



Machine Id
414069
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0084765	GFL0084767	---
Sample Date		Client Info		07 Feb 2024	29 Jan 2024	---
Machine Age	hrs	Client Info		308	237	---
Oil Age	hrs	Client Info		237	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	26	21	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>5	2	3	---
Titanium	ppm	ASTM D5185m	>2	0	<1	---
Silver	ppm	ASTM D5185m	>2	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	▲ 14	▲ 15	---
Lead	ppm	ASTM D5185m	>40	0	<1	---
Copper	ppm	ASTM D5185m	>330	18	14	---
Tin	ppm	ASTM D5185m	>15	2	3	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

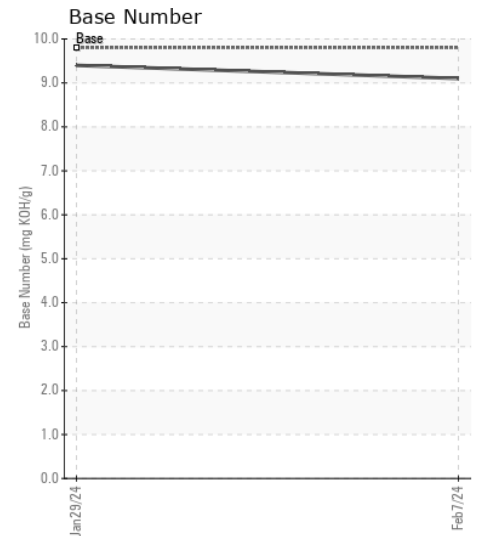
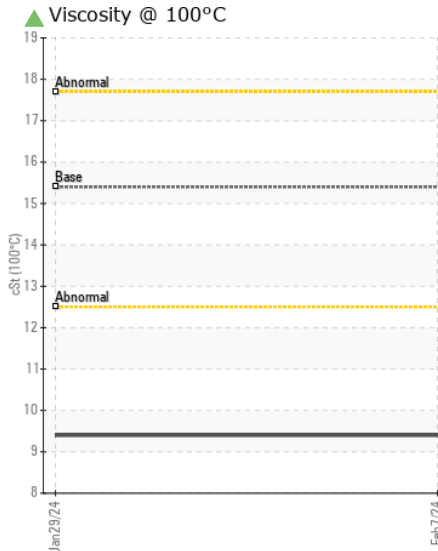
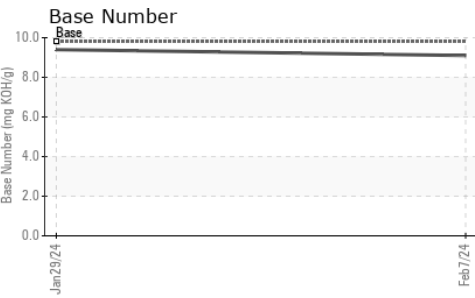
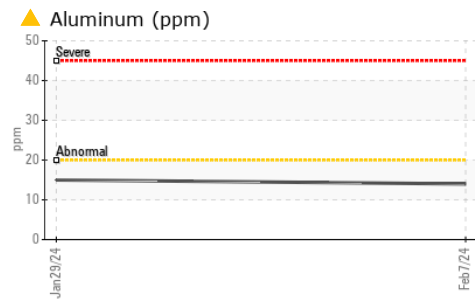
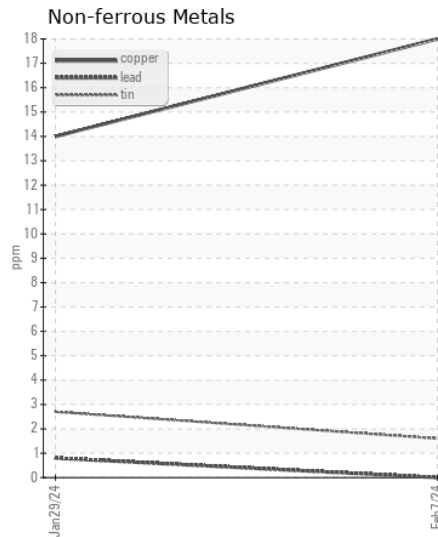
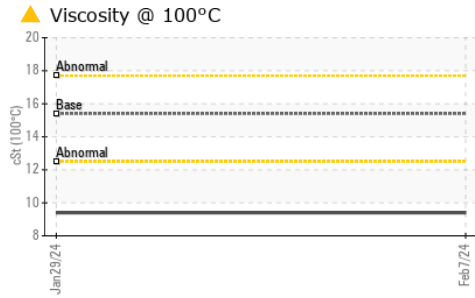
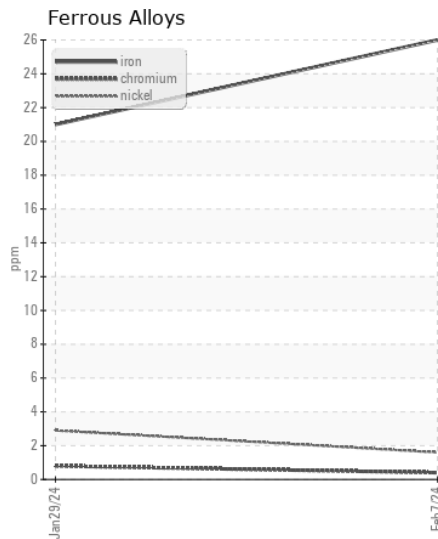
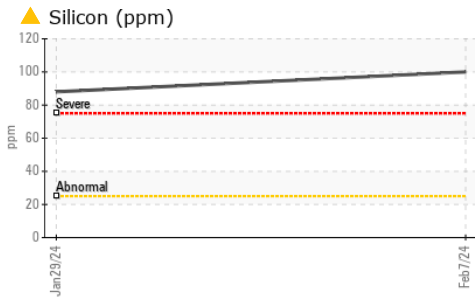
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	▲ 100	▲ 88	---
Potassium	ppm	ASTM D5185m	>20	36	34	---
Fuel		WC Method	>3.0	<1.0	0.4	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>4	0.2	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.6	25.8	---
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	---

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<1	5	---
Boron	ppm	ASTM D5185m	0	358	385	---
Barium	ppm	ASTM D5185m	0	9	0	---
Molybdenum	ppm	ASTM D5185m	60	125	121	---
Manganese	ppm	ASTM D5185m	0	3	4	---
Magnesium	ppm	ASTM D5185m	1010	620	654	---
Calcium	ppm	ASTM D5185m	1070	1297	1358	---
Phosphorus	ppm	ASTM D5185m	1150	635	681	---
Zinc	ppm	ASTM D5185m	1270	755	780	---
Sulfur	ppm	ASTM D5185m	2060	2332	2330	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.5	21.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.1	9.4	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 9.4	▲ 9.4	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0084765
Lab Number : 06088491
Unique Number : 10875936
Test Package : FLEET

Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 15 Feb 2024 - Don Baldrige

GFL Environmental - 959A - Urbana HC
 4808 cunningham Rd
 Urbana, IL
 US 61802
 Contact: Kristine Tryon
 Ktryon@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: