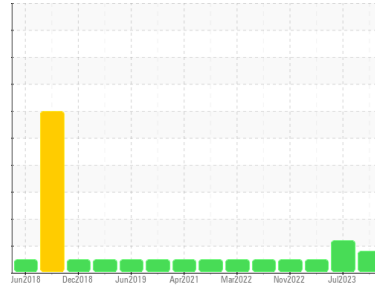




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
901075

Component
Diesel Engine

Fluid
PETRO CANADA DURON HP 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		GFL0091579	GFL0084290	GFL0077631
Sample Date	Client Info		18 Oct 2023	26 Jul 2023	01 Jun 2023
Machine Age	mls	Client Info	139494	133823	128889
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	N/A
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	14	11	16
Chromium	ppm	ASTM D5185(m) >20	<1	<1	<1
Nickel	ppm	ASTM D5185(m) >4	0	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m) >3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >20	2	2	2
Lead	ppm	ASTM D5185(m) >40	<1	0	0
Copper	ppm	ASTM D5185(m) >330	1	1	2
Tin	ppm	ASTM D5185(m) >15	0	0	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) 0	2	2	2
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	59	56	60
Manganese	ppm	ASTM D5185(m) 0	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	960	923	975
Calcium	ppm	ASTM D5185(m) 1070	1074	995	1086
Phosphorus	ppm	ASTM D5185(m) 1150	1028	1032	1057
Zinc	ppm	ASTM D5185(m) 1270	1224	1142	1209
Sulfur	ppm	ASTM D5185(m) 2060	2506	2431	2462
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	7	6	6
Sodium	ppm	ASTM D5185(m)	5	4	6
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Fuel	%	ASTM D7593* >5	▲ 2.1	▲ 4.5	<1.0

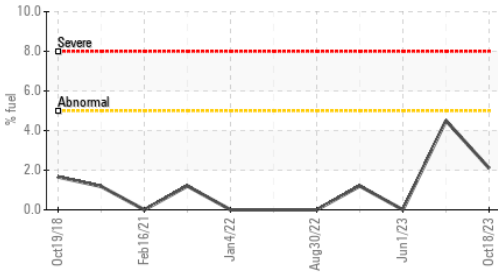
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >3	0.7	0.5	0.6
Nitration	Abs/cm	ASTM D7624* >20	9.5	8.1	9.5
Sulfation	Abs/.1mm	ASTM D7415* >30	21.5	20.7	21.0



OIL ANALYSIS REPORT

Fuel Dilution



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm ASTM D7414*	>25	18.8	16.6	17.6
Base Number (BN)	mg KOH/g ASTM D2896*	9.8	8.04	8.04	7.76

VISUAL

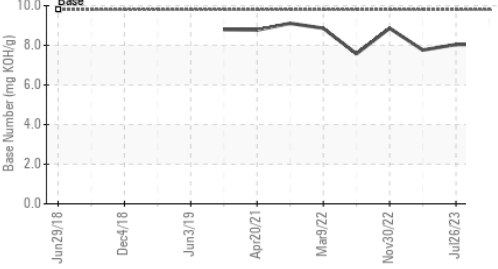
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG	NEG

FLUID PROPERTIES

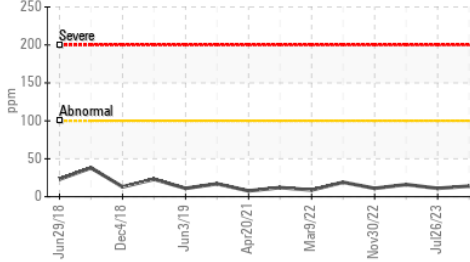
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.6	13.1	▲ 12.3	12.9

GRAPHS

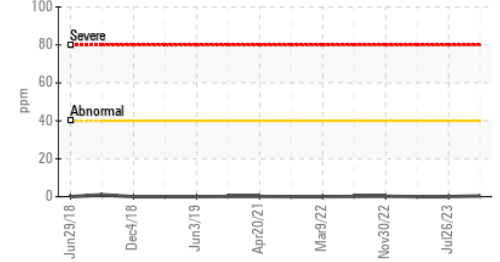
Base Number



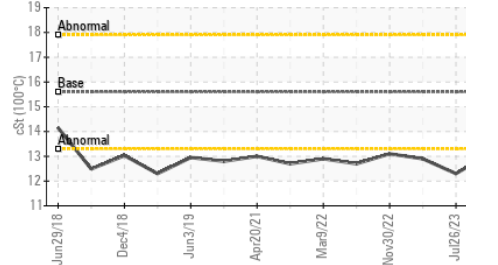
Iron (ppm)



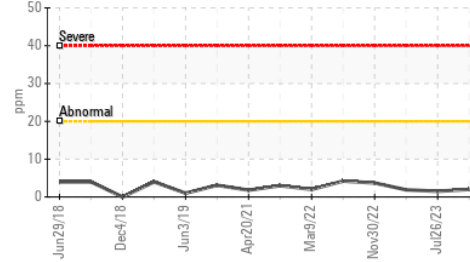
Lead (ppm)



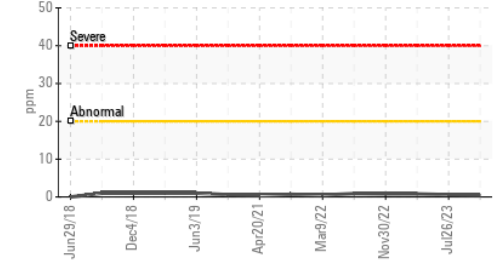
Viscosity @ 100°C



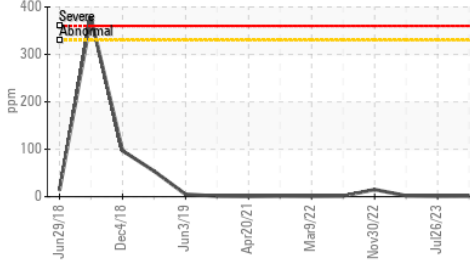
Aluminum (ppm)



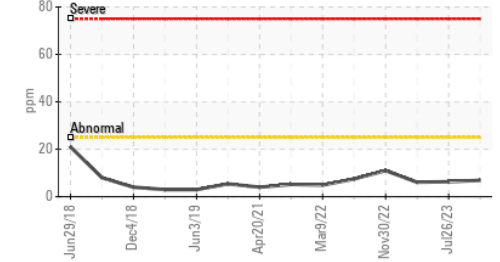
Chromium (ppm)



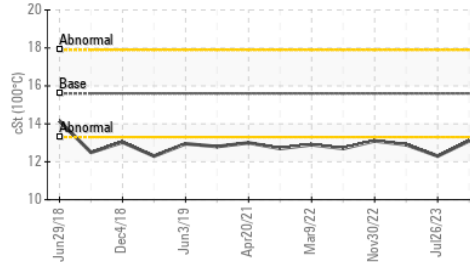
Copper (ppm)



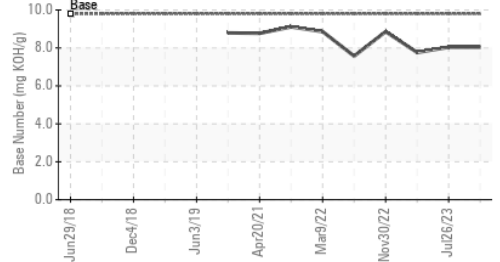
Silicon (ppm)



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. : GFL0091579 **Received** : 24 Oct 2023
Lab Number : 02591239 **Diagnosed** : 25 Oct 2023
Unique Number : 5668318 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: PercentFuel)

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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