



OIL ANALYSIS REPORT

Sample Rating Trend

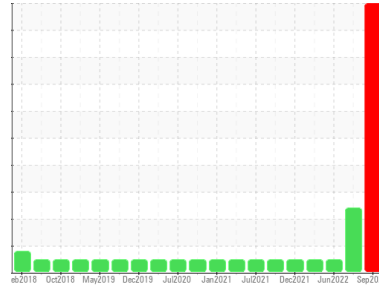
GLYCOL



Machine Id
701044

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We advise that you monitor for an abnormal oil pressure drop and noise. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Wear

Aluminum and copper ppm levels are severe. Piston wear is indicated. Bearing wear is indicated.

Contamination

Test for glycol is positive. There is a high concentration of glycol present in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. 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		GFL0085679	GFL0059869	GFL0049683
Sample Date	Client Info		29 Sep 2023	07 Feb 2023	01 Jun 2022
Machine Age	hrs	Client Info	560	0	0
Oil Age	hrs	Client Info	560	0	500
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	ABNORMAL	NORMAL

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	
Iron	ppm	ASTM D5185(m)	>100	36	24	17
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	2	0	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	90	3	2
Lead	ppm	ASTM D5185(m)	>40	24	<1	0
Copper	ppm	ASTM D5185(m)	>330	897	2	1
Tin	ppm	ASTM D5185(m)	>15	2	<1	<1
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	8	2	5
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	133	58	59
Manganese	ppm	ASTM D5185(m)	0	6	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	45	909	998
Calcium	ppm	ASTM D5185(m)	1070	1008	1075	1058
Phosphorus	ppm	ASTM D5185(m)	1150	752	970	1035
Zinc	ppm	ASTM D5185(m)	1270	834	1149	1224
Sulfur	ppm	ASTM D5185(m)	2060	2539	2445	2482
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	10	7	3
Sodium	ppm	ASTM D5185(m)		809	196	2
Potassium	ppm	ASTM D5185(m)	>20	1959	121	2
Glycol	%	ASTM D7922*		1.341	0.0	NEG

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.1	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	14.3	10.9	9.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	17.2	22.6	22.4

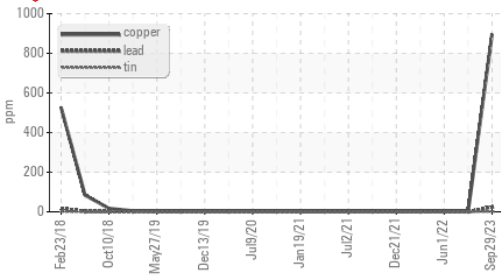
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	12.5	18.5	17.8

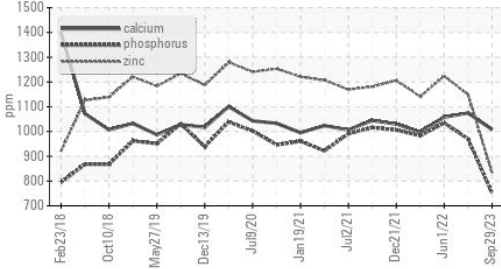


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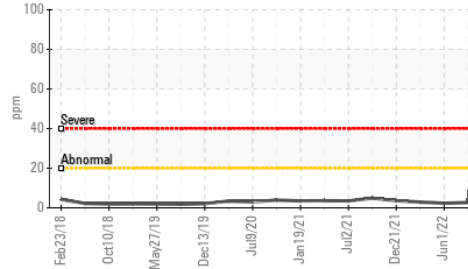
Non-ferrous Metals



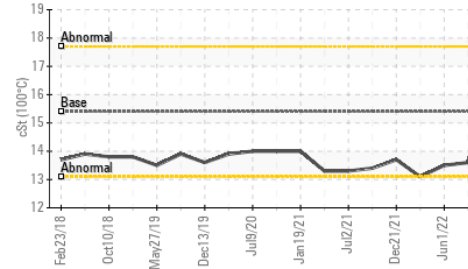
Additives



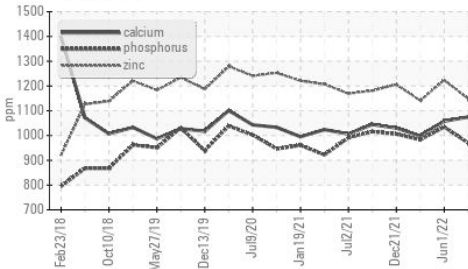
Aluminum (ppm)



Viscosity @ 100°C



Additives

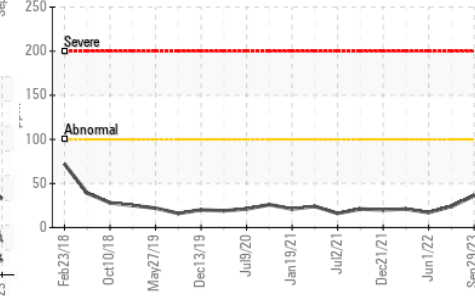


VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

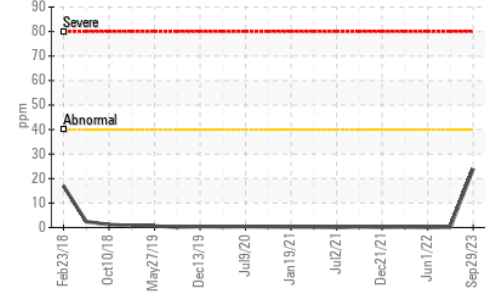
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	16.4	13.6

GRAPHS

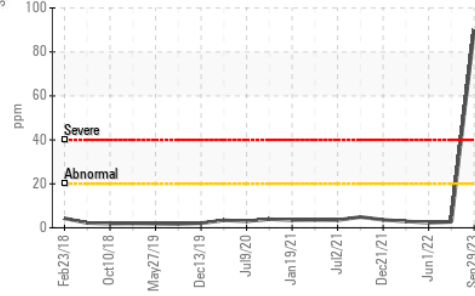
Iron (ppm)



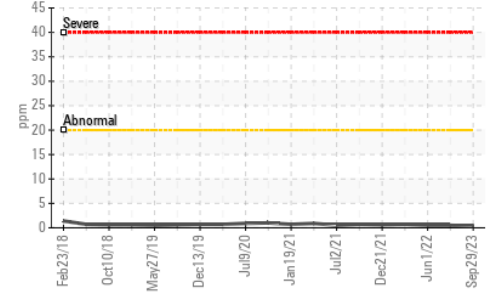
Lead (ppm)



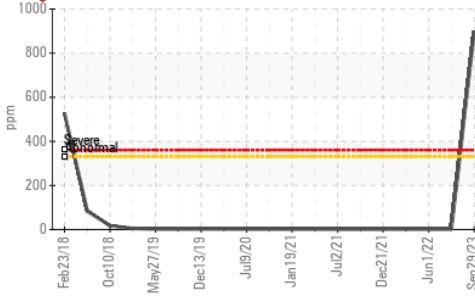
Aluminum (ppm)



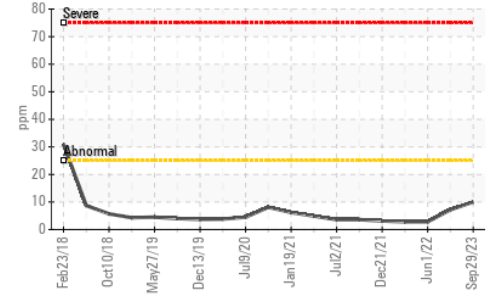
Chromium (ppm)



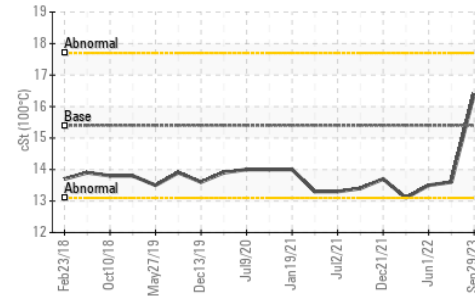
Copper (ppm)



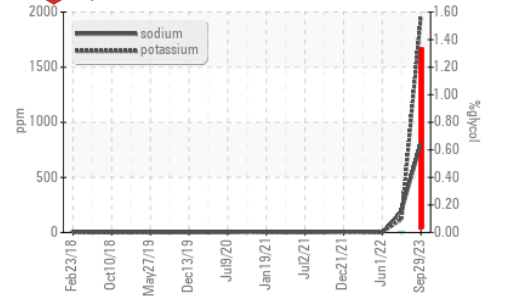
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0085679
Lab Number : 02586579
Unique Number : 5655645
Test Package : MOB 1 (Additional Tests: Glycol)

Received : 04 Oct 2023
Diagnosed : 05 Oct 2023
Diagnostician : Kevin Marson

GFL Environmental - 221 - Windsor
905 Tecumseh Road W
Windsor, ON
CA N8W 4J5
Contact: Rhys Marotte
rmarotte@gflenv.com

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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F: