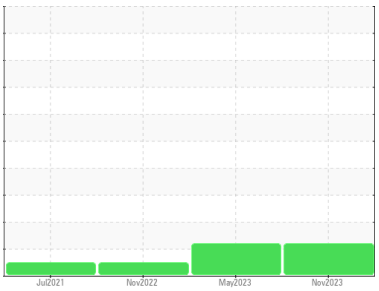
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
525002
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. Tests confirm the presence of fuel in the oil.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0097319**	GFL0082549	GFL0065885
Sample Date		Client Info		**14 Nov 2023**	25 May 2023	28 Nov 2022
Machine Age	hrs	Client Info		**0**	0	26376
Oil Age	hrs	Client Info		**22642**	598950	17
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**1**	2	1
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>5	**0**	0	0
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>330	**1**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	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	**6**	7	13
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**55**	54	56
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**894**	905	903
Calcium	ppm	ASTM D5185(m)	1070	**980**	1071	1087
Phosphorus	ppm	ASTM D5185(m)	1150	**943**	1058	1063
Zinc	ppm	ASTM D5185(m)	1270	**1100**	1130	1148
Sulfur	ppm	ASTM D5185(m)	2060	**2462**	2590	2652
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**0**	3	3
Sodium	ppm	ASTM D5185(m)		**<1**	1	1
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	0
Fuel	%	ASTM D7593*	>3.0	▲ **3.7**	▲ 3.9	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**4.9**	5.3	4.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**17.6**	17.3	18.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.0**	13.2	13.5

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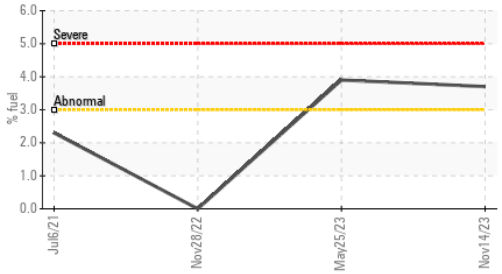
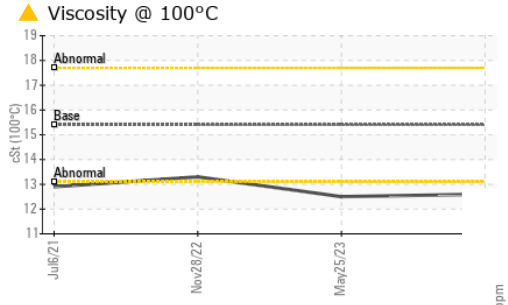
Fuel Dilution



Viscosity @ 100°C

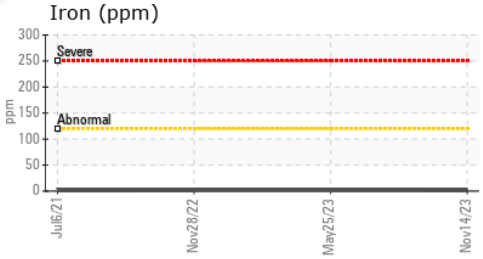


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

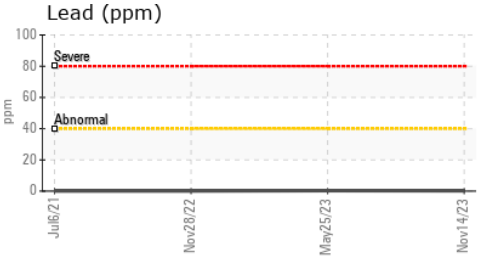
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **12.6**	▲ 12.5	13.3

GRAPHS

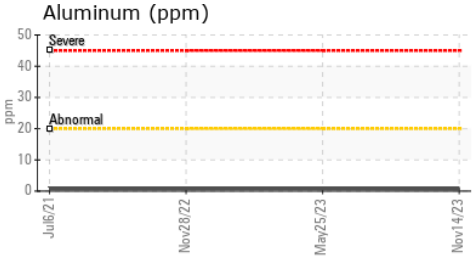
Iron (ppm)



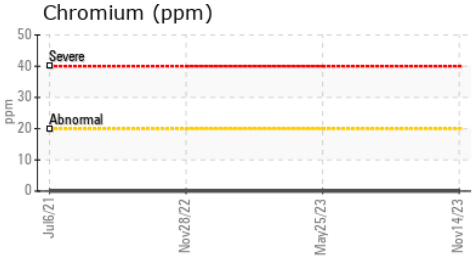
Lead (ppm)



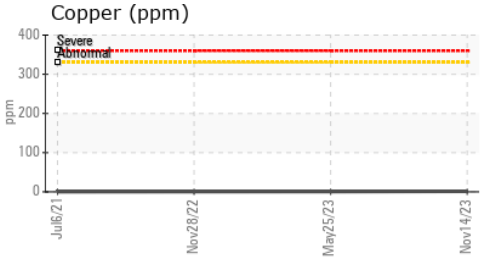
Aluminum (ppm)



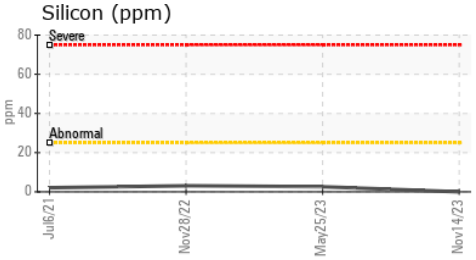
Chromium (ppm)



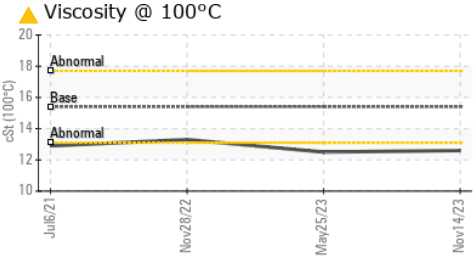
Copper (ppm)



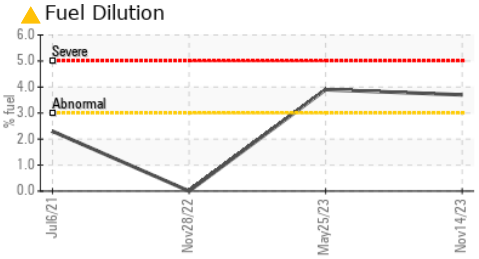
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0097319 **Received** : 15 Nov 2023 2700 Deziel Dr
Lab Number : 02596450 **Diagnosed** : 16 Nov 2023 Windsor, ON
Unique Number : 5681530 **Diagnostician** : Wes Davis CA N8W 5H8
Test Package : MOB 1 (Additional Tests: PercentFuel, Visual) Contact: Dave Varga

To discuss this sample report, contact Customer Service at 1-800-268-2131. dvarga@gflenv.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (519)944-8009
Validity of results and interpretation are based on the sample and information as supplied. F: