



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

Machine Id  
**814023**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0119375</b>	GFL0119404	GFL0119385
Sample Date		Client Info		<b>08 May 2024</b>	18 Apr 2024	18 Apr 2024
Machine Age	hrs	Client Info		<b>1020</b>	929	891
Oil Age	hrs	Client Info		<b>91</b>	200	162
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	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	>100	<b>18</b>	10	12
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>6</b>	2	4
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>1</b>	1	2
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>224</b>	70	74
Tin	ppm	ASTM D5185m	>15	<b>2</b>	1	2
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.

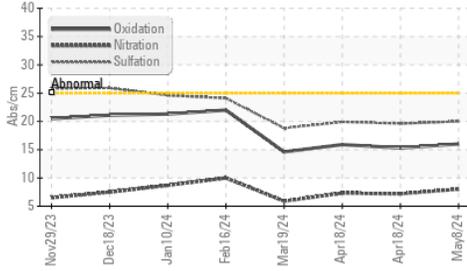
Silicon	ppm	ASTM D5185m	>25	<b>11</b>	9	11
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	1	5
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	7.2	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</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**

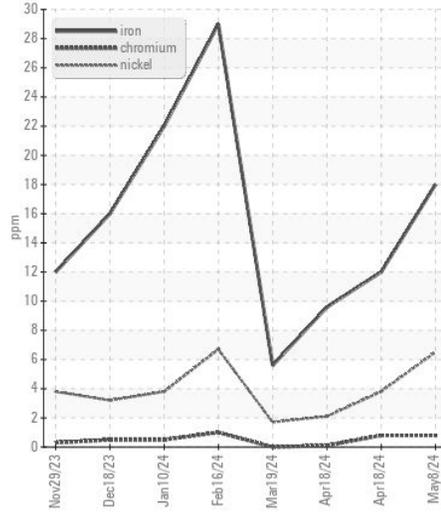
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>2</b>	3	1
Boron	ppm	ASTM D5185m	250	<b>18</b>	23	24
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>68</b>	65	68
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	2
Magnesium	ppm	ASTM D5185m	450	<b>850</b>	898	854
Calcium	ppm	ASTM D5185m	3000	<b>1088</b>	1086	1080
Phosphorus	ppm	ASTM D5185m	1150	<b>897</b>	992	1001
Zinc	ppm	ASTM D5185m	1350	<b>1124</b>	1173	1137
Sulfur	ppm	ASTM D5185m	4250	<b>2827</b>	3280	2988
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.0</b>	15.3	15.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.2</b>	7.5	7.6
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.4</b>	13.5	13.4

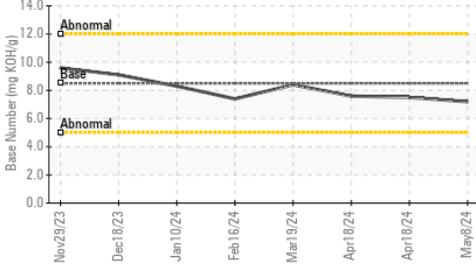
**FT-IR (Direct Trend)**



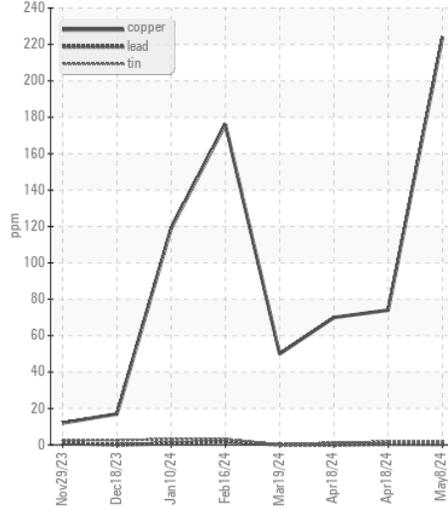
**Ferrous Alloys**



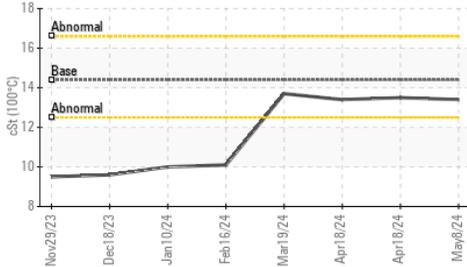
**Base Number**



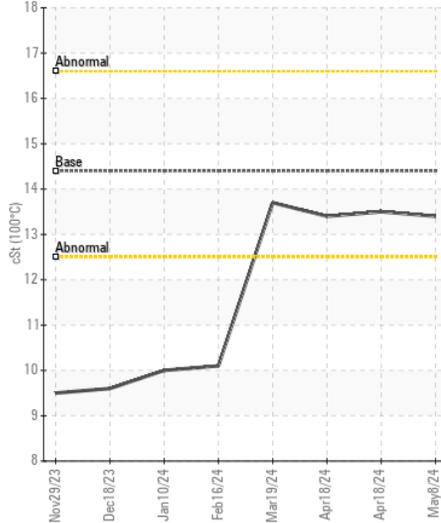
**Non-ferrous Metals**



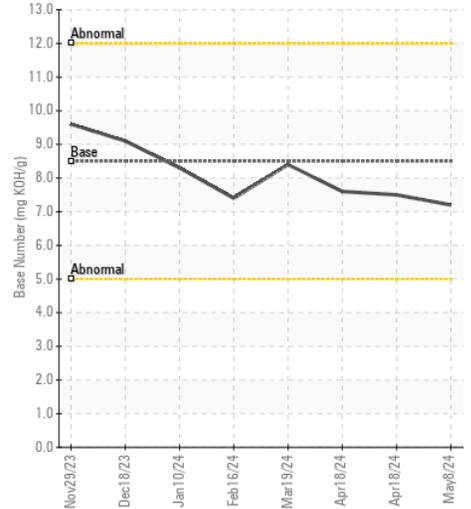
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0119375  
**Lab Number** : 06178172  
**Unique Number** : 11029498  
**Test Package** : FLEET

**GFL Environmental - 814 - Little Rock Hauling**  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Koenig  
 bkoenig@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: