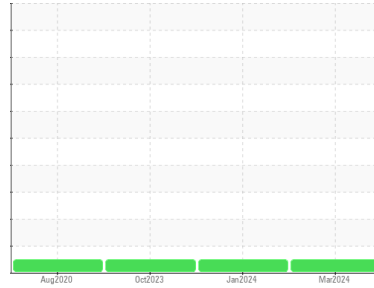




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
223023-632101

Component
Gasoline Engine

Fluid
GASOLINE ENGINE OIL SAE 5W20 (--- GAL)

DIAGNOSIS

Recommendation

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 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	GFL0111972	GFL0102583	GFL0093409
Sample Date	Client Info	01 Mar 2024	16 Jan 2024	16 Oct 2023
Machine Age	mls Client Info	388118	385220	375733
Oil Age	mls Client Info	0	0	0
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		NORMAL	NORMAL	NORMAL

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	13	15	26
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >5	0	<1	<1
Titanium	ppm ASTM D5185m	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >40	3	4	8
Lead	ppm ASTM D5185m >50	0	0	0
Copper	ppm ASTM D5185m >155	0	<1	<1
Tin	ppm ASTM D5185m >10	<1	<1	0
Antimony	ppm ASTM D5185m	---	---	---
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 75	22	22	21
Barium	ppm ASTM D5185m 5	0	3	0
Molybdenum	ppm ASTM D5185m 100	53	56	106
Manganese	ppm ASTM D5185m	0	0	0
Magnesium	ppm ASTM D5185m 12	408	356	442
Calcium	ppm ASTM D5185m 2100	1279	1185	1343
Phosphorus	ppm ASTM D5185m 650	567	586	648
Zinc	ppm ASTM D5185m 850	715	640	805
Sulfur	ppm ASTM D5185m 2500	2004	2252	2503
Lithium	ppm ASTM D5185m	---	---	---

CONTAMINANTS

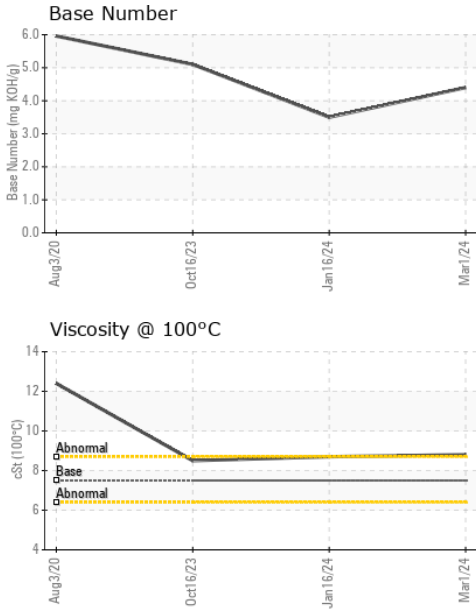
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	6	6	13
Sodium	ppm ASTM D5185m >50	2	<1	3
Potassium	ppm ASTM D5185m >20	0	2	2

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0	0	0
Nitration	Abs/cm *ASTM D7624 >20	9.6	9.6	10.5
Sulfation	Abs/.1mm *ASTM D7415 >30	19.2	19.2	20.5



OIL ANALYSIS REPORT

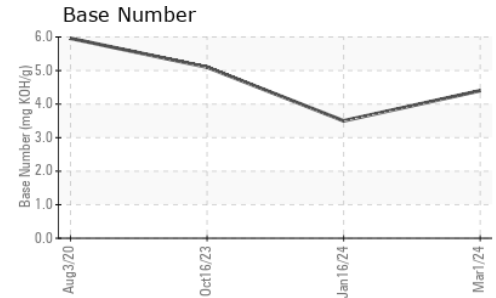
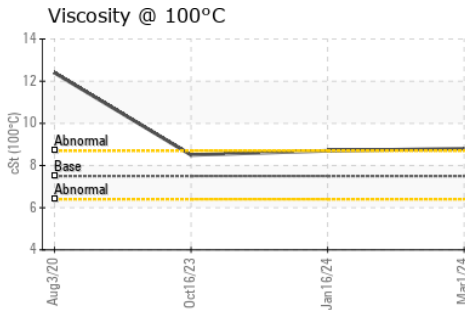
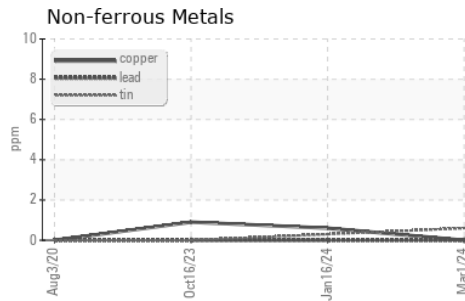
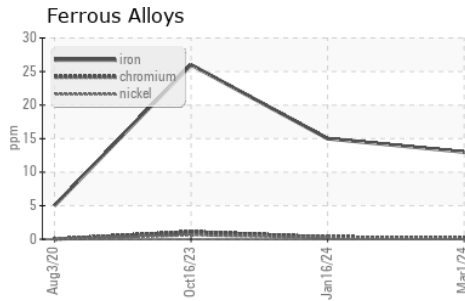


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	12.5	11.7	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		4.4	3.5	5.1

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	7.5	8.8	8.7	8.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111972
Lab Number : **06110803**
Unique Number : 10914300
Test Package : FLEET

Received : 06 Mar 2024
Tested : 07 Mar 2024
Diagnosed : 07 Mar 2024 - Wes Davis

GFL Environmental - 892 - Pauls Valley Hauling
 405 East Airport Industrial Road
 Pauls Valley, OK
 US 73075
 Contact: Tony Graham
 tgraham2@wcamerica.com

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)

T:
F: