



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
427181 - SW4721
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0105474	GFL0112120	GFL0094066
Sample Date		Client Info		20 May 2024	26 Feb 2024	01 Dec 2023
Machine Age	mls	Client Info		384883	382772	379309
Oil Age	mls	Client Info		384883	23689	379309
Filter Age	mls	Client Info		384883	0	0
Oil Changed		Client Info		Changed	N/A	Not Changd
Filter Changed		Client Info		Changed	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	13	7
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	4	1	<1
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
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.

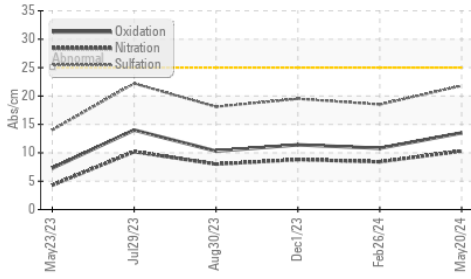
Silicon	ppm	ASTM D5185m	>25	9	8	8
Potassium	ppm	ASTM D5185m	>20	2	2	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.3	8.4	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	18.5	19.5
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

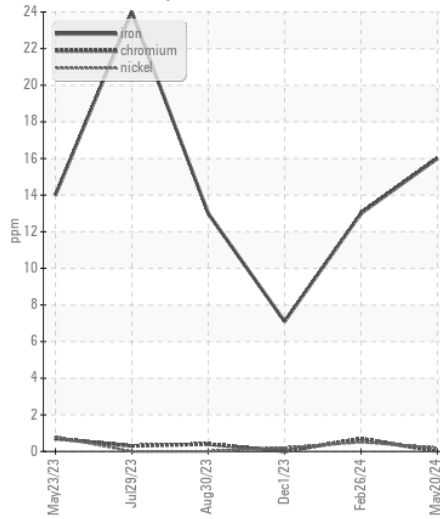
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	5	2
Boron	ppm	ASTM D5185m	0	<1	<1	<1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	53	58	44
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	10	17	12
Calcium	ppm	ASTM D5185m	1070	2640	2483	2480
Phosphorus	ppm	ASTM D5185m	1150	1136	1129	1073
Zinc	ppm	ASTM D5185m	1270	1375	1322	1279
Sulfur	ppm	ASTM D5185m	2060	3781	3345	3175
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.5	10.8	11.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.6	7.2	6.3
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	12.9	13.9

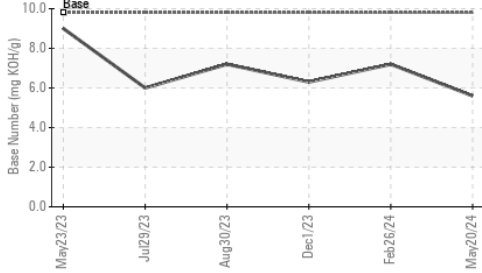
FT-IR (Direct Trend)



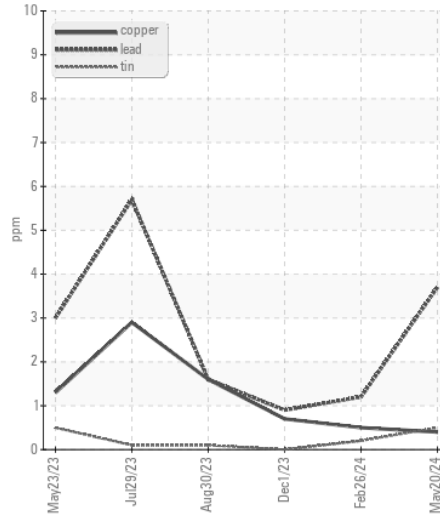
Ferrous Alloys



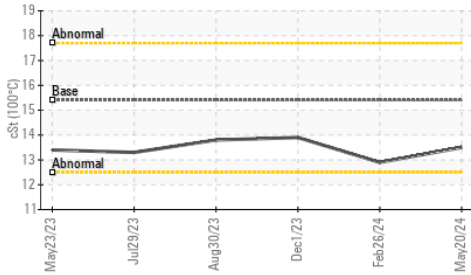
Base Number



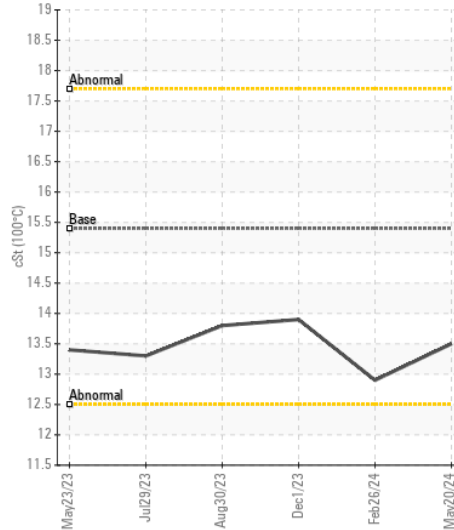
Non-ferrous Metals



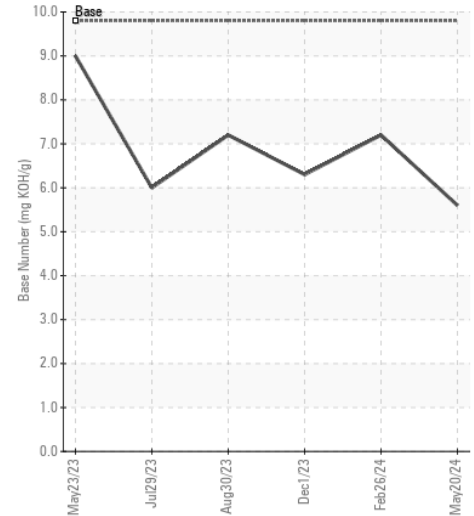
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105474
Lab Number : 06190226
Unique Number : 11046978
Test Package : FLEET

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Sean Felton

GFL Environmental - 983 - Sugar Land Hauling
 16011 West Belfort Street
 Sugar Land, TX
 US 77498
 Contact: Adrian Martinez
 adrianmartinez@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)

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F: