



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
(YA171065)
Machine Id
9177
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (7 GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0115977	GFL0089996	---
Sample Date		Client Info		29 May 2024	08 Jan 2024	---
Machine Age	hrs	Client Info		14749	14749	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	SEVERE	---

WEAR

Moderate concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	9	▲ 646	---
Chromium	ppm	ASTM D5185m	>20	<1	▲ 31	---
Nickel	ppm	ASTM D5185m	>2	0	▲ 19	---
Titanium	ppm	ASTM D5185m	>2	<1	2	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	4	● 57	---
Lead	ppm	ASTM D5185m	>40	1	9	---
Copper	ppm	ASTM D5185m	>330	0	12	---
Tin	ppm	ASTM D5185m	>15	<1	3	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	▲ MODER	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

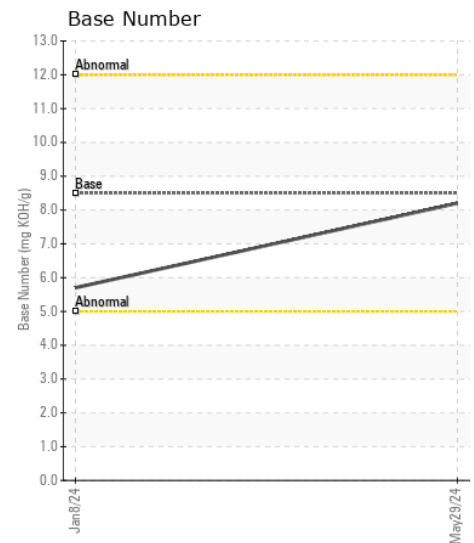
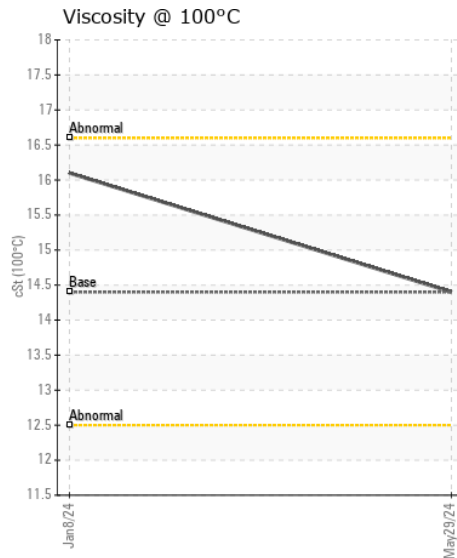
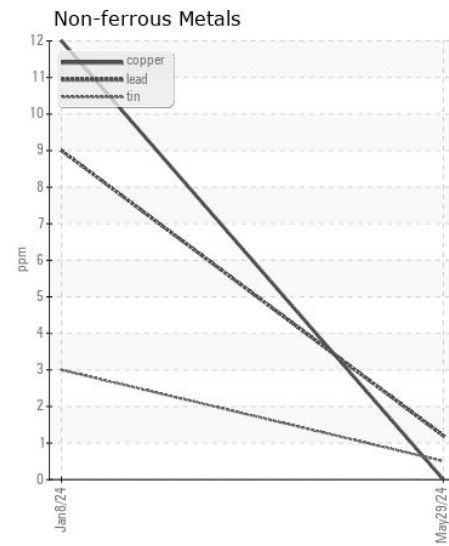
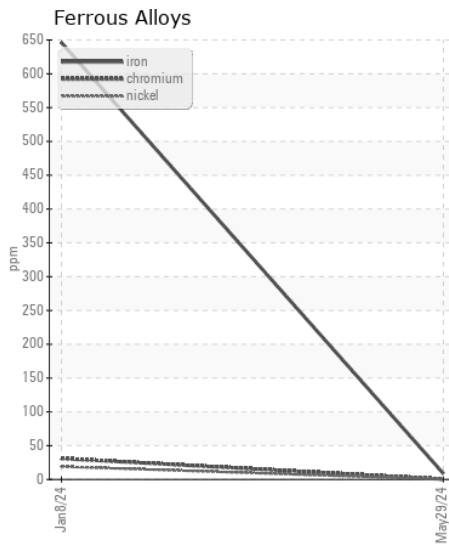
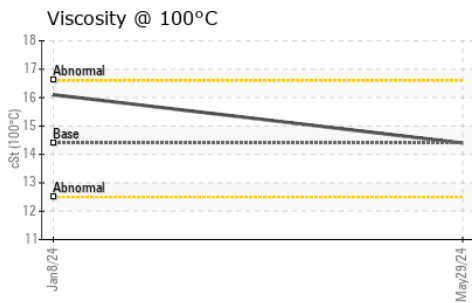
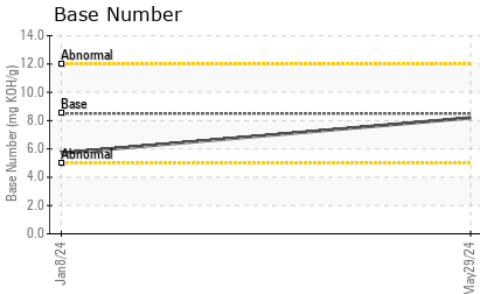
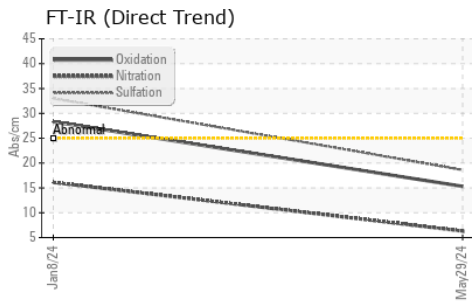
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>25	12	▲ 166	---
Potassium	ppm	ASTM D5185m	>20	4	10	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>6	0.1	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	6.3	16.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	33.0	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	▲ MODER	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	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m	>216	3	20	---
Boron	ppm	ASTM D5185m	250	41	13	---
Barium	ppm	ASTM D5185m	10	0	<1	---
Molybdenum	ppm	ASTM D5185m	100	50	138	---
Manganese	ppm	ASTM D5185m		<1	8	---
Magnesium	ppm	ASTM D5185m	450	588	936	---
Calcium	ppm	ASTM D5185m	3000	1659	2400	---
Phosphorus	ppm	ASTM D5185m	1150	879	1238	---
Zinc	ppm	ASTM D5185m	1350	1009	1482	---
Sulfur	ppm	ASTM D5185m	4250	3102	3051	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	28.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.2	5.7	---
Visc @ 100°C	cSt	ASTM D445	14.4	14.4	16.1	---



Certificate L2367

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

Sample No. : GFL0115977

Lab Number : 06195089

Unique Number : 11057212

Test Package : FLEET

Received : 30 May 2024

Tested : 31 May 2024

Diagnosed : 31 May 2024 - Sean Felton

GFL Environmental - 018 - Fayetteville

4621 Marracco Drive

Hope Mills, NC

US 28348

Contact: CHRIS HALL

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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)