



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
934035
Component
Natural Gas Engine
Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0122053	GFL0116604	GFL0111887
Sample Date		Client Info		24 May 2024	02 May 2024	12 Mar 2024
Machine Age	hrs	Client Info		1054	901	719
Oil Age	hrs	Client Info		1054	901	719
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>50	71	81	62
Chromium	ppm	ASTM D5185m	>4	2	2	2
Nickel	ppm	ASTM D5185m	>2	2	1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>9	18	20	15
Lead	ppm	ASTM D5185m	>30	2	<1	2
Copper	ppm	ASTM D5185m	>35	15	18	16
Tin	ppm	ASTM D5185m	>4	2	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

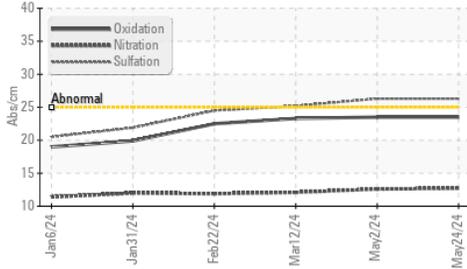
Silicon	ppm	ASTM D5185m	>+100	22	27	27
Potassium	ppm	ASTM D5185m	>20	17	17	14
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	12.7	12.6	12.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.3	26.3	25.2
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	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	>0.1	NEG	NEG	NEG

FLUID CONDITION

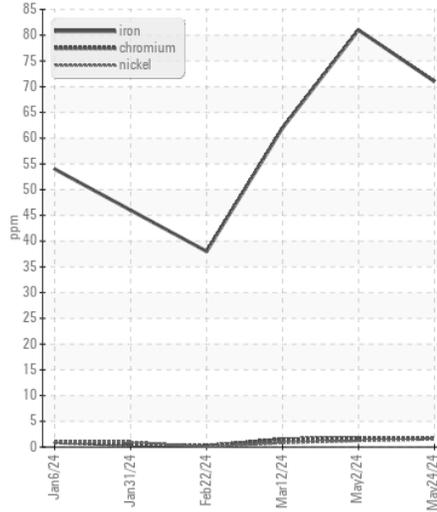
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		7	7	4
Boron	ppm	ASTM D5185m		7	10	7
Barium	ppm	ASTM D5185m		3	<1	2
Molybdenum	ppm	ASTM D5185m		56	65	56
Manganese	ppm	ASTM D5185m		11	13	11
Magnesium	ppm	ASTM D5185m		740	833	758
Calcium	ppm	ASTM D5185m		1316	1399	1188
Phosphorus	ppm	ASTM D5185m		814	845	747
Zinc	ppm	ASTM D5185m		983	1051	944
Sulfur	ppm	ASTM D5185m		2565	2733	2523
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.5	23.5	23.3
Base Number (BN)	mg KOH/g	ASTM D2896		3.5	3.1	3.0
Visc @ 100°C	cSt	ASTM D445		14.7	14.6	14.5

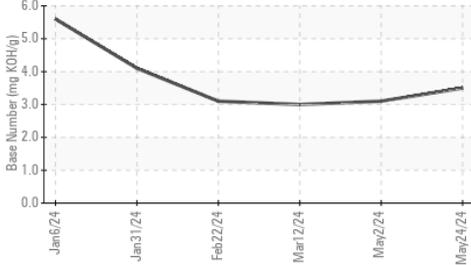
FT-IR (Direct Trend)



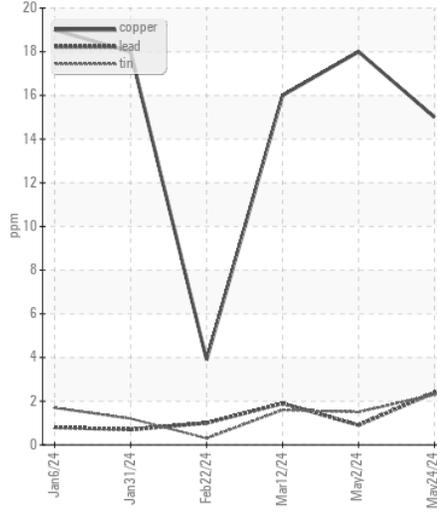
Ferrous Alloys



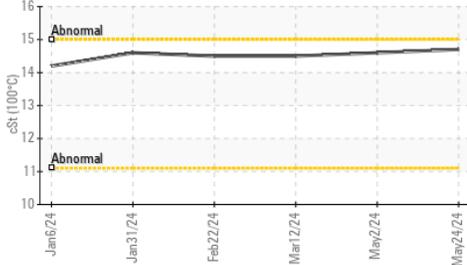
Base Number



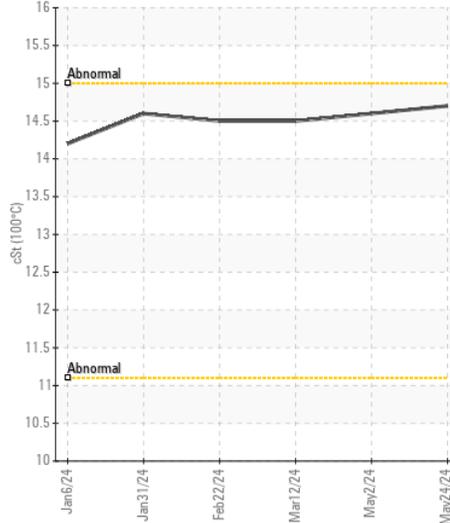
Non-ferrous Metals



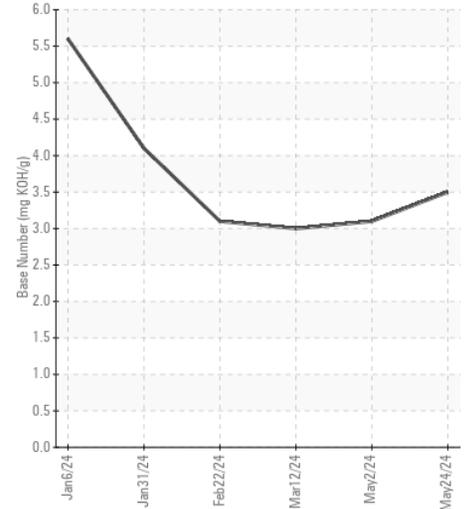
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0122053

Lab Number : 06193836

Unique Number : 11055959

Test Package : FLEET

Received : 29 May 2024

Tested : 30 May 2024

Diagnosed : 31 May 2024 - Angela Borella

GFL Environmental - 652 - Fredericksburg Hauling

10954 Houser Drive

Fredericksburg, VA

US 22408

Contact: WILLIAM MILO

wmilo@gflenv.com

T:

F:

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)