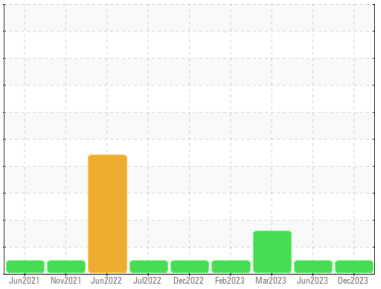
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
254001-1213
Component
Gasoline Engine
Fluid
GASOLINE ENGINE OIL SAE 5W20 (--- 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. Confirm oil type. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0100034**	GFL0062224	GFL0062240
Sample Date		Client Info		**04 Dec 2023**	06 Jun 2023	13 Mar 2023
Machine Age	mls	Client Info		**216953**	204321	195321
Oil Age	mls	Client Info		**2244**	10000	2664
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	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**33**	33	32
Chromium	ppm	ASTM D5185m	>20	**2**	2	2
Nickel	ppm	ASTM D5185m	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>40	**7**	4	2
Lead	ppm	ASTM D5185m	>50	**0**	0	5
Copper	ppm	ASTM D5185m	>155	**11**	9	44
Tin	ppm	ASTM D5185m	>10	**0**	0	<1
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	75	**20**	35	28
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**300**	163	71
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m	12	**553**	625	831
Calcium	ppm	ASTM D5185m	2100	**1363**	991	1108
Phosphorus	ppm	ASTM D5185m	650	**697**	666	978
Zinc	ppm	ASTM D5185m	850	**902**	842	1135
Sulfur	ppm	ASTM D5185m	2500	**1908**	2375	2861

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**18**	15	10
Sodium	ppm	ASTM D5185m	>50	**4**	3	▲ 256
Potassium	ppm	ASTM D5185m	>20	**1**	1	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**16.8**	14.6	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**27.8**	28.1	17.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**28.5**	28.5	13.2
Base Number (BN)	mg KOH/g	ASTM D2896		**3.2**	2.4	12.1

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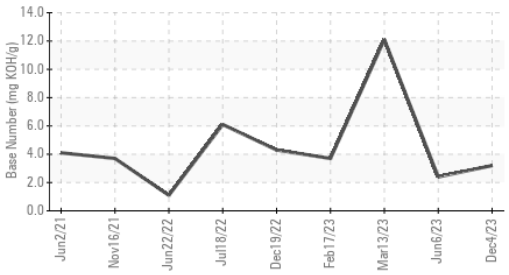
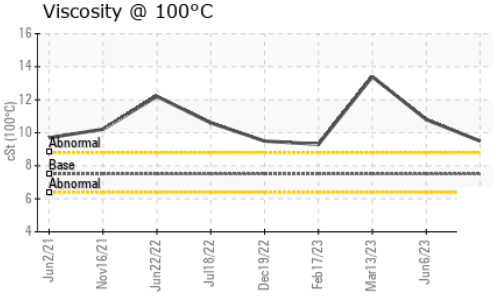


Viscosity @ 100°C

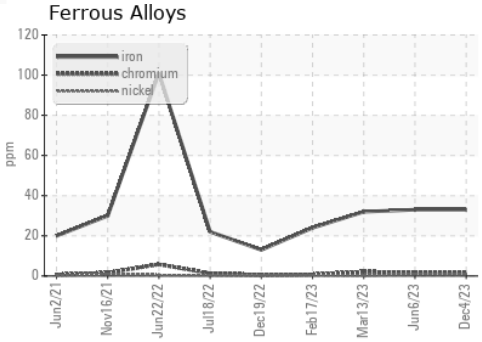


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

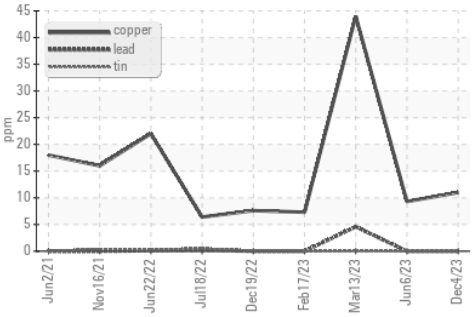
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	7.5	**9.5**	10.8	▲ 13.4

GRAPHS

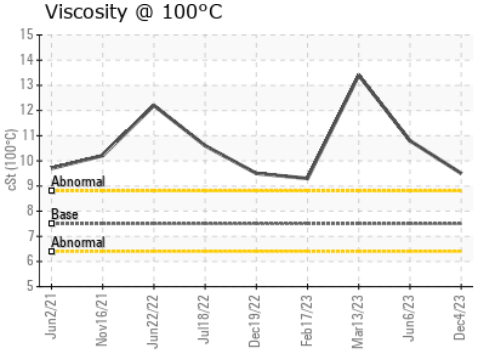
Ferrous Alloys



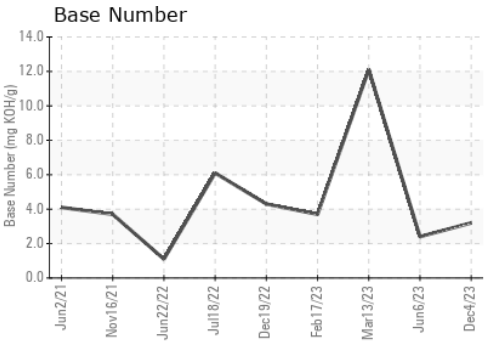
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0100034
Lab Number : 06029870
Unique Number : 10779661
Test Package : FLEET

Received : 08 Dec 2023
Diagnosed : 12 Dec 2023
Diagnostician : Don Baldridge

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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