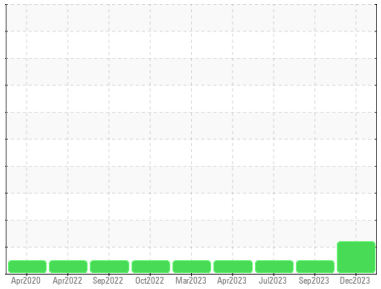
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
[1197774]
Machine Id
829004
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0093947**	GFL0093932	GFL0062926
Sample Date		Client Info		**20 Dec 2023**	24 Sep 2023	18 Jul 2023
Machine Age	hrs	Client Info		**9333**	8792	8396
Oil Age	hrs	Client Info		**0**	0	0
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**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	**10**	14	17
Chromium	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>30	**3**	4	3
Lead	ppm	ASTM D5185(m)	>30	**0**	<1	0
Copper	ppm	ASTM D5185(m)	>150	**<1**	<1	1
Tin	ppm	ASTM D5185(m)	>5	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
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	**7**	6	8
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**57**	58	59
Manganese	ppm	ASTM D5185(m)	0	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	**901**	909	928
Calcium	ppm	ASTM D5185(m)	1070	**1110**	1033	1037
Phosphorus	ppm	ASTM D5185(m)	1150	**980**	941	992
Zinc	ppm	ASTM D5185(m)	1270	**1128**	1140	1143
Sulfur	ppm	ASTM D5185(m)	2060	**2645**	2405	2444
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**3**	4	5
Sodium	ppm	ASTM D5185(m)		**5**	7	7
Potassium	ppm	ASTM D5185(m)	>20	**4**	8	3
Fuel	%	ASTM D7593*	>5	▲ **2.8**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.2**	0.2	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**8.5**	8.9	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**19.0**	19.7	21.0

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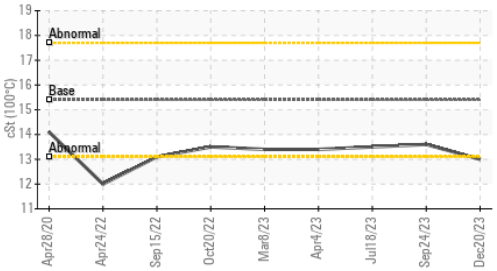
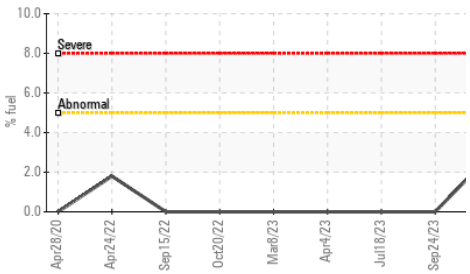
Viscosity @ 100°C



Fuel Dilution



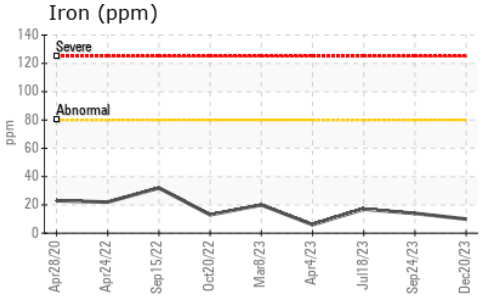
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**15.3**	16.3	17.4

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

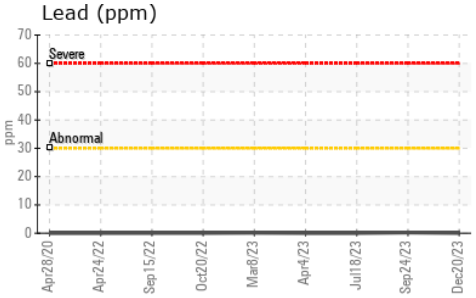
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **13.0**	13.6	13.5

GRAPHS

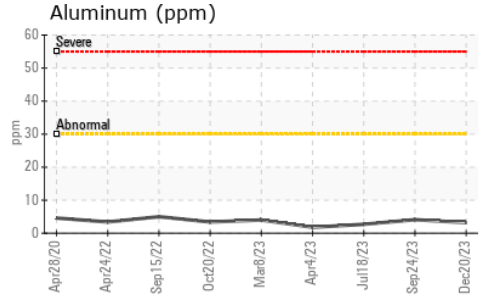
Iron (ppm)



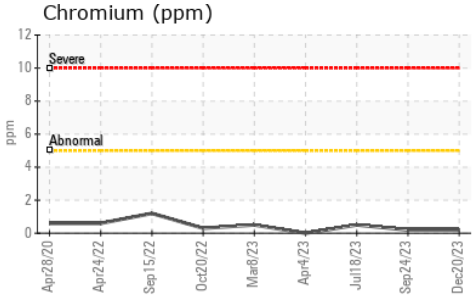
Lead (ppm)



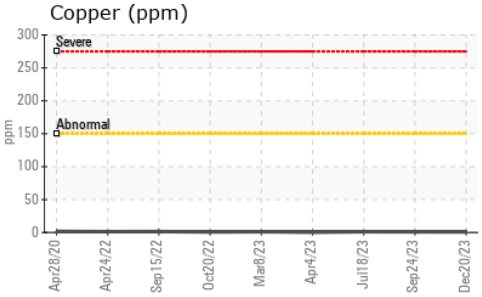
Aluminum (ppm)



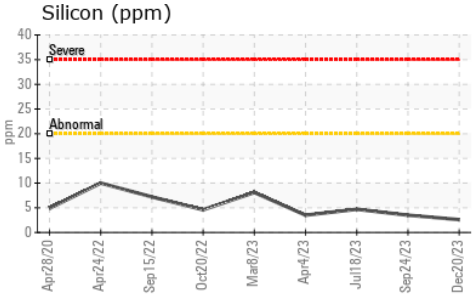
Chromium (ppm)



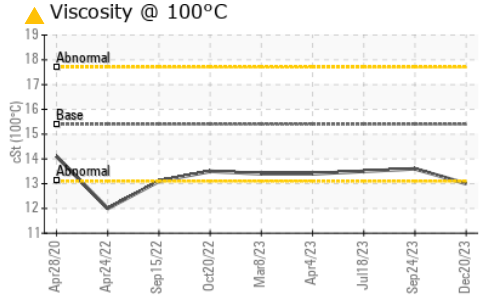
Copper (ppm)



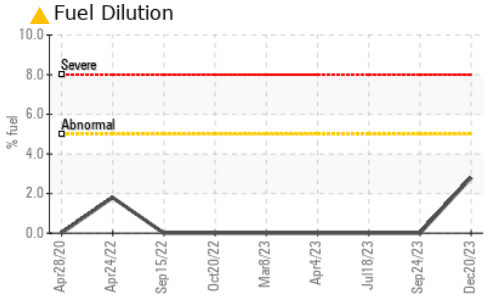
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 777 - Belleville-Municipal waste**
Sample No. : GFL0093947 **Recieved** : 22 Dec 2023
Lab Number : 02604826 **Diagnosed** : 27 Dec 2023
Unique Number : 5697911 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

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CA K8N 4Z6
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T: (613)962-7144
F: (613)962-1994

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.