



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Machine Id  
**MACK 813005**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0109067</b>	GFL0086195	GFL0086261
Sample Date		Client Info		<b>05 Jan 2024</b>	23 Oct 2023	30 Aug 2023
Machine Age	hrs	Client Info		<b>3250</b>	2865	2585
Oil Age	hrs	Client Info		<b>3251</b>	2865	2585
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>6</b>	10	17
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	3
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	1	<1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	5
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Fuel content negligible. There is no indication of any contamination in the oil.

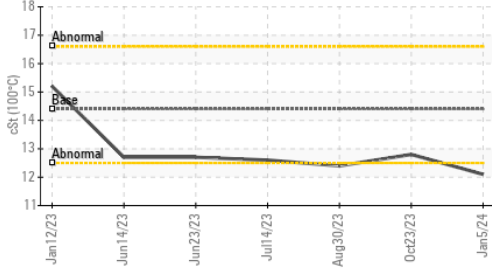
Silicon	ppm	ASTM D5185m	>25	<b>3</b>	3	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	3
Fuel	%	ASTM D3524	>3.0	<b>0.5</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.3</b>	0.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.4</b>	5.8	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.7</b>	17.2	18.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

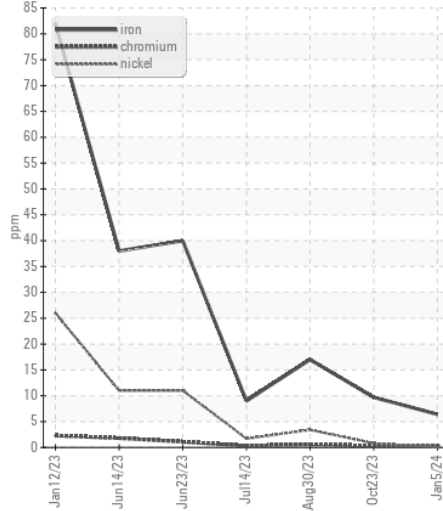
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>216	<b>3</b>	<1	2
Boron	ppm	ASTM D5185m	250	<b>20</b>	19	10
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>60</b>	60	65
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>714</b>	794	877
Calcium	ppm	ASTM D5185m	3000	<b>1105</b>	1079	1124
Phosphorus	ppm	ASTM D5185m	1150	<b>926</b>	931	960
Zinc	ppm	ASTM D5185m	1350	<b>1092</b>	1203	1210
Sulfur	ppm	ASTM D5185m	4250	<b>2951</b>	2871	3373
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.4</b>	12.1	13.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.2</b>	8.0	6.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>▲ 12.1</b>	12.8	12.4

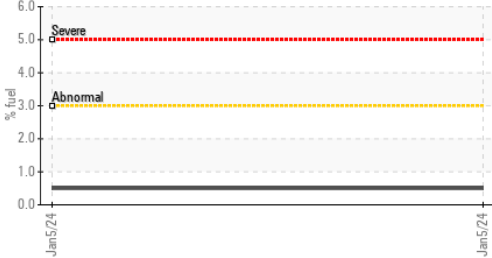
▲ Viscosity @ 100°C



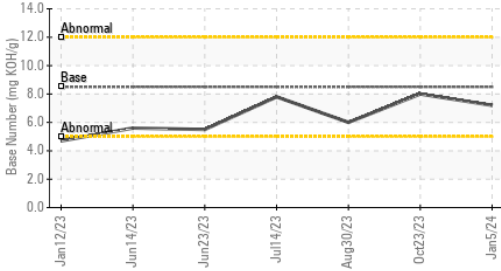
Ferrous Alloys



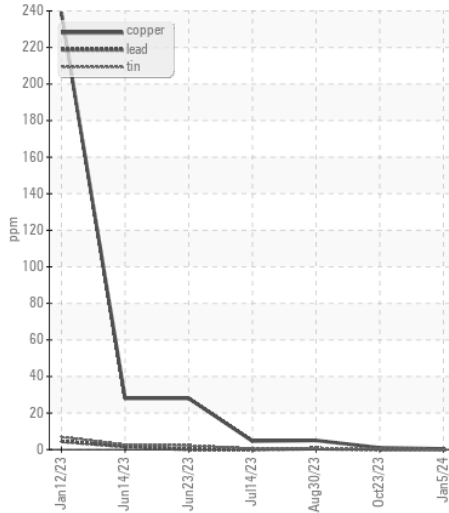
Fuel Dilution



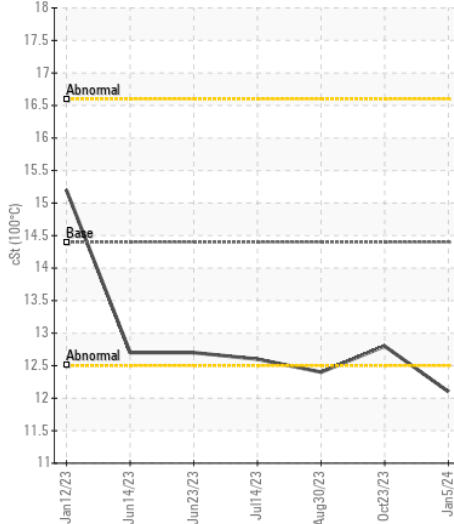
Base Number



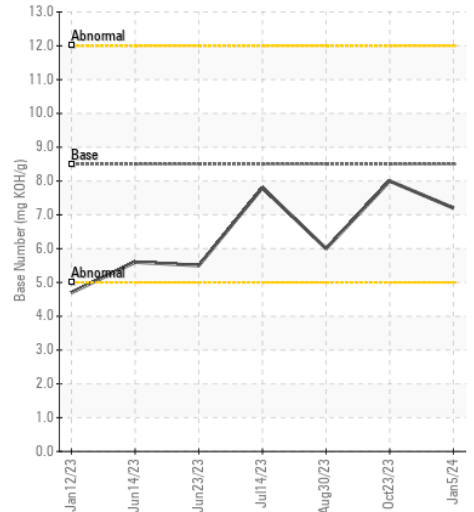
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0109067 **Received** : 09 Jan 2024  
**Lab Number** : 06055758 **Diagnosed** : 11 Jan 2024  
**Unique Number** : 10821707 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 009 - Fairburn**  
 6905 Roosevelt Hwy  
 Fairburn, GA  
 US 30213  
 Contact: Eric Jones  
 erjones@gflenv.com  
 T: (678)630-9927  
 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)