OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Machine Id
413106
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Iron ppm levels are severe. Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. 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		**GFL0077016**	---	---
Sample Date		Client Info		**11 Oct 2023**	---	---
Machine Age	hrs	Client Info		**33925**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

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

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>65	**0**	---	---
Iron	ppm	ASTM D5185(m)	>80	**163**	---	---
Chromium	ppm	ASTM D5185(m)	>5	**3**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	---	---
Titanium	ppm	ASTM D5185(m)		**0**	---	---
Silver	ppm	ASTM D5185(m)	>3	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>30	**22**	---	---
Lead	ppm	ASTM D5185(m)	>30	**<1**	---	---
Copper	ppm	ASTM D5185(m)	>150	**8**	---	---
Tin	ppm	ASTM D5185(m)	>5	**<1**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**23**	---	---
Barium	ppm	ASTM D5185(m)	0	**5**	---	---
Molybdenum	ppm	ASTM D5185(m)	60	**44**	---	---
Manganese	ppm	ASTM D5185(m)	0	**4**	---	---
Magnesium	ppm	ASTM D5185(m)	1010	**518**	---	---
Calcium	ppm	ASTM D5185(m)	1070	**1567**	---	---
Phosphorus	ppm	ASTM D5185(m)	1150	**662**	---	---
Zinc	ppm	ASTM D5185(m)	1270	**827**	---	---
Sulfur	ppm	ASTM D5185(m)	2060	**1772**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**16**	---	---
Sodium	ppm	ASTM D5185(m)		**5**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**78**	---	---
Fuel	%	ASTM D7593*	>5	**3.1**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.9**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**11.3**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.7**	---	---

OIL ANALYSIS REPORT

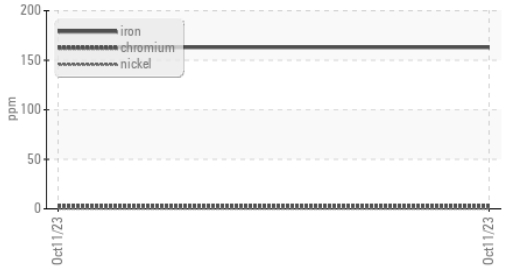
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**25.7**	---	---

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

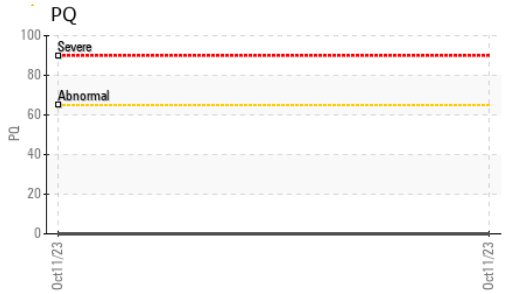
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **9.5**	---	---

GRAPHS

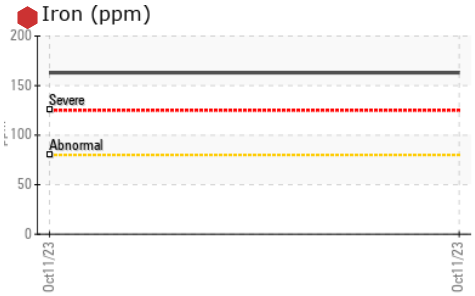
Ferrous Alloys



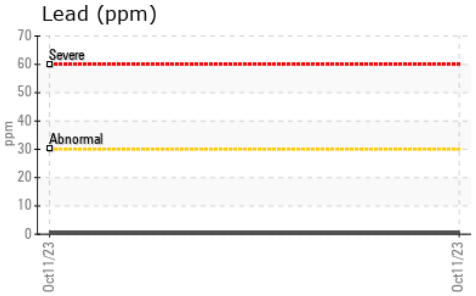
PQ



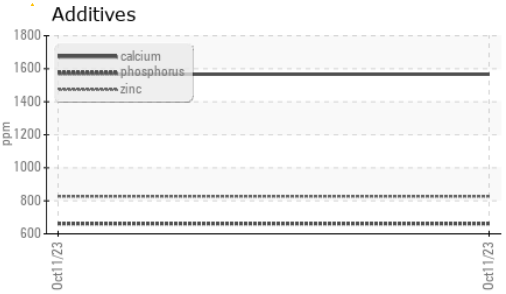
Iron (ppm)



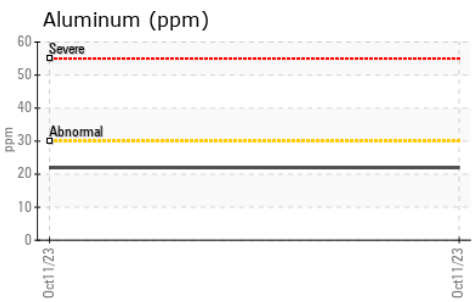
Lead (ppm)



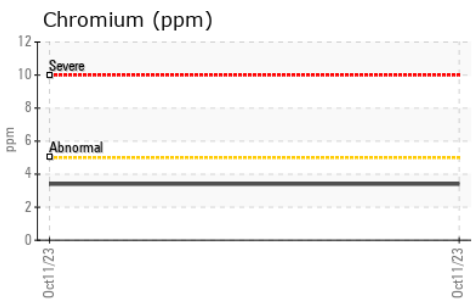
Additives



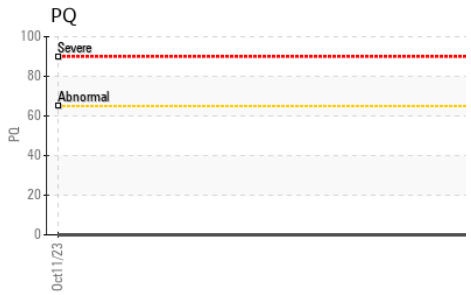
Aluminum (ppm)



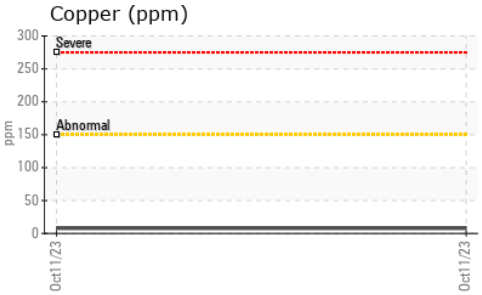
Chromium (ppm)



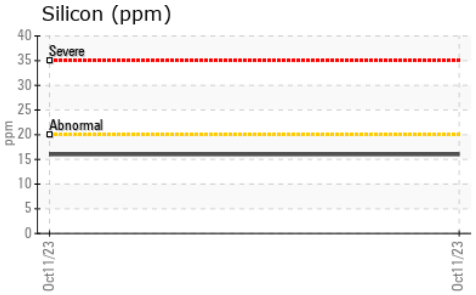
PQ



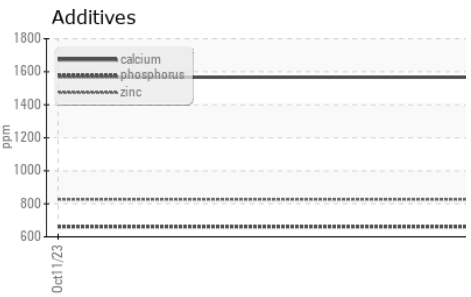
Copper (ppm)



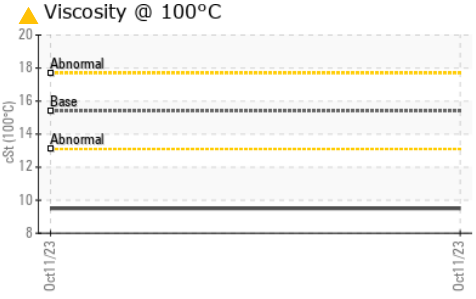
Silicon (ppm)



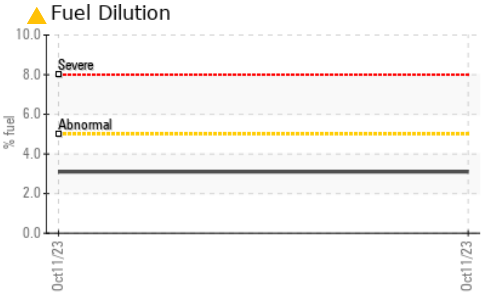
Additives



▲ Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 575 - Squamish Hauling**
Sample No. : GFL0077016 **Received** : 17 Oct 2023 38950 Queens Way,
Lab Number : 02589537 **Diagnosed** : 18 Oct 2023 Squamish, BC
Unique Number : 5658603 **Diagnostician** : Kevin Marson CA V8B 0K8
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, PQ) Contact: Dean Imbeau

To discuss this sample report, contact Customer Service at 1-800-268-2131. dimbeau@gflenv.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (604)892-5604
Validity of results and interpretation are based on the sample and information as supplied. F: (604)892-5238