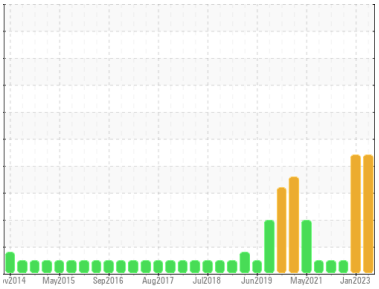
PROBLEM SUMMARY

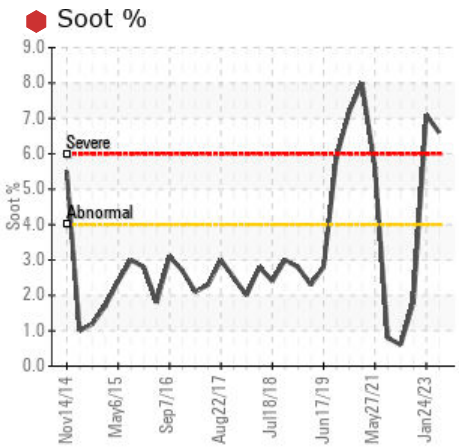
Sample Rating Trend

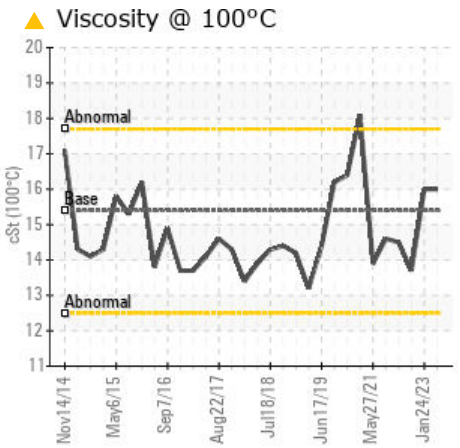


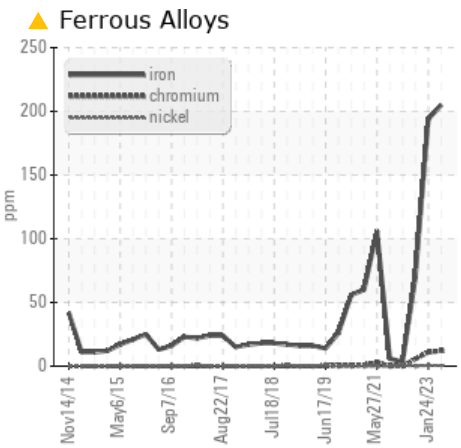
SOOT

Machine Id
2552
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>120	▲ **205**	▲ 194	70
Soot %	%	*ASTM D7844	>4	⬢ **6.6**	⬢ 7.1	1.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	▲ 0.0	9.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **16.0**	▲ 16.0	13.7

Customer Id: GFL005
Sample No.: GFL0086424
Lab Number: 05895960
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.

HISTORICAL DIAGNOSIS

24 Jan 2023 Diag: Jonathan Hester

SOOT

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. 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.Cylinder, crank, or cam shaft wear is indicated. 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

12 Jul 2022 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

10 Nov 2021 Diag: Wes Davis

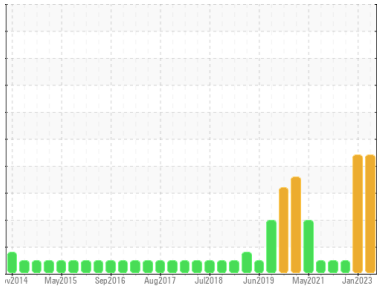
NORMAL

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

OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Machine Id
2552
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

DIAGNOSIS

Recommendation
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.

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

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

Fluid Condition
The oil viscosity is higher than normal. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0086424**	GFL0072353	GFL0048828
Sample Date		Client Info		**06 Jul 2023**	24 Jan 2023	12 Jul 2022
Machine Age	mls	Client Info		**584788**	584788	0
Oil Age	mls	Client Info		**579**	258	251
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**SEVERE**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	▲ **205**	▲ 194	70
Chromium	ppm	ASTM D5185m	>20	**12**	11	6
Nickel	ppm	ASTM D5185m	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**1**	1	1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**7**	6	2
Lead	ppm	ASTM D5185m	>40	**6**	10	6
Copper	ppm	ASTM D5185m	>330	**74**	87	8
Tin	ppm	ASTM D5185m	>15	**4**	5	4
Antimony	ppm	ASTM D5185m		**---**	---	---
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	**7**	7	9
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**56**	55	58
Manganese	ppm	ASTM D5185m	0	**2**	3	2
Magnesium	ppm	ASTM D5185m	1010	**928**	855	922
Calcium	ppm	ASTM D5185m	1070	**1016**	1000	1153
Phosphorus	ppm	ASTM D5185m	1150	**898**	831	967
Zinc	ppm	ASTM D5185m	1270	**1170**	1050	1187
Sulfur	ppm	ASTM D5185m	2060	**2715**	2566	3517

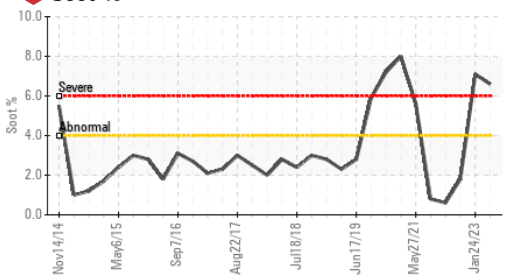
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**17**	15	12
Sodium	ppm	ASTM D5185m		**6**	7	4
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	● **6.6**	● 7.1	1.8
Nitration	Abs/cm	*ASTM D7624	>20	**15.9**	20.0	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**33.1**	35.9	20.5

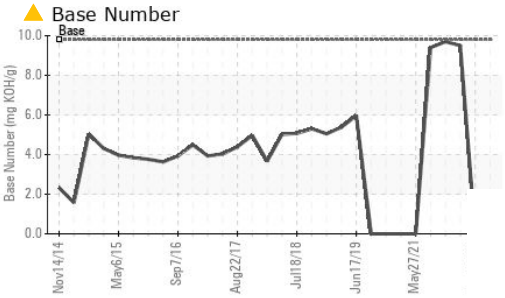
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.9**	28.2	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	▲ 0.0	9.5

OIL ANALYSIS REPORT

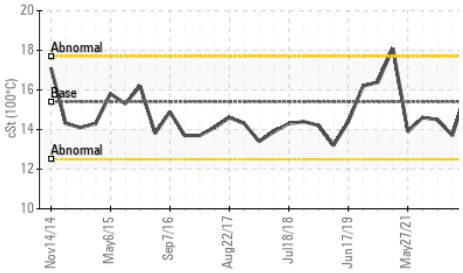
Soot %



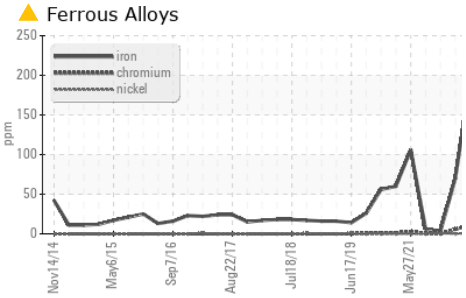
Base Number



Viscosity @ 100°C



Ferrous Alloys

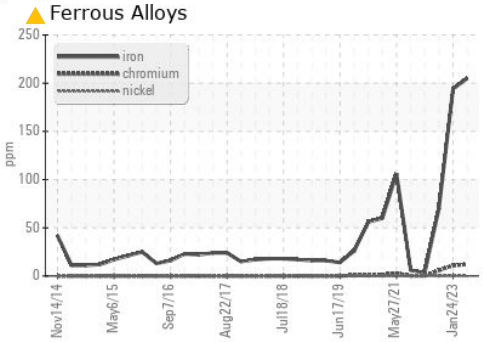


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

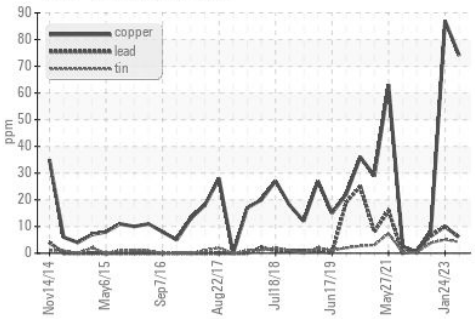
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **16.0**	▲ 16.0	13.7

GRAPHS

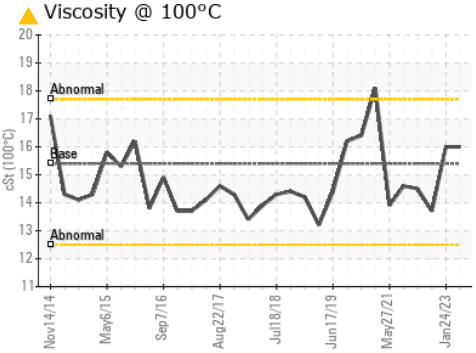
Ferrous Alloys



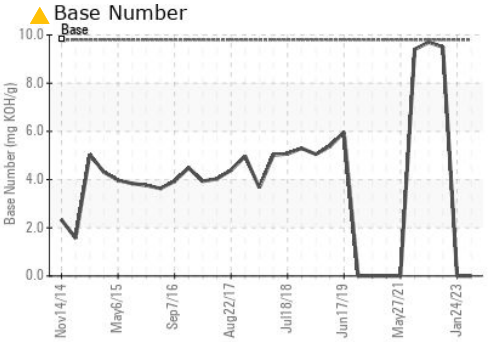
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: GFL0086424	**Received**	: 12 Jul 2023
Lab Number	: 05895960	**Diagnosed**	: 13 Jul 2023
Unique Number	: 10551770	**Diagnostician**	: Don Baldridge
Test Package	: FLEET		

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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