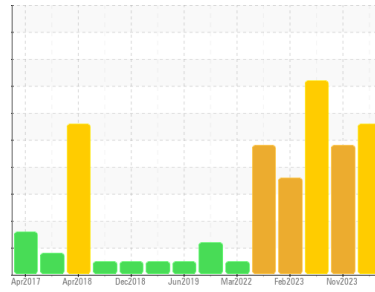




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
8128
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Copper ppm levels are abnormal. Bearing wear is indicated.

Contamination

Test for glycol is positive. There is a light concentration of glycol present 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		GFL0112504	GFL0097622	GFL0078000
Sample Date	Client Info		07 May 2024	14 Nov 2023	09 Jun 2023
Machine Age	hrs	Client Info	15520	15573	15346
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>80	25	21	13
Chromium	ppm	ASTM D5185(m)	>5	2	2	1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>30	3	9	2
Lead	ppm	ASTM D5185(m)	>30	6	3	2
Copper	ppm	ASTM D5185(m)	>150	▲ 154	77	11
Tin	ppm	ASTM D5185(m)	>5	<1	<1	0
Antimony	ppm	ASTM D5185(m)		0	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)	2	<1	2	7
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	50	95	121	61
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	810	849	788
Calcium	ppm	ASTM D5185(m)	1050	866	934	835
Phosphorus	ppm	ASTM D5185(m)	995	851	944	897
Zinc	ppm	ASTM D5185(m)	1180	985	1098	1041
Sulfur	ppm	ASTM D5185(m)	2600	2092	2417	2312
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	3	5	5
Sodium	ppm	ASTM D5185(m)		● 1149	● 1687	● 291
Potassium	ppm	ASTM D5185(m)	>20	▲ 9	▲ 6	2
Glycol	%	ASTM D7922*		▲ 0.031	▲ 0.087	▲ 1.252

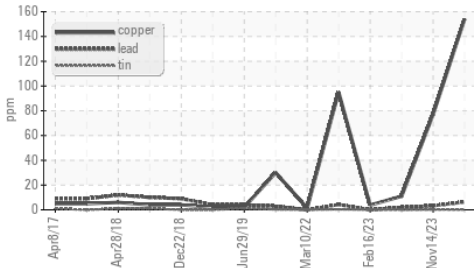
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.7	0.1	0.3
Nitration	Abs/cm	ASTM D7624*	>20	12.9	8.6	7.5
Sulfation	Abs./1mm	ASTM D7415*	>30	22.1	18.5	17.1



OIL ANALYSIS REPORT

Non-ferrous Metals



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25	13.7	13.8

VISUAL

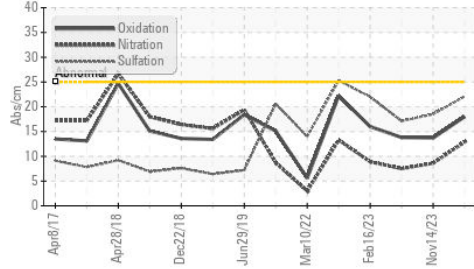
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG

FLUID PROPERTIES

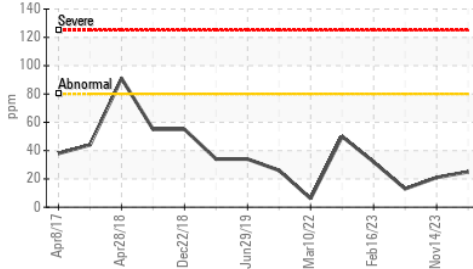
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	12.00	11.6	13.2

GRAPHS

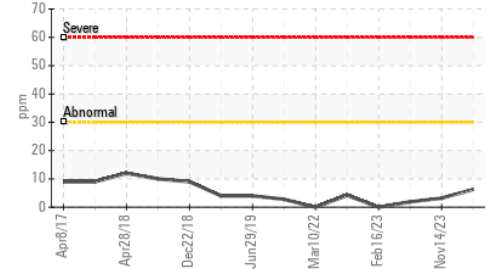
FT-IR (Direct Trend)



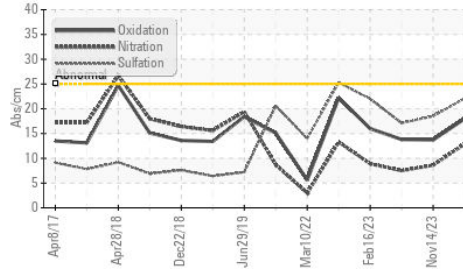
Iron (ppm)



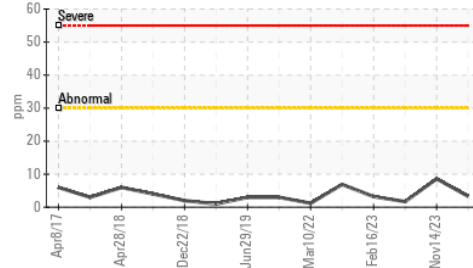
Lead (ppm)



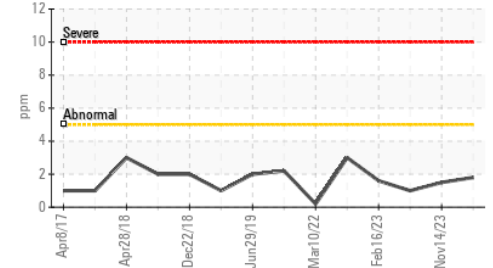
FT-IR (Direct Trend)



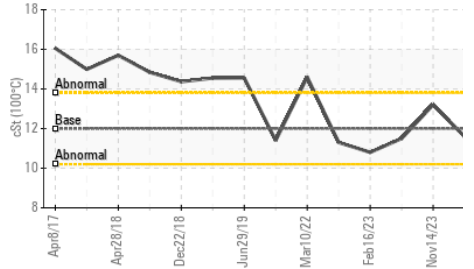
Aluminum (ppm)



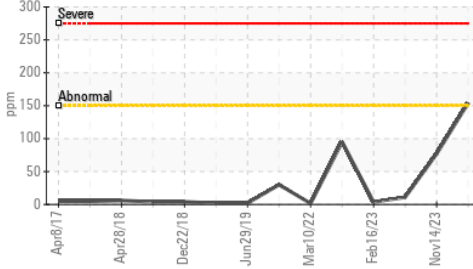
Chromium (ppm)



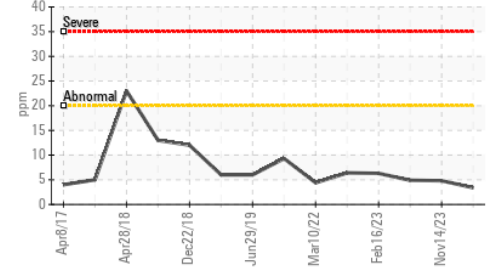
Viscosity @ 100°C



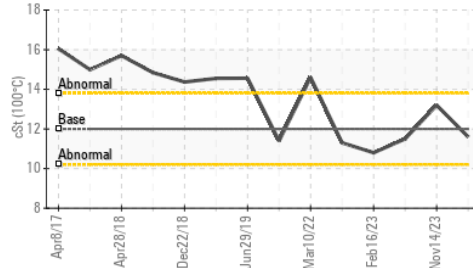
Copper (ppm)



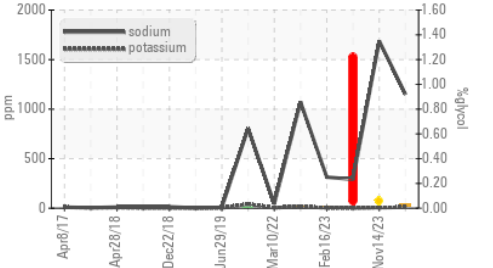
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112504
Lab Number : 02637130
Unique Number : 5786292
Test Package : MOB 1

Received : 23 May 2024
Tested : 24 May 2024
Diagnosed : 24 May 2024 - Kevin Marson
GFL Environmental - 554 - Edmonton SW
 8409 -15th Street NW
 Edmonton, AB
 CA T6P 0B8
 Contact: Tim Greig
 tgreig@gflenv.com
 T: (780)231-0521
 F:

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.