



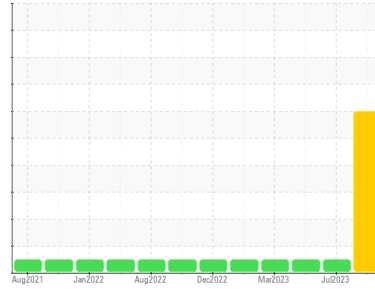
# OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Machine Id  
**501037**  
Component  
**Diesel Engine**  
Fluid  
**CASTROL 10W30 (--- GAL)**



## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Nickel ppm levels are severe. Exhaust valve wear is indicated.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0085796</b>	GFL0085823	GFL0072310
Sample Date	Client Info		<b>11 Oct 2023</b>	23 Jul 2023	19 May 2023
Machine Age	kms	Client Info	<b>785681</b>	17041	745880
Oil Age	kms	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	<b>11</b>	9	8
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>9</b>	1	2
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>3</b>	4	2
Lead	ppm	ASTM D5185(m)	>40	<b>1</b>	2	<1
Copper	ppm	ASTM D5185(m)	>330	<b>2</b>	3	2
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		<b>2</b>	3	3
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>62</b>	60	61
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>1019</b>	989	976
Calcium	ppm	ASTM D5185(m)		<b>1108</b>	1081	1195
Phosphorus	ppm	ASTM D5185(m)		<b>1035</b>	1055	1093
Zinc	ppm	ASTM D5185(m)		<b>1248</b>	1194	1220
Sulfur	ppm	ASTM D5185(m)		<b>2515</b>	2489	2558
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>6</b>	6	4
Sodium	ppm	ASTM D5185(m)		<b>4</b>	4	3
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	7	<1

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	<b>0.3</b>	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.6</b>	8.9	8.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.0</b>	21.0	20.0

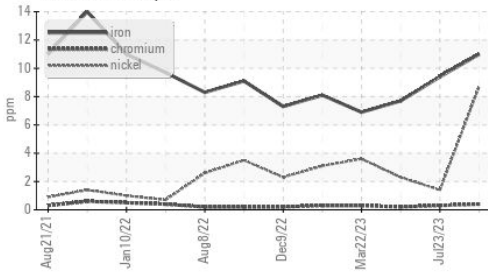
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.7</b>	16.7	16.5



# OIL ANALYSIS REPORT

### Ferrous Alloys

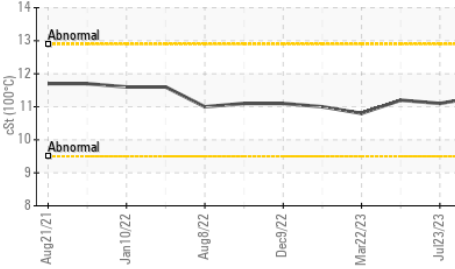


VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

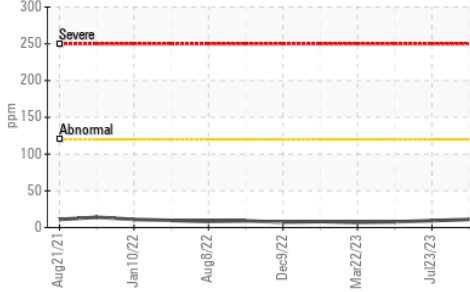
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	11.3	11.1	11.2

### GRAPHS

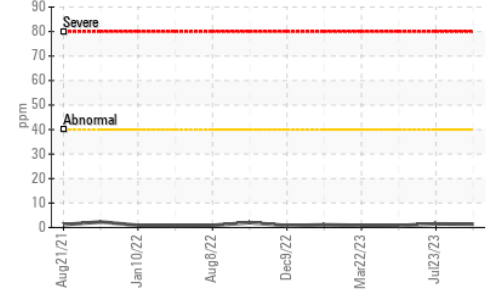
### Viscosity @ 100°C



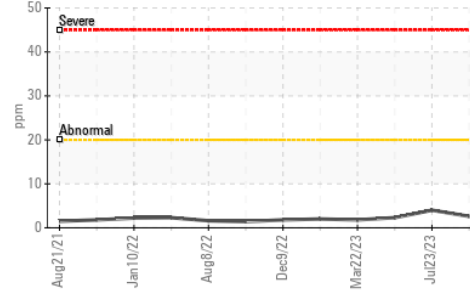
### Iron (ppm)



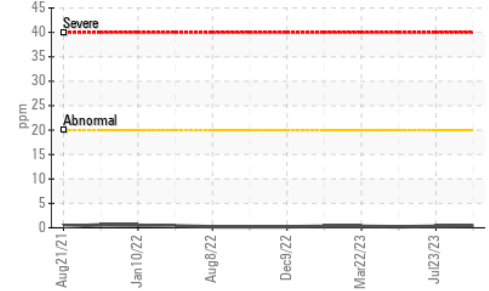
### Lead (ppm)



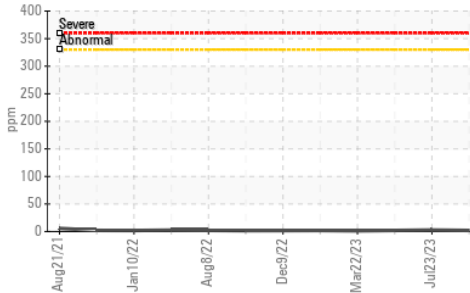
### Aluminum (ppm)



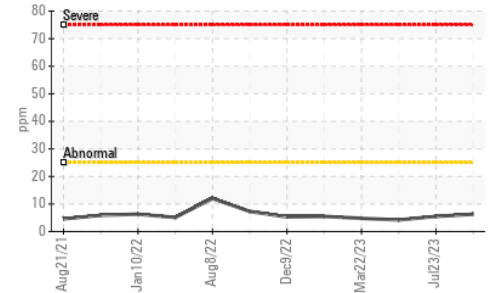
### Chromium (ppm)



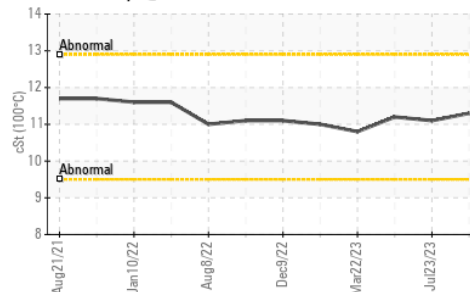
### Copper (ppm)



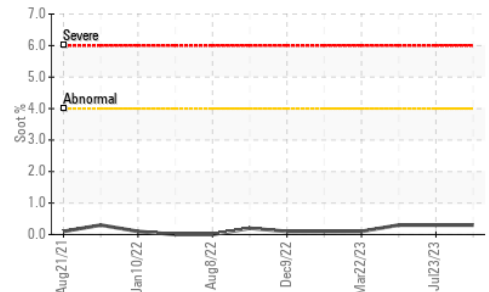
### Silicon (ppm)



### Viscosity @ 100°C



### Soot %



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 520 - Winterburn  
**Sample No.** : GFL0085796 **Received** : 24 Oct 2023  
**Lab Number** : 02591321 **Diagnosed** : 24 Oct 2023  
**Unique Number** : 5668400 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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