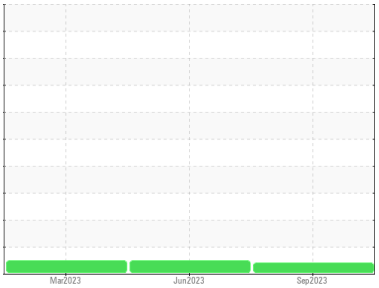
PROBLEM SUMMARY

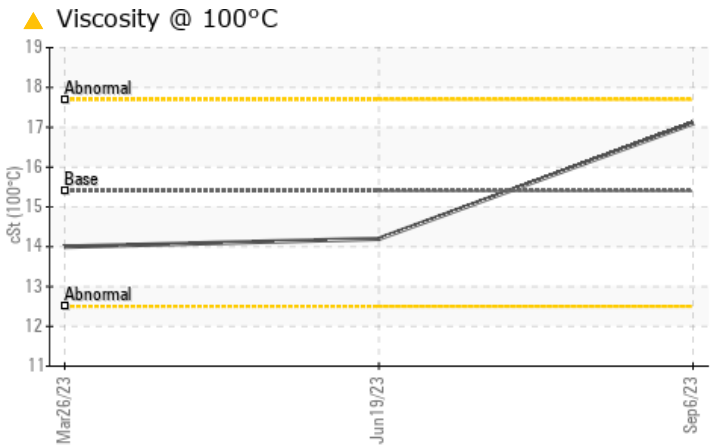
Sample Rating Trend



VISCOSITY

Machine Id
713049
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	NORMAL
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **17.1**	14.2	14.0

Customer Id: GFL918
Sample No.: GFL0089507
Lab Number: 05957531
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
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.

HISTORICAL DIAGNOSIS

19 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

26 Mar 2023 Diag: Wes Davis

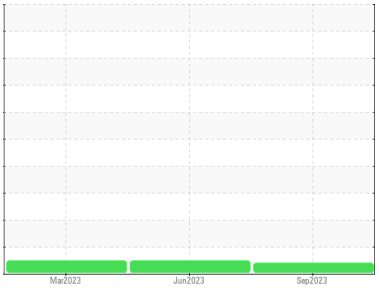
NORMAL

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

Sample Rating Trend



VISCOSITY

Machine Id
713049
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

Fluid Condition
The oil viscosity is higher than normal. 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		**GFL0089507**	GFL0084533	GFL0071471
Sample Date		Client Info		**06 Sep 2023**	19 Jun 2023	26 Mar 2023
Machine Age	hrs	Client Info		**2112**	1622	1069
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	**64**	15	9
Chromium	ppm	ASTM D5185m	>5	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**1**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	**0**	6	2
Lead	ppm	ASTM D5185m	>30	**0**	3	0
Copper	ppm	ASTM D5185m	>150	**3**	2	2
Tin	ppm	ASTM D5185m	>5	**<1**	2	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

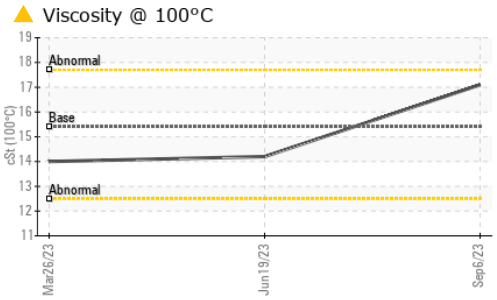
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**17**	3	5
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**13**	63	60
Manganese	ppm	ASTM D5185m	0	**3**	2	1
Magnesium	ppm	ASTM D5185m	1010	**204**	1026	926
Calcium	ppm	ASTM D5185m	1070	**231**	1131	1138
Phosphorus	ppm	ASTM D5185m	1150	**1224**	1054	1016
Zinc	ppm	ASTM D5185m	1270	**282**	1310	1265
Sulfur	ppm	ASTM D5185m	2060	**5375**	3586	3679

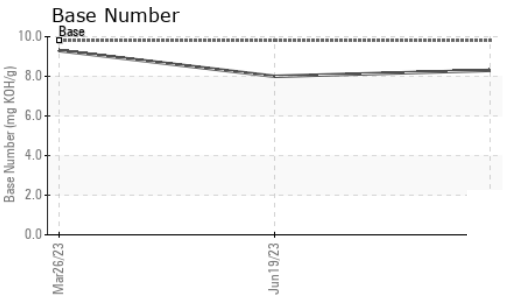
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**4**	4	3
Sodium	ppm	ASTM D5185m		**7**	5	3
Potassium	ppm	ASTM D5185m	>20	**4**	4	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0**	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**5.9**	8.7	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**31.4**	20.0	19.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.3**	18.0	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.3**	8.0	9.3

OIL ANALYSIS REPORT



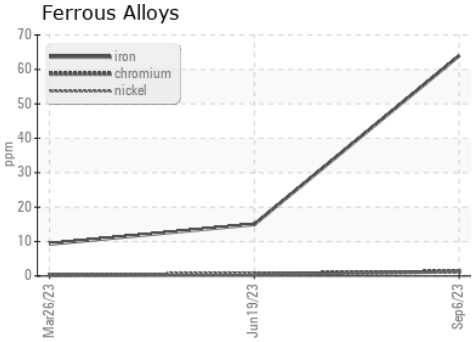


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

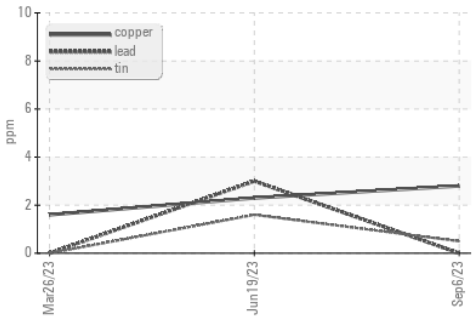
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **17.1**	14.2	14.0

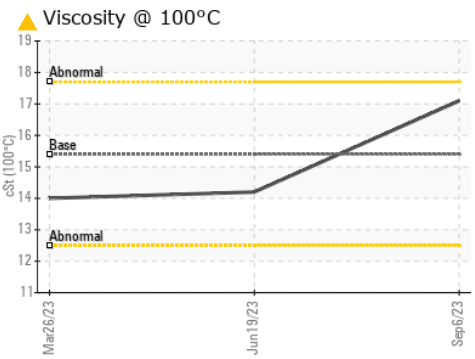
GRAPHS

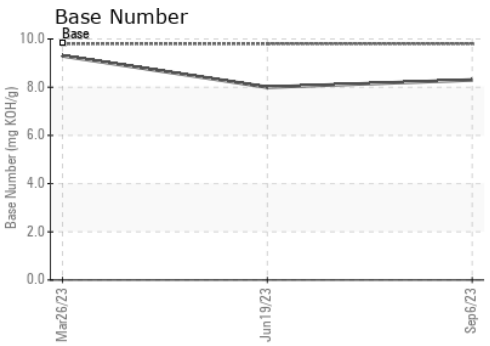
Ferrous Alloys



Non-ferrous Metals







Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0089507
Lab Number : 05957531
Unique Number : 10658744
Test Package : FLEET

Received : 21 Sep 2023
Diagnosed : 26 Sep 2023
Diagnostician : Doug Bogart

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 - 918 - Hartland HC
630 E Industrial Drive
Hartland, WI
US 53029
Contact: David McCall
david.mccall@gflenv.com
T: (262)369-3069
F: