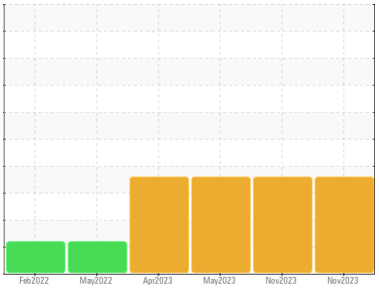
PROBLEM SUMMARY

Sample Rating Trend

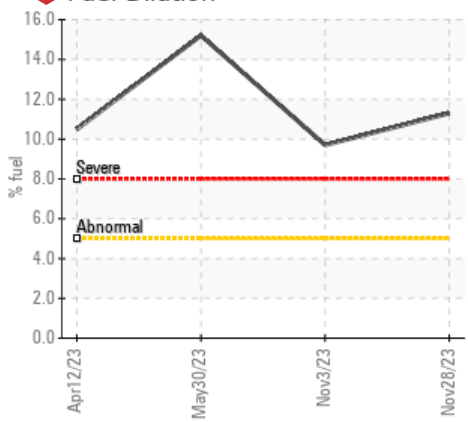


FUEL

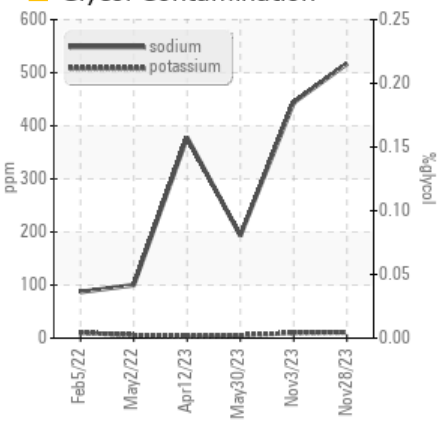
Machine Id
722026-261545
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

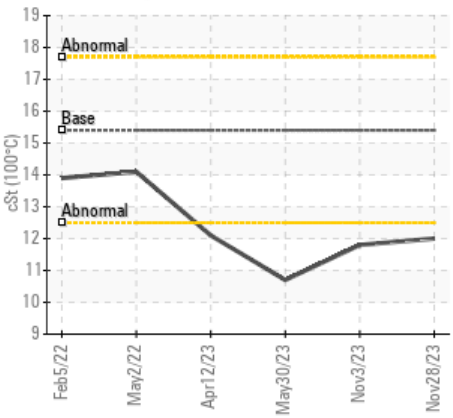
Fuel Dilution



Glycol Contamination



Viscosity @ 100°C



RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Sodium	ppm	ASTM D5185m		▲ **517**	▲ 444	▲ 193
Fuel	%	ASTM D3524	>5	⬢ **11.3**	⬢ 9.7	⬢ 15.2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.0**	▲ 11.8	▲ 10.7

Customer Id: GFL837
Sample No.: GFL0102547
Lab Number: 06027042
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
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

03 Nov 2023 Diag: Jonathan Hester

FUEL

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 an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

30 May 2023 Diag: Angela Borella

FUEL

We advise that you check for possible 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.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

12 Apr 2023 Diag: Jonathan Hester

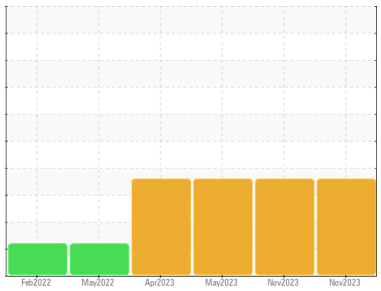
FUEL

We advise that you check for possible 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.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
722026-261545
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. 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 amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0102547**	GFL0098598	GFL0078556
Sample Date		Client Info		**28 Nov 2023**	03 Nov 2023	30 May 2023
Machine Age	hrs	Client Info		**19820**	19806	19082
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**30**	26	25
Chromium	ppm	ASTM D5185m	>4	**1**	1	2
Nickel	ppm	ASTM D5185m	>2	**2**	<1	1
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	3	2
Lead	ppm	ASTM D5185m	>45	**2**	1	2
Copper	ppm	ASTM D5185m	>85	**46**	45	0
Tin	ppm	ASTM D5185m	>4	**1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**30**	11	9
Barium	ppm	ASTM D5185m	0	**2**	0	0
Molybdenum	ppm	ASTM D5185m	60	**60**	69	54
Manganese	ppm	ASTM D5185m	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**793**	829	799
Calcium	ppm	ASTM D5185m	1070	**894**	925	876
Phosphorus	ppm	ASTM D5185m	1150	**878**	947	851
Zinc	ppm	ASTM D5185m	1270	**1087**	1158	1094
Sulfur	ppm	ASTM D5185m	2060	**2313**	2774	2689

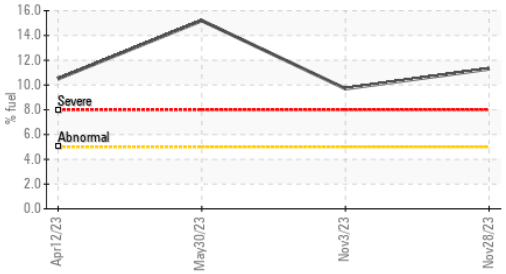
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**15**	15	5
Sodium	ppm	ASTM D5185m		▲ **517**	▲ 444	▲ 193
Potassium	ppm	ASTM D5185m	>20	**11**	10	5
Fuel	%	ASTM D3524	>5	⬢ **11.3**	⬢ 9.7	⬢ 15.2
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.6**	0.6	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**11.2**	7.7	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.7**	20.4	22.5

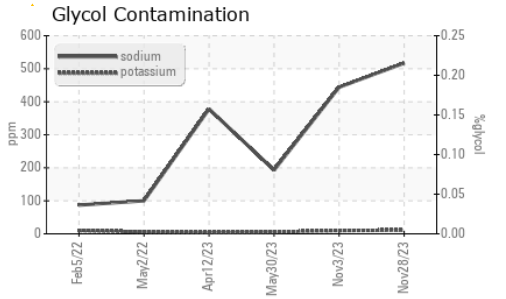
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.8**	15.4	21.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**12.2**	9.7	6.6

OIL ANALYSIS REPORT

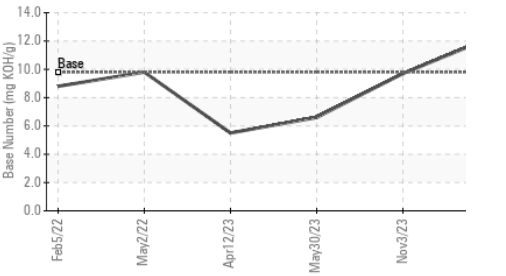
Fuel Dilution



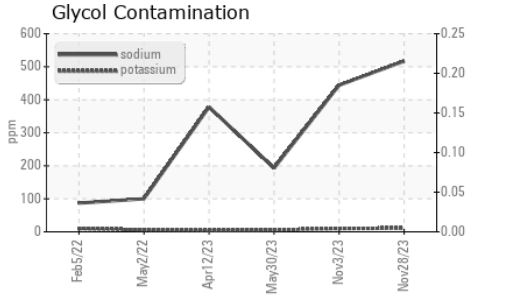
Glycol Contamination



Base Number



Glycol Contamination

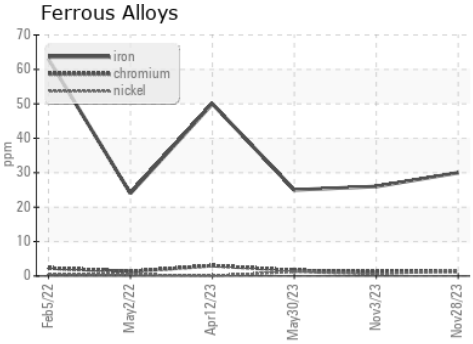


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

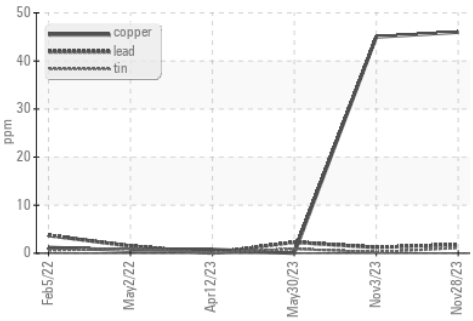
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.0**	▲ 11.8	▲ 10.7

GRAPHS

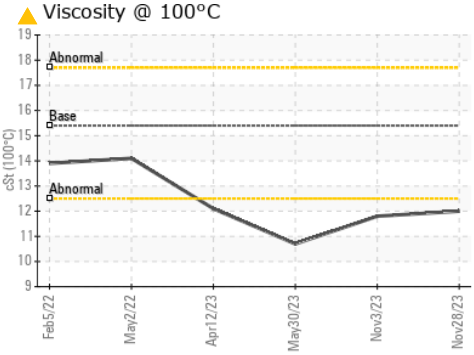
Ferrous Alloys



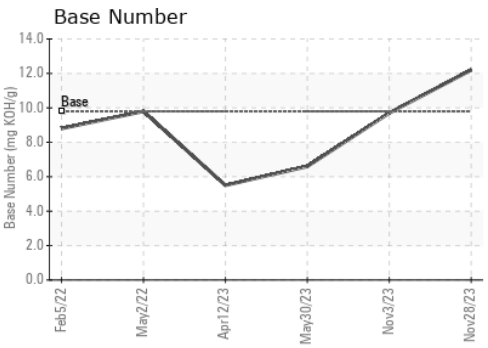
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0102547 **Received** : 06 Dec 2023
Lab Number : 06027042 **Diagnosed** : 14 Dec 2023
Unique Number : 10776833 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, 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 - 837 - Harrison TS
22820 S State Route 291
Harrisonville, MO
US 64701
Contact: BRYAN SWANSON
bryanswanson@gflenv.com
T:
F: