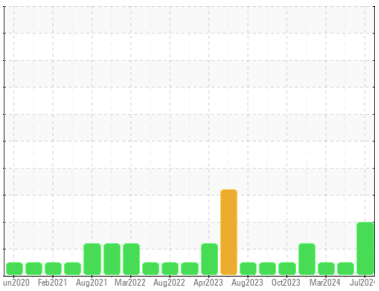
OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Machine Id
727003
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of fuel present in the oil. Light concentration of carbon/soot present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0113209**	GFL0102863	GFL0102868
Sample Date		Client Info		**08 Jul 2024**	01 Apr 2024	21 Mar 2024
Machine Age	kms	Client Info		**0**	0	0
Oil Age	kms	Client Info		**39584**	38975	38927
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	0.0	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**17**	13	14
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	6
Lead	ppm	ASTM D5185(m)	>40	**2**	0	0
Copper	ppm	ASTM D5185(m)	>330	**3**	8	2
Tin	ppm	ASTM D5185(m)	>15	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**<1**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**26**	93	211
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**34**	3	115
Manganese	ppm	ASTM D5185(m)	0	**<1**	0	0
Magnesium	ppm	ASTM D5185(m)	1010	**435**	39	589
Calcium	ppm	ASTM D5185(m)	1070	**1562**	2050	1511
Phosphorus	ppm	ASTM D5185(m)	1150	**680**	852	679
Zinc	ppm	ASTM D5185(m)	1270	**802**	1056	800
Sulfur	ppm	ASTM D5185(m)	2060	**1869**	2565	2012
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	1	22
Sodium	ppm	ASTM D5185(m)		**2**	1	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	5	1
Fuel	%	ASTM D7593*	>3.0	▲ **3.3**	<1.0	1.1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	▲ **4.1**	3.7	1
Nitration	Abs/cm	ASTM D7624*	>20	**11.3**	10.1	9.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**29.1**	27.5	24.2

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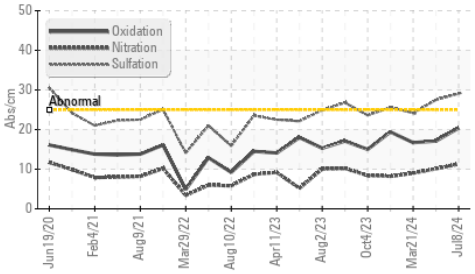
FT-IR (Direct Trend)



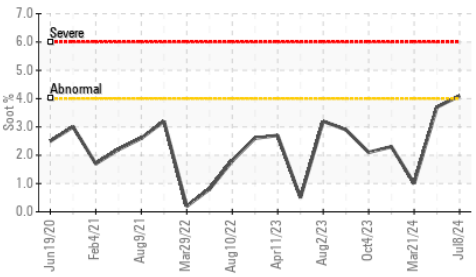
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**20.4**	17.1	16.7

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

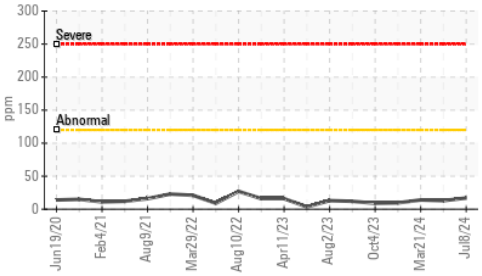
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **12.0**	14.0	14.0

GRAPHS

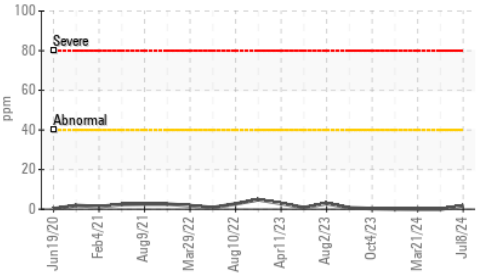
Soot %



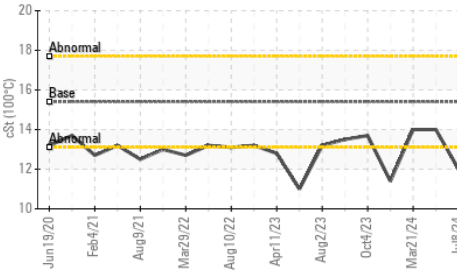
Iron (ppm)



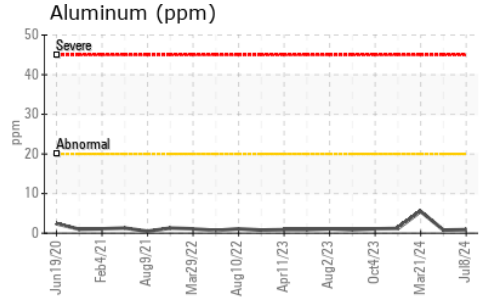
Lead (ppm)



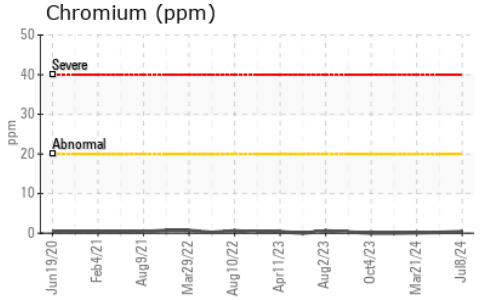
Viscosity @ 100°C



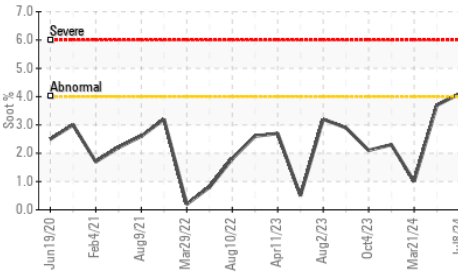
Aluminum (ppm)



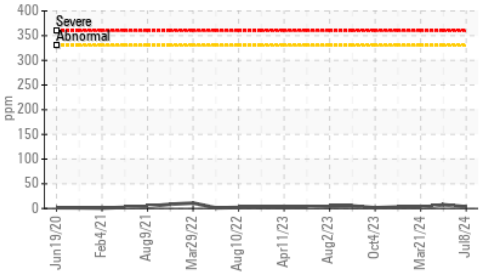
Chromium (ppm)



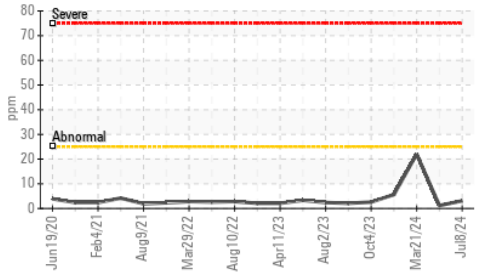
Soot %



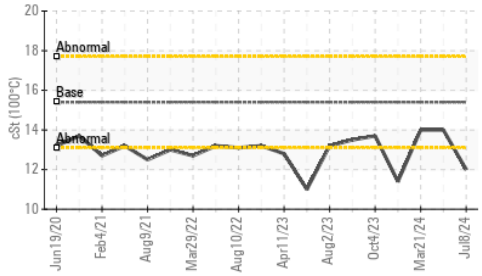
Copper (ppm)



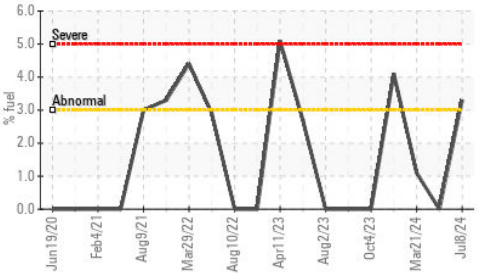
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113209
Lab Number : 02646663
Unique Number : 5812215
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 09 Jul 2024
Tested : 11 Jul 2024
Diagnosed : 11 Jul 2024 - Wes Davis

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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Report Id: GFL246 [WCAMIS] 02646663 (Generated: 07/11/2024 08:13:53) Rev: 1

Submitted By: Dave Varga