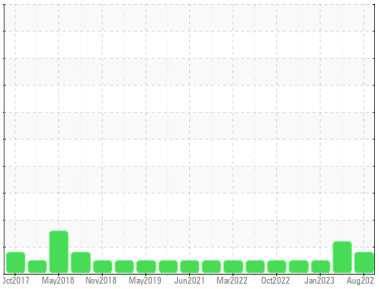
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
201040
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. No other corrective action is recommended at this time.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0084315**	GFL0070693	GFL0063774
Sample Date		Client Info		**07 Aug 2023**	22 Mar 2023	16 Jan 2023
Machine Age	hrs	Client Info		**8882**	8218	7998
Oil Age	hrs	Client Info		**551**	8218	564
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**MARGINAL**	ABNORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**13**	9	7
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185(m)	>4	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	<1	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	2	2
Lead	ppm	ASTM D5185(m)	>40	**3**	1	1
Copper	ppm	ASTM D5185(m)	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	0
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

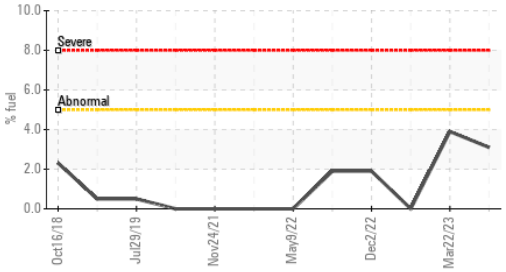
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	**2**	2	2
Barium	ppm	ASTM D5185(m)	1	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**60**	56	56
Manganese	ppm	ASTM D5185(m)	1	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**978**	923	912
Calcium	ppm	ASTM D5185(m)	1070	**1058**	1155	1109
Phosphorus	ppm	ASTM D5185(m)	1150	**1065**	1094	1055
Zinc	ppm	ASTM D5185(m)	1270	**1180**	1187	1187
Sulfur	ppm	ASTM D5185(m)	2060	**2476**	2662	2681
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	5	7
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	0
Fuel	%	ASTM D7593*	>5	▲ **3.1**	▲ 3.9	<1.0

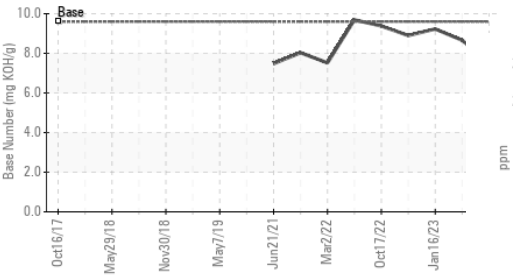
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**1.4**	0.6	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**13.3**	11.5	9.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.7**	23.9	21.4

OIL ANALYSIS REPORT

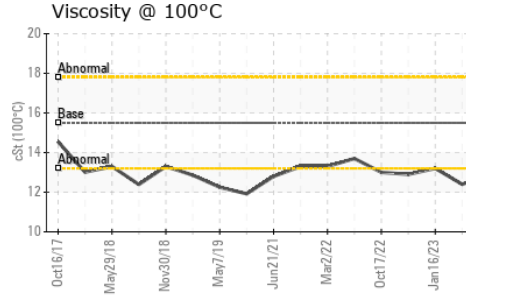
Fuel Dilution



Base Number



Viscosity @ 100°C



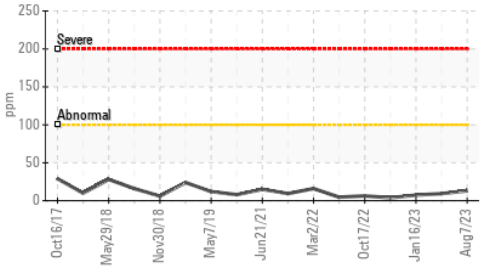
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**25.0**	20.8	18.6
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	**7.52**	8.66	9.23

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

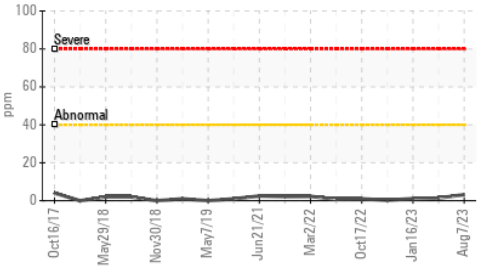
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	**12.9**	▲ 12.4	13.2

GRAPHS

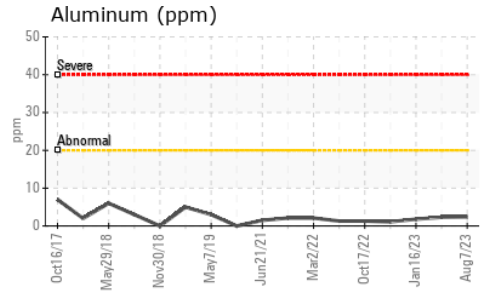
Iron (ppm)



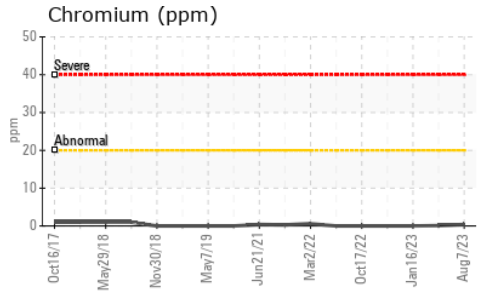
Lead (ppm)



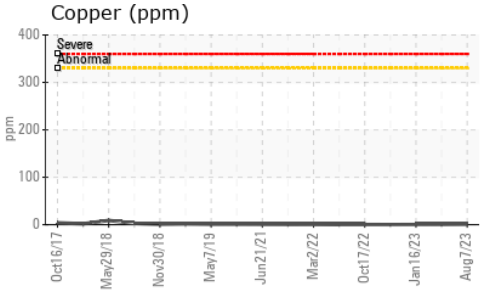
Aluminum (ppm)



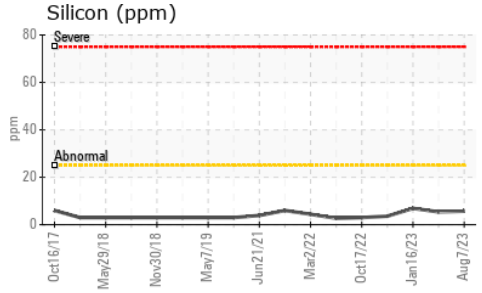
Chromium (ppm)



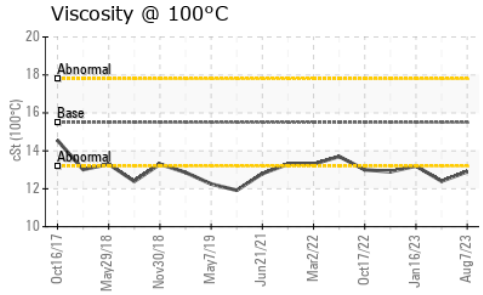
Copper (ppm)



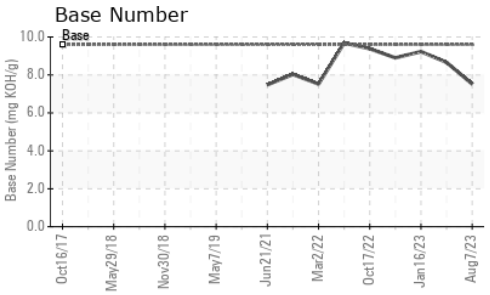
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 550 - Rocky View County**
Sample No. : GFL0084315 **Received** : 15 Aug 2023
Lab Number : 02575881 **Diagnosed** : 16 Aug 2023
Unique Number : 5628941 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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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.