



WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL



Machine Id
420092 - SW4020
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Engine)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0123604	GFL0112092	GFL0105512
Sample Date		Client Info		28 May 2024	16 Mar 2024	24 Jan 2024
Machine Age	mls	Client Info		151032	150271	143203
Oil Age	mls	Client Info		151032	150271	143203
Filter Age	mls	Client Info		0	150271	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<1	9	3
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	3	2
Lead	ppm	ASTM D5185m	>40	0	2	2
Copper	ppm	ASTM D5185m	>330	<1	2	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

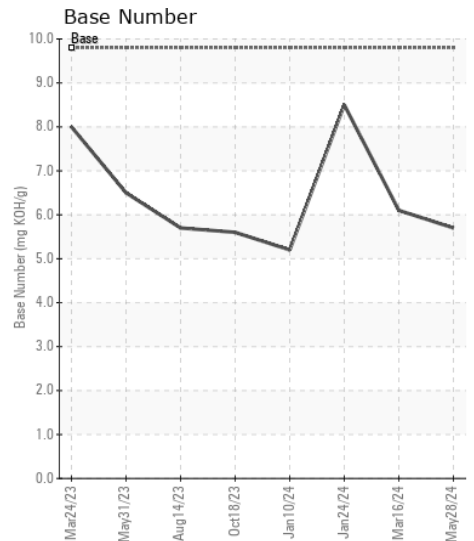
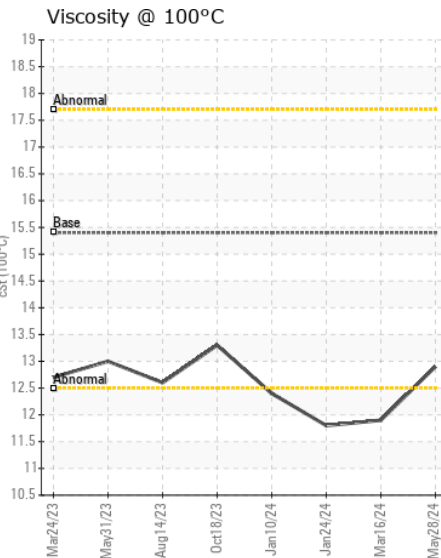
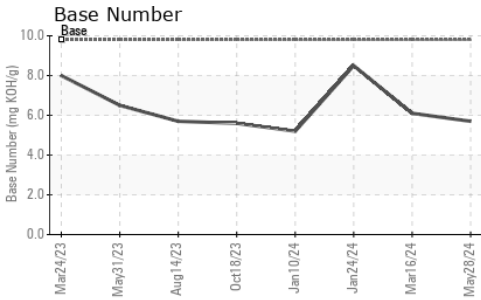
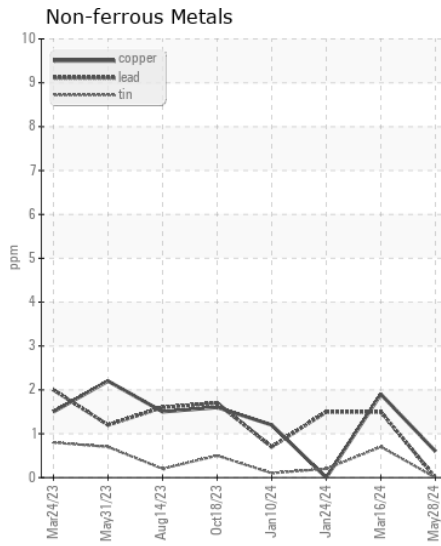
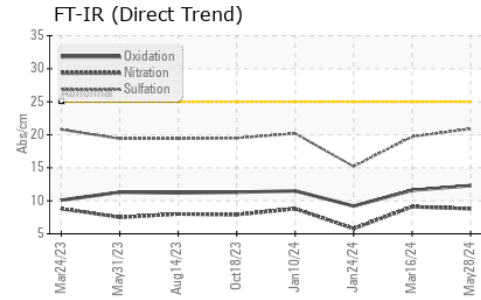
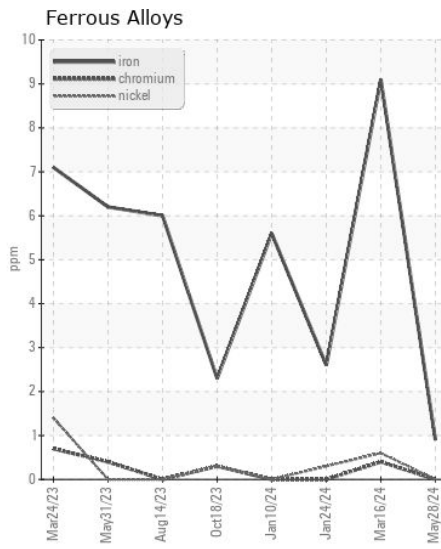
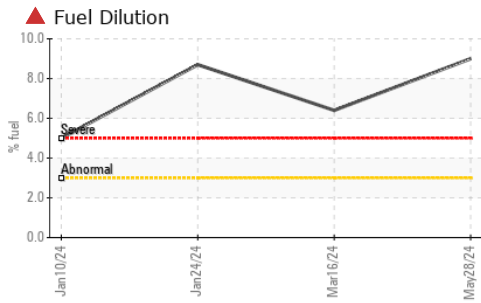
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	4	5	4
Potassium	ppm	ASTM D5185m	>20	21	4	3
Fuel	%	ASTM D3524	>3.0	▲ 9.0	▲ 6.4	▲ 8.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.2	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.8	9.1	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	19.7	15.2
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.

Sodium	ppm	ASTM D5185m		3	0	1
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	2	0
Molybdenum	ppm	ASTM D5185m	60	50	58	52
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	29	8	16
Calcium	ppm	ASTM D5185m	1070	2440	2782	2489
Phosphorus	ppm	ASTM D5185m	1150	1118	1146	1118
Zinc	ppm	ASTM D5185m	1270	1273	1316	1285
Sulfur	ppm	ASTM D5185m	2060	3597	3590	3135
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.3	11.6	9.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.7	6.1	8.5
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	▲ 11.9	▲ 11.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123604 **Received** : 03 Jun 2024
Lab Number : 06197287 **Tested** : 05 Jun 2024
Unique Number : 11059410 **Diagnosed** : 05 Jun 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

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)

T:
F: