



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
427184 - SW4724
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: Engine)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0123528	GFL0094126	GFL0089403
Sample Date		Client Info		12 Jun 2024	16 Nov 2023	06 Sep 2023
Machine Age	mls	Client Info		358831	363621	336922
Oil Age	mls	Client Info		358831	363621	336922
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	6	10
Chromium	ppm	ASTM D5185m	>20	0	0	1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	<1	1	<1
Lead	ppm	ASTM D5185m	>40	0	1	3
Copper	ppm	ASTM D5185m	>330	0	<1	1
Tin	ppm	ASTM D5185m	>15	0	<1	2
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

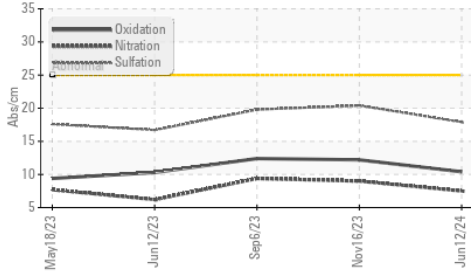
Silicon	ppm	ASTM D5185m	>25	4	6	8
Potassium	ppm	ASTM D5185m	>20	<1	2	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.5	9.0	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.9	20.4	19.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

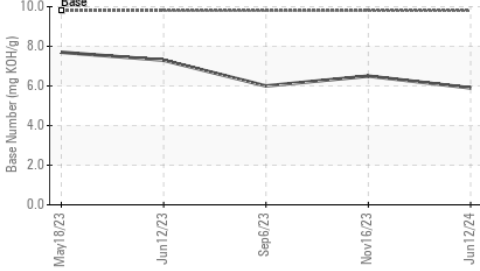
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	2	3
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	44
Molybdenum	ppm	ASTM D5185m	60	49	43	42
Manganese	ppm	ASTM D5185m	0	0	<1	1
Magnesium	ppm	ASTM D5185m	1010	20	30	29
Calcium	ppm	ASTM D5185m	1070	2704	2381	2188
Phosphorus	ppm	ASTM D5185m	1150	1095	1096	1017
Zinc	ppm	ASTM D5185m	1270	1338	1193	1231
Sulfur	ppm	ASTM D5185m	2060	3721	2871	3475
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.4	12.2	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.9	6.5	6.0
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	14.2	13.8

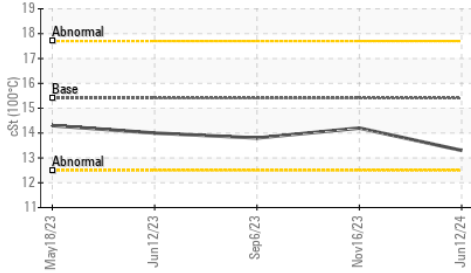
FT-IR (Direct Trend)



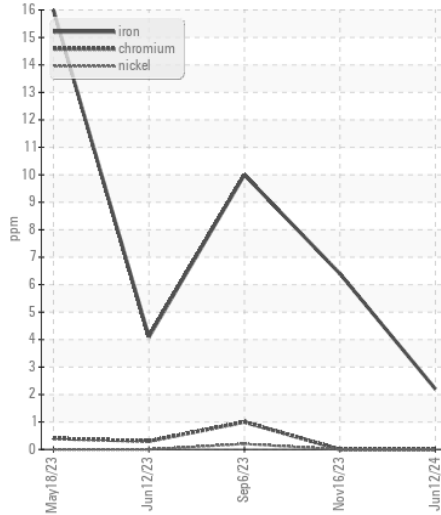
Base Number



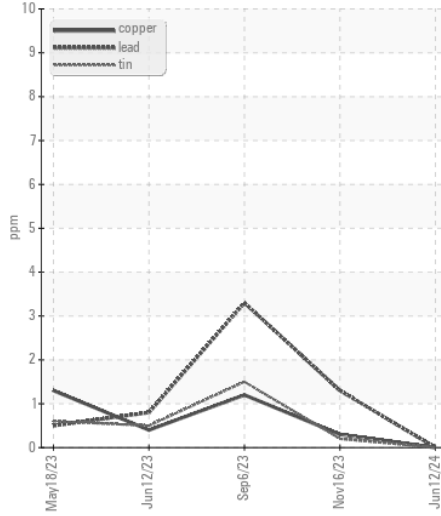
Viscosity @ 100°C



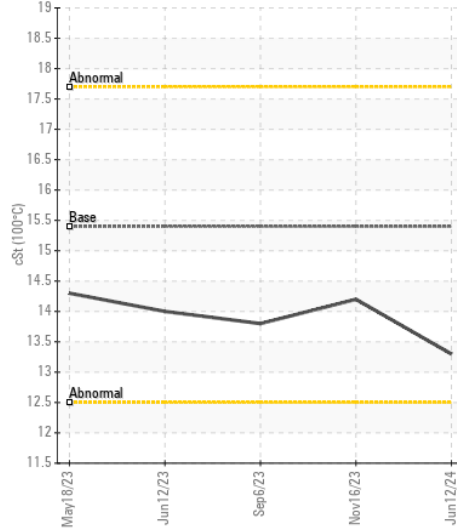
Ferrous Alloys



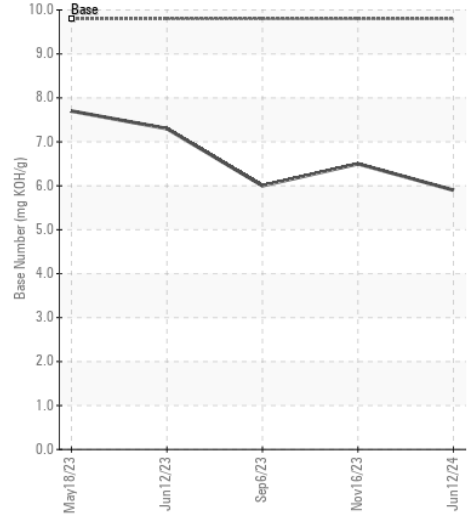
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0123528

Lab Number : 06213214

Unique Number : 11086078

Test Package : FLEET

Received : 18 Jun 2024

Tested : 19 Jun 2024

Diagnosed : 20 Jun 2024 - Don Baldrige

GFL Environmental - 983 - Sugar Land Hauling

16011 West Belfort Street

Sugar Land, TX

US 77498

Contact: Adrian Martinez

adrianmartinez@gflenv.com

T:

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)