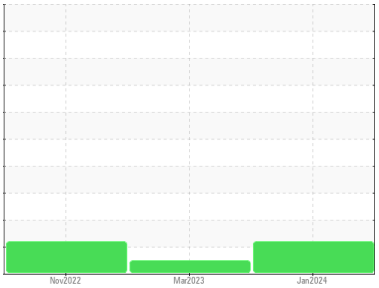
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
252004-205
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
All component wear rates are normal.

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

Fluid Condition
The BN level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0108326**	GFL0061492	GFL0047853
Sample Date		Client Info		**18 Jan 2024**	10 Mar 2023	03 Nov 2022
Machine Age	mls	Client Info		**304447**	288332	288332
Oil Age	mls	Client Info		**304447**	288332	0
Oil Changed		Client Info		**Not Changd**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

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	>100	**27**	9	44
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**5**	2	9
Lead	ppm	ASTM D5185m	>40	**0**	<1	<1
Copper	ppm	ASTM D5185m	>330	**8**	3	12
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**22**	56	29
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**287**	262	178
Manganese	ppm	ASTM D5185m		**2**	<1	1
Magnesium	ppm	ASTM D5185m		**528**	460	787
Calcium	ppm	ASTM D5185m		**1341**	1224	1370
Phosphorus	ppm	ASTM D5185m		**736**	624	852
Zinc	ppm	ASTM D5185m		**918**	769	1130
Sulfur	ppm	ASTM D5185m		**2262**	1866	2863

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**16**	15	17
Sodium	ppm	ASTM D5185m		**7**	2	11
Potassium	ppm	ASTM D5185m	>20	**2**	2	0
Fuel	%	ASTM D3524	>5	**<1.0**	1.6	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**13.0**	9.4	24.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.3**	17.8	40.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.9**	12.8	49.3
Base Number (BN)	mg KOH/g	ASTM D2896		▲ **2.5**	5.6	▲ 1.8

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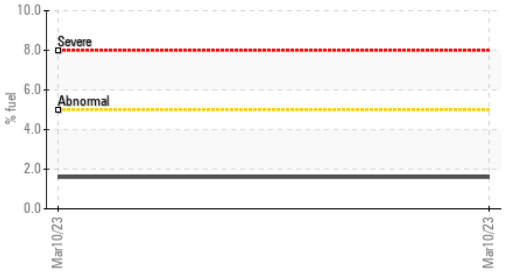
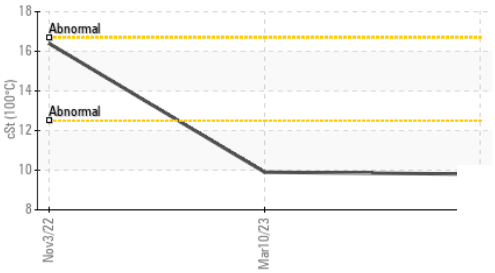
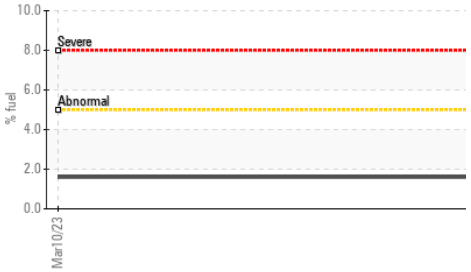
Fuel Dilution



Viscosity @ 100°C



Fuel Dilution

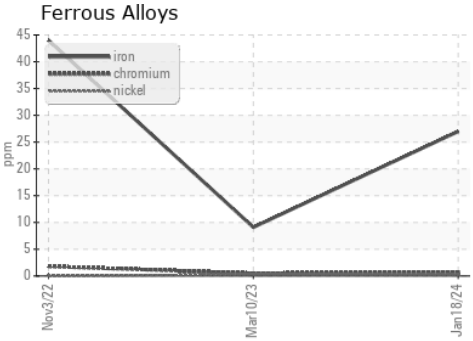


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

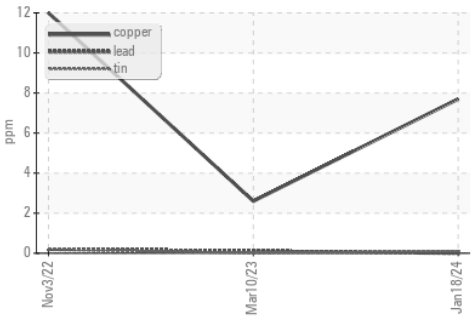
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**9.8**	9.9	16.4

GRAPHS

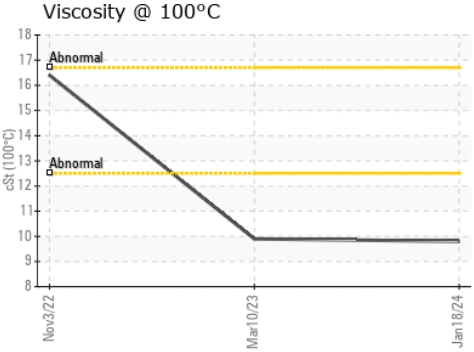
Ferrous Alloys



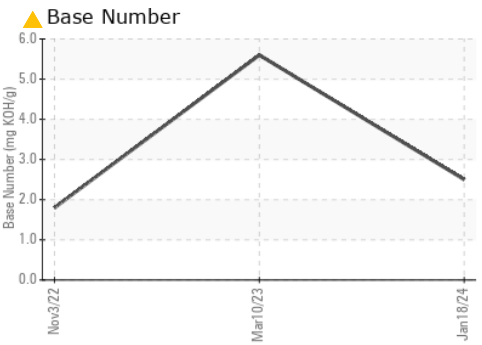
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108326 **Recieved** : 19 Jan 2024
Lab Number : 06065398 **Diagnosed** : 22 Jan 2024
Unique Number : 10836780 **Diagnostician** : Don Baldridge
Test Package : FLEET (Additional Tests: FuelDilution)

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 - 652 - Fredericksburg Hauling
10954 Houser Drive
Fredericksburg, VA
US 22408
Contact: WILLIAM MILO
wmilo@gflenv.com
T:
F:

Report Id: GFL652 [WUSCAR] 06065398 (Generated: 01/22/2024 12:36:06) Rev: 1

Submitted By: TECHNICIAN ACCOUNT