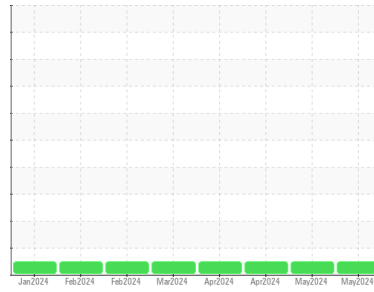




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
834101
 Component
Natural Gas Engine
 Fluid
 {not provided} (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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 for time on oil.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0122055	GFL0116598	GFL0116619
Sample Date	Client Info	27 May 2024	13 May 2024	23 Apr 2024
Machine Age	hrs	1184	943	943
Oil Age	hrs	957	716	227
Oil Changed	Client Info	Changed	Not Changd	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>50	96	71	61
Chromium	ppm	ASTM D5185m	>4	8	5	4
Nickel	ppm	ASTM D5185m	>2	5	3	2
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	126	86	85
Lead	ppm	ASTM D5185m	>30	3	2	0
Copper	ppm	ASTM D5185m	>35	23	16	17
Tin	ppm	ASTM D5185m	>4	2	1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		12	3	10
Barium	ppm	ASTM D5185m		3	2	2
Molybdenum	ppm	ASTM D5185m		100	70	71
Manganese	ppm	ASTM D5185m		20	16	14
Magnesium	ppm	ASTM D5185m		1191	878	829
Calcium	ppm	ASTM D5185m		1899	1490	1380
Phosphorus	ppm	ASTM D5185m		1238	812	749
Zinc	ppm	ASTM D5185m		1514	1038	966
Sulfur	ppm	ASTM D5185m		4026	2898	2591

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>+100	34	25	28
Sodium	ppm	ASTM D5185m		12	7	6
Potassium	ppm	ASTM D5185m	>20	322	210	212

INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.5	12.8	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.2	26.8	25.8

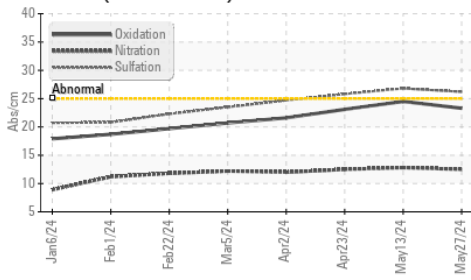
FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.3	24.5	23.1
Base Number (BN)	mg KOH/g	ASTM D2896		3.4	2.5	3.0

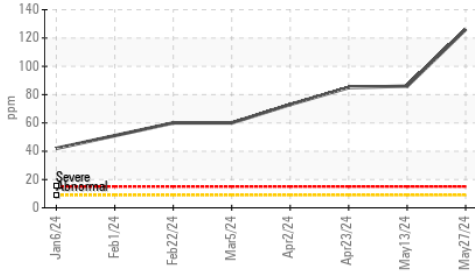


OIL ANALYSIS REPORT

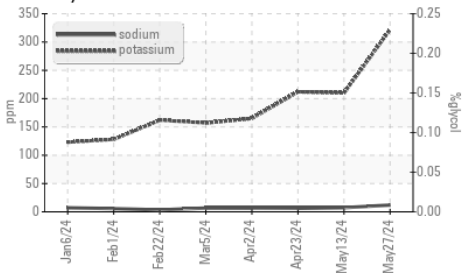
FT-IR (Direct Trend)



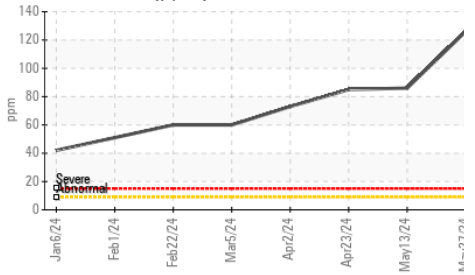
Aluminum (ppm)



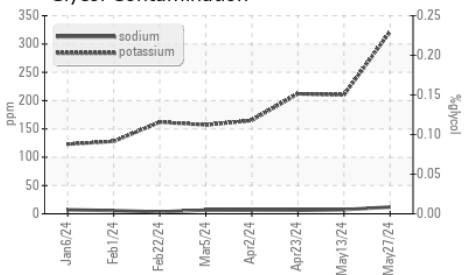
Glycol Contamination



Aluminum (ppm)



Glycol Contamination

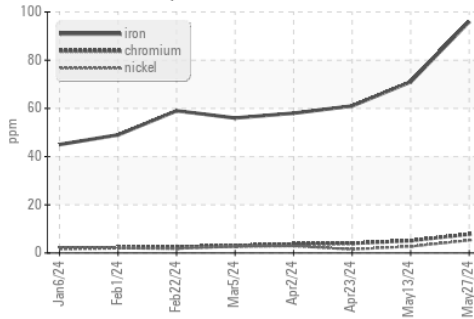


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

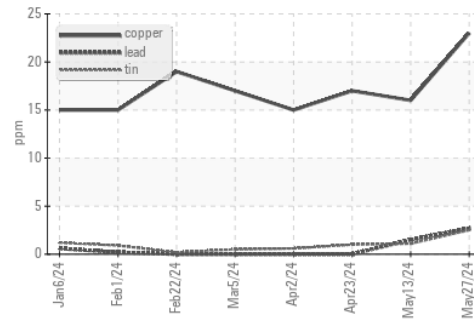
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.2	14.1	14.2

GRAPHS

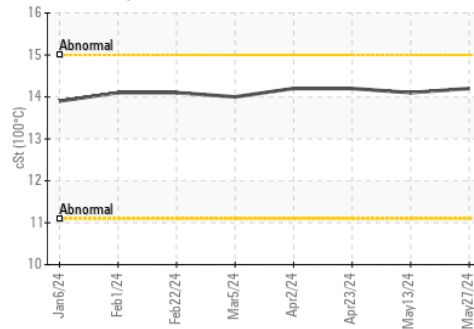
Ferrous Alloys



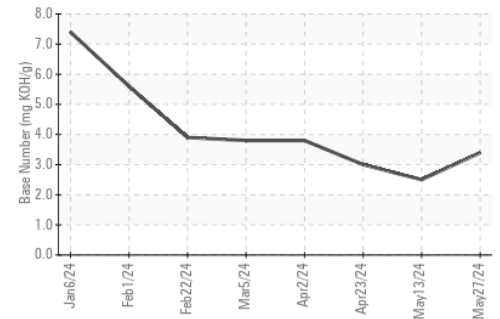
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122055 **Received** : 03 Jun 2024
Lab Number : 06197507 **Tested** : 04 Jun 2024
Unique Number : 11059630 **Diagnosed** : 04 Jun 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmilo@gflenv.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)