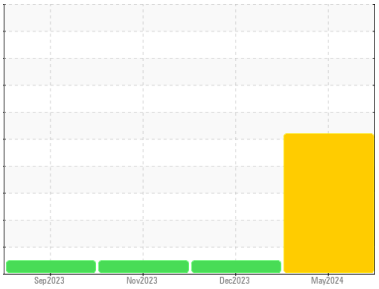
PROBLEM SUMMARY

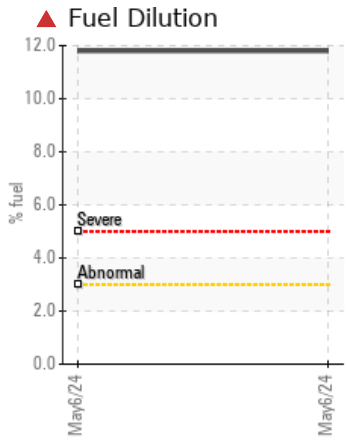
Machine Id
912103
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

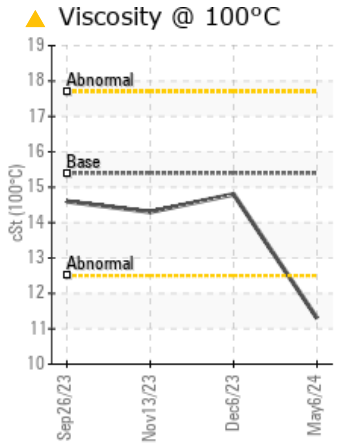
Sample Rating Trend

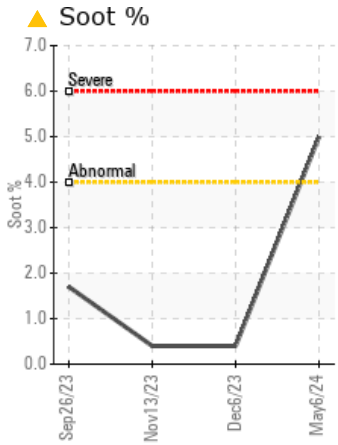


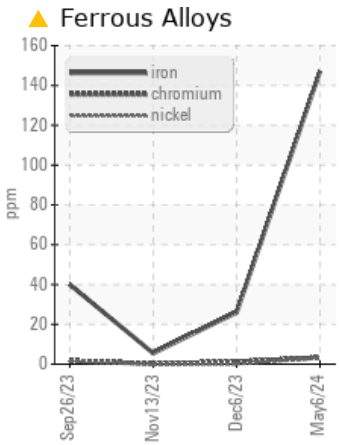
FUEL

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>120	▲ **147**	26	6
Fuel	%	ASTM D3524	>3.0	▲ **11.8**	<1.0	<1.0
Soot %	%	*ASTM D7844	>4	▲ **5**	0.4	0.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	8.8	9.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.3**	14.8	14.3

Customer Id: GFL405
Sample No.: GFL0115087
Lab Number: 06193395
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	---	---	?	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.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

NORMAL

06 Dec 2023 Diag: Wes Davis
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

NORMAL

13 Nov 2023 Diag: Wes Davis
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

NORMAL

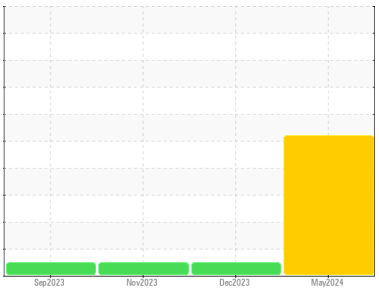
26 Sep 2023 Diag: Wes Davis
Resample at the next service interval to monitor.Metal levels are typical for a components first oil change. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Machine Id
912103
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

Sample Rating Trend



FUEL

DIAGNOSIS

Recommendation
We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
There is an abnormal amount of solids and carbon present in the oil. There is a high amount of fuel present in the oil.

Fluid Condition
The BN level is low. 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		**GFL0115087**	GFL0059159	GFL0059256
Sample Date		Client Info		**06 May 2024**	06 Dec 2023	13 Nov 2023
Machine Age	hrs	Client Info		**8523**	7356	7356
Oil Age	hrs	Client Info		**600**	7356	7356
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	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	>120	▲ **147**	26	6
Chromium	ppm	ASTM D5185m	>20	**3**	1	<1
Nickel	ppm	ASTM D5185m	>5	**3**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**10**	3	2
Lead	ppm	ASTM D5185m	>40	**6**	3	0
Copper	ppm	ASTM D5185m	>330	**6**	<1	0
Tin	ppm	ASTM D5185m	>15	**3**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**<1**	1	2
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**52**	57	57
Manganese	ppm	ASTM D5185m	0	**3**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**826**	1060	953
Calcium	ppm	ASTM D5185m	1070	**951**	1132	1058
Phosphorus	ppm	ASTM D5185m	1150	**864**	1107	1070
Zinc	ppm	ASTM D5185m	1270	**1105**	1322	1290
Sulfur	ppm	ASTM D5185m	2060	**2153**	3154	3150

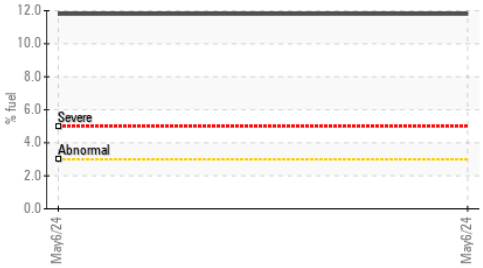
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**23**	7	4
Sodium	ppm	ASTM D5185m		**13**	3	2
Potassium	ppm	ASTM D5185m	>20	**7**	1	0
Fuel	%	ASTM D3524	>3.0	▲ **11.8**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	▲ **5**	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**14.7**	9.7	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**32.7**	20.9	18.9

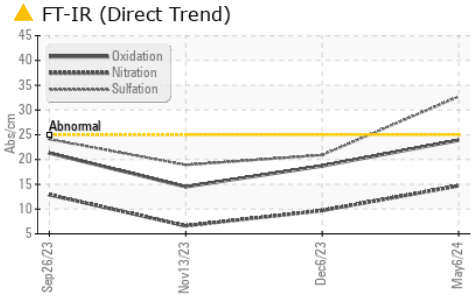
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.9**	18.7	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	8.8	9.0

OIL ANALYSIS REPORT

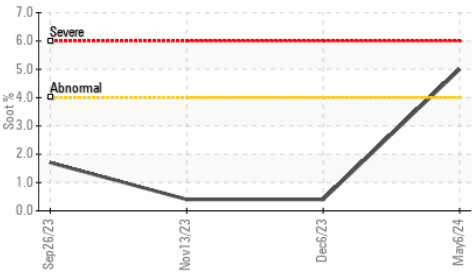
Fuel Dilution



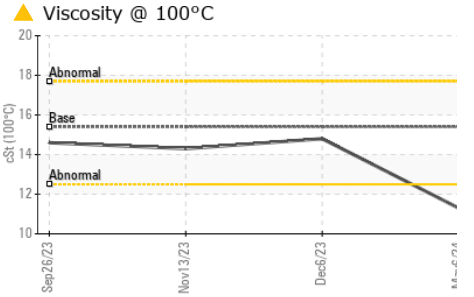
FT-IR (Direct Trend)



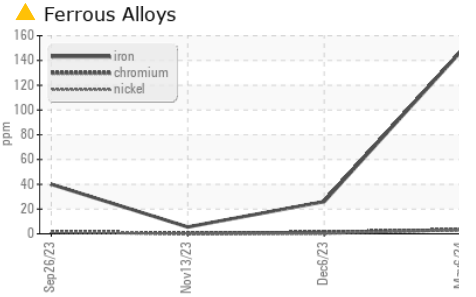
Soot %



Viscosity @ 100°C



Ferrous Alloys

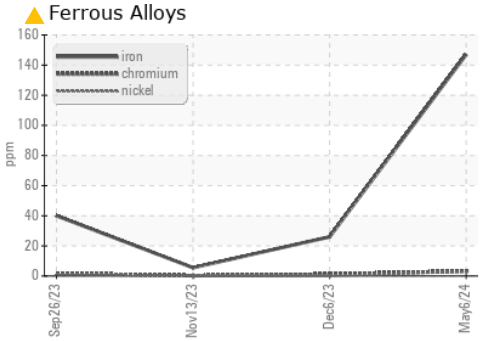


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

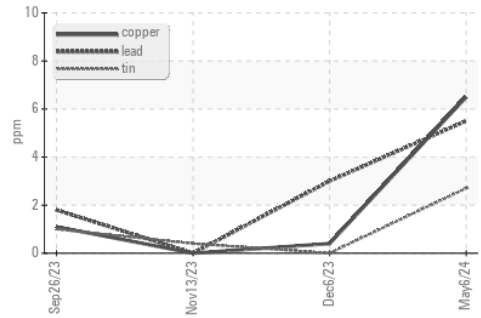
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.3**	14.8	14.3

GRAPHS

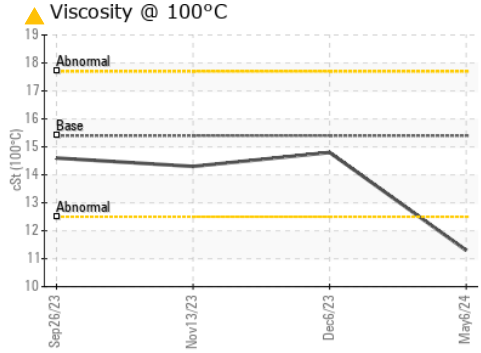
Ferrous Alloys



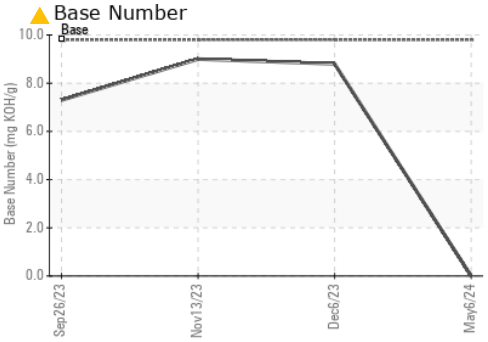
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115087
Lab Number : 06193395
Unique Number : 11050147
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 28 May 2024
Tested : 31 May 2024
Diagnosed : 31 May 2024 - Don Baldridge

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 - 405 - Arbor Hills
7811 Chubb Rd
NORTHVILLE, MI
US 48168
Contact: Anthony Hopkins
ahopkins@gflenv.com
T:
F:

Report Id: GFL405 [WUSCAR] 06193395 (Generated: 05/31/2024 18:02:31) Rev: 1

Submitted By: John Nahal