



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

Machine Id  
**713027**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0121610</b>	GFL0105082	GFL0105302
Sample Date		Client Info		<b>10 Jun 2024</b>	31 May 2024	31 May 2024
Machine Age	hrs	Client Info		<b>1827</b>	1664	1705
Oil Age	hrs	Client Info		<b>150</b>	150	600
Filter Age	hrs	Client Info		<b>150</b>	150	600
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>7</b>	22	21
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</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.

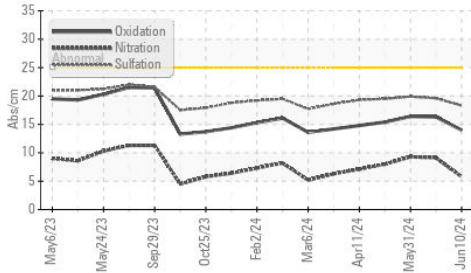
Silicon	ppm	ASTM D5185m	>25	<b>3</b>	4	3
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	3
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.2</b>	0.6	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.8</b>	9.1	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.3</b>	19.6	19.9
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**

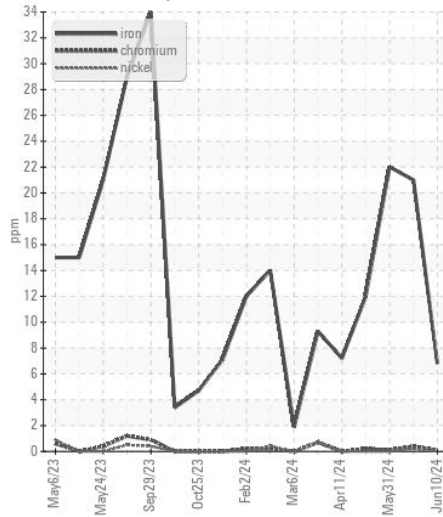
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>8</b>	6	2
Boron	ppm	ASTM D5185m	250	<b>&lt;1</b>	<1	0
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>60</b>	57	56
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	450	<b>949</b>	880	871
Calcium	ppm	ASTM D5185m	3000	<b>1076</b>	1024	1016
Phosphorus	ppm	ASTM D5185m	1150	<b>1071</b>	1019	897
Zinc	ppm	ASTM D5185m	1350	<b>1259</b>	1183	1184
Sulfur	ppm	ASTM D5185m	4250	<b>3682</b>	3261	3003
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.0</b>	16.3	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>9.5</b>	7.8	8.2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	13.9	13.9

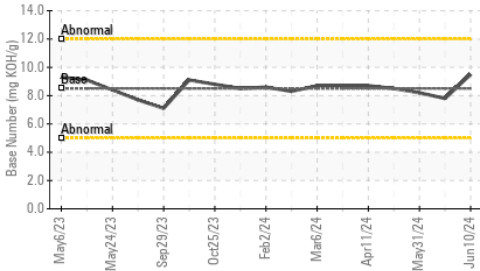
**FT-IR (Direct Trend)**



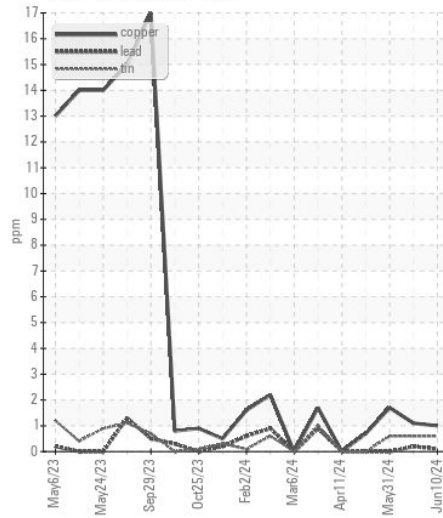
**Ferrous Alloys**



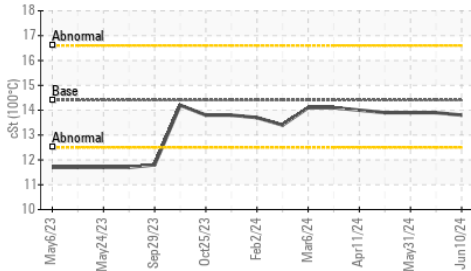
**Base Number**



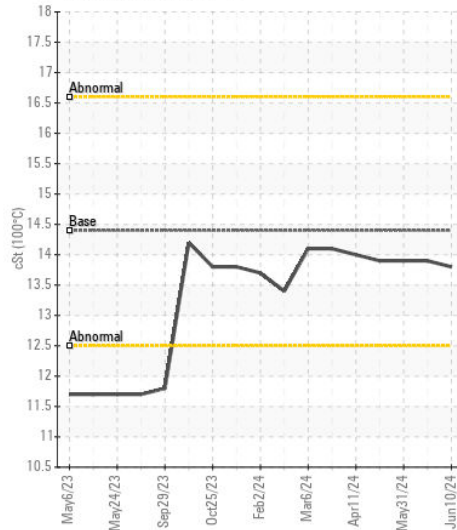
**Non-ferrous Metals**



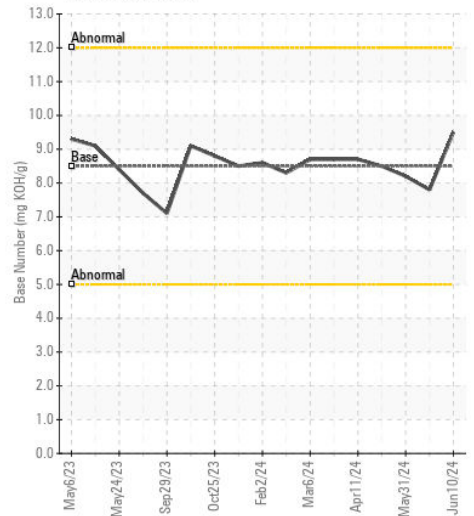
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0121610  
**Lab Number** : 06209781  
**Unique Number** : 11082645  
**Test Package** : FLEET

**Received** : 14 Jun 2024  
**Tested** : 15 Jun 2024  
**Diagnosed** : 15 Jun 2024 - Wes Davis

**GFL Environmental - 821 - Ozarks Hauling**  
 33924 Olath Drive  
 Lebanon, MO  
 US 65536  
 Contact: Gary Southard  
 gsouthard@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: