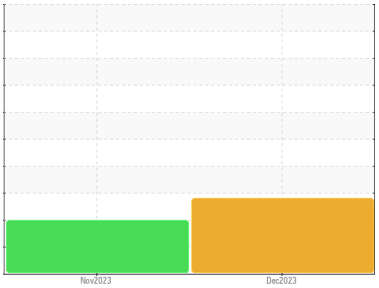
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
414046
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

▲ 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		**GFL0101105**	GFL0087073	---
Sample Date		Client Info		**19 Dec 2023**	29 Nov 2023	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**Not Changd**	Not Changd	---
Sample Status				**ABNORMAL**	ABNORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	0.0	---
Water		WC Method	>0.2	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**24**	18	---
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	---
Nickel	ppm	ASTM D5185m	>2	**<1**	1	---
Titanium	ppm	ASTM D5185m		**0**	<1	---
Silver	ppm	ASTM D5185m	>2	**<1**	<1	---
Aluminum	ppm	ASTM D5185m	>25	**11**	8	---
Lead	ppm	ASTM D5185m	>45	**<1**	<1	---
Copper	ppm	ASTM D5185m	>85	▲ **126**	47	---
Tin	ppm	ASTM D5185m	>4	**2**	2	---
Vanadium	ppm	ASTM D5185m		**0**	<1	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**302**	372	---
Barium	ppm	ASTM D5185m	0	**0**	0	---
Molybdenum	ppm	ASTM D5185m	60	**131**	118	---
Manganese	ppm	ASTM D5185m	0	**3**	4	---
Magnesium	ppm	ASTM D5185m	1010	**682**	662	---
Calcium	ppm	ASTM D5185m	1070	**1514**	1398	---
Phosphorus	ppm	ASTM D5185m	1150	**689**	691	---
Zinc	ppm	ASTM D5185m	1270	**787**	812	---
Sulfur	ppm	ASTM D5185m	2060	**2311**	2152	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	▲ **59**	▲ 63	---
Sodium	ppm	ASTM D5185m		**2**	3	---
Potassium	ppm	ASTM D5185m	>20	**20**	14	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	**8.6**	6.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.6**	26.0	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.4**	20.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.4**	9.4	---

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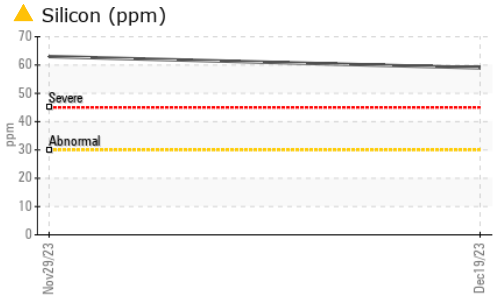
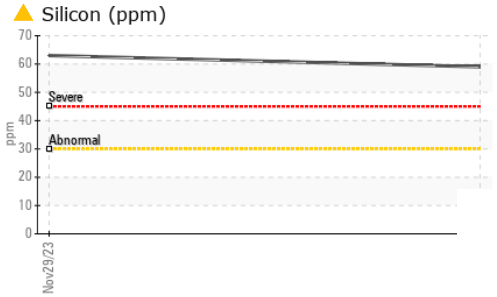
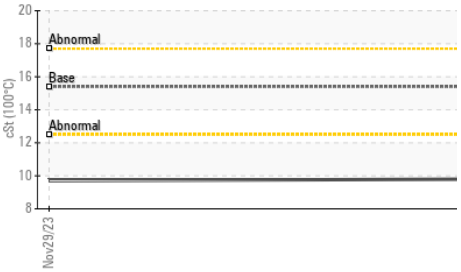
Silicon (ppm)



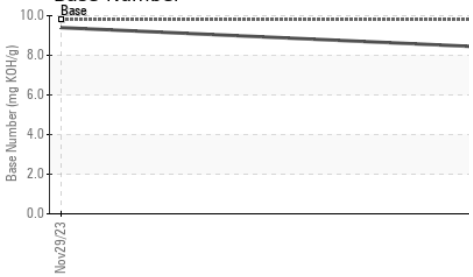
Silicon (ppm)



Viscosity @ 100°C



Base Number

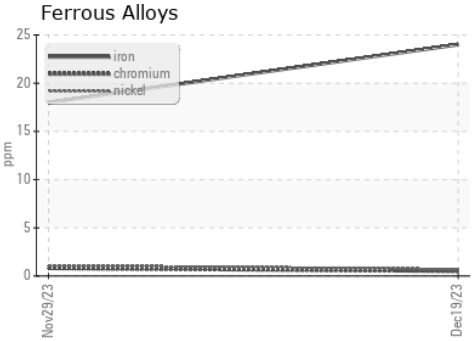


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

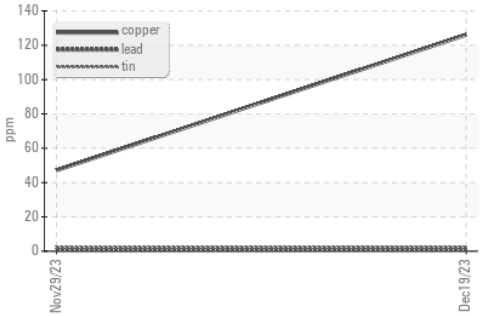
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.8**	▲ 9.7	---

GRAPHS

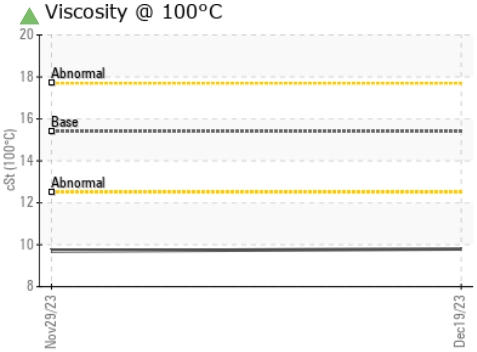
Ferrous Alloys



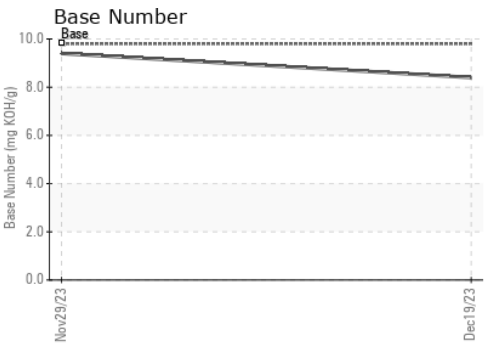
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101105
Lab Number : 06046748
Unique Number : 10807356
Test Package : FLEET

Recieved : 28 Dec 2023
Diagnosed : 29 Dec 2023
Diagnostician : Jonathan Hester

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)

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