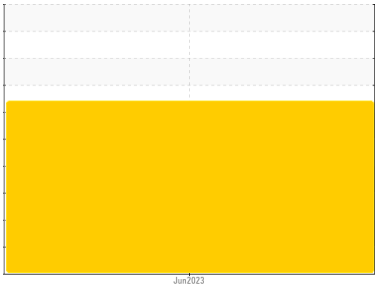
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
FL0232
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. 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
The iron level is abnormal. All other component wear rates are normal.

Contamination
There is a high concentration of water present in the oil. Tests indicate that there is no fuel present in the oil.

Fluid Condition
The oil viscosity is lower than normal. The BN result is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**GFL0015793**	---	---
Sample Date		Client Info		**28 Jun 2023**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	▲ **195**	---	---
Chromium	ppm	ASTM D5185m	>20	**9**	---	---
Nickel	ppm	ASTM D5185m	>4	**2**	---	---
Titanium	ppm	ASTM D5185m		**2**	---	---
Silver	ppm	ASTM D5185m	>3	**2**	---	---
Aluminum	ppm	ASTM D5185m	>20	**11**	---	---
Lead	ppm	ASTM D5185m	>40	**22**	---	---
Copper	ppm	ASTM D5185m	>330	**44**	---	---
Tin	ppm	ASTM D5185m	>15	**7**	---	---
Vanadium	ppm	ASTM D5185m		**1**	---	---
Cadmium	ppm	ASTM D5185m		**2**	---	---

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	**34**	---	---
Barium	ppm	ASTM D5185m	0	**18**	---	---
Molybdenum	ppm	ASTM D5185m	60	**34**	---	---
Manganese	ppm	ASTM D5185m	0	**5**	---	---
Magnesium	ppm	ASTM D5185m	1010	**273**	---	---
Calcium	ppm	ASTM D5185m	1070	**635**	---	---
Phosphorus	ppm	ASTM D5185m	1150	**510**	---	---
Zinc	ppm	ASTM D5185m	1270	**434**	---	---
Sulfur	ppm	ASTM D5185m	2060	**2524**	---	---

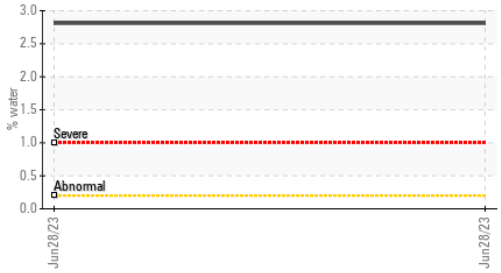
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	**21**	---	---
Sodium	ppm	ASTM D5185m		**31**	---	---
Potassium	ppm	ASTM D5185m	>20	**34**	---	---
Fuel	%	ASTM D3524	>5	**0.1**	---	---
Water	%	ASTM D6304	>0.2	⬢ **2.81**	---	---
ppm Water	ppm	ASTM D6304	>2000	⬢ **28100**	---	---
Glycol	%	*ASTM D2982		**NEG**	---	---

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	**0.2**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**14.1**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**8.1**	---	---

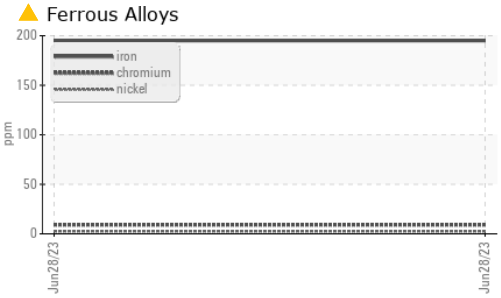
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**10.6**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **18.7**	---	---

OIL ANALYSIS REPORT

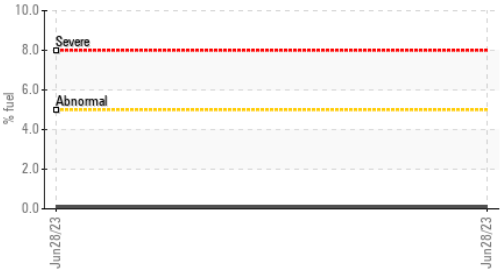
Water



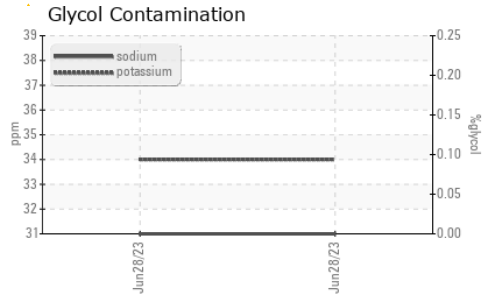
Ferrous Alloys



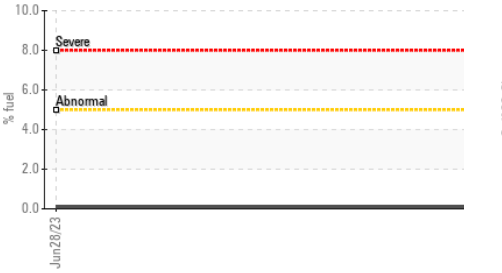
Fuel Dilution



Glycol Contamination



Fuel Dilution

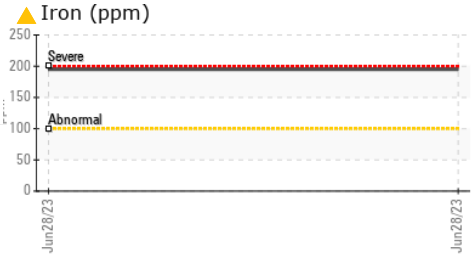


VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**LIGHT**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	▲ **MILKY**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.2	⬢ **0.2%**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

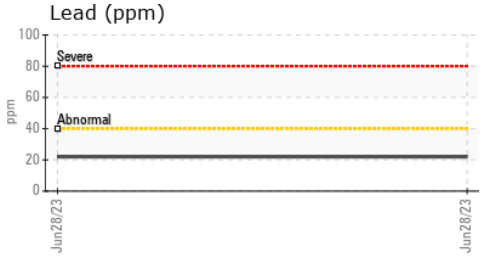
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **8.5**	---	---

GRAPHS

Iron (ppm)

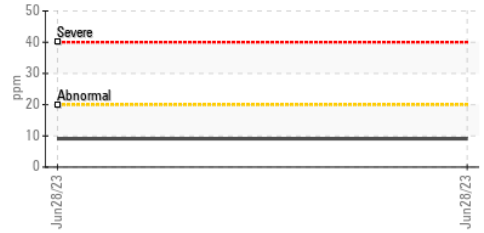


Lead (ppm)

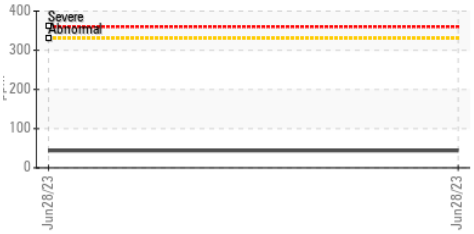


Aluminum (ppm)

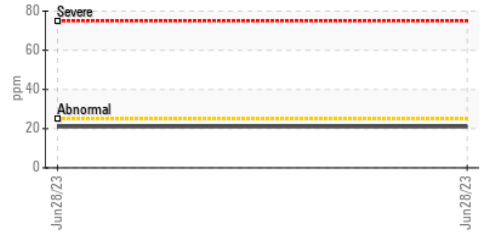
Chromium (ppm)



Copper (ppm)

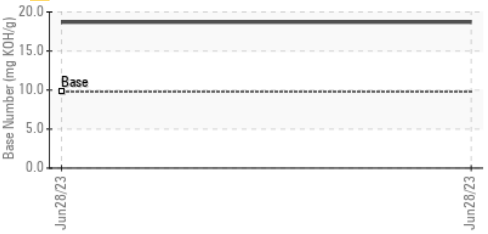


Silicon (ppm)



Viscosity @ 100°C

Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0015793 **Received** : 03 Jul 2023
Lab Number : 05888810 **Diagnosed** : 06 Jul 2023
Unique Number : 10539293 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, KF, PercentFuel)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Report Id: GFL641 [WUSCAR] 05888810 (Generated: 07/06/2023 14:12:01) Rev: 1

Submitted By: GFL463 and GFL641 - DYLAN TOLAN