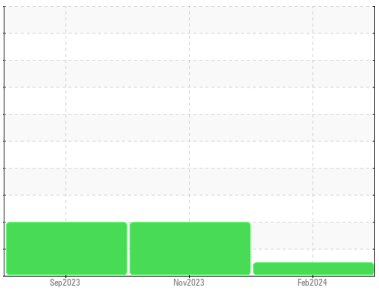
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
(BD49684) {UNASSIGNED}
Machine Id
913184
Component
1 Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

DIAGNOSIS

Recommendation
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0106678**	GFL0097655	GFL0087267
Sample Date		Client Info		**14 Feb 2024**	07 Nov 2023	24 Sep 2023
Machine Age	hrs	Client Info		**1995**	1170	802
Oil Age	hrs	Client Info		**225**	702	802
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	0.2
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	>120	**9**	46	49
Chromium	ppm	ASTM D5185m	>20	**<1**	1	1
Nickel	ppm	ASTM D5185m	>5	**<1**	3	3
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**2**	4	3
Lead	ppm	ASTM D5185m	>40	**0**	<1	0
Copper	ppm	ASTM D5185m	>330	**0**	105	162
Tin	ppm	ASTM D5185m	>15	**<1**	3	3
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	**2**	51	121
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**55**	92	110
Manganese	ppm	ASTM D5185m	0	**<1**	3	4
Magnesium	ppm	ASTM D5185m	1010	**908**	705	725
Calcium	ppm	ASTM D5185m	1070	**952**	1270	1423
Phosphorus	ppm	ASTM D5185m	1150	**1044**	716	717
Zinc	ppm	ASTM D5185m	1270	**1224**	908	883
Sulfur	ppm	ASTM D5185m	2060	**2981**	1987	2131

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**2**	▲ 49	▲ 69
Sodium	ppm	ASTM D5185m		**4**	7	3
Potassium	ppm	ASTM D5185m	>20	**<1**	5	6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.1**	0.1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	**5.5**	6.4	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.3**	19.0	24.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.0**	14.7	22.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.6**	8.7	7.0

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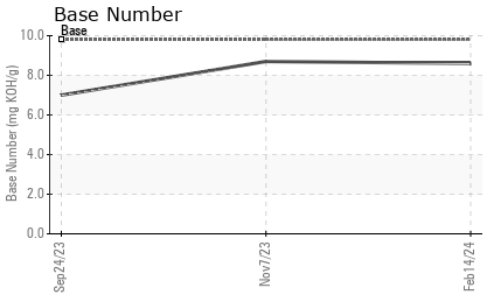
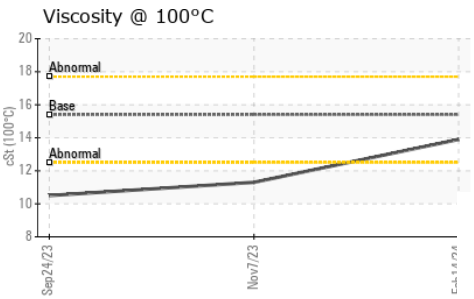
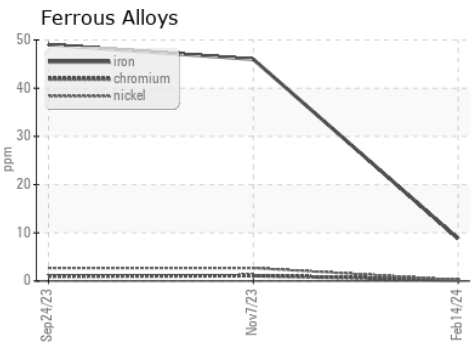


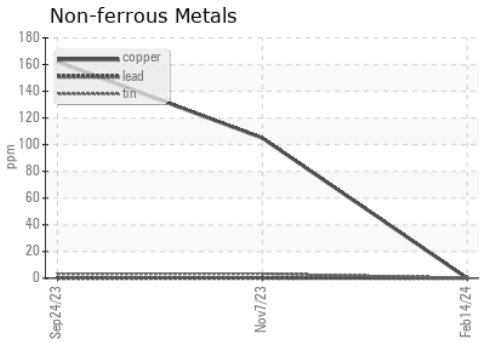


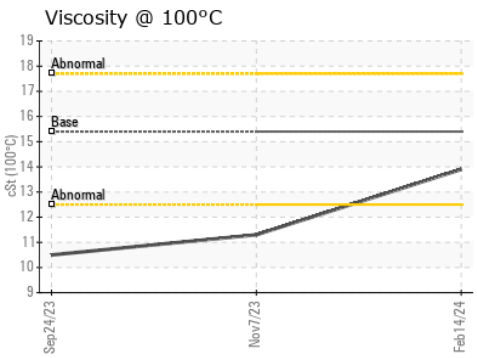
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

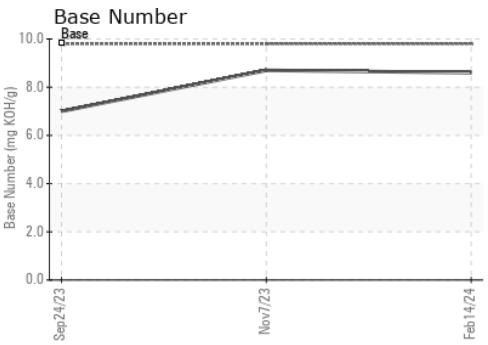
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.9**	▲ 11.3	▲ 10.5

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0106678
Lab Number : 06094874
Unique Number : 10887727
Test Package : FLEET

Received : 20 Feb 2024
Tested : 21 Feb 2024
Diagnosed : 21 Feb 2024 - Wes Davis

GFL Environmental - 405 - Arbor Hills
7400 Napier Rd
NORTHVILLE, MI
US 48168
Contact: Anthony Hopkins
ahopkins@gflenv.com
T:
F:

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)