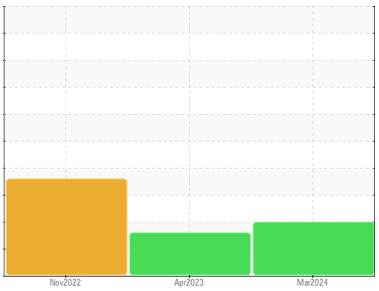
PROBLEM SUMMARY

Sample Rating Trend

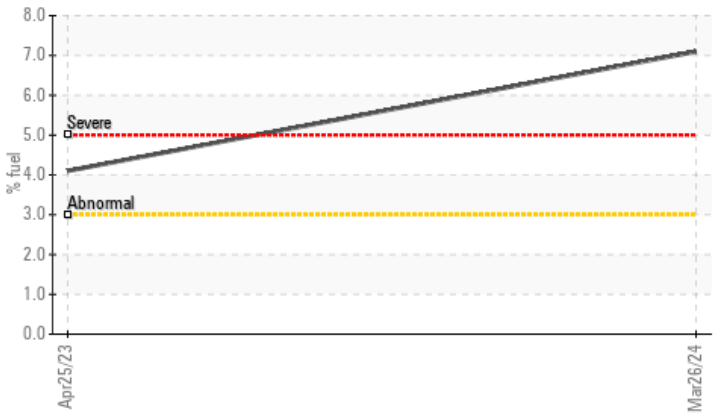


FUEL

Area
(MC11906)
Machine Id
824019-254
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



RECOMMENDATION

We advise that you check the fuel injection system. 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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ **7.1**	▲ 4.1	<1.0

Customer Id: GFL904A
Sample No.: GFL0108443
Lab Number: 06136101
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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 from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

SOOT

25 Apr 2023 Diag: Wes Davis

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Light concentration of carbon/soot present in the oil. Tests confirm the presence of fuel in the oil. 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

SOOT

16 Nov 2022 Diag: Jonathan Hester

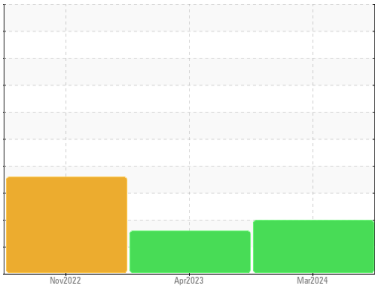
We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal. The BN level is low.

view report

OIL ANALYSIS REPORT

Area
(MC11906)
Machine Id
824019-254
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

Sample Rating Trend



FUEL

DIAGNOSIS

▲ Recommendation
We advise that you check the fuel injection system. 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
All component wear rates are normal.

▲ Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0108443**	GFL0060343	GFL0055727
Sample Date		Client Info		**26 Mar 2024**	25 Apr 2023	16 Nov 2022
Machine Age	hrs	Client Info		**0**	7715	500
Oil Age	hrs	Client Info		**0**	500	500
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	SEVERE

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	**22**	41	63
Chromium	ppm	ASTM D5185m	>20	**<1**	1	2
Nickel	ppm	ASTM D5185m	>5	**0**	0	1
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**5**	6	8
Lead	ppm	ASTM D5185m	>40	**<1**	1	6
Copper	ppm	ASTM D5185m	>330	**<1**	<1	5
Tin	ppm	ASTM D5185m	>15	**<1**	<1	2
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	**4**	15	10
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**58**	67	57
Manganese	ppm	ASTM D5185m	0	**<1**	<1	1
Magnesium	ppm	ASTM D5185m	1010	**906**	858	666
Calcium	ppm	ASTM D5185m	1070	**1065**	1080	1403
Phosphorus	ppm	ASTM D5185m	1150	**1009**	937	911
Zinc	ppm	ASTM D5185m	1270	**1191**	1140	1169
Sulfur	ppm	ASTM D5185m	2060	**3232**	3269	3365

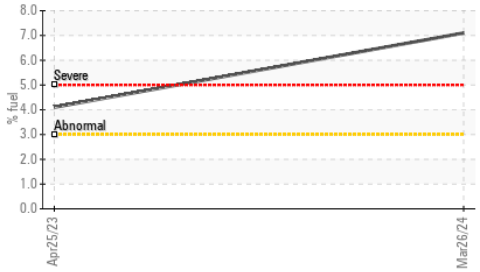
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	5	7
Sodium	ppm	ASTM D5185m		**<1**	<1	2
Potassium	ppm	ASTM D5185m	>20	**<1**	1	0
Fuel	%	ASTM D3524	>3.0	**▲ 7.1**	▲ 4.1	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**2.2**	▲ 4	▲ 8
Nitration	Abs/cm	*ASTM D7624	>20	**8.9**	10.3	19.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.0**	26.0	36.4

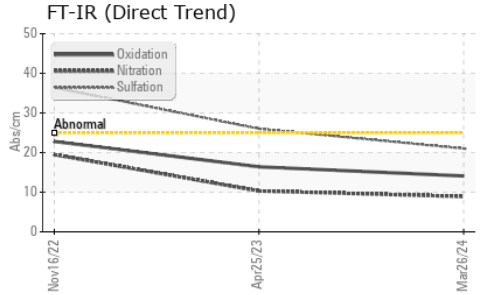
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.1**	16.4	22.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.8**	5.7	▲ 0.0

OIL ANALYSIS REPORT

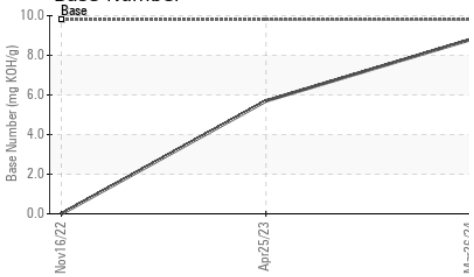
Fuel Dilution



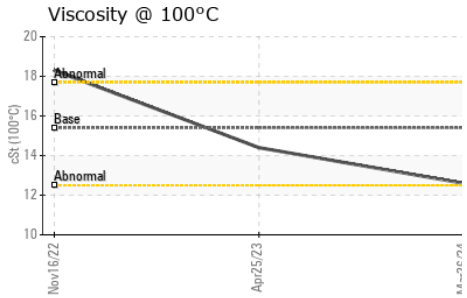
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

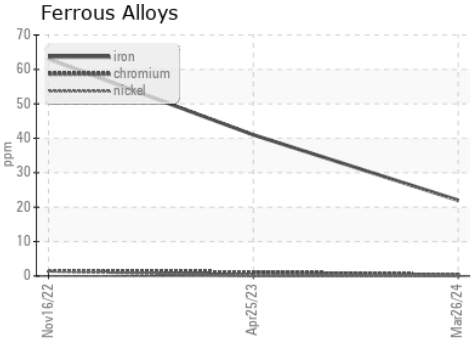


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

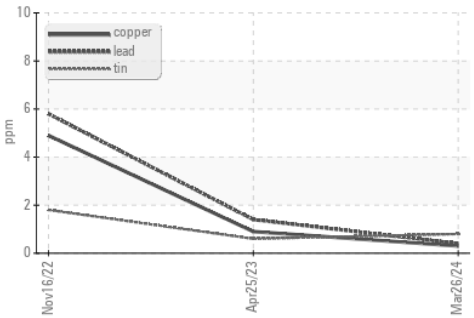
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.6**	14.4	▲ 18.3

GRAPHS

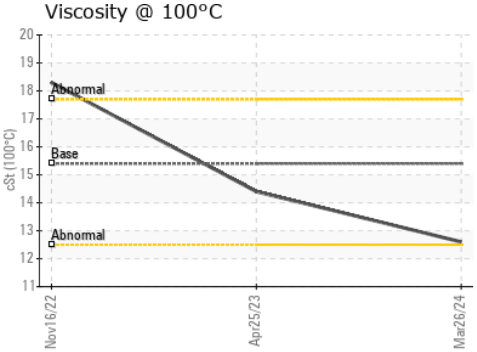
Ferrous Alloys



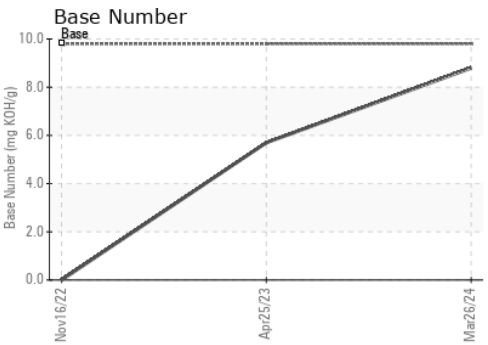
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108443 **Received** : 02 Apr 2024
Lab Number : 06136101 **Tested** : 05 Apr 2024
Unique Number : 10955566 **Diagnosed** : 05 Apr 2024 - Wes Davis
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 - 904A - Thorpe
N14985 Tieman Ave
Thorp, WI
US 54771
Contact: Andy Kane
akane@gflenv.com
T: (715)202-3420
F:

Report Id: GFL904A [WUSCAR] 06136101 (Generated: 04/05/2024 09:00:29) Rev: 1

Submitted By: See also GFL904,A,B,C, 927, 938 - Andy Kane