



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
820042
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0093810	GFL0093845	---
Sample Date		Client Info		16 May 2024	08 Dec 2023	---
Machine Age	hrs	Client Info		7721	0	---
Oil Age	hrs	Client Info		600	0	---
Filter Age	hrs	Client Info		600	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	17	21	---
Chromium	ppm	ASTM D5185m	>4	0	<1	---
Nickel	ppm	ASTM D5185m	>2	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	5	5	---
Lead	ppm	ASTM D5185m	>45	0	0	---
Copper	ppm	ASTM D5185m	>85	8	60	---
Tin	ppm	ASTM D5185m	>4	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Fuel content negligible. There is an abnormal amount of solids and carbon present in the oil.

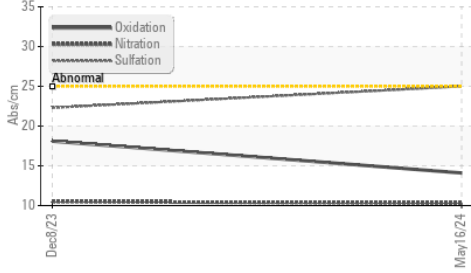
Silicon	ppm	ASTM D5185m	>30	3	3	---
Potassium	ppm	ASTM D5185m	>20	2	3	---
Fuel	%	ASTM D3524	>5	0.3	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 3.8	0.9	---
Nitration	Abs/cm	*ASTM D7624	>20	10.3	10.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.0	22.3	---
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

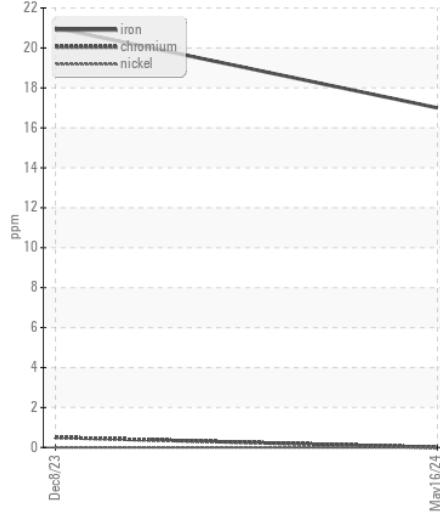
The BN level is low.

Sodium	ppm	ASTM D5185m		<1	1	---
Boron	ppm	ASTM D5185m	0	2	1	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	60	66	60	---
Manganese	ppm	ASTM D5185m	0	<1	<1	---
Magnesium	ppm	ASTM D5185m	1010	1025	966	---
Calcium	ppm	ASTM D5185m	1070	1133	1074	---
Phosphorus	ppm	ASTM D5185m	1150	1074	954	---
Zinc	ppm	ASTM D5185m	1270	1327	1288	---
Sulfur	ppm	ASTM D5185m	2060	3360	2570	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.1	18.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	6.7	---
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.6	---

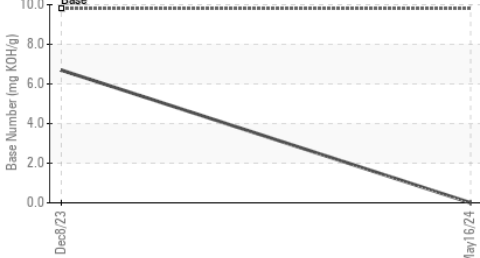
▲ FT-IR (Direct Trend)



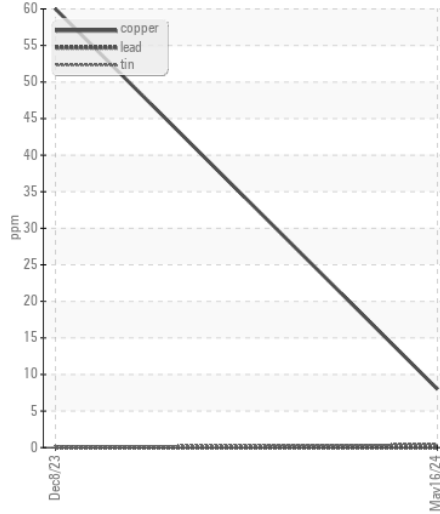
Ferrous Alloys



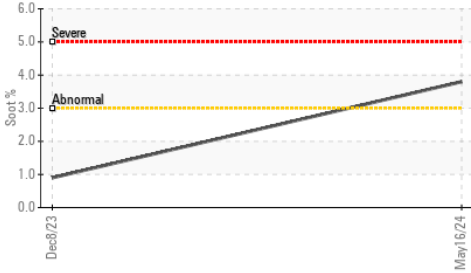
▲ Base Number



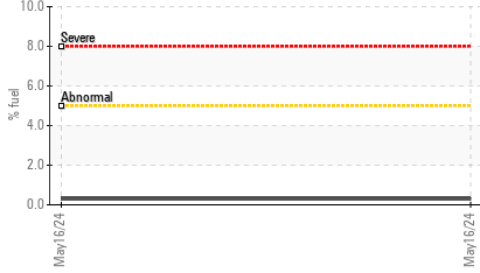
Non-ferrous Metals



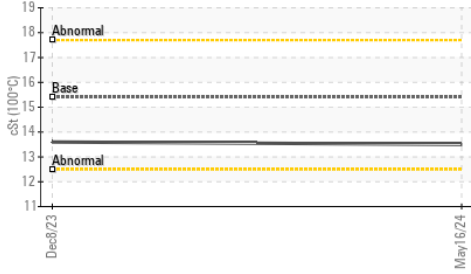
▲ Soot %



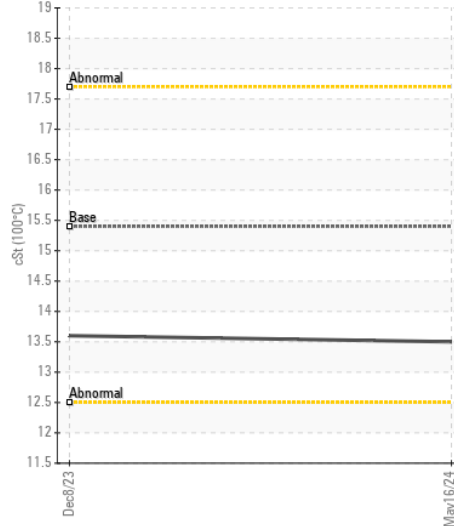
Fuel Dilution



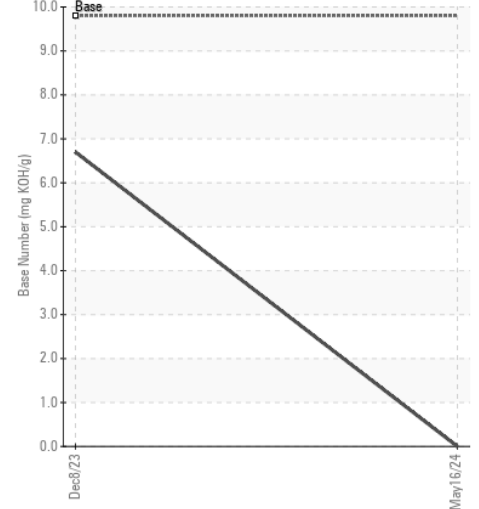
Viscosity @ 100°C



Viscosity @ 100°C



▲ Base Number



Certificate L2367

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

Sample No. : GFL0093810

Lab Number : 06188943

Unique Number : 11045695

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 23 May 2024

Tested : 29 May 2024

Diagnosed : 29 May 2024 - Jonathan Hester

GFL Environmental - 952 - New London

E8257 WIS-54

NEW LONDON, WI

US 54961

Contact: MATTHEW TAYLOR

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: (414)852-4404

F: