



Area
GFL2160
Machine Id
401206
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0107335	GFL0093789	GFL0070629
Sample Date		Client Info		03 Apr 2024	19 Sep 2023	10 Feb 2023
Machine Age	hrs	Client Info		0	415949	383993
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	27	20	33
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>15	0	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	10	2	4
Lead	ppm	ASTM D5185(m)	>40	4	<1	<1
Copper	ppm	ASTM D5185(m)	>330	100	3	5
Tin	ppm	ASTM D5185(m)	>15	3	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

Fuel content negligible. Test for glycol is positive. There is a light concentration of glycol present in the oil.

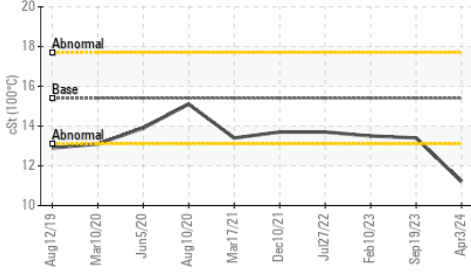
Silicon	ppm	ASTM D5185(m)	>25	6	3	6
Potassium	ppm	ASTM D5185(m)	>20	▲ 36	1	2
Fuel	%	ASTM D7593*	>3.0	0.9	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		▲ 0.019	NEG	NEG
Soot %	%	ASTM D7844*	>4	0.3	0.6	0.7
Nitration	Abs/cm	ASTM D7624*	>20	10.7	9.1	11.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.8	20.7	27.7
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

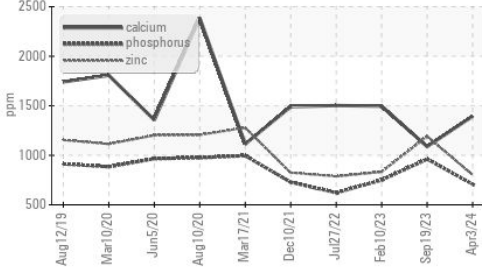
This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		16	3	5
Boron	ppm	ASTM D5185(m)	0	● 40	7	64
Barium	ppm	ASTM D5185(m)	0	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	20	64	114
Manganese	ppm	ASTM D5185(m)	0	1	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	686	961	712
Calcium	ppm	ASTM D5185(m)	1070	1395	1088	1496
Phosphorus	ppm	ASTM D5185(m)	1150	● 708	962	751
Zinc	ppm	ASTM D5185(m)	1270	● 803	1191	833
Sulfur	ppm	ASTM D5185(m)	2060	2399	2337	2085
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.1	16.2	20.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 11.2	13.4	13.5

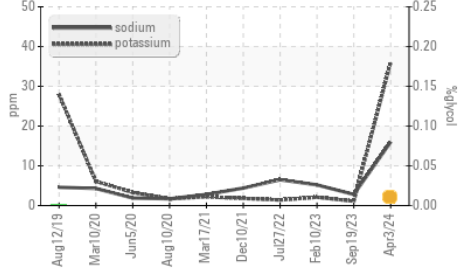
▲ Viscosity @ 100°C



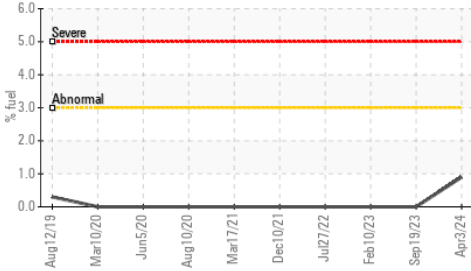
● Additives



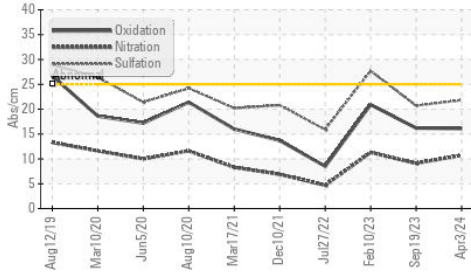
▲ Glycol Contamination



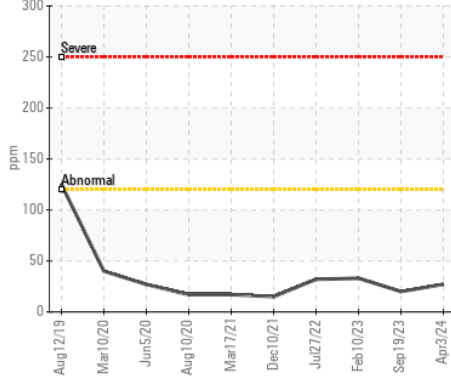
Fuel Dilution



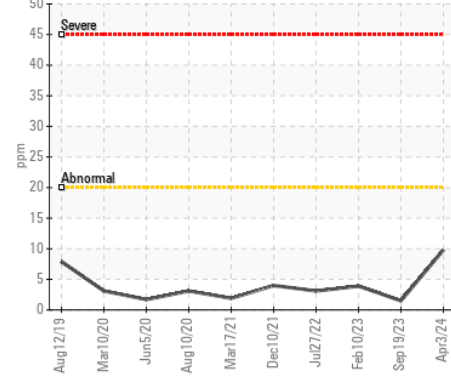
FT-IR (Direct Trend)



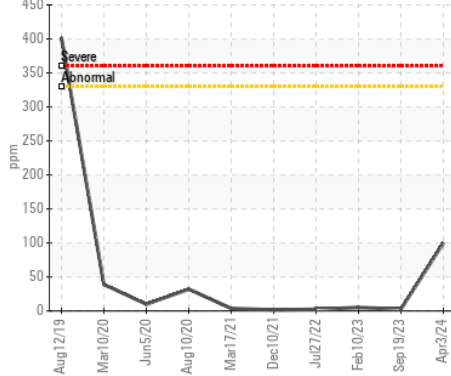
Iron (ppm)



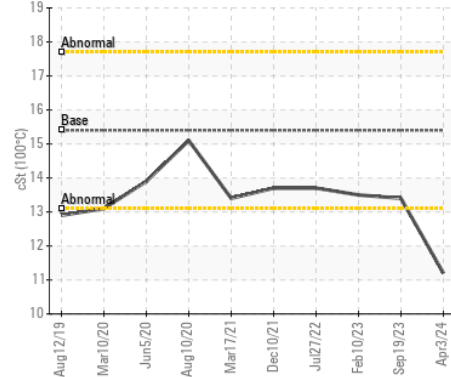
Aluminum (ppm)



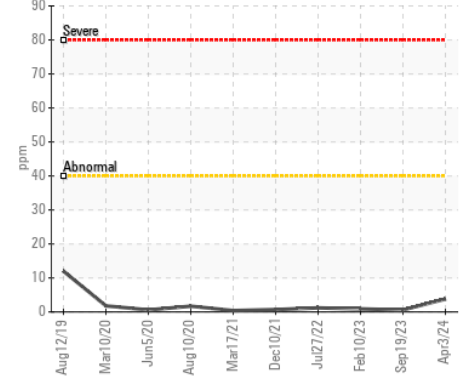
Copper (ppm)



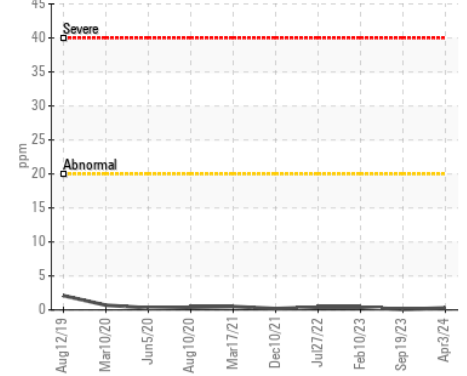
▲ Viscosity @ 100°C



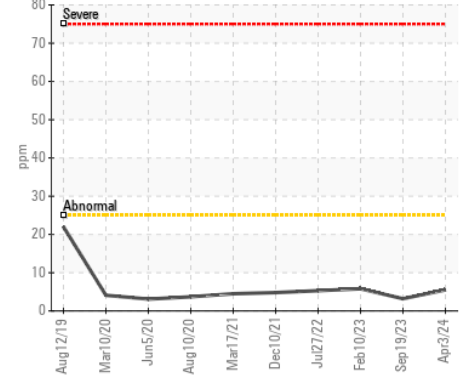
Lead (ppm)



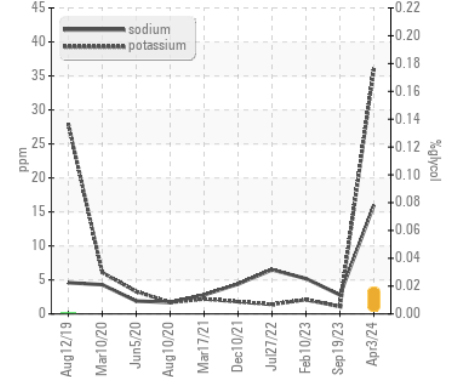
Chromium (ppm)



Silicon (ppm)



▲ Glycol Contamination



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0107335 **Received** : 05 Apr 2024
Lab Number : 02626856 **Tested** : 08 Apr 2024
Unique Number : 5759988 **Diagnosed** : 08 Apr 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel)

GFL Environmental - 252 - GTA Hauling
 3668 Weston Road
 North York, ON
 CA M9L 1W2
 Contact: Amanda Cipollone
 acipollone@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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