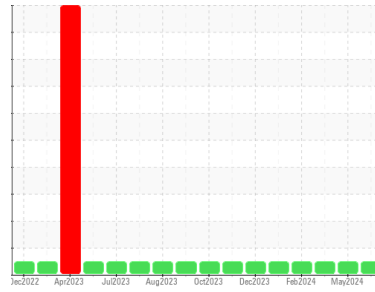




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**812039**

Component

**Diesel Engine**

Fluid

**DISEL ENGINE OIL SAE 40 (--- GAL)**

## DIAGNOSIS

### Recommendation

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

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>GFL0122954</b>	GFL0115437	GFL0102944
Sample Date	Client Info			<b>03 Jun 2024</b>	19 May 2024	13 Apr 2024
Machine Age	hrs	Client Info		<b>4963</b>	4870	4703
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	<b>3</b>	10	8
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>1</b>	5	4
Lead	ppm	ASTM D5185m	>45	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>85	<b>0</b>	<1	2
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	<b>40</b>	15	9
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>73</b>	70	63
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>930</b>	967	920
Calcium	ppm	ASTM D5185m	3000	<b>1122</b>	1154	1092
Phosphorus	ppm	ASTM D5185m	1150	<b>1029</b>	1112	1084
Zinc	ppm	ASTM D5185m	1350	<b>1193</b>	1318	1276
Sulfur	ppm	ASTM D5185m	4250	<b>3538</b>	3685	3741

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	<b>0</b>	6	5
Sodium	ppm	ASTM D5185m	>216	<b>1</b>	<1	2
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	2

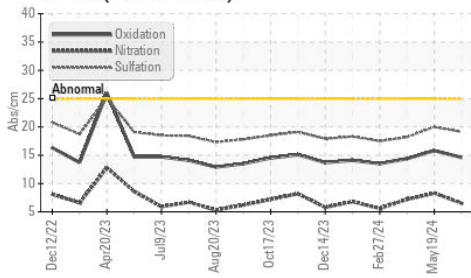
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	8.3	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	20.0	18.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.6</b>	15.8	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.5</b>	8.1	8.2

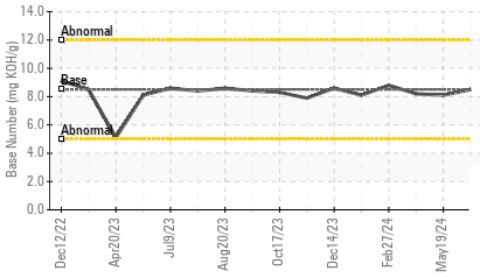


# OIL ANALYSIS REPORT

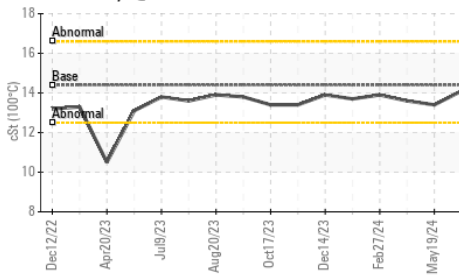
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

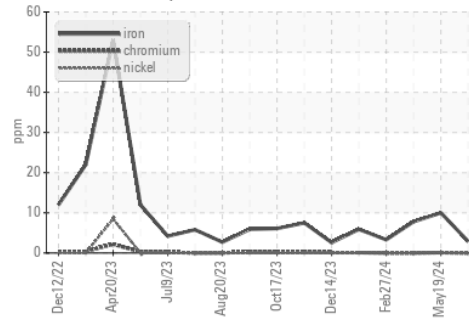


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

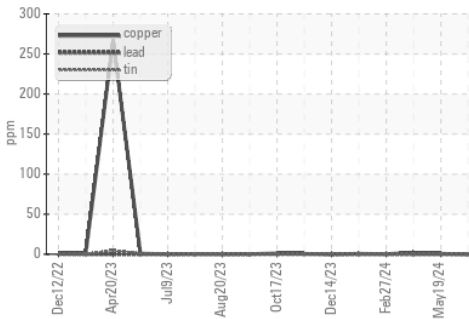
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	13.4

## GRAPHS

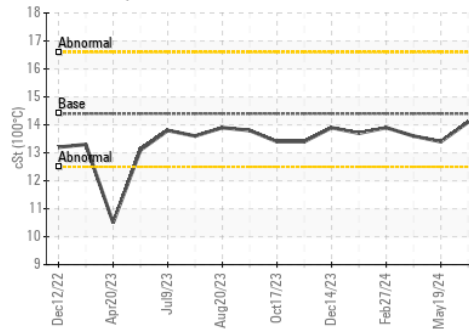
Ferrous Alloys



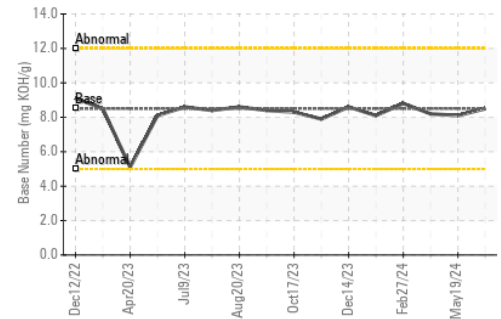
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0122954  
**Lab Number** : 06198906  
**Unique Number** : 11061029  
**Test Package** : FLEET

**Received** : 04 Jun 2024  
**Tested** : 05 Jun 2024  
**Diagnosed** : 05 Jun 2024 - Wes Davis

**GFL Environmental - 816 - WCA of South Arkansas**  
 3083 Smackover Hwy  
 El Dorado, AR  
 US 71730

Contact: Mike Howell  
 mike.howell@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: