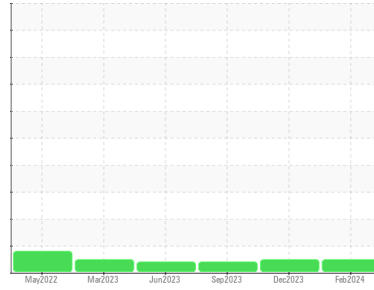




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
228069

Component
Diesel Engine

Fluid
SHELL ROTELLA T 10W30 (4 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		GFL0081089	GFL0081041	GFL0081121
Sample Date	Client Info		20 Feb 2024	08 Dec 2023	14 Sep 2023
Machine Age	mls	Client Info	86625	85128	83102
Oil Age	mls	Client Info	5340	3490	1817
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			NORMAL	NORMAL	ATTENTION

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	49	38	21
Chromium	ppm	ASTM D5185m >20	1	1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	11	8	4
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	<1	<1	1
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 269	35	50	88
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m 0	36	35	34
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 20	387	385	381
Calcium	ppm	ASTM D5185m 1521	1684	1767	1977
Phosphorus	ppm	ASTM D5185m 948	962	1046	1039
Zinc	ppm	ASTM D5185m 893	1165	1274	1285
Sulfur	ppm	ASTM D5185m	2869	3292	4161

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	7	6
Sodium	ppm	ASTM D5185m	2	4	3
Potassium	ppm	ASTM D5185m >20	3	4	4

INFRA-RED

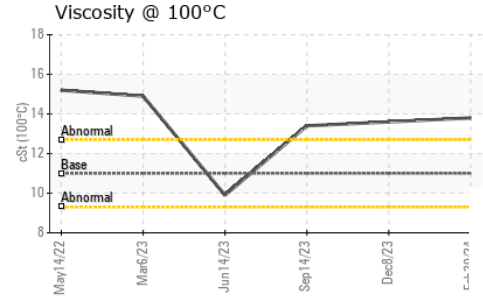
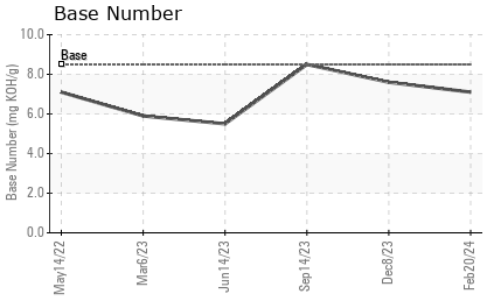
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	11.8	10.9	8.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.9	21.9	19.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.6	18.4	15.3
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	7.1	7.6	8.5



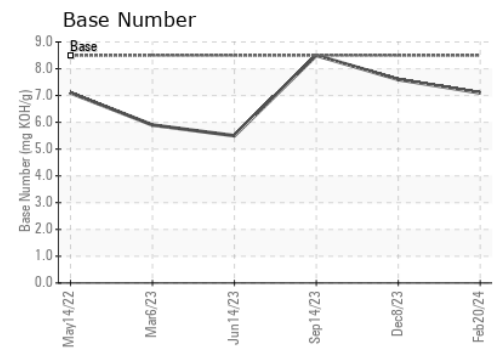
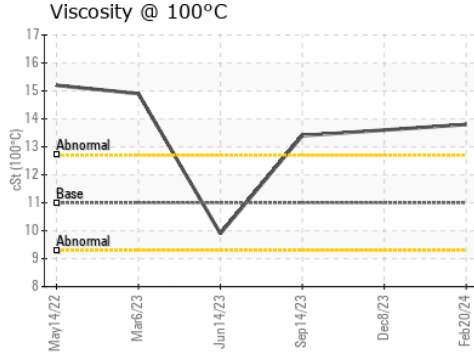
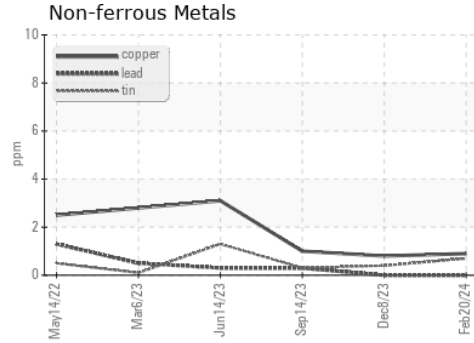
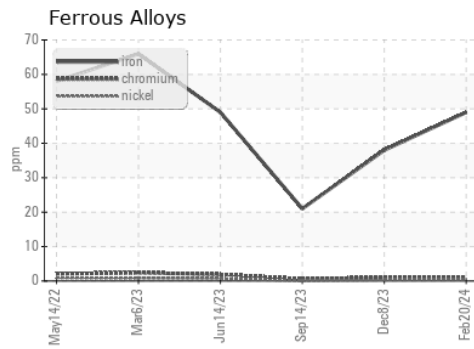
OIL ANALYSIS REPORT



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	11.0	13.8	13.6 ▲ 13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0081089 **Received** : 21 Feb 2024
Lab Number : 06096082 **Tested** : 22 Feb 2024
Unique Number : 10888935 **Diagnosed** : 23 Feb 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 884 - Lake County - Tavares
 321 Southridge Industrial Way
 Tavares, FL
 US 32778
 Contact: JEFF COOPERSMITH

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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