



Area

(SB9854)

Machine Id

927062

Component

Diesel Engine

Fluid

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



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. 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		GFL0113059	---	---
Sample Date		Client Info		20 May 2024	---	---
Machine Age	hrs	Client Info		32359	---	---
Oil Age	hrs	Client Info		605	---	---
Filter Age	hrs	Client Info		605	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				SEVERE	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	119	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>5	1	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>20	2	---	---
Lead	ppm	ASTM D5185m	>40	6	---	---
Copper	ppm	ASTM D5185m	>330	2	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

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

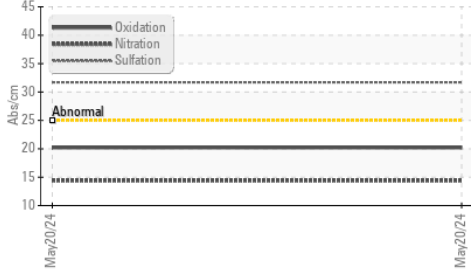
Silicon	ppm	ASTM D5185m	>25	6	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Fuel	%	ASTM D3524	>3.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>4	▲ 6	---	---
Nitration	Abs/cm	*ASTM D7624	>20	14.4	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.7	---	---
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	---	---

FLUID CONDITION

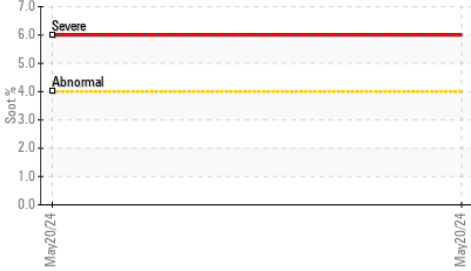
The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<1	---	---
Boron	ppm	ASTM D5185m	0	22	---	---
Barium	ppm	ASTM D5185m	0	0	---	---
Molybdenum	ppm	ASTM D5185m	60	75	---	---
Manganese	ppm	ASTM D5185m	0	<1	---	---
Magnesium	ppm	ASTM D5185m	1010	853	---	---
Calcium	ppm	ASTM D5185m	1070	1090	---	---
Phosphorus	ppm	ASTM D5185m	1150	906	---	---
Zinc	ppm	ASTM D5185m	1270	1089	---	---
Sulfur	ppm	ASTM D5185m	2060	2977	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	16.7	---	---

▲ FT-IR (Direct Trend)



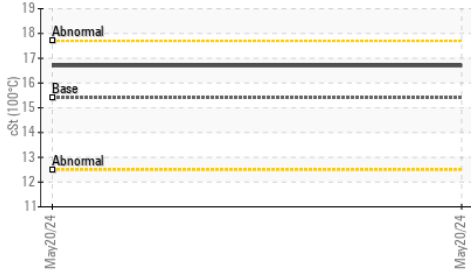
▲ Soot %



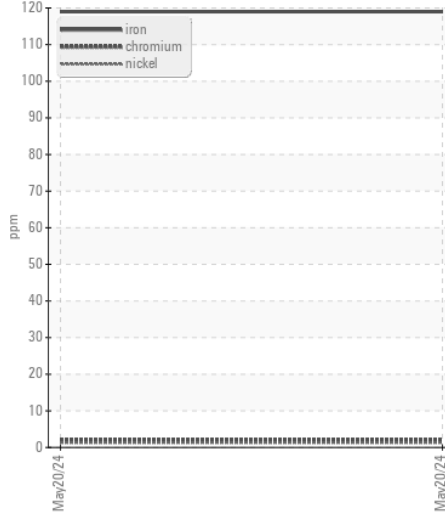
▲ Base Number



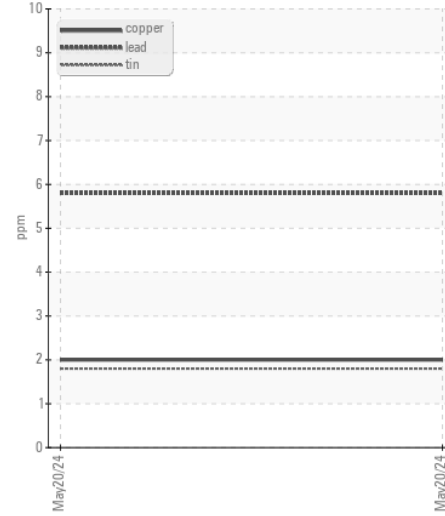
Viscosity @ 100°C



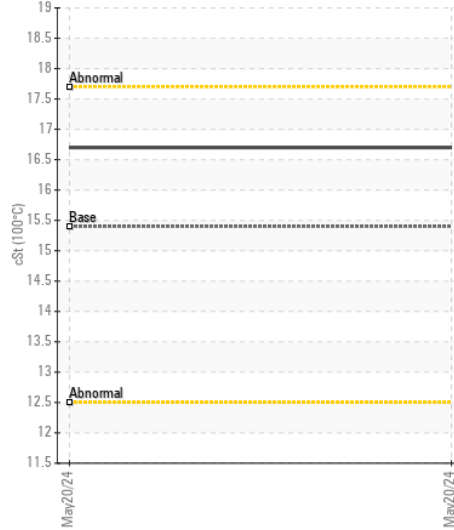
Ferrous Alloys



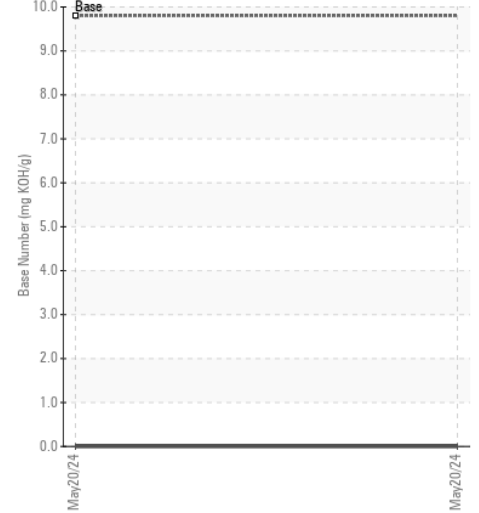
Non-ferrous Metals



Viscosity @ 100°C



▲ Base Number



Certificate L2367

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

Sample No. : GFL0113059

Lab Number : 06188941

Unique Number : 11045693

Test Package : FLEET (Additional Tests: FuelDilution)

Received : 23 May 2024

Tested : 28 May 2024

Diagnosed : 28 May 2024 - Don Baldrige

GFL Environmental - 912 - Fort Atkinson HC

1215 Klement St.

Fort Atkinson, WI

US 53538

Contact: LEONARD KOZLEUCHAR

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F:

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)