



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(YA163282)

Machine Id
812007

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (38 QTS)

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		GFL0090022	GFL0090056	GFL0080531
Sample Date		Client Info		27 May 2024	10 Feb 2024	24 Oct 2023
Machine Age	hrs	Client Info		0	820	0
Oil Age	hrs	Client Info		0	820	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changed	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	39	21	20
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	24	17	21
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	0	1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

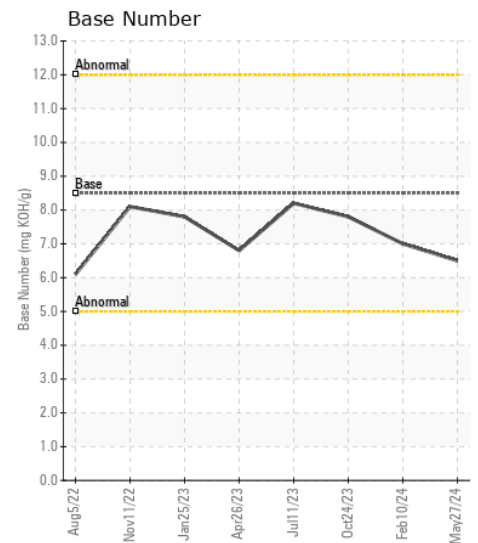
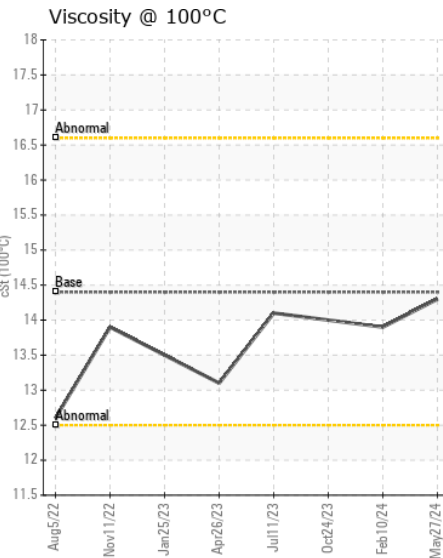
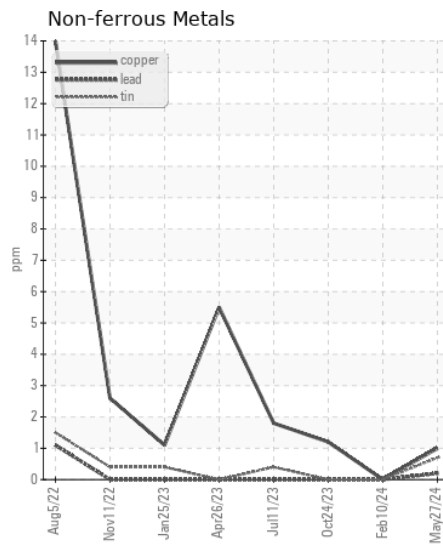
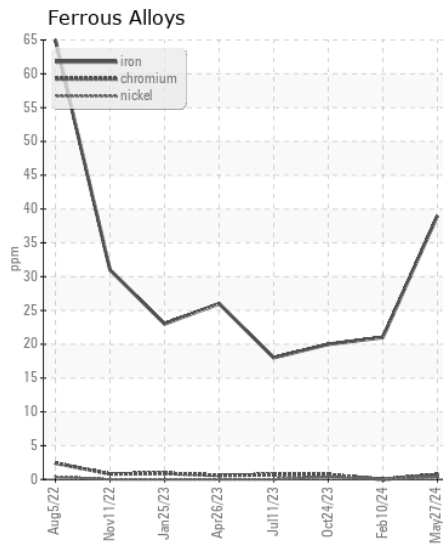
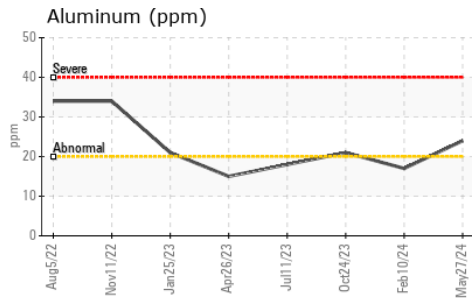
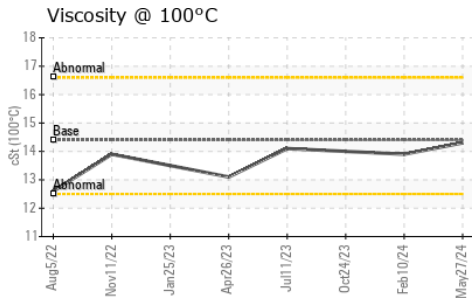
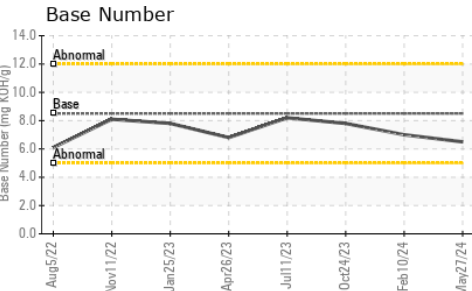
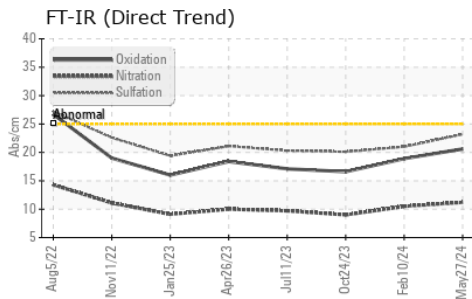
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	3	5
Potassium	ppm	ASTM D5185m	>20	35	25	35
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	11.2	10.5	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	21.0	20.1
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	>216	8	5	4
Boron	ppm	ASTM D5185m	250	3	2	4
Barium	ppm	ASTM D5185m	10	0	0	3
Molybdenum	ppm	ASTM D5185m	100	68	64	81
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	450	1057	994	1126
Calcium	ppm	ASTM D5185m	3000	1204	1114	1362
Phosphorus	ppm	ASTM D5185m	1150	1145	1107	1331
Zinc	ppm	ASTM D5185m	1350	1392	1308	1544
Sulfur	ppm	ASTM D5185m	4250	3356	2794	4207
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.6	18.9	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.5	7.0	7.8
Visc @ 100°C	cSt	ASTM D445	14.4	14.3	13.9	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090022
Lab Number : 06193744
Unique Number : 11050496
Test Package : FLEET

Received : 29 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Wes Davis

GFL Environmental - 018 - Fayetteville
 4621 Marracco Drive
 Hope Mills, NC
 US 28348

Contact: Robert Carter
 robert.carter@gflenv.com
 T: (910)596-1170

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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