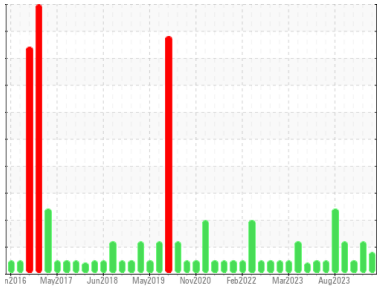
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
10623
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (13 GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected 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		**GFL0101176**	GFL0101252	GFL0094367
Sample Date		Client Info		**29 Dec 2023**	22 Nov 2023	27 Sep 2023
Machine Age	hrs	Client Info		**19355**	19203	18773
Oil Age	hrs	Client Info		**582**	430	472
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**MARGINAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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	>75	**8**	5	2
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**2**	<1	<1
Lead	ppm	ASTM D5185m	>25	**0**	0	0
Copper	ppm	ASTM D5185m	>100	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>4	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**8**	5	12
Barium	ppm	ASTM D5185m	0	**0**	0	2
Molybdenum	ppm	ASTM D5185m	60	**58**	54	59
Manganese	ppm	ASTM D5185m	0	**<1**	0	0
Magnesium	ppm	ASTM D5185m	1010	**864**	829	811
Calcium	ppm	ASTM D5185m	1070	**1002**	1042	1016
Phosphorus	ppm	ASTM D5185m	1150	**1018**	971	923
Zinc	ppm	ASTM D5185m	1270	**1176**	1126	1112
Sulfur	ppm	ASTM D5185m	2060	**2788**	2640	2962

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	4	4
Sodium	ppm	ASTM D5185m		**21**	18	7
Potassium	ppm	ASTM D5185m	>20	**0**	0	<1
Fuel	%	ASTM D3524	>3.0	▲ **1.9**	▲ 4.5	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.3**	0.2	0
Nitration	Abs/cm	*ASTM D7624	>20	**7.0**	6.9	4.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.3**	17.8	15.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.7**	13.4	11.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.9**	7.7	8.1

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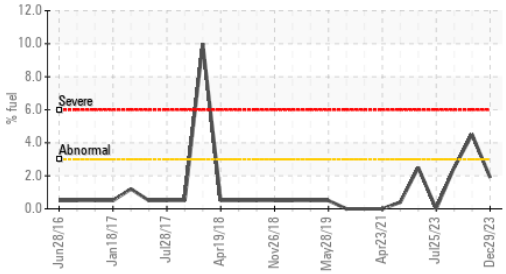
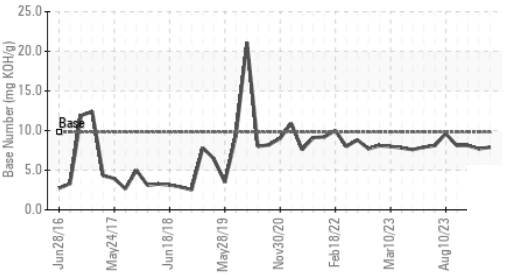
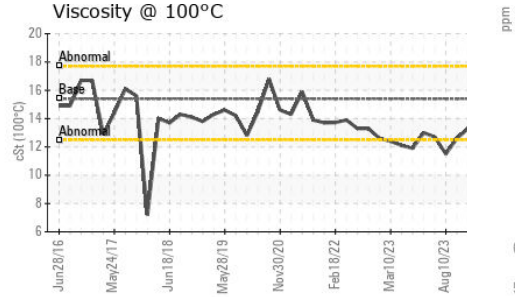
Fuel Dilution



Base Number



Viscosity @ 100°C

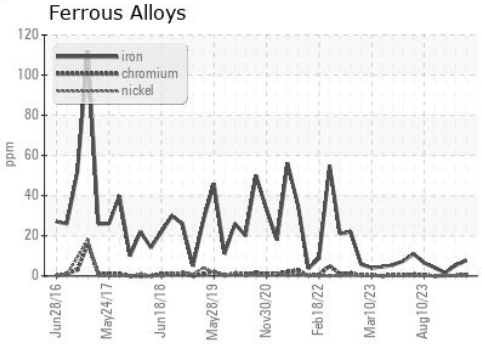


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

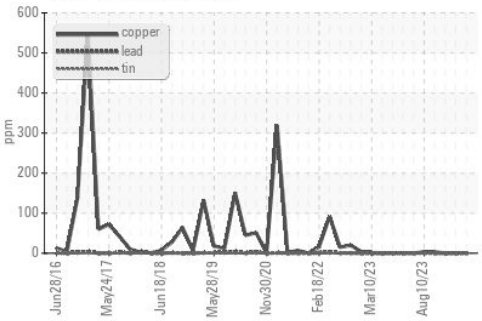
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.1**	▲ 12.3	13.3

GRAPHS

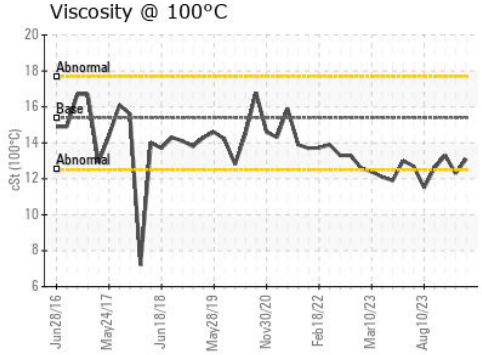
Ferrous Alloys



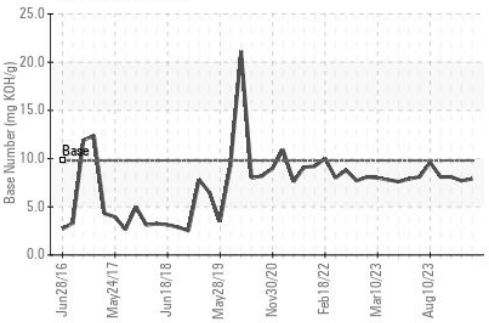
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101176 **Recieved** : 05 Jan 2024
Lab Number : 06052397 **Diagnosed** : 09 Jan 2024
Unique Number : 10818346 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

Certificate L2367

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 - 010 - Stockbridge
1280 Rum Creek Parkway
Stockbridge, GA
US 30281
Contact: JOSHUA TINKER
joshuatinker@gflenv.com
T:
F: