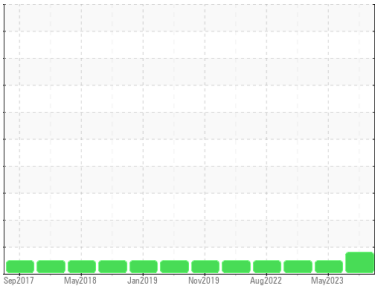
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
801029
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 LTR)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Aluminum ppm levels are abnormal. A sharp increase in the aluminum level is noted. Piston 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		**GFL0091044**	GFL0081987	GFL0068357
Sample Date		Client Info		**28 Aug 2023**	10 May 2023	21 Dec 2022
Machine Age	hrs	Client Info		**8164**	8164	0
Oil Age	hrs	Client Info		**0**	4434	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	NORMAL	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)	>80	**67**	28	17
Chromium	ppm	ASTM D5185(m)	>5	**2**	1	<1
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**<1**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>30	▲ **34**	2	2
Lead	ppm	ASTM D5185(m)	>30	**<1**	<1	0
Copper	ppm	ASTM D5185(m)	>150	**3**	<1	<1
Tin	ppm	ASTM D5185(m)	>5	**0**	<1	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	<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	16
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**64**	62	53
Manganese	ppm	ASTM D5185(m)	0	**1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**991**	960	801
Calcium	ppm	ASTM D5185(m)	1070	**1109**	1167	1175
Phosphorus	ppm	ASTM D5185(m)	1150	**1060**	1097	1017
Zinc	ppm	ASTM D5185(m)	1270	**1271**	1243	1112
Sulfur	ppm	ASTM D5185(m)	2060	**2449**	2518	2468
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**8**	6	3
Sodium	ppm	ASTM D5185(m)		**23**	8	6
Potassium	ppm	ASTM D5185(m)	>20	**12**	<1	<1
Glycol	%	ASTM D7922*		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.8**	0.6	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**12.4**	11.3	9.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.1**	22.9	22.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.2**	20.1	18.8

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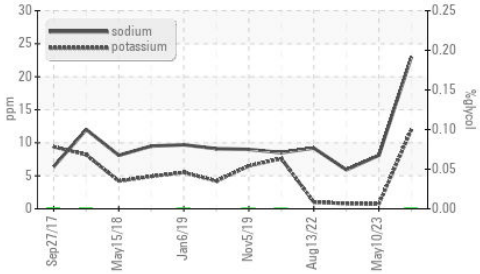
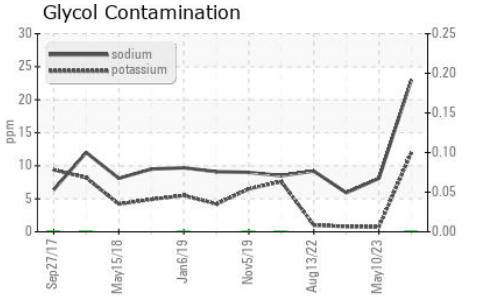
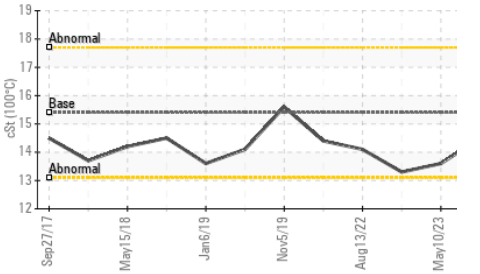
Glycol Contamination



Glycol Contamination



Viscosity @ 100°C

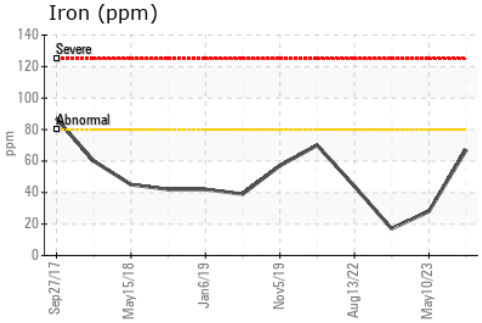


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

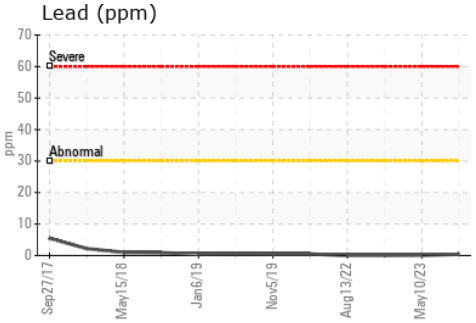
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**14.5**	13.6	13.3

GRAPHS

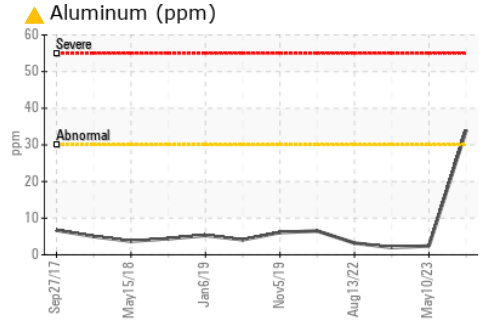
Iron (ppm)



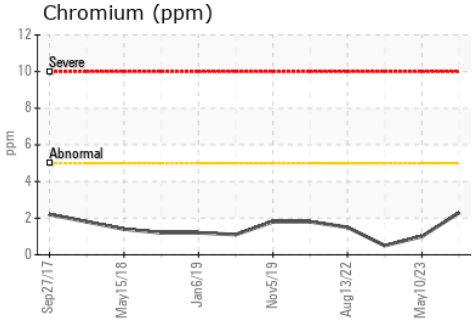
Lead (ppm)



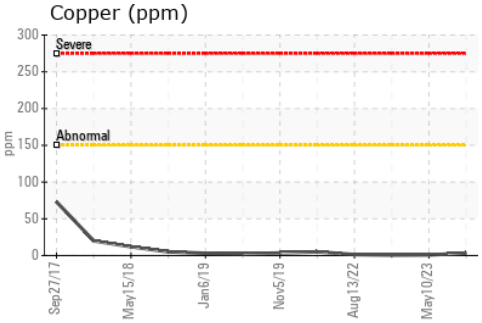
Aluminum (ppm)



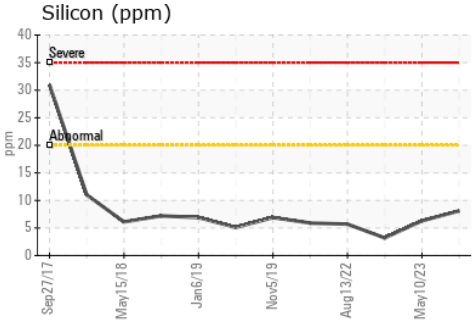
Chromium (ppm)



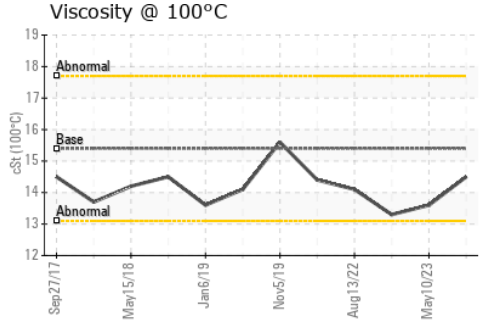
Copper (ppm)



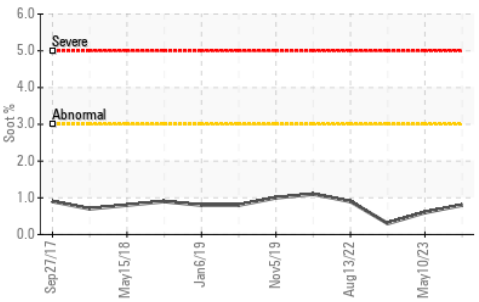
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0091044
Lab Number : 02580569
Unique Number : 5633629
Test Package : MOB 1 (Additional Tests: Glycol)

Received : 06 Sep 2023
Diagnosed : 07 Sep 2023
Diagnostician : Kevin Marson

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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Report Id: GFL217 [WCAMIS] 02580569 (Generated: 09/07/2023 09:25:14) Rev: 1

Submitted By: Scott Ewan