



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
607054
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 5W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0091907	GFL0112803	GFL0103839
Sample Date		Client Info		02 Jul 2024	02 Apr 2024	02 Jan 2024
Machine Age	hrs	Client Info		5261	320	5261
Oil Age	hrs	Client Info		5261	5261	5261
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	7	14	8
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	1	4	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	0	2	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

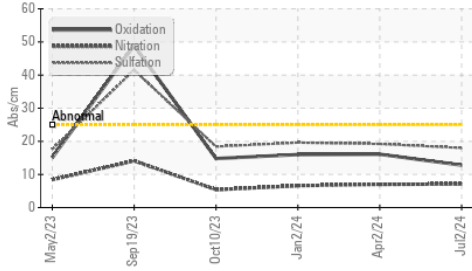
Silicon	ppm	ASTM D5185m	>25	7	6	5
Potassium	ppm	ASTM D5185m	>20	3	4	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.1	7.0	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	19.2	19.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

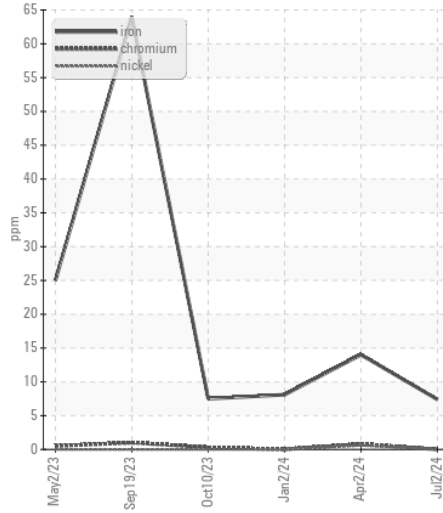
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>44	2	2	1
Boron	ppm	ASTM D5185m	250	108	12	12
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	8	54	55
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	751	887	911
Calcium	ppm	ASTM D5185m	3000	1318	1078	1031
Phosphorus	ppm	ASTM D5185m	1150	1021	1032	1022
Zinc	ppm	ASTM D5185m	1350	1240	1181	1227
Sulfur	ppm	ASTM D5185m	4250	4209	3170	3054
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.8	16.1	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.8	8.5	8.5
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.0	14.1

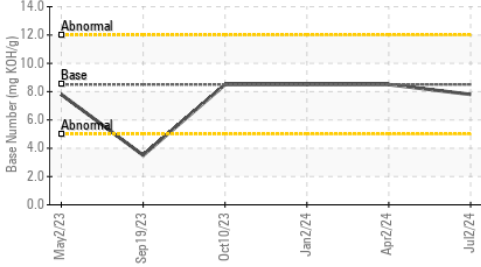
FT-IR (Direct Trend)



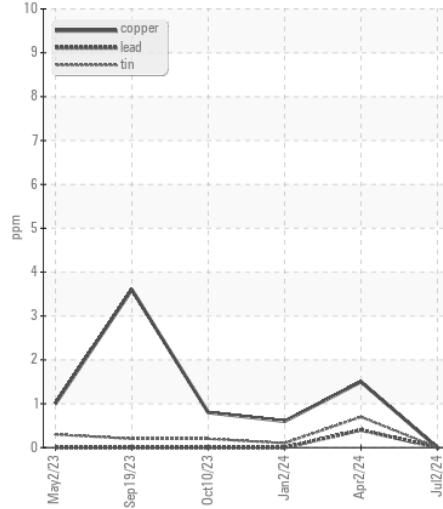
Ferrous Alloys



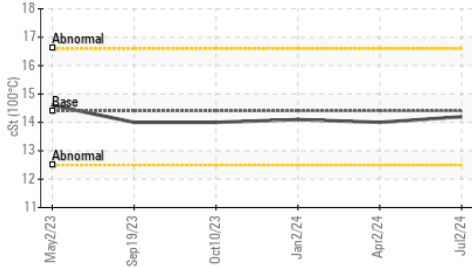
Base Number



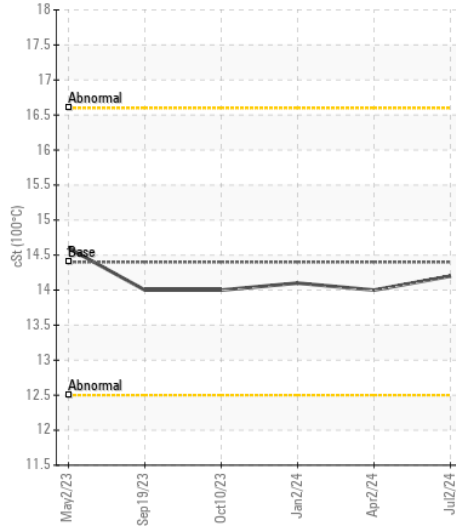
Non-ferrous Metals



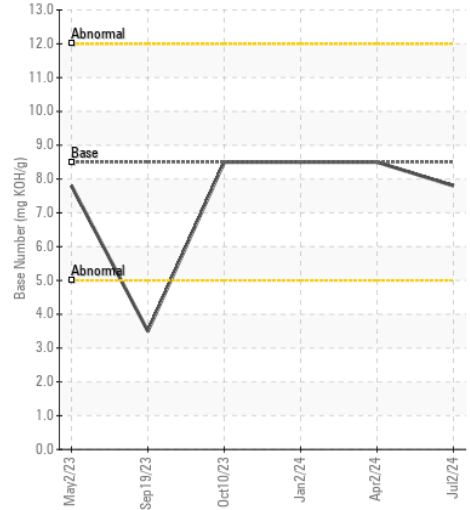
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0091907

Lab Number : 06229471

Unique Number : 11112964

Test Package : FLEET

Received : 05 Jul 2024

Tested : 09 Jul 2024

Diagnosed : 09 Jul 2024 - Sean Felton

GFL Environmental - 654 - Richmond Hauling

11800 Lewis Road

Chester, VA

US 23831

Contact: Jimmy Mayes

jmayes@gflenv.com

T:

F:

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)