



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

Machine Id  
**413108**  
Component  
**Diesel Engine**  
Fluid  
**5W30 DELCO (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. 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>GFL0109833</b>	GFL0103269	GFL0103339
Sample Date		Client Info		<b>07 Feb 2024</b>	25 Jan 2024	05 Jan 2024
Machine Age	hrs	Client Info		<b>3625</b>	3529	3371
Oil Age	hrs	Client Info		<b>600</b>	0	0
Filter Age	hrs	Client Info		<b>600</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Not Changd
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

Valve wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>16</b>	11	5
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>▲ 7</b>	5	2
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>6</b>	7	5
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>150	<b>16</b>	14	3
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<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.

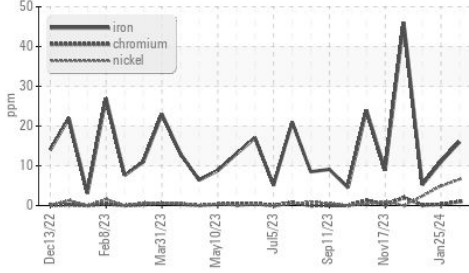
Silicon	ppm	ASTM D5185m	>20	<b>5</b>	4	3
Potassium	ppm	ASTM D5185m	>20	<b>10</b>	6	5
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.7</b>	10.2	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.0</b>	22.1	21.9
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**

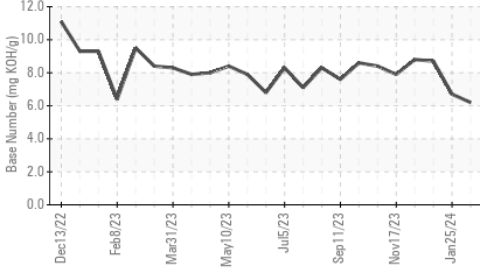
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	4	<1
Boron	ppm	ASTM D5185m		<b>42</b>	50	53
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>19</b>	17	14
Manganese	ppm	ASTM D5185m		<b>2</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>877</b>	825	838
Calcium	ppm	ASTM D5185m		<b>1286</b>	1281	1213
Phosphorus	ppm	ASTM D5185m		<b>766</b>	732	778
Zinc	ppm	ASTM D5185m		<b>937</b>	871	893
Sulfur	ppm	ASTM D5185m		<b>2464</b>	2342	2352
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.9</b>	20.3	19.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.2</b>	6.7	8.7
Visc @ 100°C	cSt	ASTM D445		<b>11.6</b>	11.6	11.6

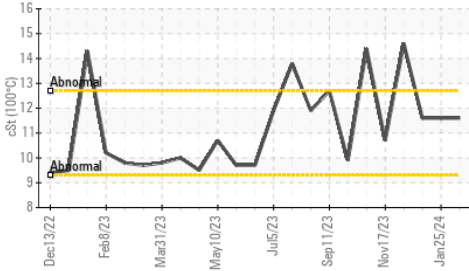
▲ Ferrous Alloys



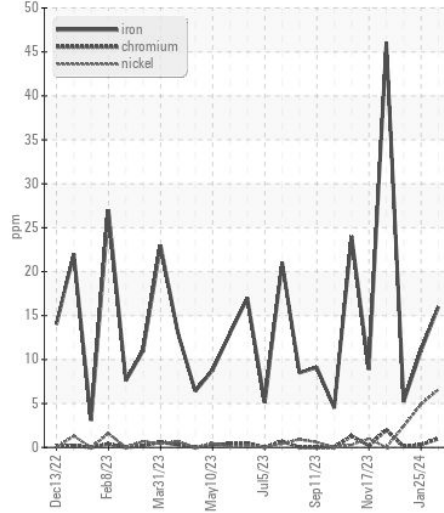
Base Number



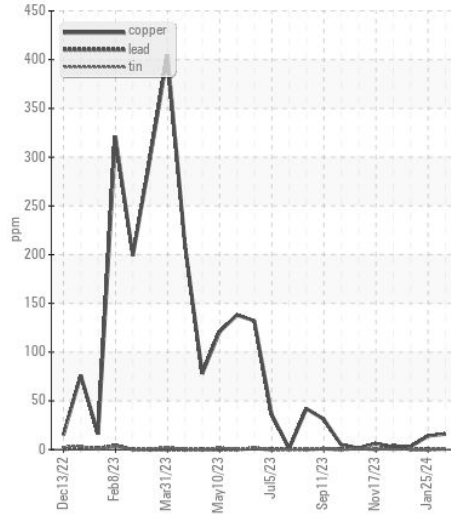
Viscosity @ 100°C



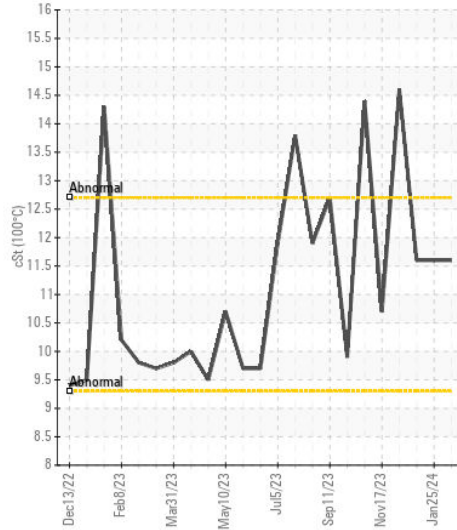
▲ Ferrous Alloys



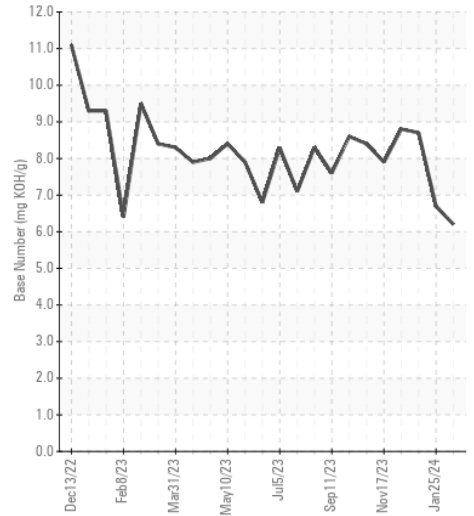
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0109833  
**Lab Number** : 06085253  
**Unique Number** : 10872698  
**Test Package** : FLEET

**Received** : 09 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Don Baldrige

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Loyce Stewart  
 loyce.stewart@gflenv.com

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)

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F: