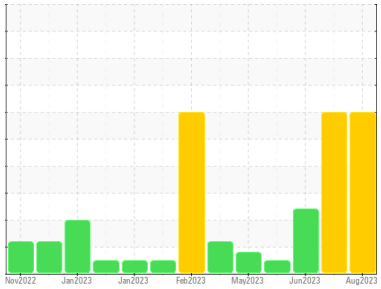
PROBLEM SUMMARY

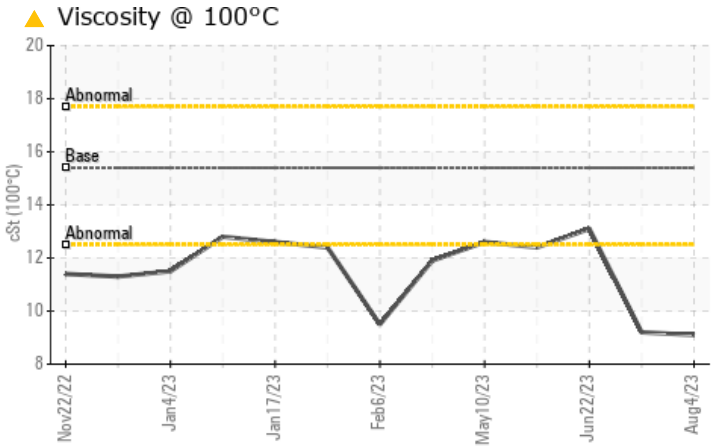
Machine Id
723008-234527
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

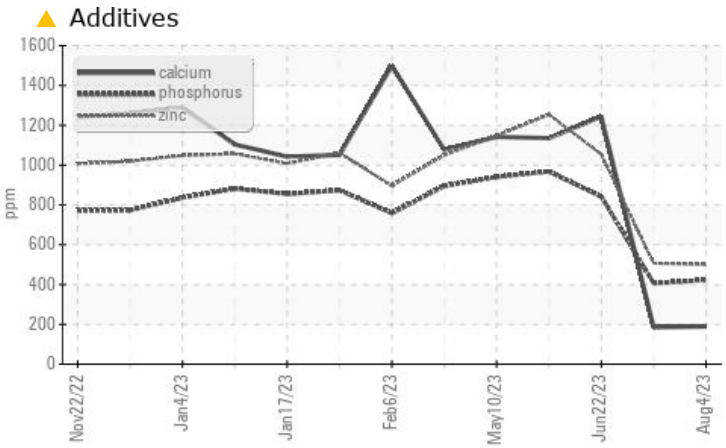
Sample Rating Trend



DEGRADATION

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Molybdenum	ppm	ASTM D5185m	60	▲ **8**	▲ 8	53
Magnesium	ppm	ASTM D5185m	1010	▲ **94**	▲ 104	880
Calcium	ppm	ASTM D5185m	1070	▲ **189**	▲ 185	1244
Phosphorus	ppm	ASTM D5185m	1150	▲ **423**	▲ 406	842
Zinc	ppm	ASTM D5185m	1270	▲ **499**	▲ 507	1054
Sulfur	ppm	ASTM D5185m	2060	▲ **1001**	▲ 1261	3097
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	⬢ **0.5**	⬢ 1.0	8.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.1**	▲ 9.2	13.1

Customer Id: GFL076
Sample No.: GFL0086359
Lab Number: 05921978
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

11 Jul 2023 Diag: Doug Bogart

DEGRADATION

We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.All component wear rates are normal. Fuel content negligible. No other contaminants were detected in the oil. The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. The BN level is low.

view report

22 Jun 2023 Diag: Don Baldridge

DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. 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

03 Jun 2023 Diag: Wes Davis

NORMAL

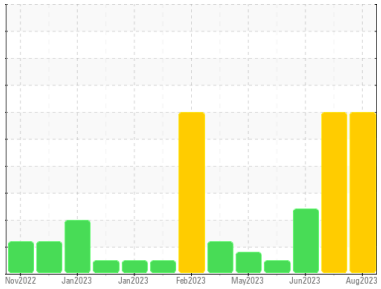
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Machine Id
723008-234527
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

Sample Rating Trend



DEGRADATION

DIAGNOSIS

Recommendation
We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
No other contaminants were detected in the oil.

Fluid Condition
The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0086359**	GFL0064603	GFL0045432
Sample Date		Client Info		**04 Aug 2023**	11 Jul 2023	22 Jun 2023
Machine Age	hrs	Client Info		**22492**	22344	0
Oil Age	hrs	Client Info		**405**	0	0
Oil Changed		Client Info		**Not Changd**	N/A	N/A
Sample Status				**SEVERE**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	2.3	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**21**	24	12
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**<1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**5**	8	▲ 6
Lead	ppm	ASTM D5185m	>40	**2**	<1	<1
Copper	ppm	ASTM D5185m	>330	**7**	2	5
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	28
Barium	ppm	ASTM D5185m	0	**0**	<1	1
Molybdenum	ppm	ASTM D5185m	60	▲ **8**	▲ 8	53
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	▲ **94**	▲ 104	880
Calcium	ppm	ASTM D5185m	1070	▲ **189**	▲ 185	1244
Phosphorus	ppm	ASTM D5185m	1150	▲ **423**	▲ 406	842
Zinc	ppm	ASTM D5185m	1270	▲ **499**	▲ 507	1054
Sulfur	ppm	ASTM D5185m	2060	▲ **1001**	▲ 1261	3097

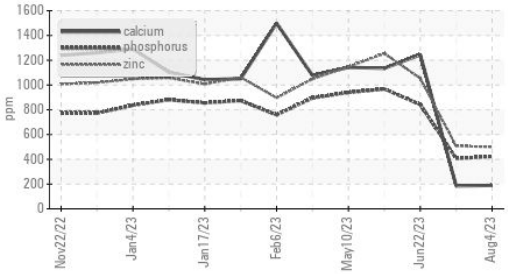
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	15	▲ 26
Sodium	ppm	ASTM D5185m		**15**	7	4
Potassium	ppm	ASTM D5185m	>20	**2**	2	11

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.6**	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**4.1**	4.0	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**14.3**	13.7	23.0

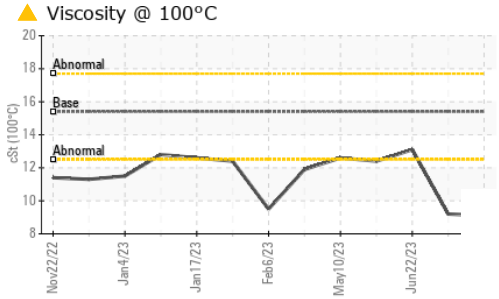
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**6.7**	6.1	20.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**0.5**	1.0	8.5

OIL ANALYSIS REPORT

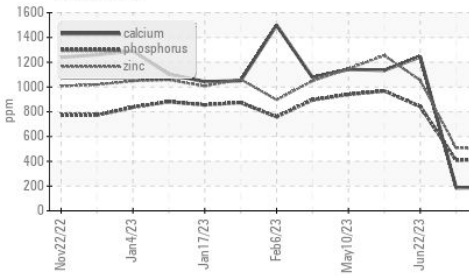
Additives



Viscosity @ 100°C



Additives

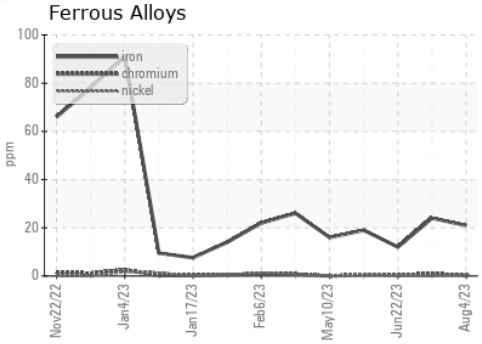


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

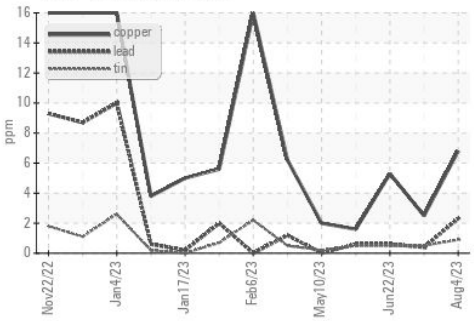
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.1**	▲ 9.2	13.1

GRAPHS

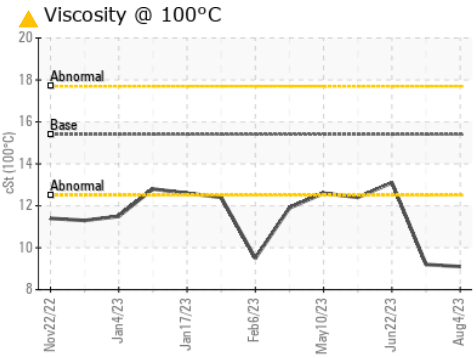
Ferrous Alloys



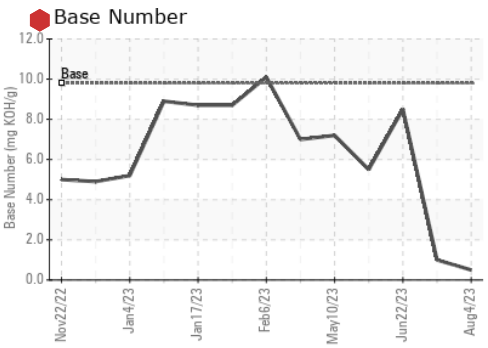
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086359
Lab Number : 05921978
Unique Number : 10601925
Test Package : FLEET

Received : 11 Aug 2023
Diagnosed : 14 Aug 2023
Diagnostician : Jonathan Hester

GFL Environmental - 076 - Alpine
1130 County Line Rd
Trafford, AL
US 35172
Contact: CHELSEA BRYAN

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)

T:
F: