



# OIL ANALYSIS REPORT

Sample Rating Trend

FUEL



Machine Id  
**MACK 425115 (S/N 1M2AX13C7FM027866)**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0109560</b>	---	---
Sample Date	Client Info		<b>29 Jan 2024</b>	---	---
Machine Age	kms	Client Info	<b>3421</b>	---	---
Oil Age	kms	Client Info	<b>441</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>SEVERE</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >120	<b>16</b>	---	---
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	---	---
Nickel	ppm	ASTM D5185(m) >5	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	---	---
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m) >20	<b>2</b>	---	---
Lead	ppm	ASTM D5185(m) >40	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185(m) >330	<b>1</b>	---	---
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	---	---
Antimony	ppm	ASTM D5185(m)	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 35	<b>110</b>	---	---
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	---	---
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	---	---
Magnesium	ppm	ASTM D5185(m) 10	<b>12</b>	---	---
Calcium	ppm	ASTM D5185(m) 2340	<b>2027</b>	---	---
Phosphorus	ppm	ASTM D5185(m) 1110	<b>929</b>	---	---
Zinc	ppm	ASTM D5185(m) 1210	<b>1065</b>	---	---
Sulfur	ppm	ASTM D5185(m) 3890	<b>2996</b>	---	---
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---

## CONTAMINANTS

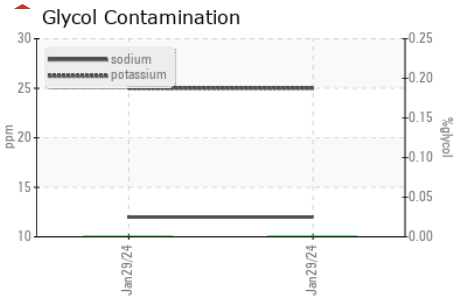
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>3</b>	---	---
Sodium	ppm	ASTM D5185(m)	<b>12</b>	---	---
Potassium	ppm	ASTM D5185(m) >20	<b>25</b>	---	---
Fuel	%	ASTM D7593* >3.0	<b>5.3</b>	---	---
Glycol	%	ASTM D7922*	<b>0.0</b>	---	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	<b>0.2</b>	---	---
Nitration	Abs/cm	ASTM D7624* >20	<b>9.3</b>	---	---
Sulfation	Abs./1mm	ASTM D7415* >30	<b>23.7</b>	---	---



# OIL ANALYSIS REPORT



### FLUID DEGRADATION

Method	Limit/Base	Current	History1	History2
Oxidation	Abs./1mm ASTM D7414*	>25	18.3	---

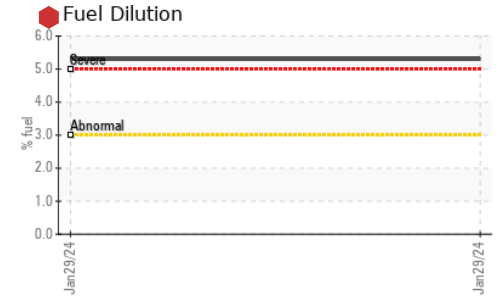
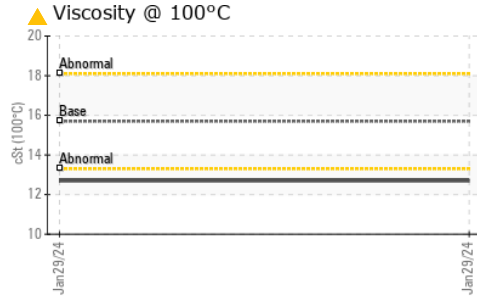
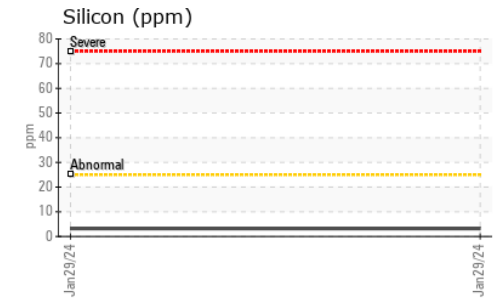
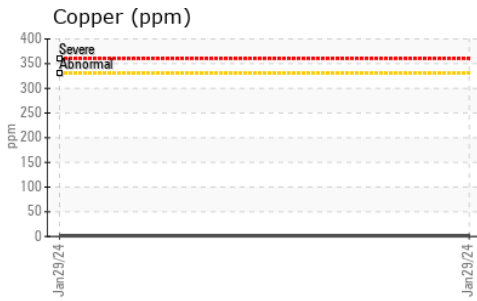
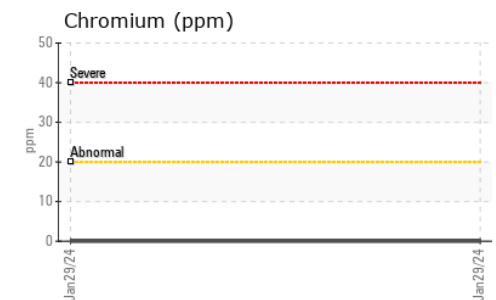
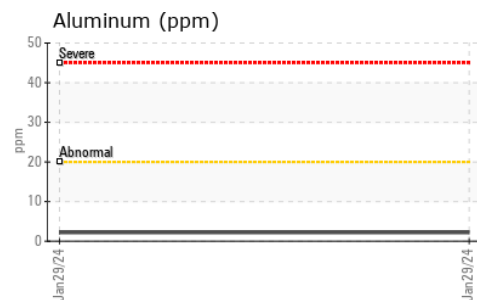
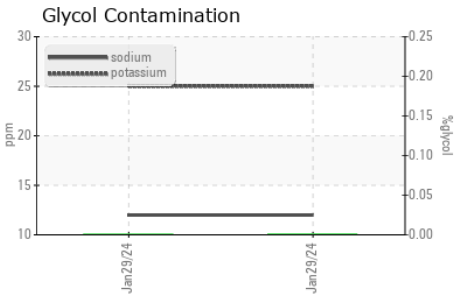
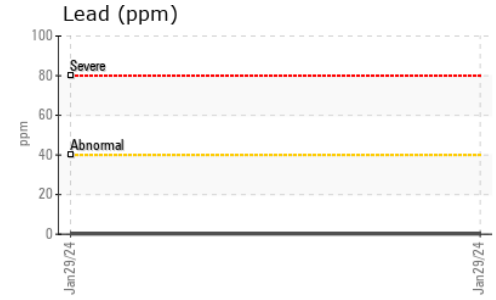
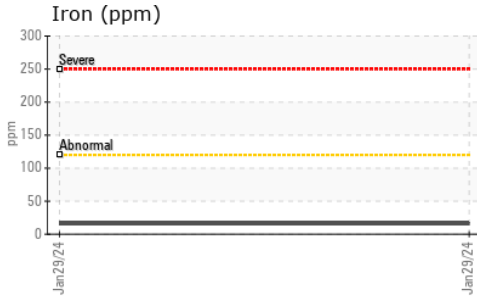
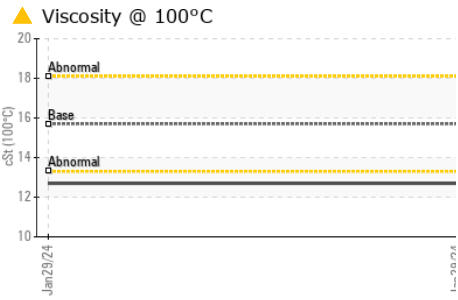
### VISUAL

Method	Limit/Base	Current	History1	History2
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 D7279(m)	15.7	▲ 12.7	---

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental Inc. - 536 - Fort frances  
**Sample No.** : GFL0109560 **Received** : 05 Feb 2024 **Fire #174 Hwy 11/71**  
**Lab Number** : 02613351 **Diagnosed** : 07 Feb 2024 **Fort Frances, ON**  
**Unique Number** : 5722446 **Diagnostician** : Wes Davis **CA P9A 3M2**  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel ) **Contact: Jodi Holden**  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel ) **jholden@gflenv.com**

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.