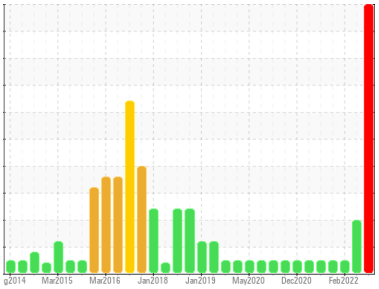
PROBLEM SUMMARY

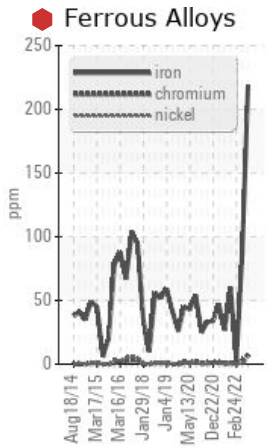
Sample Rating Trend

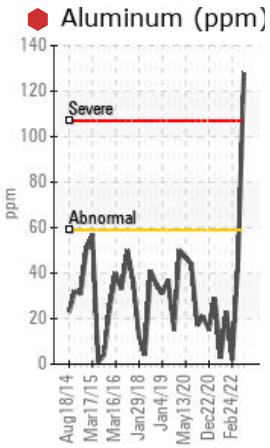


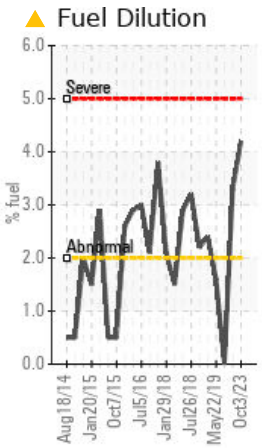
WEAR

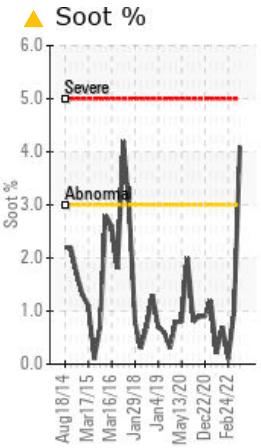
Machine Id
10381
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (60 QTS)

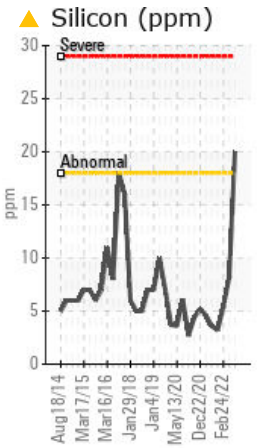
COMPONENT CONDITION SUMMARY











RECOMMENDATION

We advise that you perform a compression test. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>127	● 219	87	3
Chromium	ppm	ASTM D5185m	>3	● 7	2	<1
Aluminum	ppm	ASTM D5185m	>59	● 128	▲ 46	2
Silicon	ppm	ASTM D5185m	>18	▲ 20	8	5
Fuel	%	ASTM D3524	>2.0	▲ 4.2	▲ 3.3	<1.0
Soot %	%	*ASTM D7844	>3	▲ 4.1	1	0.1

Customer Id: GFL030
Sample No.: GFL0090108
Lab Number: 05970161
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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
Monitor	---	---	?	We advise that you perform a compression test.
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 Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

06 May 2022 Diag: Jonathan Hester

WEAR

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.The aluminum level is marginal. Light fuel dilution occurring. 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

24 Feb 2022 Diag: Don Baldridge

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

22 Nov 2021 Diag: Doug Bogart

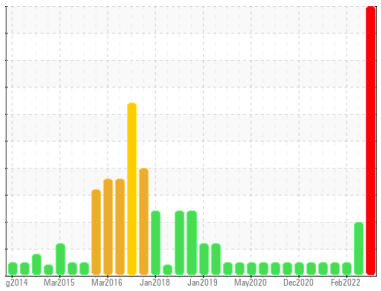
NORMAL

Oil and filter change at the time of sampling has been noted. 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

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
10381
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (60 QTS)

DIAGNOSIS

Recommendation

We advise that you perform a compression test. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

Wear

Piston, ring and cylinder wear is indicated.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material. There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel present 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		**GFL0090108**	GFL0041946	GFL0037759
Sample Date		Client Info		**03 Oct 2023**	06 May 2022	24 Feb 2022
Machine Age	hrs	Client Info		**104940**	8471	8194
Oil Age	hrs	Client Info		**600**	351	38
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>127	**219**	87	3
Chromium	ppm	ASTM D5185m	>3	**7**	2	<1
Nickel	ppm	ASTM D5185m	>30	**2**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**<1**	<1	0
Aluminum	ppm	ASTM D5185m	>59	**128**	46	2
Lead	ppm	ASTM D5185m	>29	**6**	1	<1
Copper	ppm	ASTM D5185m	>135	**13**	6	0
Tin	ppm	ASTM D5185m	>2	**1**	1	0
Antimony	ppm	ASTM D5185m		**---**	---	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**41**	240	174
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**96**	117	88
Manganese	ppm	ASTM D5185m	0	**2**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**690**	741	860
Calcium	ppm	ASTM D5185m	1070	**1621**	1517	1398
Phosphorus	ppm	ASTM D5185m	1150	**1111**	792	938
Zinc	ppm	ASTM D5185m	1270	**1398**	910	1059
Sulfur	ppm	ASTM D5185m	2060	**3134**	2336	2747

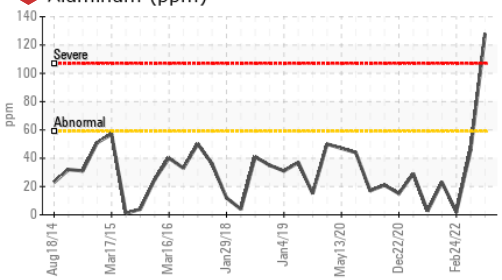
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>18	**20**	8	5
Sodium	ppm	ASTM D5185m		**148**	46	1
Potassium	ppm	ASTM D5185m	>20	**45**	5	1
Fuel	%	ASTM D3524	>2.0	**4.2**	3.3	<1.0
Glycol	%	*ASTM D2982		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**4.1**	1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**18.9**	9.8	4.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**35.8**	25.5	19.9

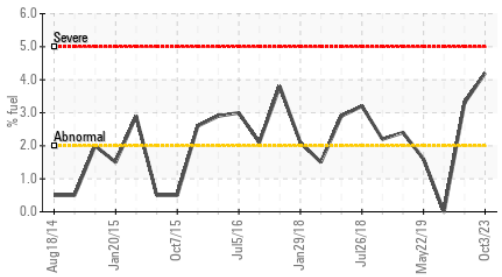
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**27.0**	18.9	13.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**5.1**	10.4	9.1

OIL ANALYSIS REPORT

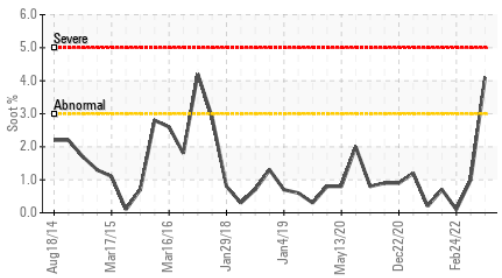
Aluminum (ppm)



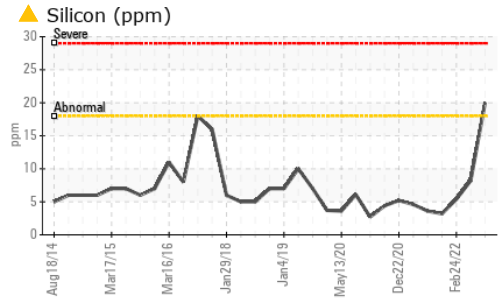
Fuel Dilution



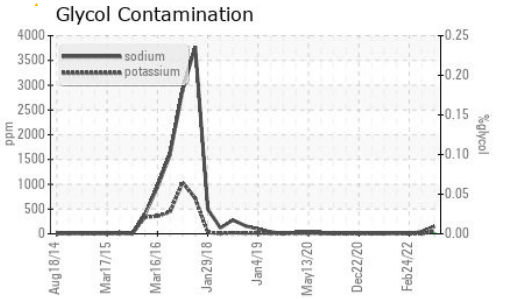
Soot %



Silicon (ppm)



Glycol Contamination

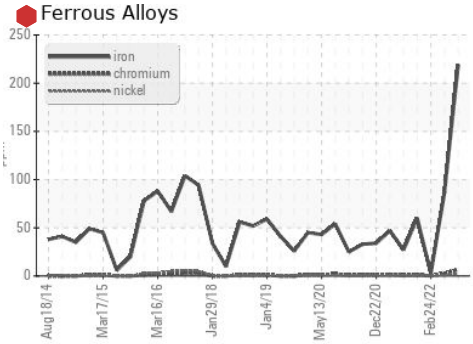


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

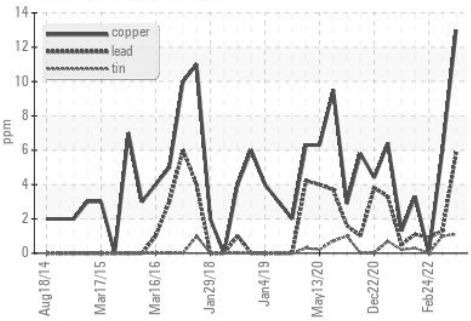
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.8**	▲ 12.3	14.0

GRAPHS

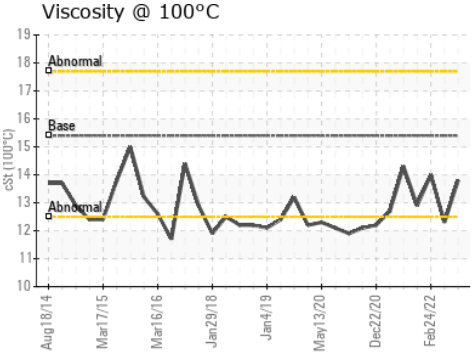
Ferrous Alloys



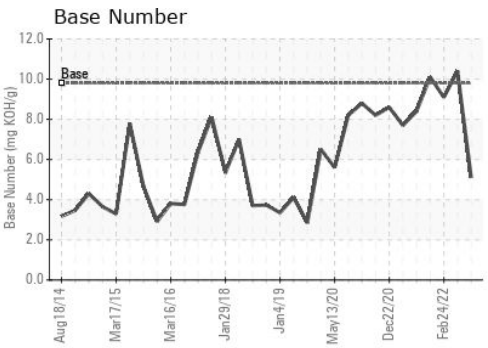
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090108 **Received** : 05 Oct 2023
Lab Number : 05970161 **Diagnosed** : 12 Oct 2023
Unique Number : 10682111 **Diagnostician** : Doug Bogart
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 - 030 - Conway Myrtle Beach
3010 HWY 378
Conway, SC
US 29527
Contact: CHET STROSCHINE
cstroschine@gflenv.com
T:
F:

Report Id: GFL030 [WUSCAR] 05970161 (Generated: 11/01/2023 14:16:09) Rev: 1

Submitted By: CHET STROSCHINE