



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
721053

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

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		GFL0108274	GFL0108332	GFL0098190
Sample Date		Client Info		05 Feb 2024	11 Jan 2024	12 Dec 2023
Machine Age	hrs	Client Info		20902	20716	20630
Oil Age	hrs	Client Info		20902	20716	20630
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	11	14	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	0	1	1
Tin	ppm	ASTM D5185m	>15	<1	<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

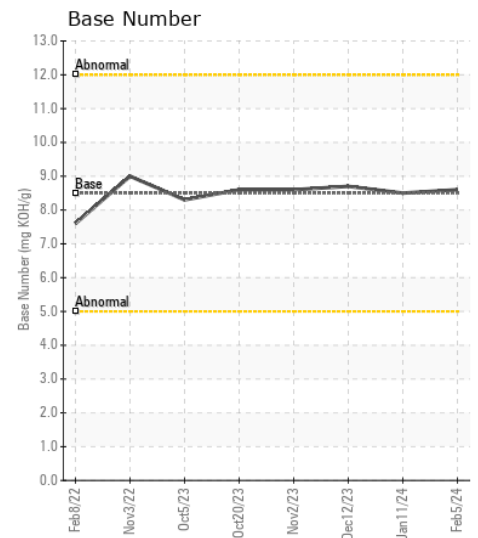
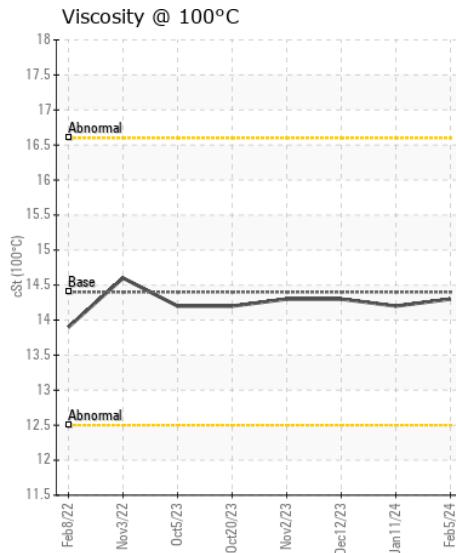
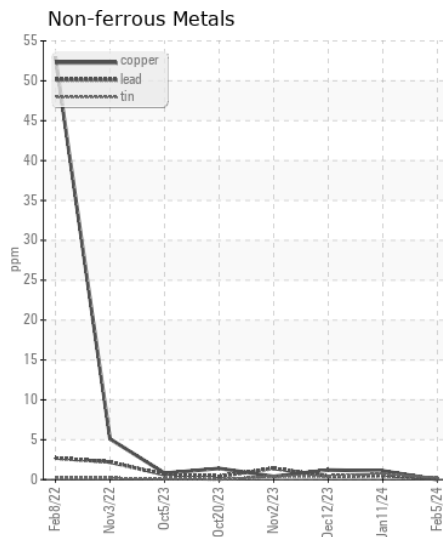
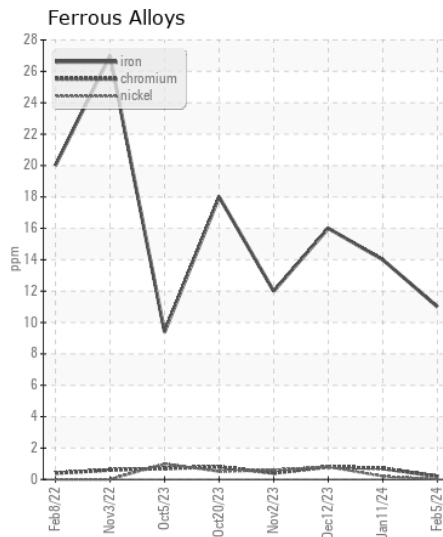
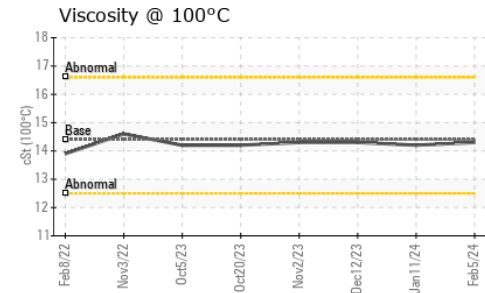
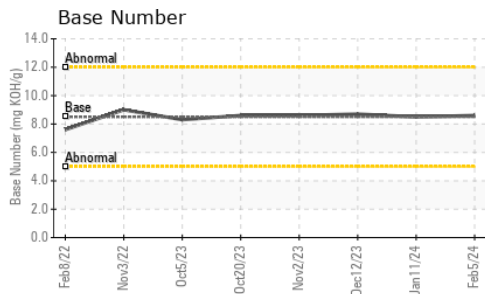
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	6	7
Potassium	ppm	ASTM D5185m	>20	0	0	5
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.3	7.2	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	19.2	19.1
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	2	3	1
Boron	ppm	ASTM D5185m	250	15	13	14
Barium	ppm	ASTM D5185m	10	0	0	12
Molybdenum	ppm	ASTM D5185m	100	59	63	62
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	947	1003	946
Calcium	ppm	ASTM D5185m	3000	1034	1152	1138
Phosphorus	ppm	ASTM D5185m	1150	1070	1140	1011
Zinc	ppm	ASTM D5185m	1350	1275	1337	1254
Sulfur	ppm	ASTM D5185m	4250	3039	3201	3336
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	15.3	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.6	8.5	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	14.3	14.2	14.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108274
Lab Number : 06083025
Unique Number : 10870470
Test Package : FLEET

Received : 07 Feb 2024
Tested : 08 Feb 2024
Diagnosed : 08 Feb 2024 - Wes Davis

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmilo@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: