



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



Machine Id  
**MACK 423086**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0099196</b>	GFL0083721	GFL0099155
Sample Date		Client Info		<b>10 Jun 2024</b>	07 Nov 2023	31 Oct 2023
Machine Age	mls	Client Info		<b>463347</b>	463347	462994
Oil Age	mls	Client Info		<b>463347</b>	445685	462994
Filter Age	mls	Client Info		<b>0</b>	445685	462994
Oil Changed		Client Info		<b>N/A</b>	Changed	N/A
Filter Changed		Client Info		<b>N/A</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>48</b>	30	28
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	7	8
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

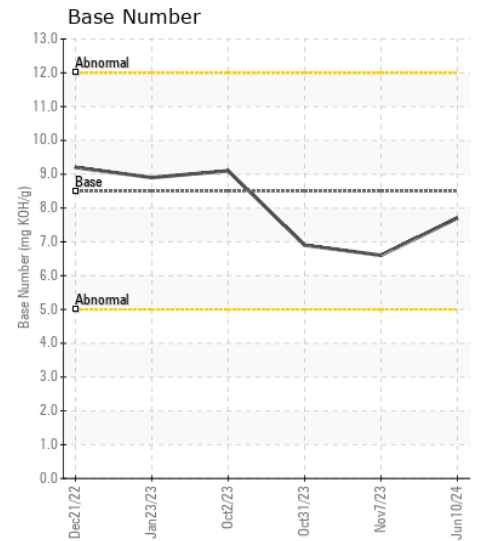
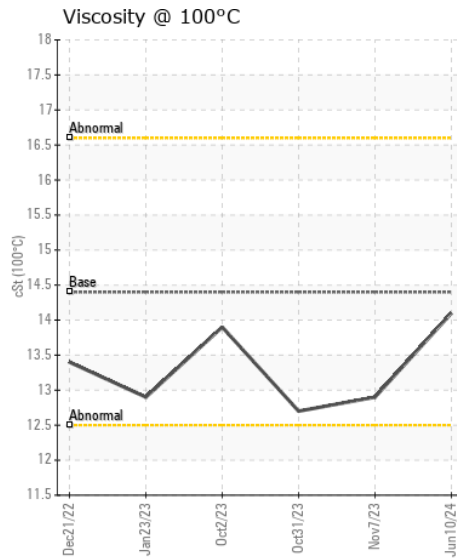
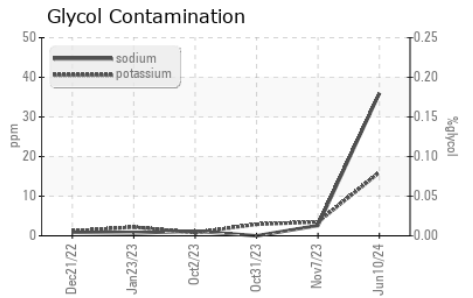
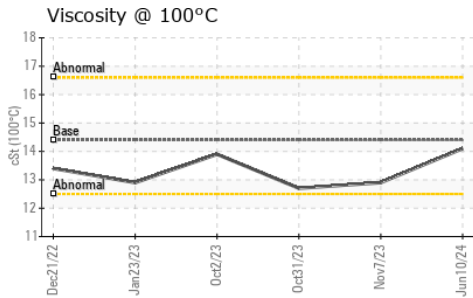
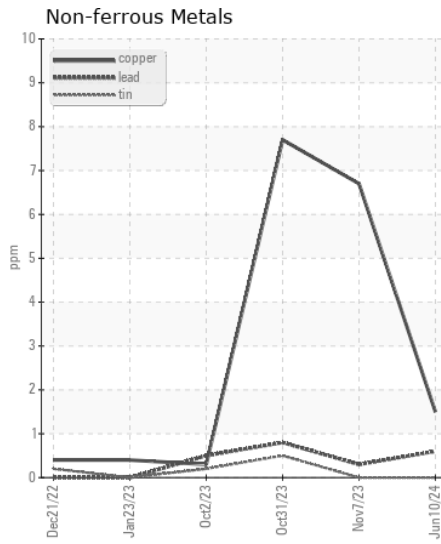
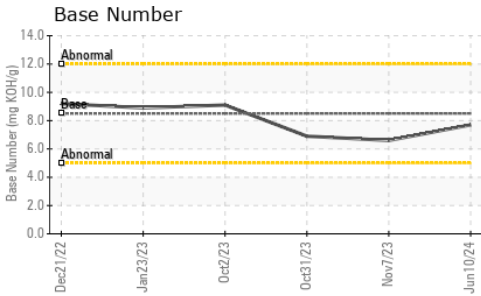
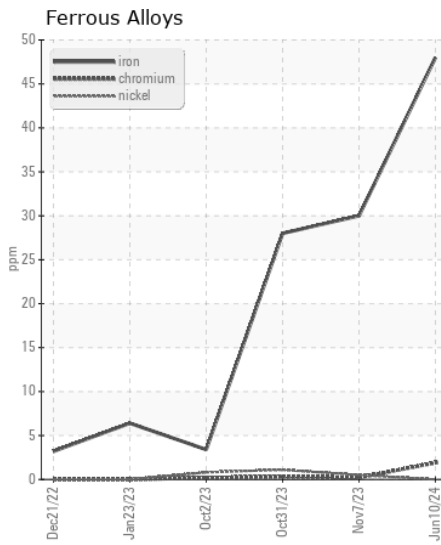
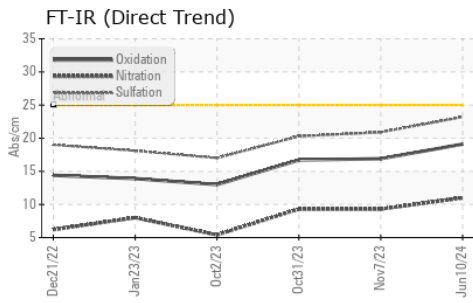
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>9</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>16</b>	4	3
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	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>1</b>	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.0</b>	9.3	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.2</b>	20.9	20.3
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 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	>158	<b>36</b>	3	0
Boron	ppm	ASTM D5185m	250	<b>4</b>	2	2
Barium	ppm	ASTM D5185m	10	<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185m	100	<b>66</b>	59	63
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>932</b>	856	891
Calcium	ppm	ASTM D5185m	3000	<b>1100</b>	1015	1112
Phosphorus	ppm	ASTM D5185m	1150	<b>1011</b>	866	968
Zinc	ppm	ASTM D5185m	1350	<b>1349</b>	1113	1186
Sulfur	ppm	ASTM D5185m	4250	<b>3317</b>	2807	2799
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.1</b>	16.9	16.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.7</b>	6.6	6.9
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.1</b>	12.9	12.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0099196 **Received** : 14 Jun 2024  
**Lab Number** : 06211049 **Tested** : 19 Jun 2024  
**Unique Number** : 11083913 **Diagnosed** : 19 Jun 2024 - Sean Felton  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 842 - Lewisport Hauling**  
 4995 US Highway 60 West  
 Lewisport, KY  
 US 42351  
 Contact: Robert Thibault  
 robert.thibault@gflenv.com  
 T: (193)123-7604  
 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)