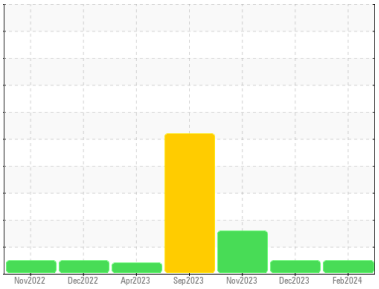
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
224030-632104
Component
Gasoline Engine
Fluid
RIDGELINE SYNTHETIC BLEND 5W-20 (--- 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		**GFL0101989**	GFL0101955	GFL0101968
Sample Date		Client Info		**13 Feb 2024**	22 Dec 2023	30 Nov 2023
Machine Age	mls	Client Info		**197637**	194704	193484
Oil Age	mls	Client Info		**2933**	4478	3258
Oil Changed		Client Info		**Not Changd**	Changed	Not Changd
Sample Status				**NORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
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	>150	**24**	28	36
Chromium	ppm	ASTM D5185m	>20	**1**	1	2
Nickel	ppm	ASTM D5185m	>5	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>40	**5**	6	5
Lead	ppm	ASTM D5185m	>50	**0**	<1	0
Copper	ppm	ASTM D5185m	>155	**2**	2	3
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
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		**27**	9	18
Barium	ppm	ASTM D5185m		**0**	1	0
Molybdenum	ppm	ASTM D5185m	79	**96**	53	81
Manganese	ppm	ASTM D5185m		**<1**	1	1
Magnesium	ppm	ASTM D5185m	590	**410**	284	360
Calcium	ppm	ASTM D5185m	990	**1168**	755	1222
Phosphorus	ppm	ASTM D5185m	770	**599**	358	582
Zinc	ppm	ASTM D5185m	850	**708**	437	688
Sulfur	ppm	ASTM D5185m	3000	**2167**	1416	2242

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**16**	22	▲ 31
Sodium	ppm	ASTM D5185m	>400	**5**	8	10
Potassium	ppm	ASTM D5185m	>20	**4**	17	18

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**9.2**	11.3	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.8**	23.3	21.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**12.1**	15.5	13.4
Base Number (BN)	mg KOH/g	ASTM D2896	7	**4.6**	4.7	4.8

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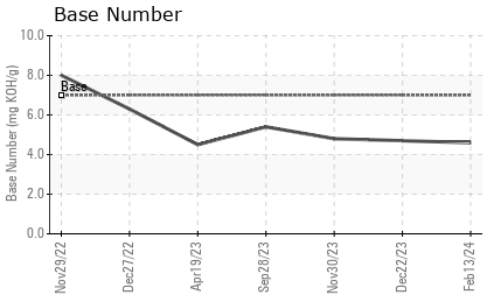
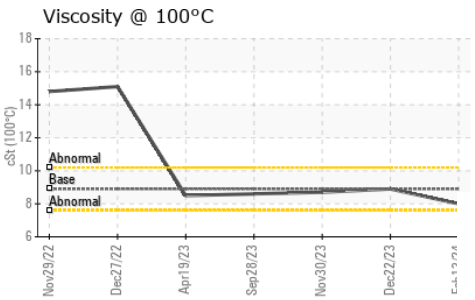


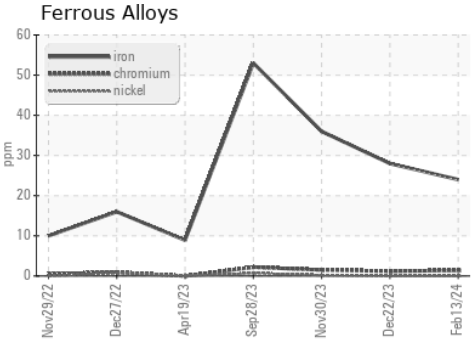


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

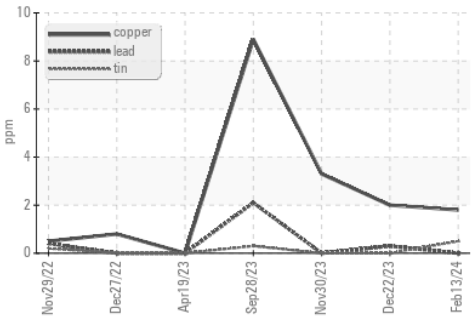
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	8.9	**8**	8.9	8.7

GRAPHS

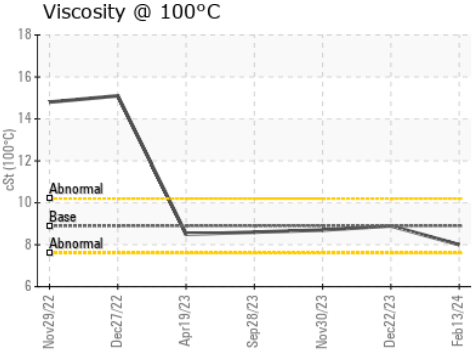
Ferrous Alloys



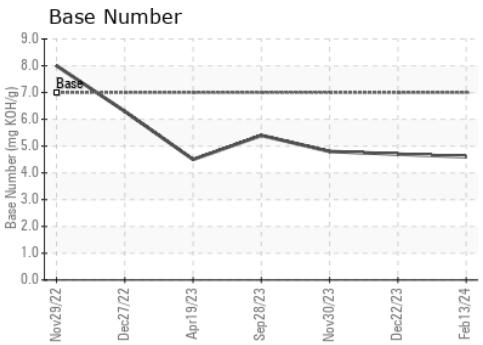
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101989
Lab Number : 06089410
Unique Number : 10876855
Test Package : FLEET

Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 16 Feb 2024 - Don Baldridge

GFL Environmental - 894 - Ada Hauling
1904 North Broadway, Suite D
Ada, OK
US 74820
Contact: Johnny Spurlock
jspurlock@gflenv.com
T: (405)664-4476
F:

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)