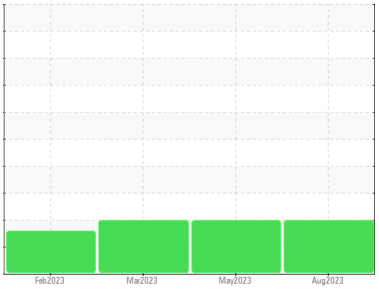
PROBLEM SUMMARY

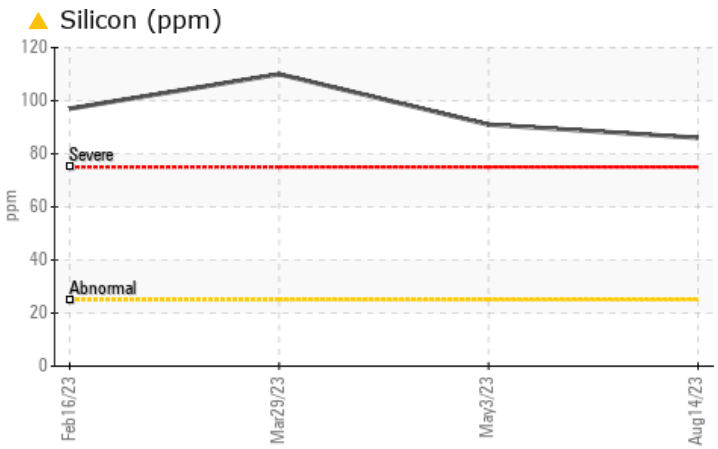
Sample Rating Trend

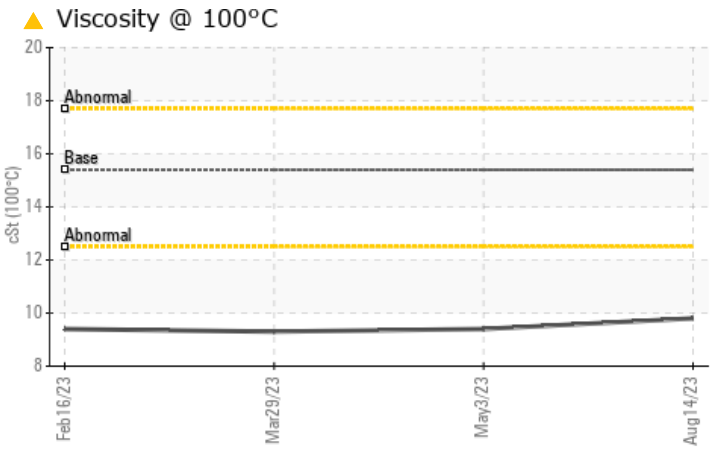


DIRT

Machine Id
413027
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. No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m	>25	▲ **86**	▲ 91	▲ 110
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.8**	▲ 9.4	▲ 9.3

Customer Id: GFL814
Sample No.: GFL0090997
Lab Number: 05928634
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.

HISTORICAL DIAGNOSIS

03 May 2023 Diag: Don Baldridge

DIRT

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

29 Mar 2023 Diag: Don Baldridge

DIRT

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

16 Feb 2023 Diag: Angela Borella

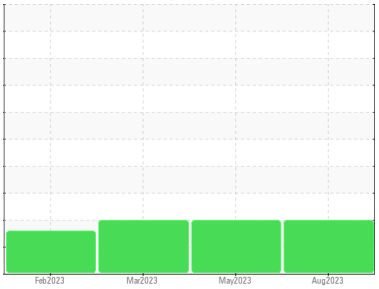
DIRT

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. Elemental level of silicon (Si) above normal. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within an undetermined range, advise investigate. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
413027
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0090997**	GFL0064689	GFL0074687
Sample Date		Client Info		**14 Aug 2023**	03 May 2023	29 Mar 2023
Machine Age	hrs	Client Info		**431**	329	203
Oil Age	hrs	Client Info		**102**	126	170
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

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	>100	**40**	33	27
Chromium	ppm	ASTM D5185m	>20	**1**	1	<1
Nickel	ppm	ASTM D5185m	>4	**5**	4	4
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**2**	2	<1
Aluminum	ppm	ASTM D5185m	>20	**17**	16	12
Lead	ppm	ASTM D5185m	>40	**2**	0	<1
Copper	ppm	ASTM D5185m	>330	**173**	140	101
Tin	ppm	ASTM D5185m	>15	**4**	4	3
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	**268**	281	415
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**118**	117	129
Manganese	ppm	ASTM D5185m	0	**4**	4	4
Magnesium	ppm	ASTM D5185m	1010	**726**	712	650
Calcium	ppm	ASTM D5185m	1070	**1429**	1406	1430
Phosphorus	ppm	ASTM D5185m	1150	**692**	664	689
Zinc	ppm	ASTM D5185m	1270	**846**	822	816
Sulfur	ppm	ASTM D5185m	2060	**2688**	2729	2258

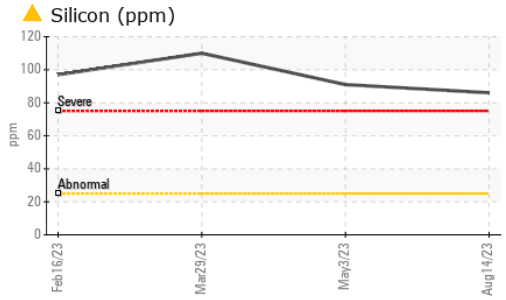
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **86**	▲ 91	▲ 110
Sodium	ppm	ASTM D5185m		**4**	3	0
Potassium	ppm	ASTM D5185m	>20	**44**	41	32
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	0.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**8.8**	7.9	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.3**	22.9	25.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.9**	20.7	20.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.1**	7.7	9.1

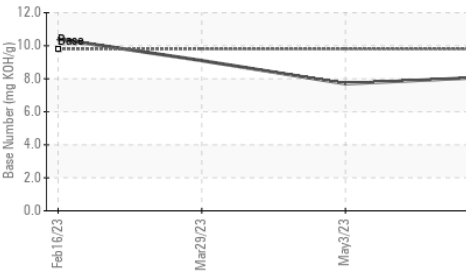
OIL ANALYSIS REPORT

Silicon (ppm)



Fuel Dilution

Base Number



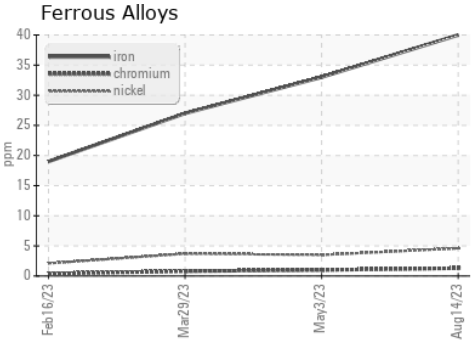
Fuel Dilution

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

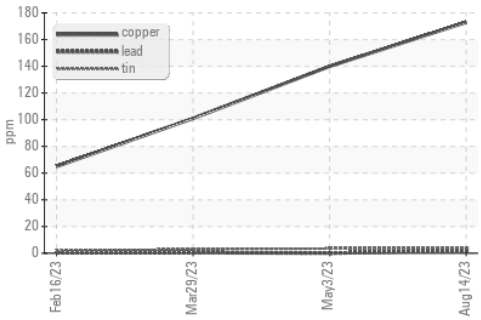
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.8**	▲ 9.4	▲ 9.3

GRAPHS

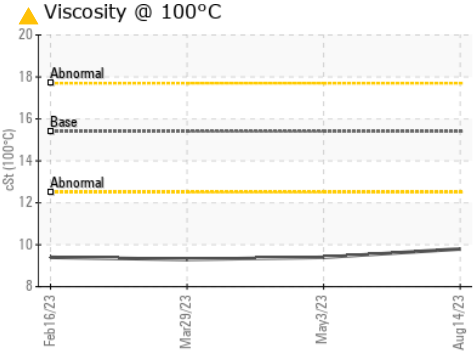
Ferrous Alloys



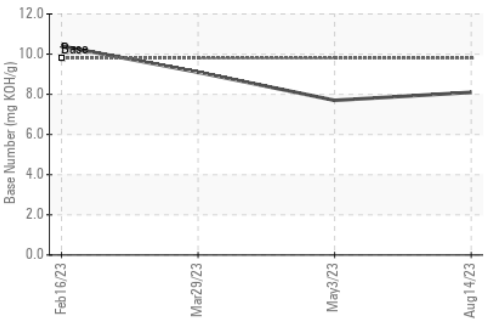
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090997
Lab Number : 05928634
Unique Number : 10608581
Test Package : FLEET (Additional Tests: FuelDilution)

Received : 18 Aug 2023
Diagnosed : 21 Aug 2023
Diagnostician : Sean Felton

GFL Environmental - 814 - Little Rock Hauling
4005 Hwy 161 N.
LIttle Rock, AR
US 72117
Contact: Brad Manager

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:

Report Id: GFL814 [WUSCAR] 05928634 (Generated: 08/21/2023 15:22:39) Rev: 1

Submitted By: Nicole Walls