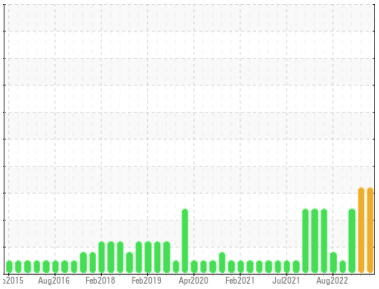
PROBLEM SUMMARY

Sample Rating Trend

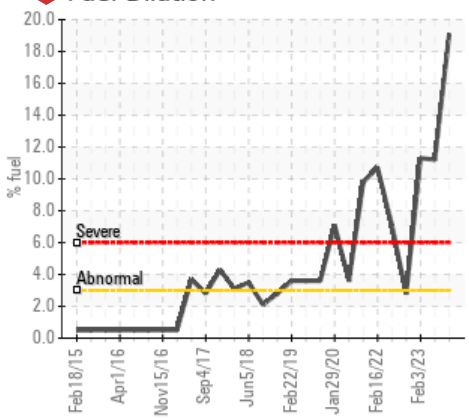


FUEL

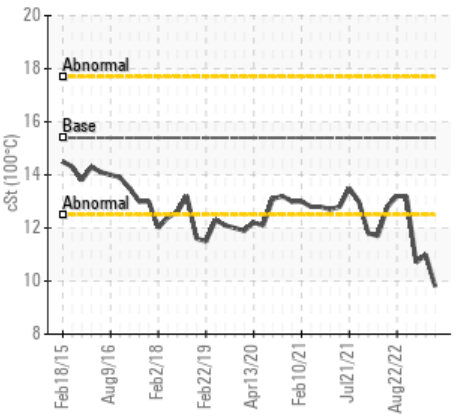
Machine Id
11196
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (26 QTS)

COMPONENT CONDITION SUMMARY

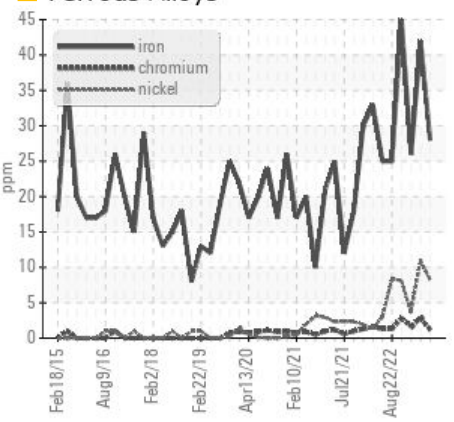
Fuel Dilution



Viscosity @ 100°C



Ferrous Alloys



RECOMMENDATION

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**	SEVERE	SEVERE
Nickel	ppm	ASTM D5185m	>4	▲ **8**	▲ 11	4
Fuel	%	ASTM D3524	>3.0	⬢ **19.1**	⬢ 11.2	⬢ 11.3
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.8**	▲ 11.0	▲ 10.7

Customer Id: GFL035
Sample No.: GFL0071567
Lab Number: 05930623
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@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.

HISTORICAL DIAGNOSIS

24 May 2023 Diag: Don Baldridge

FUEL

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.Valve wear is indicated. All other component wear rates are normal. 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

03 Feb 2023 Diag: Jonathan Hester

FUEL

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. 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

05 Dec 2022 Diag: Don Baldridge

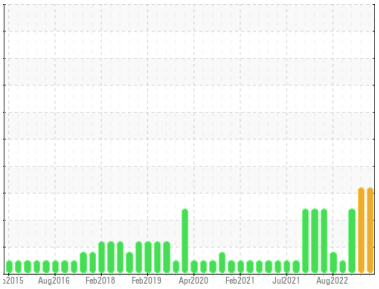
NORMAL

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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
11196
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (26 QTS)

DIAGNOSIS

Recommendation
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
Valve wear is indicated. All other component wear rates are normal.

Contamination
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 result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0071567**	GFL0071543	GFL0061724
Sample Date		Client Info		**15 Aug 2023**	24 May 2023	03 Feb 2023
Machine Age	hrs	Client Info		**34506**	34506	34506
Oil Age	hrs	Client Info		**600**	600	600
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>130	**28**	42	26
Chromium	ppm	ASTM D5185m	>10	**1**	3	2
Nickel	ppm	ASTM D5185m	>4	▲ **8**	▲ 11	4
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**8**	10	5
Lead	ppm	ASTM D5185m	>20	**0**	1	0
Copper	ppm	ASTM D5185m	>125	**2**	2	3
Tin	ppm	ASTM D5185m	>4	**<1**	<1	<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	**3**	3	4
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**51**	55	55
Manganese	ppm	ASTM D5185m	0	**<1**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**778**	829	780
Calcium	ppm	ASTM D5185m	1070	**897**	984	1008
Phosphorus	ppm	ASTM D5185m	1150	**838**	855	862
Zinc	ppm	ASTM D5185m	1270	**1035**	1120	1076
Sulfur	ppm	ASTM D5185m	2060	**2988**	2981	3169

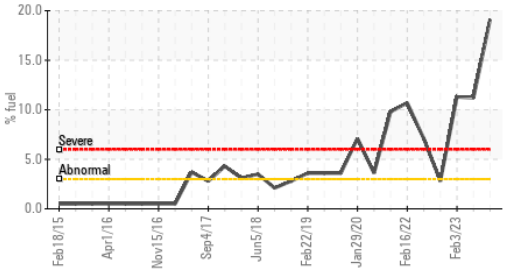
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	9	6
Sodium	ppm	ASTM D5185m		**3**	6	1
Potassium	ppm	ASTM D5185m	>20	**3**	3	0
Fuel	%	ASTM D3524	>3.0	⬢ **19.1**	⬢ 11.2	⬢ 11.3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.5**	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**10.8**	12.4	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.6**	23.3	19.6

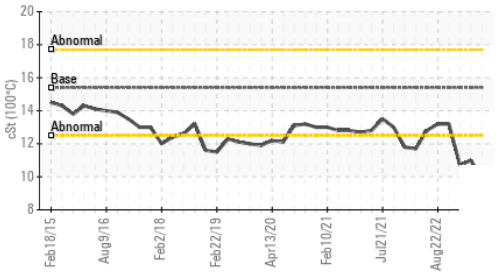
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.1**	23.3	18.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.7**	6.2	7.7

OIL ANALYSIS REPORT

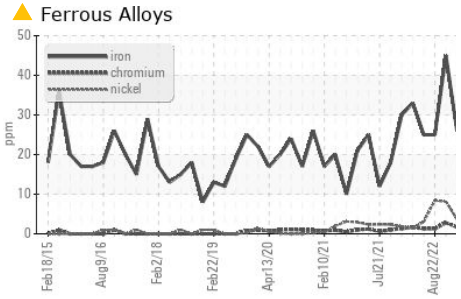
Fuel Dilution



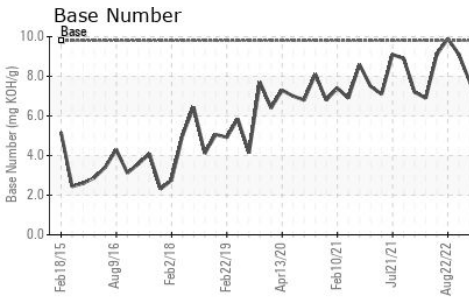
Viscosity @ 100°C



Ferrous Alloys



Base Number

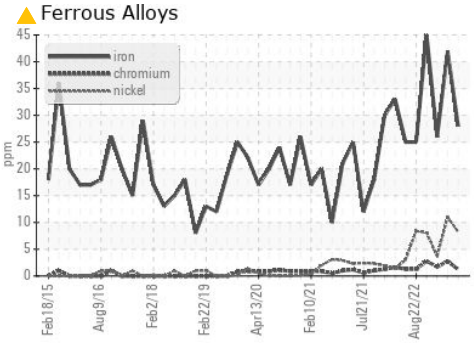


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

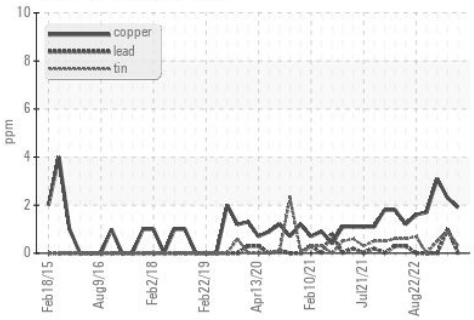
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.8**	▲ 11.0	▲ 10.7

GRAPHS

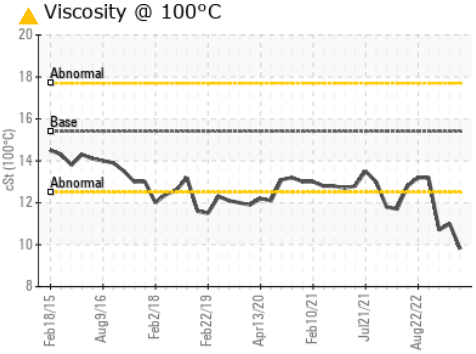
Ferrous Alloys



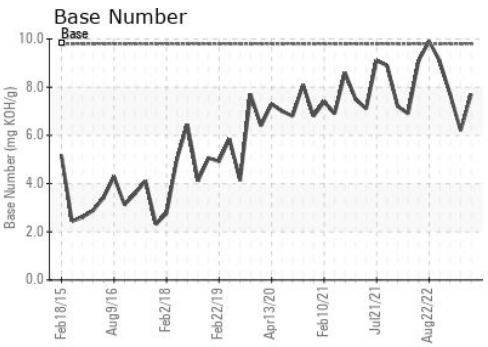
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0071567 **Received** : 22 Aug 2023
Lab Number : 05930623 **Diagnosed** : 23 Aug 2023
Unique Number : 10615894 **Diagnostician** : Sean Felton
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)

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