



WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL



Machine Id
MACK 420018-402088
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0046821	GFLH-454154	GFLI-X82388
Sample Date		Client Info		30 Aug 2022	23 Jun 2020	13 May 2019
Machine Age	hrs	Client Info		31528	31528	9536
Oil Age	hrs	Client Info		0	450	451
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	24	17	26
Chromium	ppm	ASTM D5185m	>20	<1	1	0
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	1	2
Lead	ppm	ASTM D5185m	>40	1	3	3
Copper	ppm	ASTM D5185m	>330	1	9	2
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

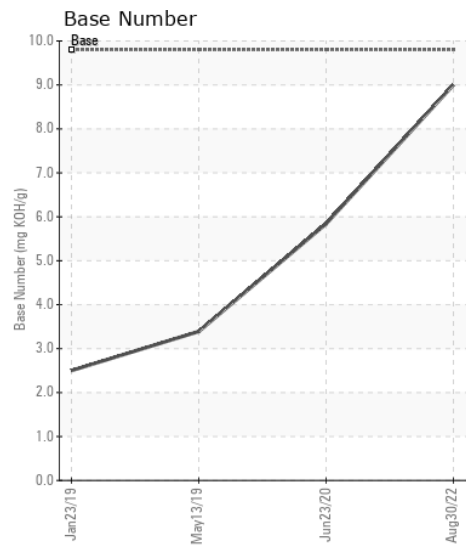
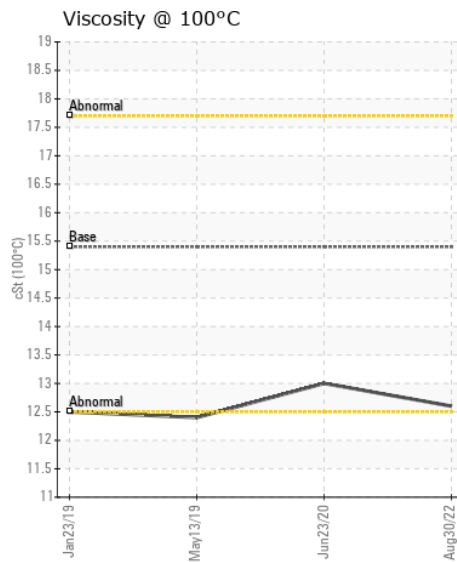
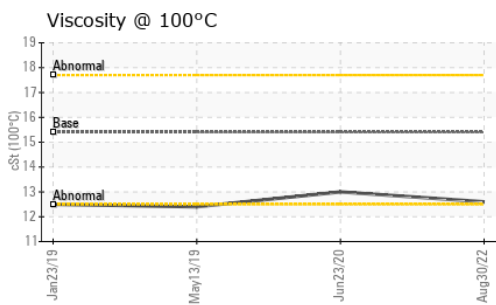
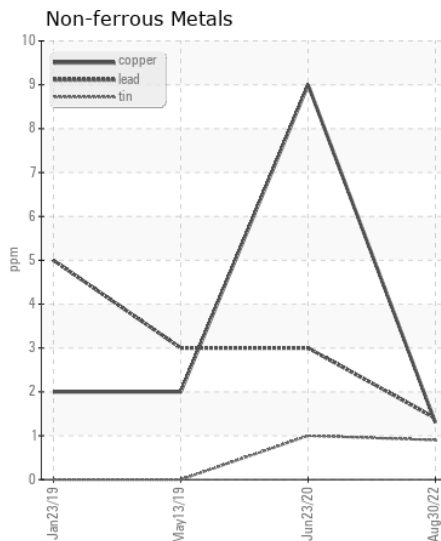
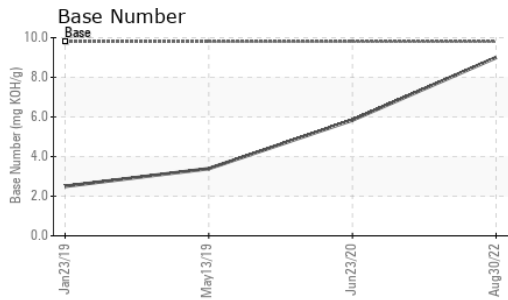
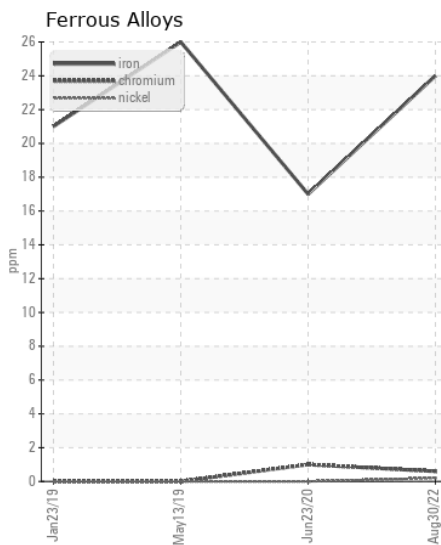
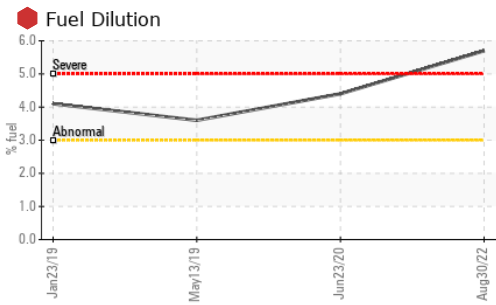
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	6	4	6
Potassium	ppm	ASTM D5185m	>20	0	0	1
Fuel	%	ASTM D3524	>3.0	5.7	▲ 4.4	▲ 3.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	1.3	1.3	0.7
Nitration	Abs/cm	*ASTM D7624	>20	7.8	10	10
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	---	---
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 result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		2	2	4
Boron	ppm	ASTM D5185m	0	8	177	155
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	54	114	73
Manganese	ppm	ASTM D5185m	0	<1	0	0
Magnesium	ppm	ASTM D5185m	1010	825	621	621
Calcium	ppm	ASTM D5185m	1070	933	1526	1489
Phosphorus	ppm	ASTM D5185m	1150	868	651	660
Zinc	ppm	ASTM D5185m	1270	1097	807	815
Sulfur	ppm	ASTM D5185m	2060	2615	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	14	18
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.0	5.84	3.39
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	▲ 13	▲ 12.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0046821 **Received** : 09 Sep 2022
Lab Number : 05637956 **Diagnosed** : 12 Sep 2022
Unique Number : 10127486 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 9999 - Moved No Longer Used Units

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)

US
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