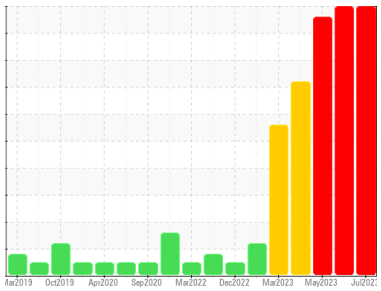
PROBLEM SUMMARY

Sample Rating Trend

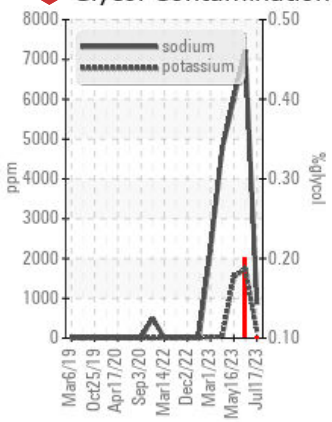


GLYCOL

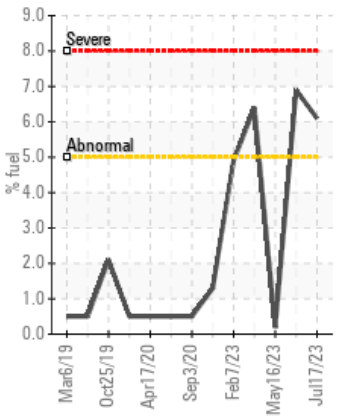
Machine Id
425063-402316
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

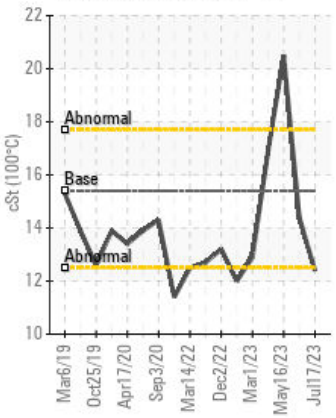
Glycol Contamination



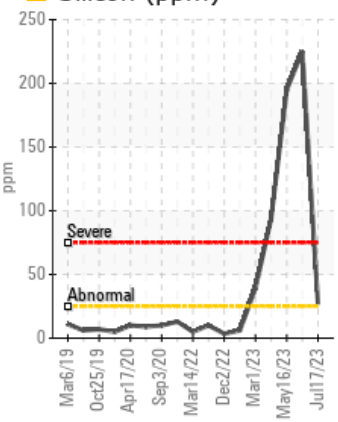
Fuel Dilution



Viscosity @ 100°C



Silicon (ppm)



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **27**	⬢ 225	⬢ 195
Sodium	ppm	ASTM D5185m		▲ **863**	▲ 7226	▲ 5984
Potassium	ppm	ASTM D5185m	>20	▲ **177**	▲ 1748	▲ 1535
Fuel	%	ASTM D3524	>5	▲ **6.1**	▲ 6.9	⬢ 0.20
Glycol	%	*ASTM D2982		⬢ **0.10**	⬢ 0.20	NEG
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.4**	14.4	▲ 20.5

Customer Id: GFL836
Sample No.: GFL0087197
Lab Number: 05904742
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

GLYCOL

08 Jun 2023 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a moderate amount of fuel present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

DIRT

16 May 2023 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

DIRT

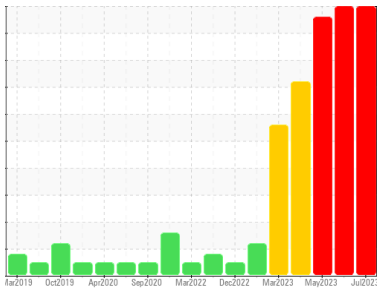
11 Apr 2023 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels remain high. Elemental level of silicon (Si) above normal indicating ingress of seal material. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
425063-402316
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal. There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0087197**	GFL0083742	GFL0070146
Sample Date		Client Info		**17 Jul 2023**	08 Jun 2023	16 May 2023
Machine Age	hrs	Client Info		**13501**	13356	13208
Oil Age	hrs	Client Info		**0**	600	0
Oil Changed		Client Info		**Not Changd**	Changed	Not Changd
Sample Status				**SEVERE**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**16**	▲ 102	60
Chromium	ppm	ASTM D5185m	>20	**1**	8	6
Nickel	ppm	ASTM D5185m	>4	**0**	2	2
Titanium	ppm	ASTM D5185m		**<1**	2	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**3**	10	7
Lead	ppm	ASTM D5185m	>40	**0**	6	3
Copper	ppm	ASTM D5185m	>330	**35**	135	120
Tin	ppm	ASTM D5185m	>15	**0**	2	3
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**31**	566	664
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**101**	547	477
Manganese	ppm	ASTM D5185m	0	**<1**	4	3
Magnesium	ppm	ASTM D5185m	1010	**901**	724	665
Calcium	ppm	ASTM D5185m	1070	**1001**	981	851
Phosphorus	ppm	ASTM D5185m	1150	**952**	863	818
Zinc	ppm	ASTM D5185m	1270	**1173**	1089	1057
Sulfur	ppm	ASTM D5185m	2060	**3398**	3331	3083

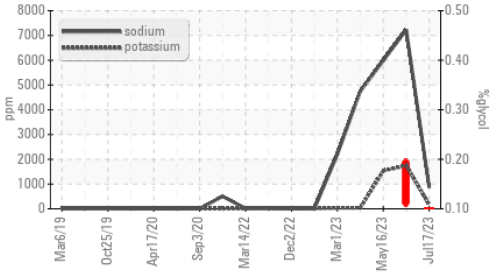
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **27**	⬢ 225	⬢ 195
Sodium	ppm	ASTM D5185m		▲ **863**	▲ 7226	▲ 5984
Potassium	ppm	ASTM D5185m	>20	▲ **177**	▲ 1748	▲ 1535
Fuel	%	ASTM D3524	>5	▲ **6.1**	▲ 6.9	⬢ 0.20
Glycol	%	*ASTM D2982		⬢ **0.10**	⬢ 0.20	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	1.1	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**10.7**	29.9	33.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.6**	35.7	25.6

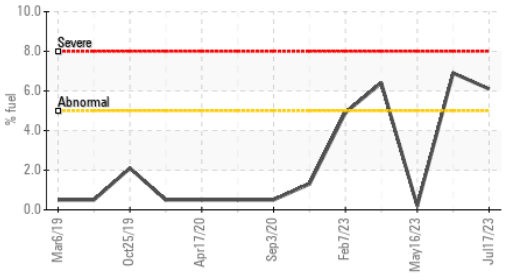
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.1**	24.1	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**10.3**	53.3	81.6

OIL ANALYSIS REPORT

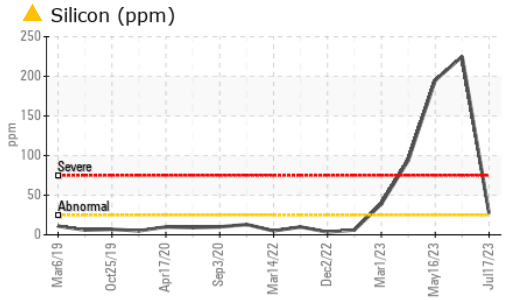
Glycol Contamination



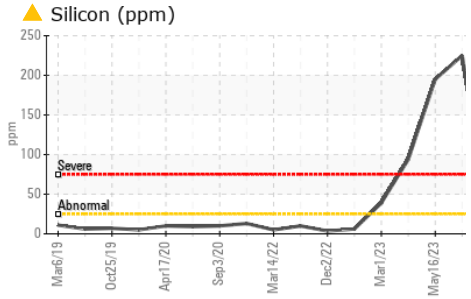
Fuel Dilution



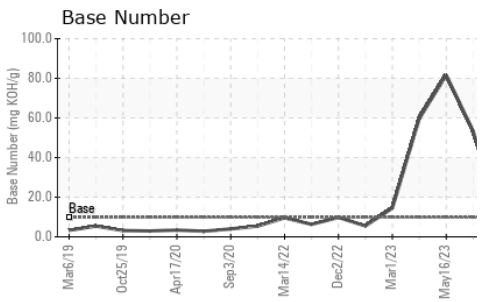
Silicon (ppm)



Silicon (ppm)



Base Number

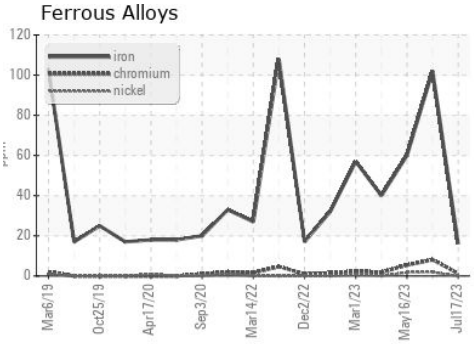


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

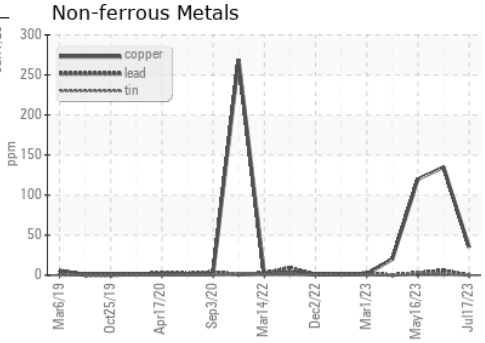
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.4**	14.4	▲ 20.5

GRAPHS

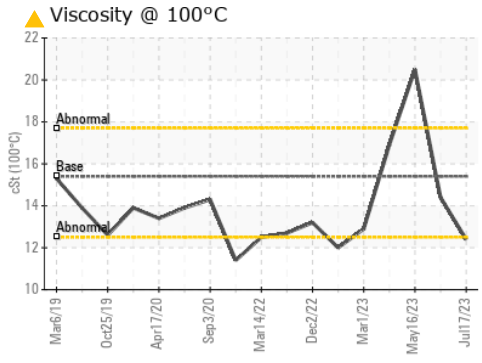
Ferrous Alloys



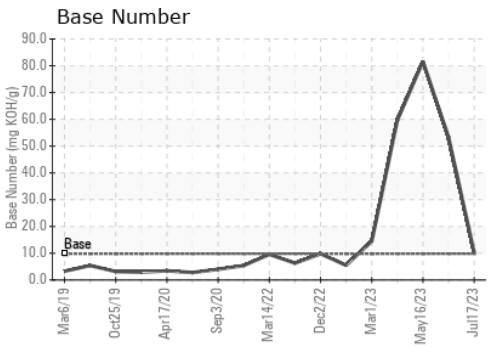
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087197 **Received** : 21 Jul 2023
Lab Number : 05904742 **Diagnosed** : 25 Jul 2023
Unique Number : 10566098 **Diagnostician** : Don Baldridge
Test Package : FLEET (Additional Tests: 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)

GFL Environmental - 836 - Kansas City Hauling
7801 East Truman Road
Kansas City, MO
US 64126
Contact: Robert Hart
rhart@gflenv.com
T: (580)461-1509
F: