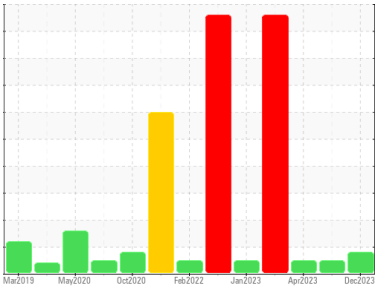
PROBLEM SUMMARY

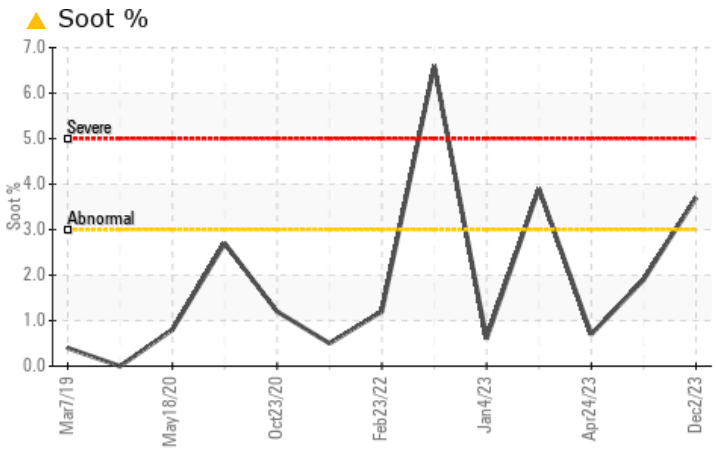
Machine Id
723027-305161
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



SOOT

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: OIL SAMPLE)

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	NORMAL
Soot %	%	*ASTM D7844	>3	▲ **3.7**	1.9	0.7

Customer Id: GFL856
Sample No.: GFL0092089
Lab Number: 06025613
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 Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

08 Jun 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

24 Apr 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

16 Jan 2023 Diag: Jonathan Hester

DIRT

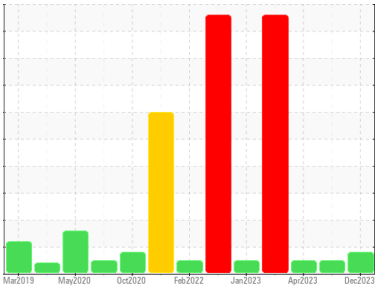
We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Piston, ring and cylinder wear is indicated. Bearing and/or bushing wear is indicated. Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is an abnormal amount of solids and carbon present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Machine Id
723027-305161
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



SOOT

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: OIL SAMPLE)

Wear
All component wear rates are normal.

Contamination
There is an abnormal amount of solids and carbon present 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		**GFL0092089**	GFL0084568	GFL0078056
Sample Date		Client Info		**02 Dec 2023**	08 Jun 2023	24 Apr 2023
Machine Age	mls	Client Info		**305760**	3966	305760
Oil Age	mls	Client Info		**304354**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	**50**	34	19
Chromium	ppm	ASTM D5185m	>5	**2**	2	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	**3**	5	3
Lead	ppm	ASTM D5185m	>30	**1**	1	0
Copper	ppm	ASTM D5185m	>150	**15**	23	8
Tin	ppm	ASTM D5185m	>5	**0**	1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	<1
Barium	ppm	ASTM D5185m	0	**2**	0	0
Molybdenum	ppm	ASTM D5185m	60	**61**	60	62
Manganese	ppm	ASTM D5185m	0	**0**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**902**	974	1004
Calcium	ppm	ASTM D5185m	1070	**1067**	1139	1194
Phosphorus	ppm	ASTM D5185m	1150	**933**	1022	1067
Zinc	ppm	ASTM D5185m	1270	**1171**	1272	1292
Sulfur	ppm	ASTM D5185m	2060	**2737**	3415	3462

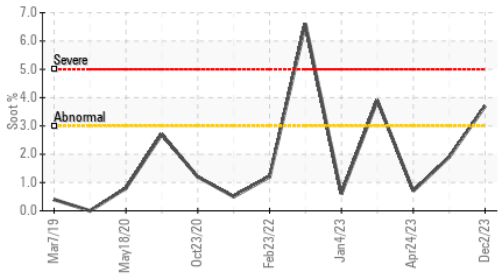
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**10**	12	8
Sodium	ppm	ASTM D5185m		**11**	31	29
Potassium	ppm	ASTM D5185m	>20	**4**	3	0
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **3.7**	1.9	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**14.9**	12.7	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**29.2**	23.6	18.1

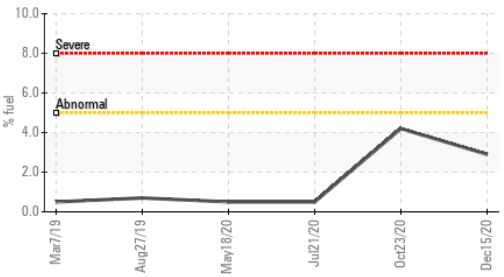
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.6**	19.0	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**6.9**	9.0	8.2

OIL ANALYSIS REPORT

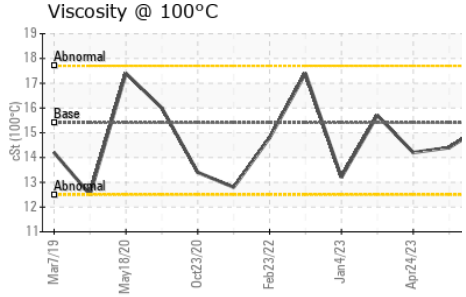
Soot %



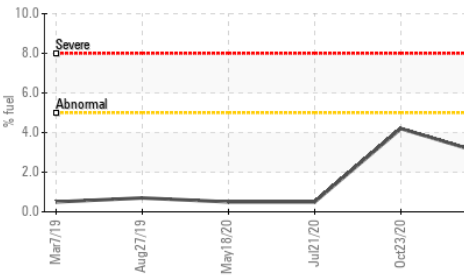
Fuel Dilution



Viscosity @ 100°C



Fuel Dilution

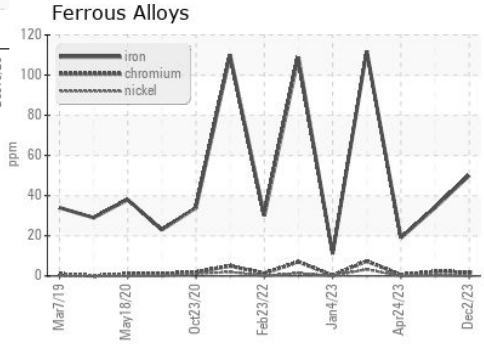


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

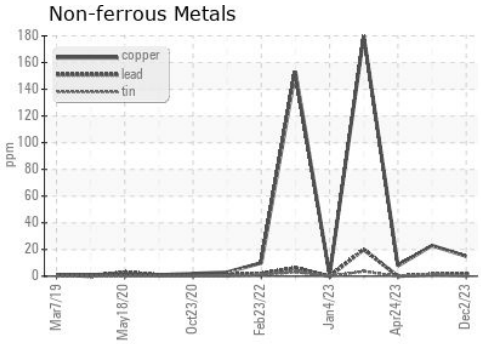
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**15.3**	14.4	14.2

GRAPHS

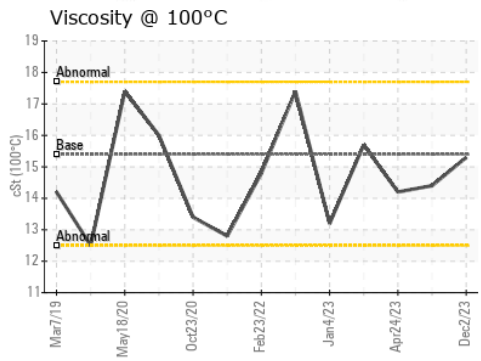
Ferrous Alloys



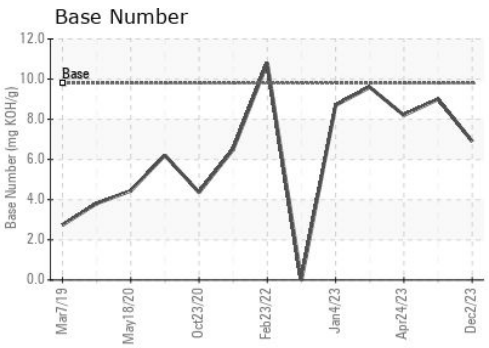
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0092089 **Received** : 05 Dec 2023
Lab Number : 06025613 **Diagnosed** : 07 Dec 2023
Unique Number : 10770113 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution)

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 - 856 - Houston South
8515 Highway 6 South
Houston, TX
US 77083
Contact: Apolinar Zacarias
pzacariascano@gflenv.com
T:
F:

Report Id: GFL856 [WUSCAR] 06025613 (Generated: 12/07/2023 14:52:10) Rev: 1

Submitted By: Apolinar Zacarias