



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



Area  
**(24564UA)**  
Machine Id  
**819013**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0111879</b>	GFL0111889	GFL0111849
Sample Date		Client Info		<b>16 Apr 2024</b>	13 Mar 2024	26 Feb 2024
Machine Age	hrs	Client Info		<b>11010</b>	10829	10724
Oil Age	hrs	Client Info		<b>181</b>	10829	10724
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>21</b>	28	20
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	8	6
Lead	ppm	ASTM D5185m	>40	<b>3</b>	3	2
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	3
Tin	ppm	ASTM D5185m	>15	<b>2</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
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.

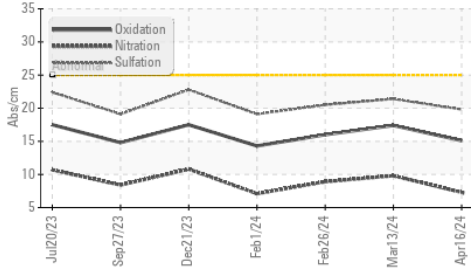
Silicon	ppm	ASTM D5185m	>25	<b>13</b>	18	13
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	7	6
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.4</b>	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.3</b>	9.8	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.8</b>	21.4	20.5
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**

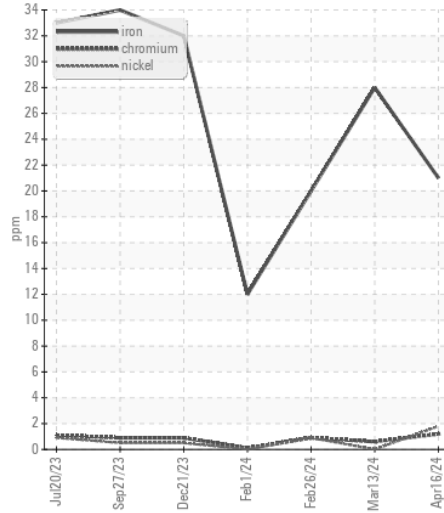
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>2</b>	1	1
Boron	ppm	ASTM D5185m	250	<b>19</b>	8	8
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m	100	<b>60</b>	68	63
Manganese	ppm	ASTM D5185m		<b>1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>888</b>	1045	925
Calcium	ppm	ASTM D5185m	3000	<b>1135</b>	1277	1110
Phosphorus	ppm	ASTM D5185m	1150	<b>1088</b>	1222	1058
Zinc	ppm	ASTM D5185m	1350	<b>1212</b>	1377	1251
Sulfur	ppm	ASTM D5185m	4250	<b>3442</b>	3389	3262
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.1</b>	17.4	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.5</b>	6.6	7.1
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.2</b>	14.3	14.2

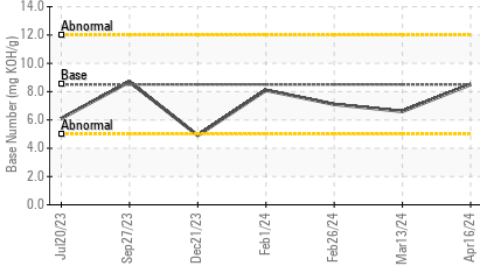
**FT-IR (Direct Trend)**



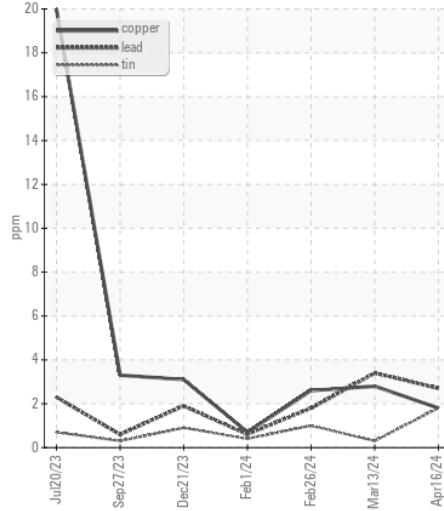
**Ferrous Alloys**



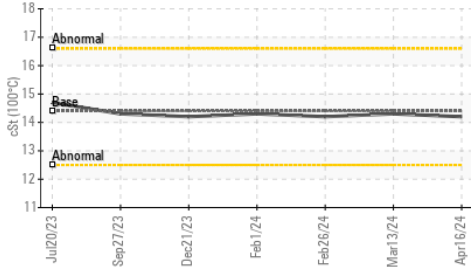
**Base Number**



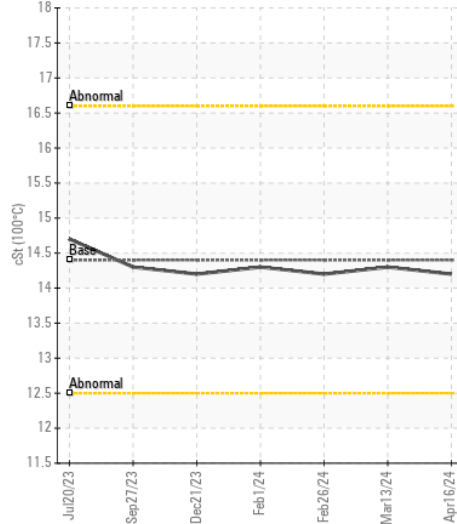
**Non-ferrous Metals**



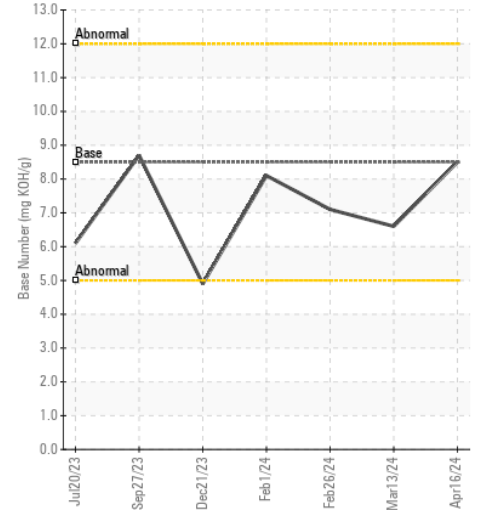
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0111879  
**Lab Number** : 06152845  
**Unique Number** : 10982923  
**Test Package** : FLEET

**Received** : 18 Apr 2024  
**Tested** : 19 Apr 2024  
**Diagnosed** : 19 Apr 2024 - Wes Davis

**GFL Environmental - 652 - Fredericksburg Hauling**  
 10954 Houser Drive  
 Fredericksburg, VA  
 US 22408  
 Contact: WILLIAM MILO  
 wmiло@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)

T:  
F: