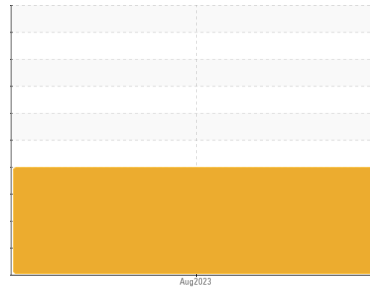# PROBLEM SUMMARY

Sample Rating Trend
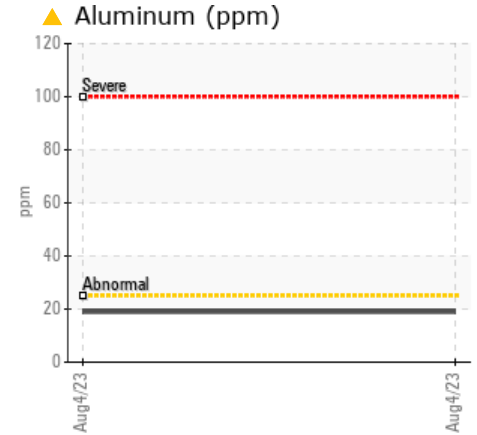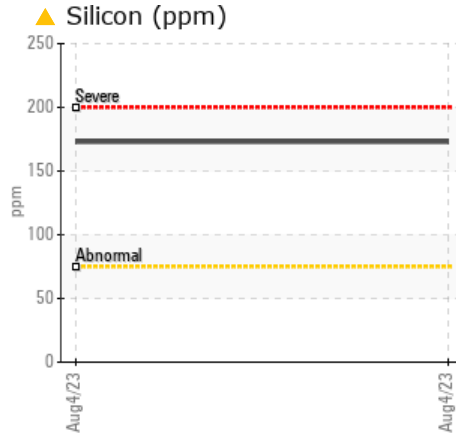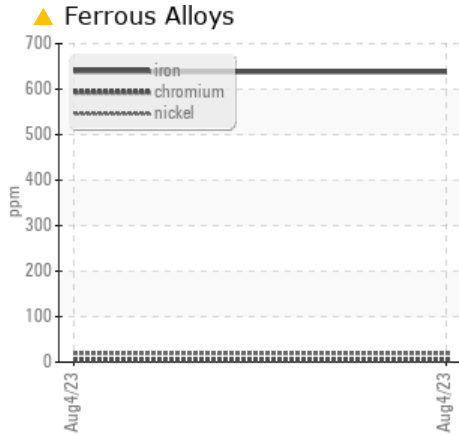
DIRT

Machine Id
427167
Component
1 Differential
Fluid
GEAR OIL SAE 75W90 (--- GAL)

COMPONENT CONDITION SUMMARY

⚠ Ferrous Alloys

— iron
---- chromium
----- nickel

⚠ Silicon (ppm)

Severe
Abnormal

⚠ Aluminum (ppm)

Severe
Abnormal

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: 1st Axle/ Pusher)

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Iron	ppm	ASTM D5185m	>500	⚠ 638	---	---
Nickel	ppm	ASTM D5185m	>10	⚠ 19	---	---
Aluminum	ppm	ASTM D5185m	>25	⚠ 19	---	---
Silicon	ppm	ASTM D5185m	>75	⚠ 173	---	---

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

WEAR CHECK

Sample Rating Trend

Aug 2023

DIRT ⚠️

Machine Id
427167
Component
1 Differential
Fluid
GEAR OIL SAE 75W90 (--- GAL)

DIAGNOSIS

⚠️ **Recommendation**

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: 1st Axle/ Pusher)

⚠️ **Wear**

Gear wear is indicated.

⚠️ **Contamination**

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0089387**	---	---
Sample Date		Client Info		**04 Aug 2023**	---	---
Machine Age	mls	Client Info		**347849**	---	---
Oil Age	mls	Client Info		**347849**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**ABNORMAL**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	⚠️ **638**	---	---
Chromium	ppm	ASTM D5185m	>10	**5**	---	---
Nickel	ppm	ASTM D5185m	>10	⚠️ **19**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m		**0**	---	---
Aluminum	ppm	ASTM D5185m	>25	⚠️ **19**	---	---
Lead	ppm	ASTM D5185m	>25	**1**	---	---
Copper	ppm	ASTM D5185m	>100	**18**	---	---
Tin	ppm	ASTM D5185m	>10	**15**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**<1**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	400	**236**	---	---
Barium	ppm	ASTM D5185m	200	**0**	---	---
Molybdenum	ppm	ASTM D5185m	12	**0**	---	---
Manganese	ppm	ASTM D5185m		**13**	---	---
Magnesium	ppm	ASTM D5185m	12	**4**	---	---
Calcium	ppm	ASTM D5185m	150	**28**	---	---
Phosphorus	ppm	ASTM D5185m	1650	**1462**	---	---
Zinc	ppm	ASTM D5185m	125	**35**	---	---
Sulfur	ppm	ASTM D5185m	22500	**28642**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	⚠️ **173**	---	---
Sodium	ppm	ASTM D5185m		**6**	---	---
Potassium	ppm	ASTM D5185m	>20	**14**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>.2	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	109	**104**	---	---

Silicon (ppm)

Severe
Abnormal
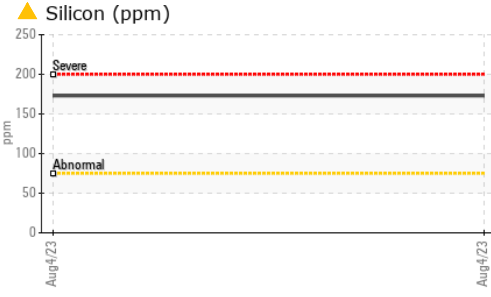
SAMPLE IMAGES

	method	limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image

GRAPHS

Aluminum (ppm)

Severe
Abnormal

Ferrous Alloys

iron
chromium
nickel

Aluminum (ppm)

Severe
Abnormal

Non-ferrous Metals

copper
lead
tin

Viscosity @ 40°C

Abnormal
Base
Abnormal

Viscosity @ 40°C

Abnormal
Base
Abnormal
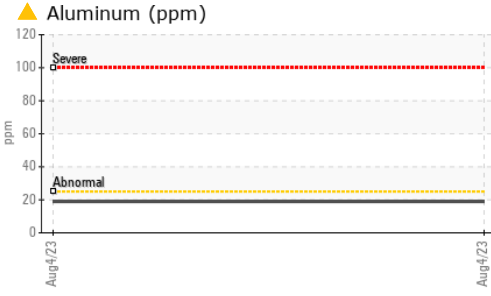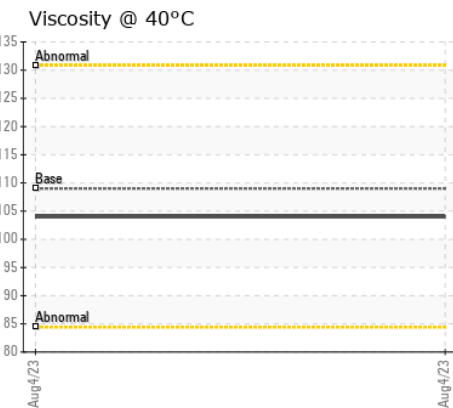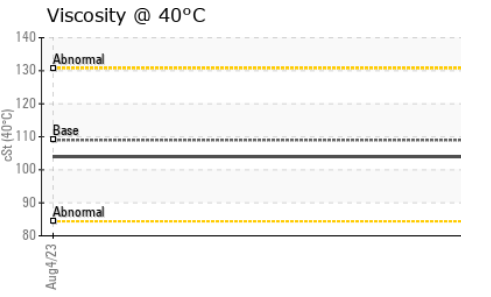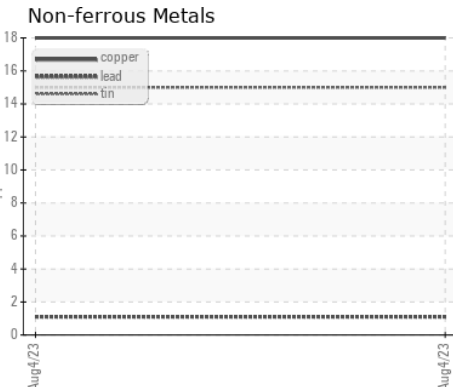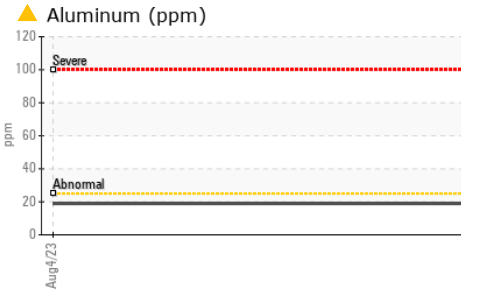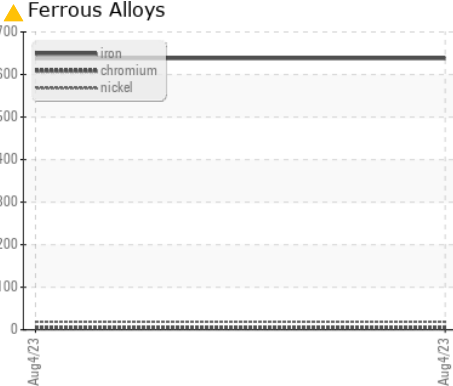
Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		**GFL Environmental - 983 - Sugar Land Hauling**
Sample No.	: GFL0089387	**Received** : 08 Aug 2023	16011 West Belfort Street
Lab Number	: 05918932	**Diagnosed** : 10 Aug 2023	Sugar Land, TX
Unique Number	: 10590846	**Diagnostician** : Jonathan Hester	US 77498
Test Package	: FLEET		Contact: TECHNICIAN ACCOUNT

To discuss this sample report, contact Customer Service at 1-800-237-1369.
wcgfldemo@gmail.com

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Certificate L2367