



# PROBLEM SUMMARY



Machine Id  
**414063**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

Sample Rating Trend

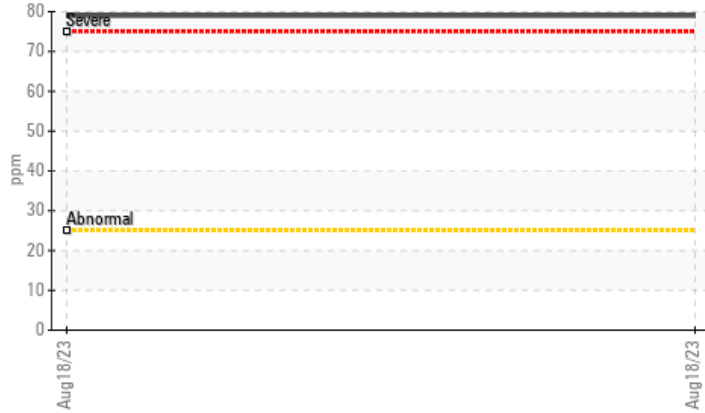


**DIRT**

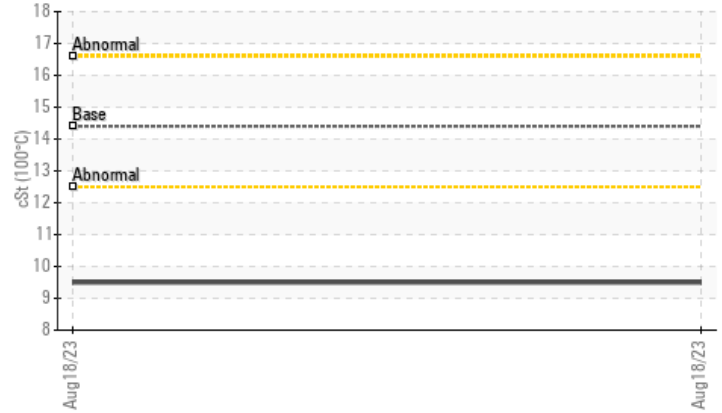


## COMPONENT CONDITION SUMMARY

### ▲ Silicon (ppm)



### ▲ Viscosity @ 100°C



## RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	---	---
Silicon	ppm	ASTM D5185m	>25	▲ 79	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 9.5	---	---

Customer Id: GFL180  
 Sample No.: GFL0086326  
 Lab Number: 05937022  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Sean Felton +1 919-379-4092  
[sfelton@wearcheckusa.com](mailto:sfelton@wearcheckusa.com)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS



# OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



Machine Id  
**414063**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**



## DIAGNOSIS

### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### ▲ Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material. Tests indicate that there is no fuel present in the oil.

### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0086326</b>	---	---
Sample Date	Client Info	<b>18 Aug 2023</b>	---	---
Machine Age	hrs	Client Info	<b>169</b>	---
Oil Age	hrs	Client Info	<b>169</b>	---
Oil Changed	Client Info	<b>Not Chngd</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	<b>NEG</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	<b>22</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >5	<b>1</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>12</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>64</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>2</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 250	<b>424</b>	---	---
Barium	ppm	ASTM D5185m 10	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 100	<b>121</b>	---	---
Manganese	ppm	ASTM D5185m	<b>4</b>	---	---
Magnesium	ppm	ASTM D5185m 450	<b>739</b>	---	---
Calcium	ppm	ASTM D5185m 3000	<b>1471</b>	---	---
Phosphorus	ppm	ASTM D5185m 1150	<b>687</b>	---	---
Zinc	ppm	ASTM D5185m 1350	<b>814</b>	---	---
Sulfur	ppm	ASTM D5185m 4250	<b>2844</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>▲ 79</b>	---	---
Sodium	ppm	ASTM D5185m >158	<b>4</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>22</b>	---	---
Fuel	%	ASTM D3524 >3.0	<b>0.3</b>	---	---

## INFRA-RED

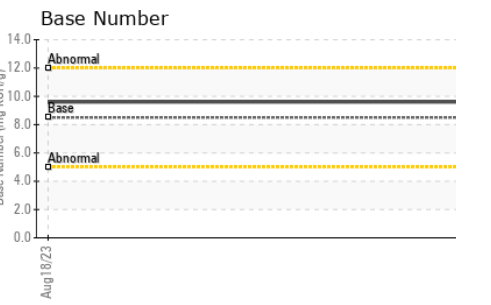
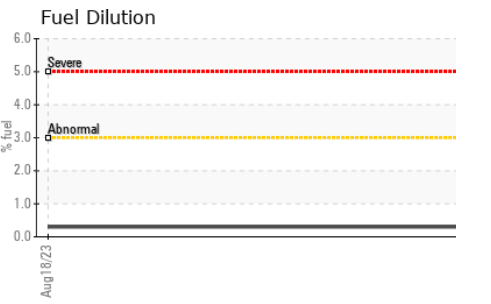
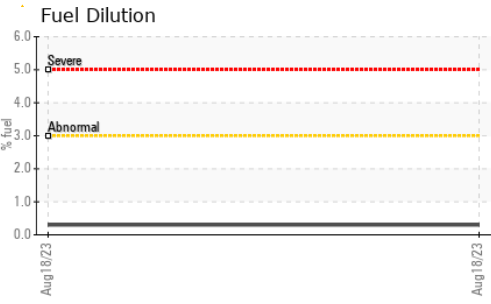
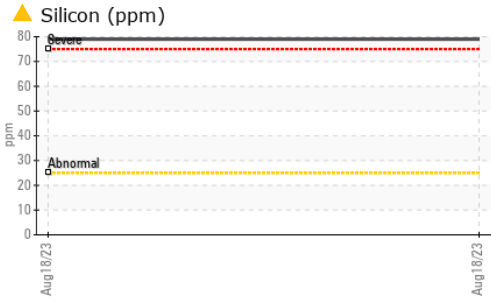
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	<b>0.1</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.7</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>26.0</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>20.8</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>9.6</b>	---	---



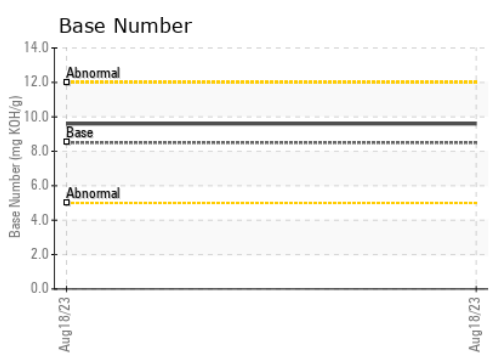
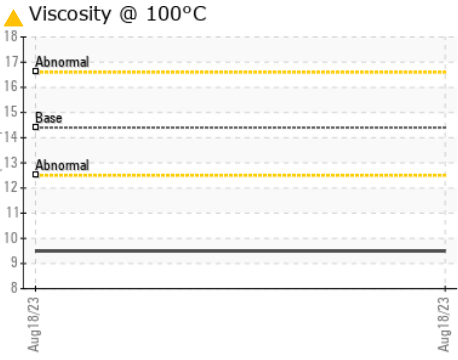
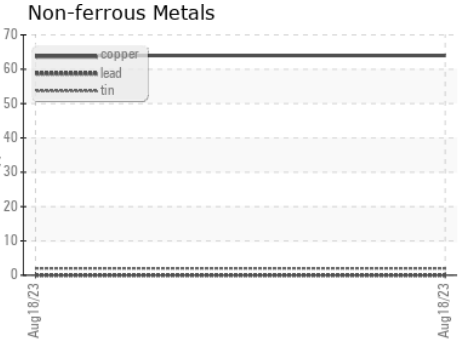
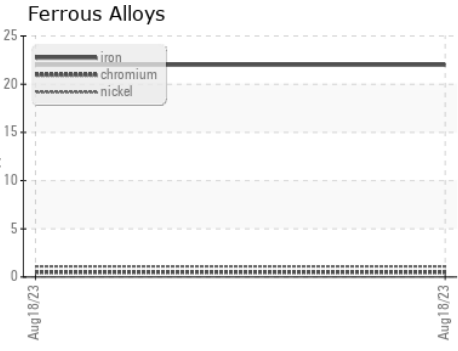
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4 ▲ 9.5	---	---

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0086326 **Received** : 29 Aug 2023  
**Lab Number** : 05937022 **Diagnosed** : 30 Aug 2023  
**Unique Number** : 10622293 **Diagnostician** : Sean Felton  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 180 - Tuscaloosa Hauling**  
 4701 12TH ST NE  
 Tuscaloosa, AL  
 US 35404  
 Contact: FREDERICK ROGERS  
 fred.rogers@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)