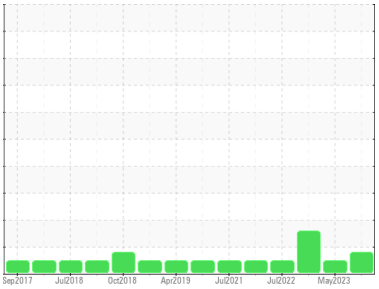
OIL ANALYSIS REPORT

Machine Id
8134
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

Sample Rating Trend



WEAR

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
Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0090620**	GFL0077987	GFL0077960
Sample Date		Client Info		**22 Aug 2023**	11 May 2023	03 Apr 2023
Machine Age	hrs	Client Info		**112688**	10781	106122
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>65	**0**	---	0
Iron	ppm	ASTM D5185(m)	>80	▲ **92**	41	▲ 82
Chromium	ppm	ASTM D5185(m)	>5	**3**	2	3
Nickel	ppm	ASTM D5185(m)	>2	**2**	1	▲ 2
Titanium	ppm	ASTM D5185(m)		**<1**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>30	**10**	4	8
Lead	ppm	ASTM D5185(m)	>30	**8**	<1	2
Copper	ppm	ASTM D5185(m)	>150	**3**	3	14
Tin	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
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)	2	**2**	2	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**56**	58	59
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	1
Magnesium	ppm	ASTM D5185(m)	950	**897**	937	954
Calcium	ppm	ASTM D5185(m)	1050	**964**	1057	1082
Phosphorus	ppm	ASTM D5185(m)	995	**970**	1047	1061
Zinc	ppm	ASTM D5185(m)	1180	**1096**	1136	1179
Sulfur	ppm	ASTM D5185(m)	2600	**2316**	2570	2508
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**14**	8	12
Sodium	ppm	ASTM D5185(m)		**12**	4	7
Potassium	ppm	ASTM D5185(m)	>20	**16**	4	12
Glycol	%	ASTM D7922*		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**1**	0.4	0.7
Nitration	Abs/cm	ASTM D7624*	>20	**11.1**	7.0	10.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.2**	20.0	20.9

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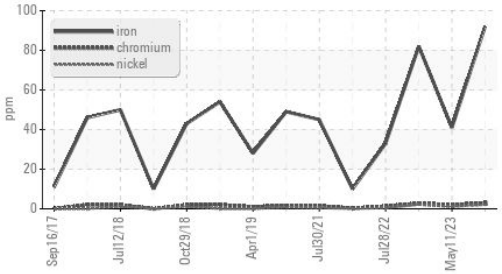
Ferrous Alloys



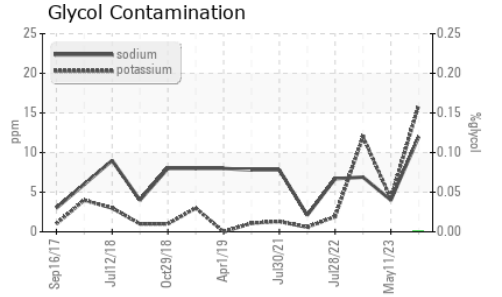
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.4**	15.4	17.8

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

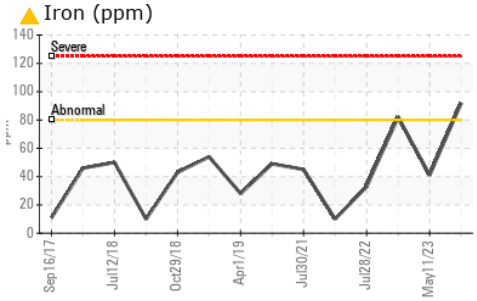
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**10.2**	11.1	11.1

GRAPHS

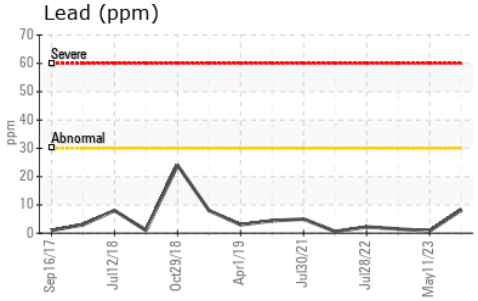
Glycol Contamination



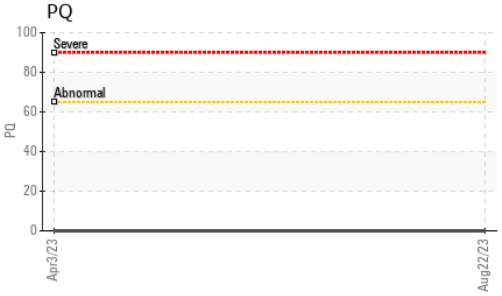
Iron (ppm)



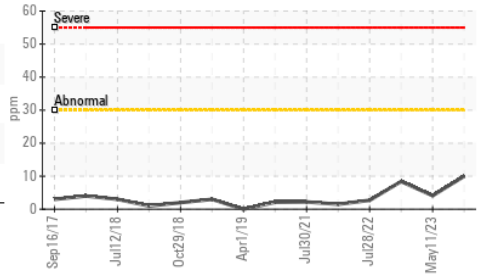
Lead (ppm)



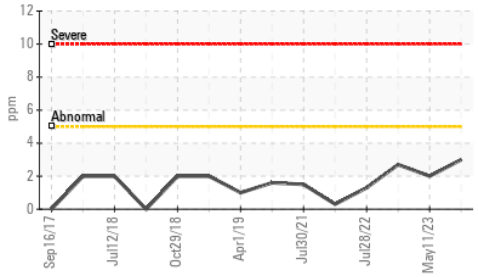
PQ



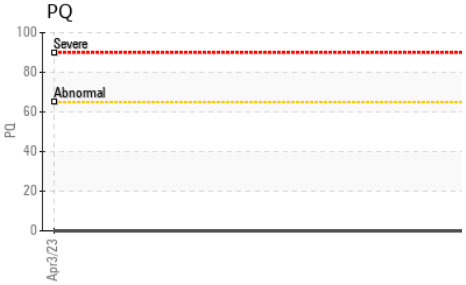
Aluminum (ppm)



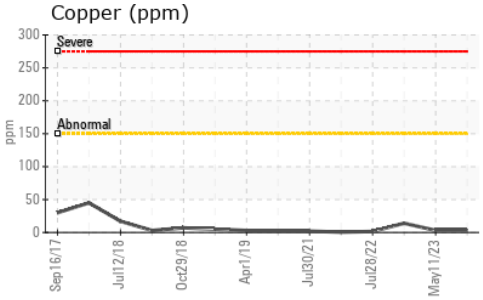
Chromium (ppm)



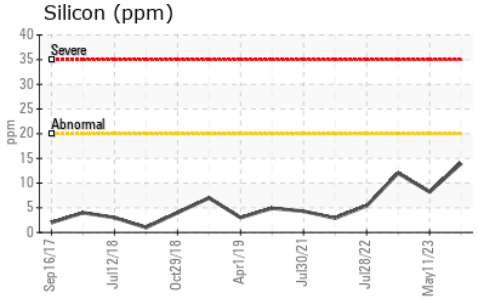
PQ



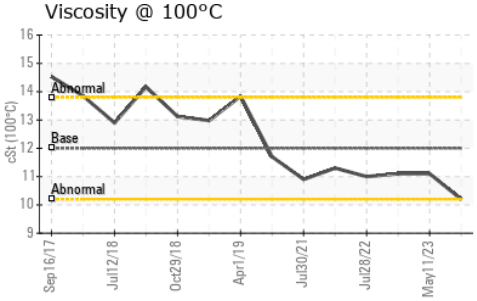
Copper (ppm)



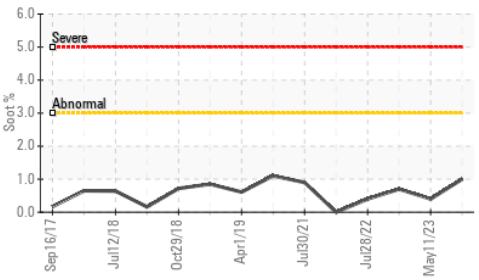
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 554 - Edmonton SW**
Sample No. : GFL0090620 **Received** : 31 Aug 2023
Lab Number : 02579567 **Diagnosed** : 01 Sep 2023
Unique Number : 5632627 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, PQ)

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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.