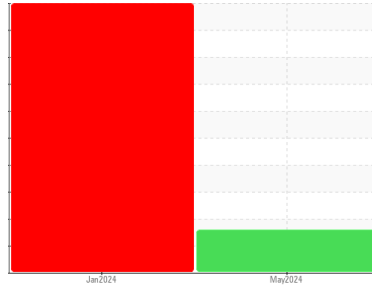




OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL



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

DIAGNOSIS

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.

Wear

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

Contamination

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

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0115977	GFL0089996	---
Sample Date	Client Info	29 May 2024	08 Jan 2024	---
Machine Age	hrs	14749	14749	---
Oil Age	hrs	0	0	---
Oil Changed	Client Info	Changed	N/A	---
Sample Status		ABNORMAL	SEVERE	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	---
Water	WC Method >0.2	NEG	NEG	---
Glycol	WC Method	NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2
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	---
Cadmium	ppm ASTM D5185m	<1	0	---

ADDITIVES

method	limit/base	current	history1	history2
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	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	12	▲ 166	---
Sodium	ppm ASTM D5185m >216	3	20	---
Potassium	ppm ASTM D5185m >20	4	10	---

INFRA-RED

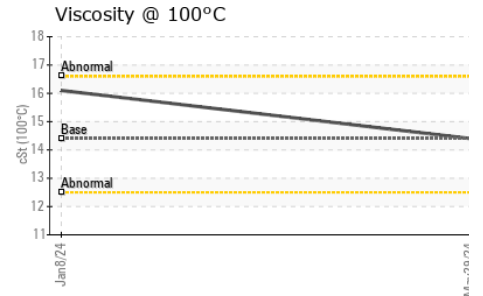
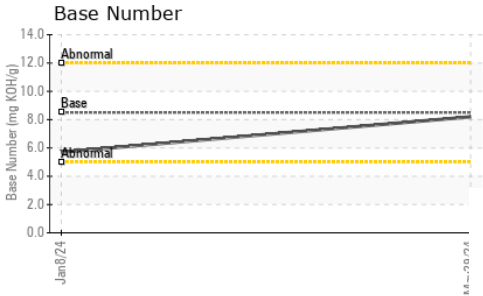
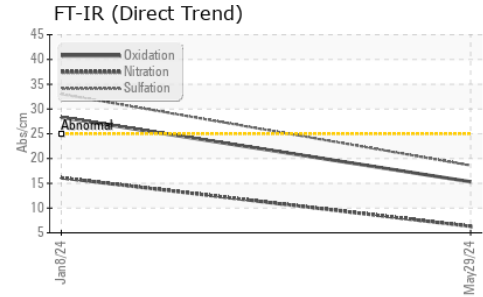
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.1	0.2	---
Nitration	Abs/cm *ASTM D7624 >20	6.3	16.1	---
Sulfation	Abs/.1mm *ASTM D7415 >30	18.6	33.0	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.3	28.3	---
Base Number (BN)	mg KOH/g ASTM D2896 8.5	8.2	5.7	---



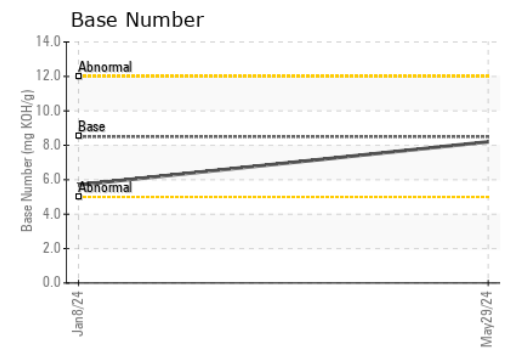
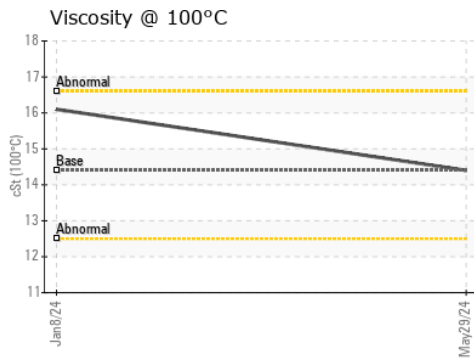
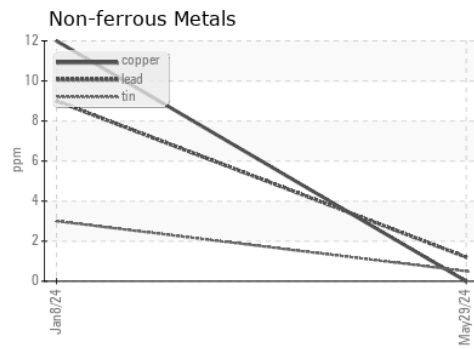
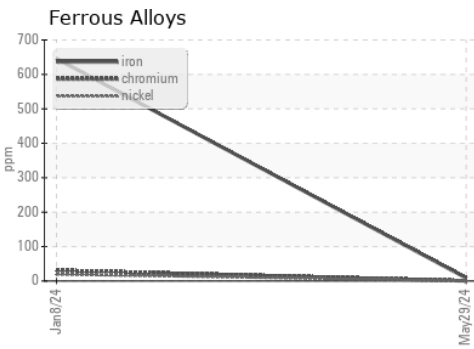
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	▲ MODER	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	NONE	---
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	---
Free Water	scalar	*Visual		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	16.1	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115977 **Received** : 30 May 2024
Lab Number : 06195089 **Tested** : 31 May 2024
Unique Number : 11057212 **Diagnosed** : 31 May 2024 - Sean Felton
Test Package : FLEET

GFL Environmental - 018 - Fayetteville
 4621 Marracco Drive
 Hope Mills, NC
 US 28348
 Contact: CHRIS HALL
 christopherh@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)