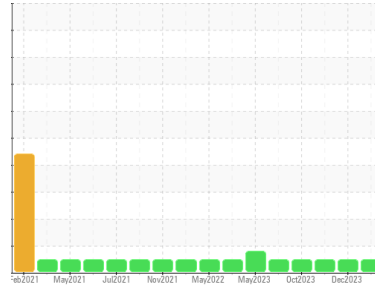




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
710022

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (--- 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	GFL0098211	GFL0098224	GFL0098195
Sample Date	Client Info	30 Dec 2023	12 Dec 2023	13 Nov 2023
Machine Age	hrs	8134	8001	7794
Oil Age	hrs	4034	4108	4085
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >100	8	3	20
Chromium	ppm ASTM D5185m >20	<1	0	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	2	1	3
Lead	ppm ASTM D5185m >40	0	0	4
Copper	ppm ASTM D5185m >330	1	0	2
Tin	ppm ASTM D5185m >15	<1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	10	15	4
Barium	ppm ASTM D5185m 10	0	0	6
Molybdenum	ppm ASTM D5185m 100	56	57	62
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m 450	833	874	919
Calcium	ppm ASTM D5185m 3000	1055	1085	1116
Phosphorus	ppm ASTM D5185m 1150	967	1027	1073
Zinc	ppm ASTM D5185m 1350	1153	1259	1213
Sulfur	ppm ASTM D5185m 4250	2770	3169	3361

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	5	12
Sodium	ppm ASTM D5185m >216	1	0	0
Potassium	ppm ASTM D5185m >20	0	0	4

INFRA-RED

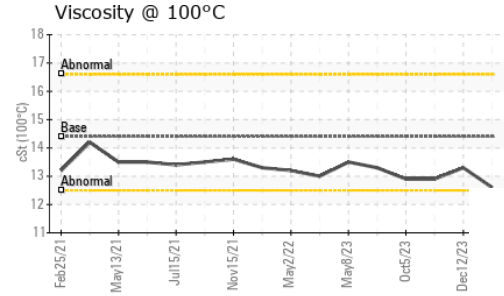
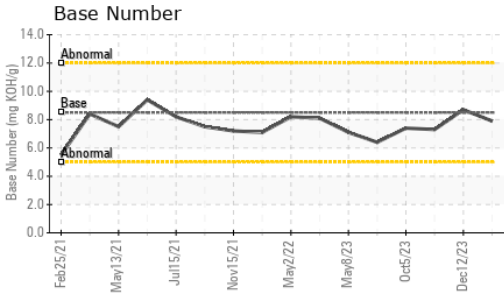
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.6	0.4	1.1
Nitration	Abs/cm *ASTM D7624 >20	10.5	7.8	13.3
Sulfation	Abs/.1mm *ASTM D7415 >30	20.2	19.1	24.2

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.3	16.2	25.0
Base Number (BN)	mg KOH/g ASTM D2896 8.5	7.9	8.7	7.3



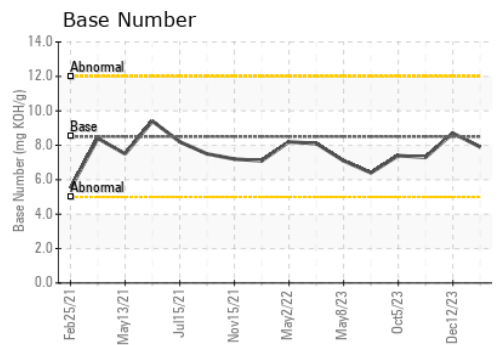
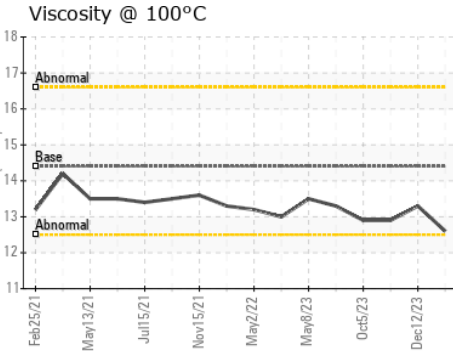
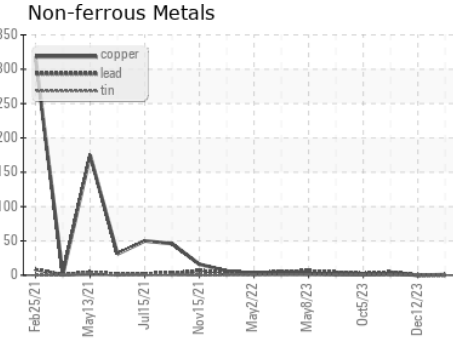
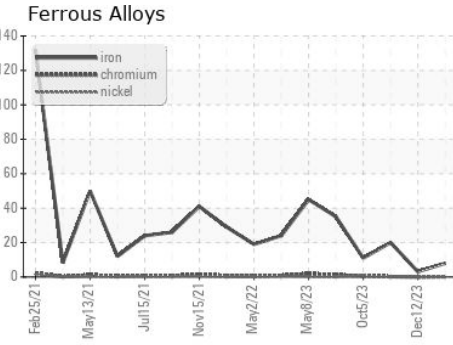
OIL ANALYSIS REPORT



VISUAL	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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	12.6	13.3	12.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098211 **Recieved** : 03 Jan 2024
Lab Number : **06050408** **Diagnosed** : 04 Jan 2024
Unique Number : 10816357 **Diagnostician** : Don Baldrige
Test Package : FLEET

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)