



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



Machine Id  
**827040 MACK LR613**  
Component  
**Diesel Engine**  
Fluid  
**TIER ONE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0115302</b>	GFL0102217	GFL0056984
Sample Date		Client Info		<b>20 May 2024</b>	26 Feb 2024	03 Oct 2022
Machine Age	hrs	Client Info		<b>14951</b>	14408	12484
Oil Age	hrs	Client Info		<b>2151</b>	300	600
Filter Age	hrs	Client Info		<b>2151</b>	300	600
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>23</b>	25	3
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	3	2
Lead	ppm	ASTM D5185m	>40	<b>4</b>	9	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	5	<1
Tin	ppm	ASTM D5185m	>15	<b>2</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

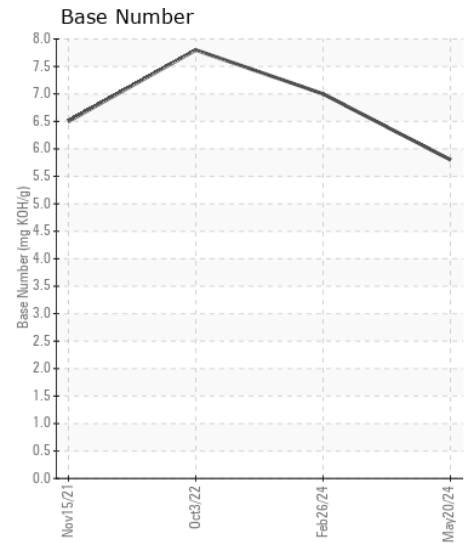
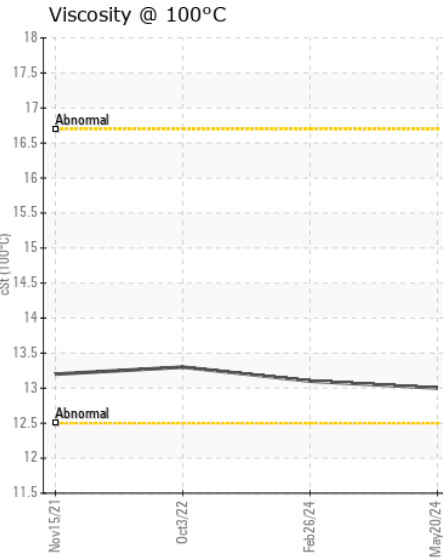
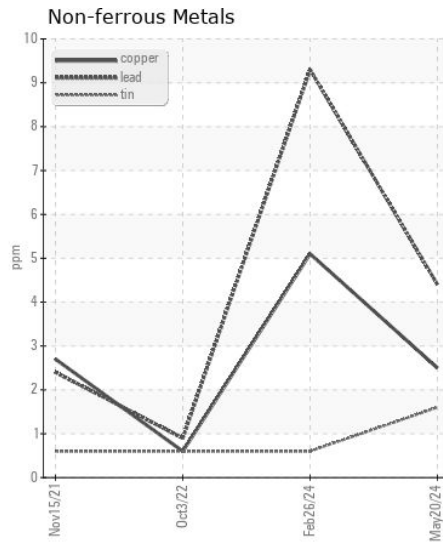
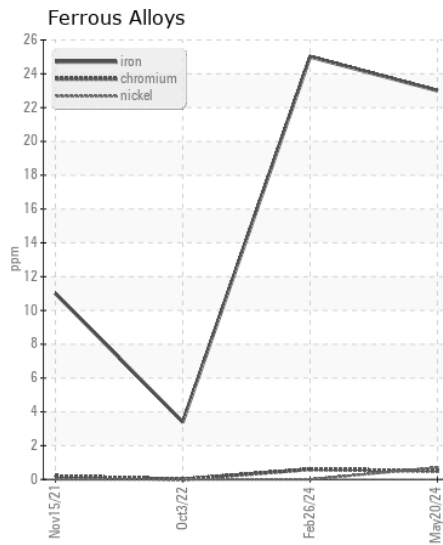
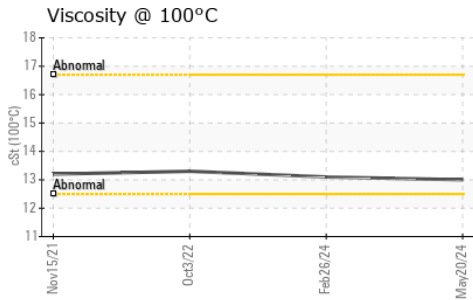
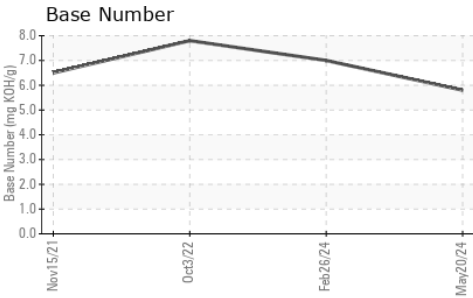
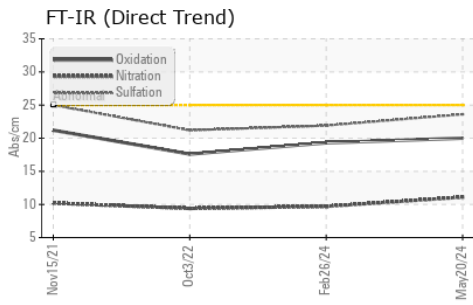
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	12	3
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	1	2
Fuel		WC Method	>3.0	<b>&lt;1.0</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>0.7</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.1</b>	9.7	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.6</b>	21.9	21.2
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>5</b>	3	4
Boron	ppm	ASTM D5185m		<b>3</b>	69	5
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>57</b>	73	59
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>855</b>	815	836
Calcium	ppm	ASTM D5185m		<b>1096</b>	1190	1076
Phosphorus	ppm	ASTM D5185m		<b>1056</b>	925	968
Zinc	ppm	ASTM D5185m		<b>1234</b>	1120	1162
Sulfur	ppm	ASTM D5185m		<b>3148</b>	2716	3102
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.0</b>	19.3	17.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>5.8</b>	7.0	7.8
Visc @ 100°C	cSt	ASTM D445		<b>13.0</b>	13.1	13.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0115302  
**Lab Number** : 06189989  
**Unique Number** : 11046741  
**Test Package** : FLEET

**Received** : 23 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 2024 - Wes Davis

**GFL Environmental - 642- Grand Rapids Hauling**  
 5826 Alden Nash Ave SE  
 Lowell, MI  
 US 49331

Contact: Chad Crosby  
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T: (616)299-8425

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)