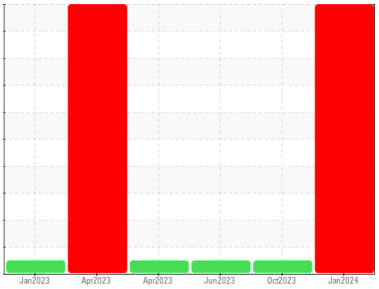
PROBLEM SUMMARY

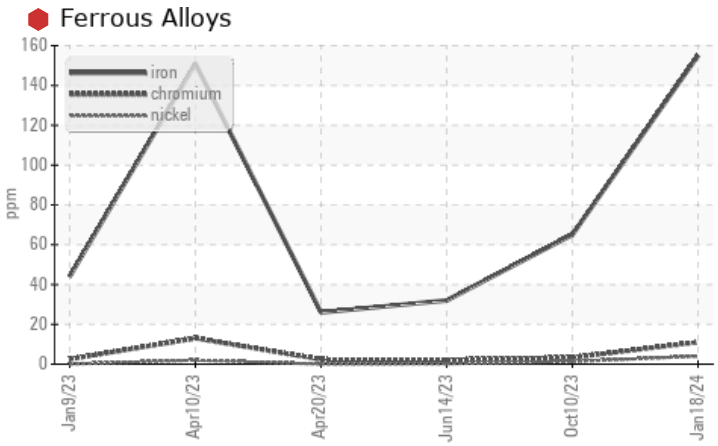
Machine Id
723020-361623
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>80	**155**	65	32
Chromium	ppm	ASTM D5185m	>5	**11**	3	2

Customer Id: GFL856
Sample No.: GFL0092139
Lab Number: 06069006
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
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
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.

HISTORICAL DIAGNOSIS

10 Oct 2023 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

14 Jun 2023 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

20 Apr 2023 Diag: Wes Davis

NORMAL

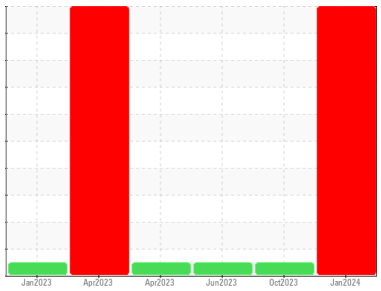
Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Machine Id
723020-361623
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

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

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0092139**	GFL0084634	GFL0084751
Sample Date		Client Info		**18 Jan 2024**	10 Oct 2023	14 Jun 2023
Machine Age	hrs	Client Info		**5261**	269507	257000
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
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	>80	**155**	65	32
Chromium	ppm	ASTM D5185m	>5	**11**	3	2
Nickel	ppm	ASTM D5185m	>2	**4**	1	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	**7**	3	2
Lead	ppm	ASTM D5185m	>30	**6**	3	5
Copper	ppm	ASTM D5185m	>150	**9**	2	1
Tin	ppm	ASTM D5185m	>5	**<1**	<1	0
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	**2**	<1	3
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**60**	54	57
Manganese	ppm	ASTM D5185m	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**1042**	897	958
Calcium	ppm	ASTM D5185m	1070	**1120**	979	1162
Phosphorus	ppm	ASTM D5185m	1150	**1044**	893	979
Zinc	ppm	ASTM D5185m	1270	**1320**	1132	1232
Sulfur	ppm	ASTM D5185m	2060	**3042**	2720	3462

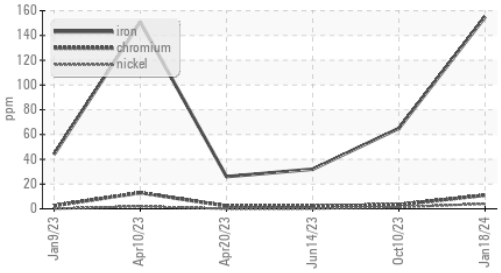
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**31**	11	6
Sodium	ppm	ASTM D5185m		**8**	7	5
Potassium	ppm	ASTM D5185m	>20	**2**	4	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.9**	1.5	1.5
Nitration	Abs/cm	*ASTM D7624	>20	**12.9**	10.3	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.1**	21.3	23.4

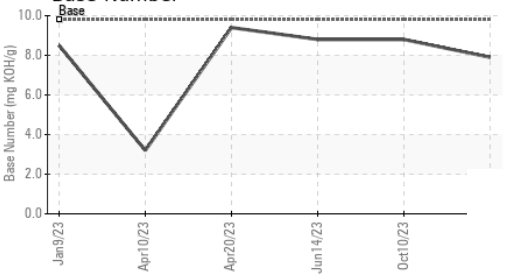
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.9**	17.8	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.9**	8.8	8.8

OIL ANALYSIS REPORT

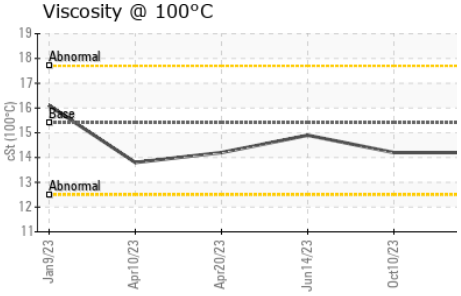
Ferrous Alloys



Base Number



Viscosity @ 100°C

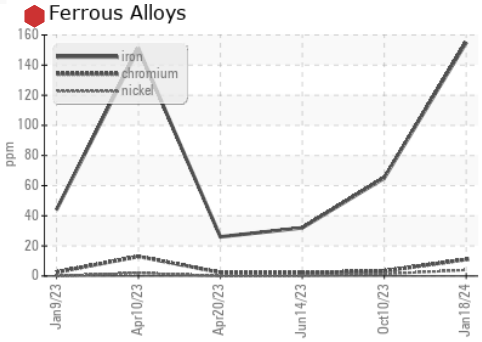


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

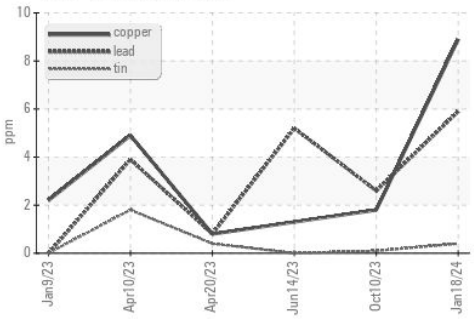
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.2**	14.2	14.9

GRAPHS

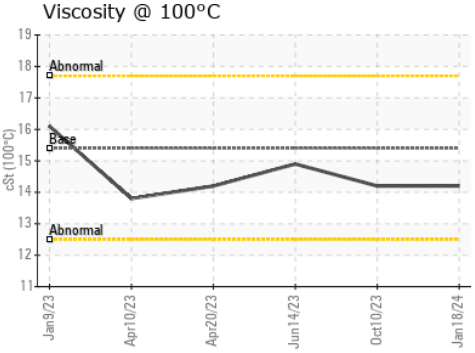
Ferrous Alloys



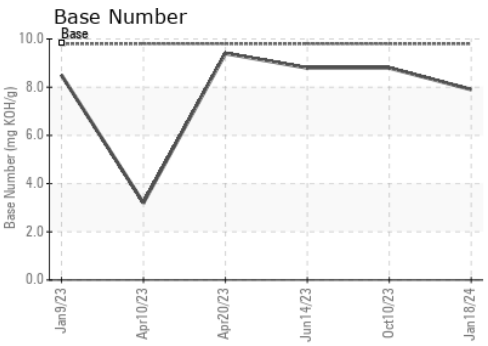
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0092139
Lab Number : 06069006
Unique Number : 10845683
Test Package : FLEET

Recieved : 23 Jan 2024
Diagnosed : 25 Jan 2024
Diagnostician : Sean Felton

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 - 856 - Houston South
8515 Highway 6 South
Houston, TX
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Contact: Jose Gonzalez
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T:
F:

Report Id: GFL856 [WUSCAR] 06069006 (Generated: 01/26/2024 00:47:58) Rev: 1

Submitted By: Apolinar Zacarias