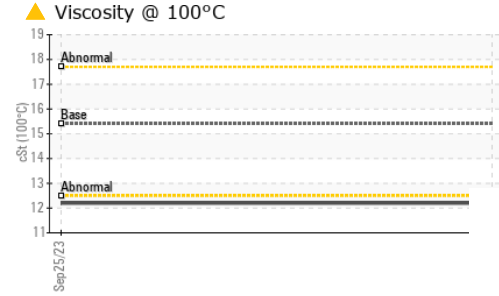
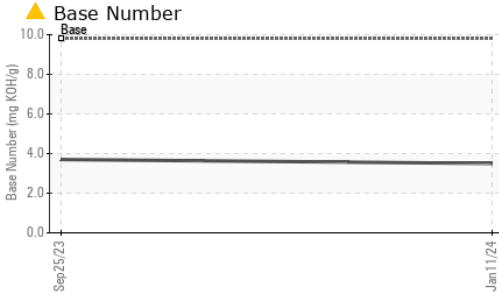
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.8	0.8	---
Nitration	Abs/cm *ASTM D7624 >20	13.3	13.6	---
Sulfation	Abs/.1mm *ASTM D7415 >30	30.7	30.8	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	28.9	29.0	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	▲ 3.5	▲ 3.7	---



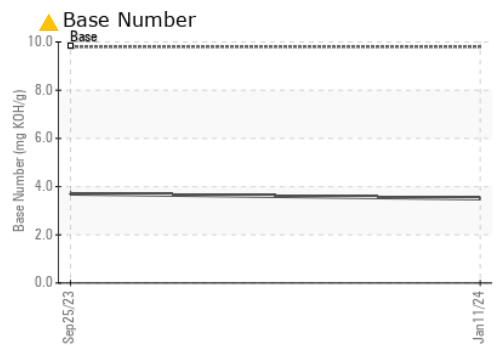
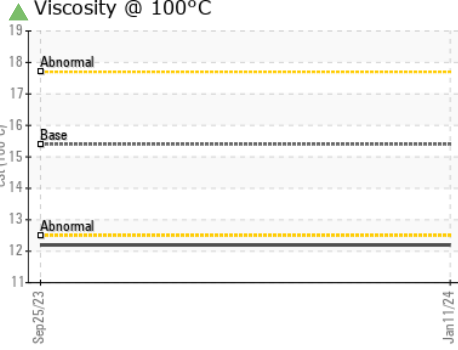
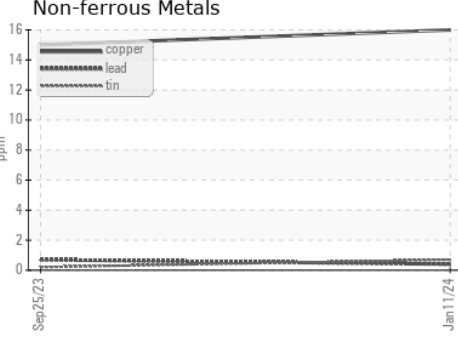
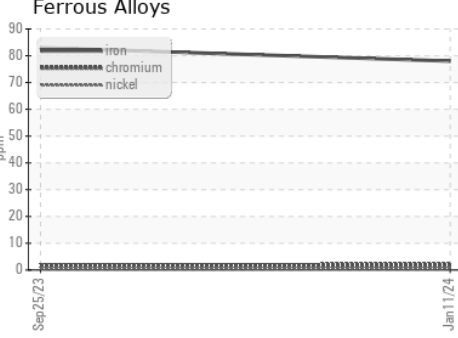
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.2	▲ 12.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0048374 **Recieved** : 12 Jan 2024
Lab Number : 06059035 **Diagnosed** : 15 Jan 2024
Unique Number : 10830417 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 891 - Oklahoma City Hauling
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 Oklahoma City, OK
 US 73128
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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)