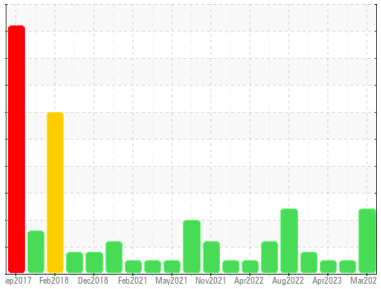
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
801062
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Light fuel dilution occurring.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0112401**	GFL0084282	GFL0077560
Sample Date		Client Info		**08 Mar 2024**	19 Jul 2023	05 Apr 2023
Machine Age	kms	Client Info		**14600**	280200	12874
Oil Age	kms	Client Info		**1729**	0	563
Oil Changed		Client Info		**Changed**	N/A	Changed
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)	>75	**6**	28	23
Chromium	ppm	ASTM D5185(m)	>5	**0**	1	1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	**2**	5	7
Lead	ppm	ASTM D5185(m)	>25	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>100	**<1**	1	1
Tin	ppm	ASTM D5185(m)	>4	**0**	<1	<1
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)	1	**40**	2	2
Barium	ppm	ASTM D5185(m)	1	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**42**	56	55
Manganese	ppm	ASTM D5185(m)	1	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**555**	913	893
Calcium	ppm	ASTM D5185(m)	1070	**1589**	1002	1087
Phosphorus	ppm	ASTM D5185(m)	1150	**783**	989	1016
Zinc	ppm	ASTM D5185(m)	1270	**892**	1129	1131
Sulfur	ppm	ASTM D5185(m)	2060	**2275**	2279	2431
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	6	8
Sodium	ppm	ASTM D5185(m)		**2**	8	7
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	2
Fuel	%	ASTM D7593*	>3.0	**1.4**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.2**	1.2	0.9
Nitration	Abs/cm	ASTM D7624*	>20	**7.1**	11.9	10.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.3**	25.6	22.6

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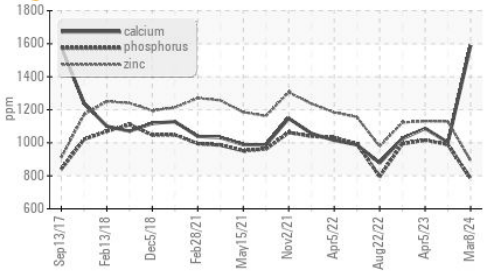
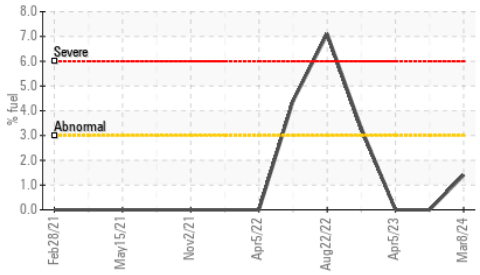
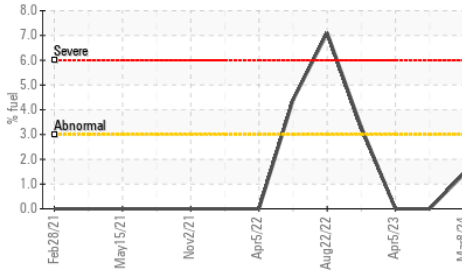
Additives



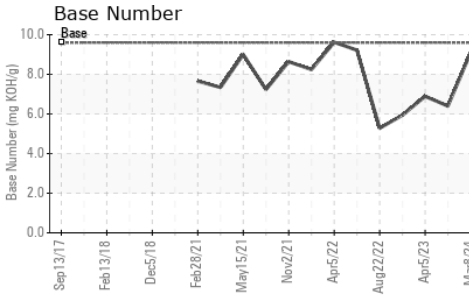
Fuel Dilution



Fuel Dilution



Base Number



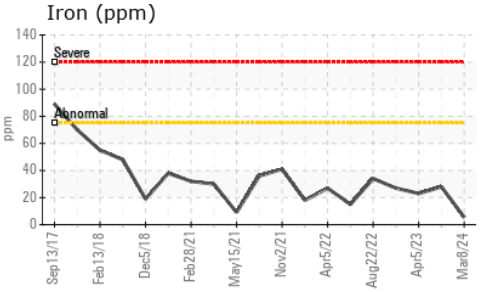
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**20.4**	23.1	19.1
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	**9.09**	6.40	6.89

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

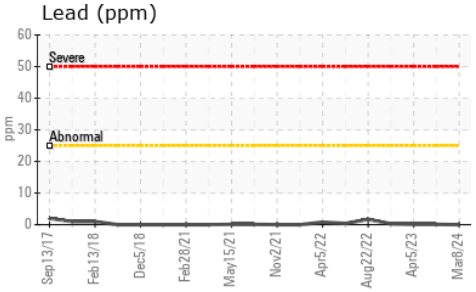
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	▲ **11.8**	13.7	13.2

GRAPHS

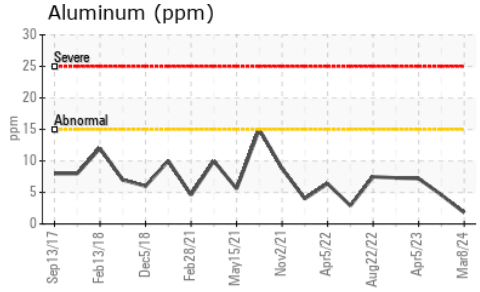
Iron (ppm)



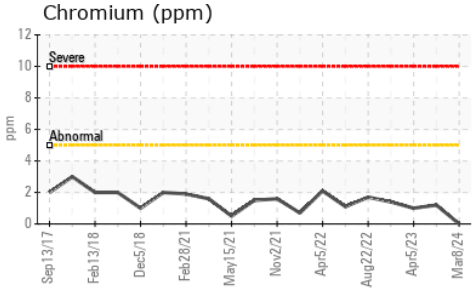
Lead (ppm)



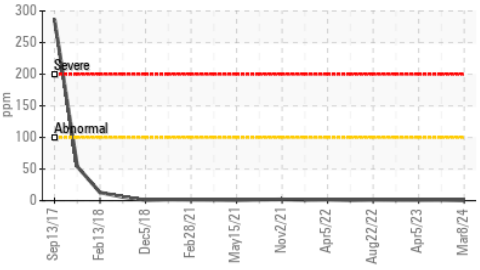
Aluminum (ppm)



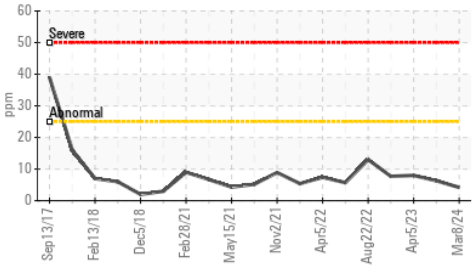
Chromium (ppm)



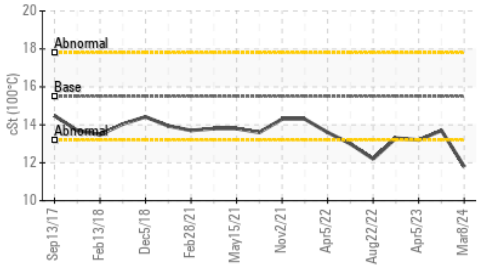
Copper (ppm)



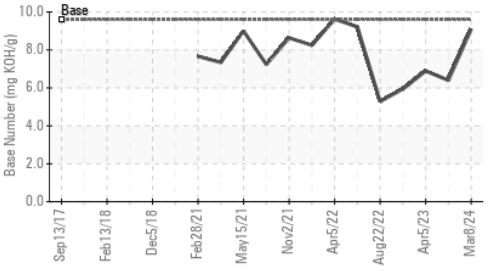
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112401
Lab Number : 02623196
Unique Number : 5748315
Test Package : MOB 2 (Additional Tests: FUELDILUTION, PercentFuel)

Received : 19 Mar 2024
Tested : 21 Mar 2024
Diagnosed : 21 Mar 2024 - Wes Davis

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: GFL550 [WCAMIS] 02623196 (Generated: 03/21/2024 08:12:01) Rev: 1

Submitted By: GFL Calgary