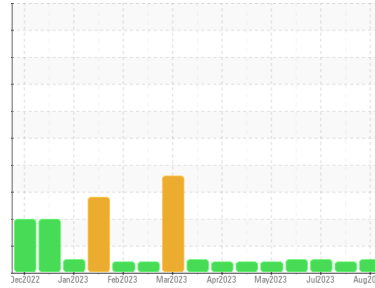




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**413108**

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. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal.

### Contamination

Fuel content negligible. 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	<b>GFL0087206</b>	GFL0087213	GFL0083764
Sample Date	Client Info	<b>16 Aug 2023</b>	07 Jul 2023	05 Jul 2023
Machine Age	hrs	<b>0</b>	2024	1998
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Not Changed
Sample Status		<b>NORMAL</b>	ATTENTION	NORMAL

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >80	<b>8</b>	21	5
Chromium	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m >30	<b>7</b>	4	4
Lead	ppm	ASTM D5185m >30	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >150	<b>42</b>	1	36
Tin	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 250	<b>35</b>	0	67
Barium	ppm	ASTM D5185m 10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 100	<b>14</b>	58	14
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 450	<b>805</b>	943	803
Calcium	ppm	ASTM D5185m 3000	<b>1187</b>	1089	1197
Phosphorus	ppm	ASTM D5185m 1150	<b>666</b>	940	683
Zinc	ppm	ASTM D5185m 1350	<b>804</b>	1240	795
Sulfur	ppm	ASTM D5185m 4250	<b>2441</b>	3361	2494

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >20	<b>5</b>	8	5
Sodium	ppm	ASTM D5185m >158	<b>1</b>	25	1
Potassium	ppm	ASTM D5185m >20	<b>8</b>	4	4
Fuel	%	ASTM D3524 >5	<b>0.4</b>	<1.0	<1.0

## INFRA-RED

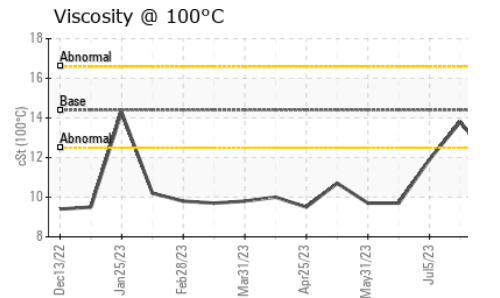
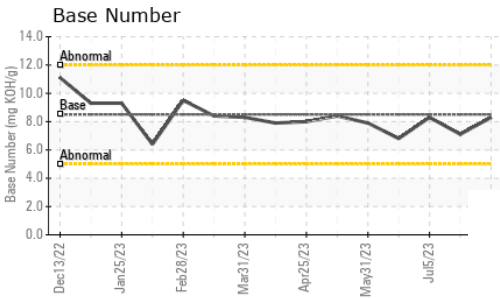
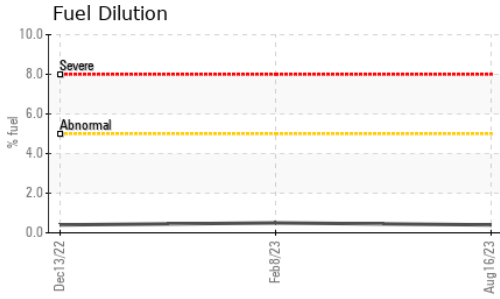
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	<b>0.2</b>	0.7	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.0</b>	11.3	7.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>22.5</b>	23.4	22.8

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>20.0</b>	21.1	19.0
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>8.3</b>	7.1	8.3



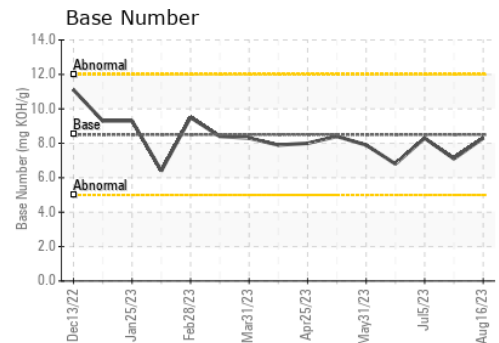
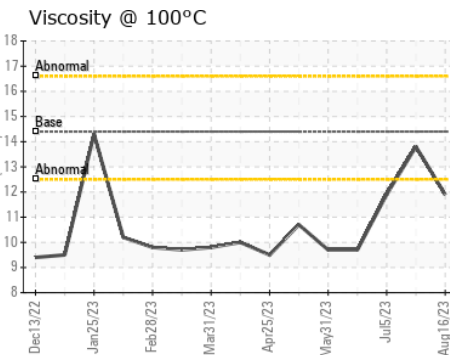
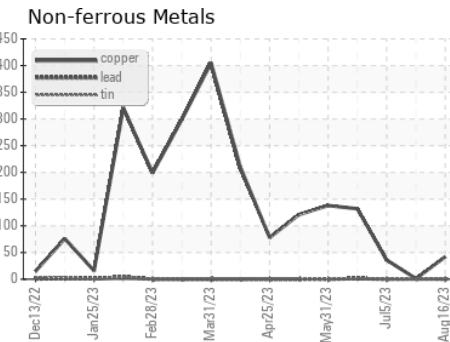
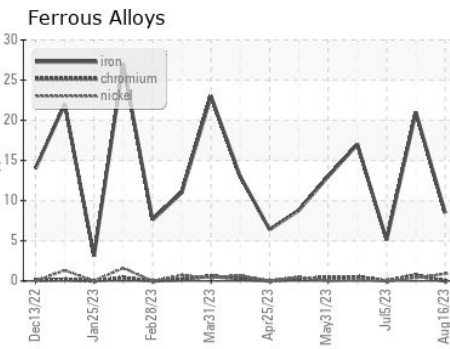
# OIL ANALYSIS REPORT



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	11.9	▲ 13.8	11.9

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0087206 **Received** : 22 Aug 2023  
**Lab Number** : 05930616 **Diagnosed** : 23 Aug 2023  
**Unique Number** : 10615887 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
 rhart@gflenv.com  
 T: (580)461-1509  
 F:

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)