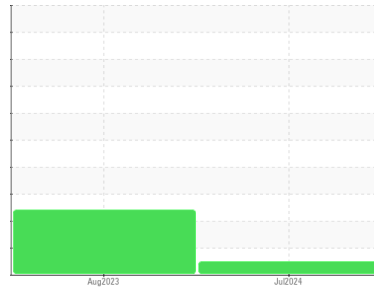




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
325M MACK MRU613
 Component
Diesel Engine
 Fluid
TIER ONE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0115229	GFL0061455	---
Sample Date	Client Info	08 Jul 2024	09 Aug 2023	---
Machine Age	hrs	26838	26428	---
Oil Age	hrs	68	243	---
Oil Changed	Client Info	Changed	N/A	---
Sample Status		NORMAL	SEVERE	---

CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>120	12	13	---
Chromium	ppm	ASTM D5185m	>20	0	<1	---
Nickel	ppm	ASTM D5185m	>5	0	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>20	1	11	---
Lead	ppm	ASTM D5185m	>40	0	<1	---
Copper	ppm	ASTM D5185m	>330	2	2	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		14	0	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		54	52	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		900	873	---
Calcium	ppm	ASTM D5185m		1184	1001	---
Phosphorus	ppm	ASTM D5185m		1058	890	---
Zinc	ppm	ASTM D5185m		1294	1158	---
Sulfur	ppm	ASTM D5185m		3990	3318	---

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	5	5	---
Sodium	ppm	ASTM D5185m		3	8	---
Potassium	ppm	ASTM D5185m	>20	3	9	---
Fuel	%	ASTM D3524	>3.0	2.0	▲ 12.0	---

INFRA-RED

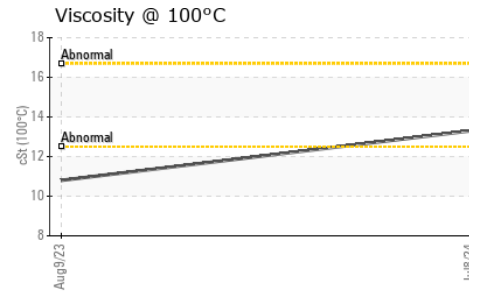
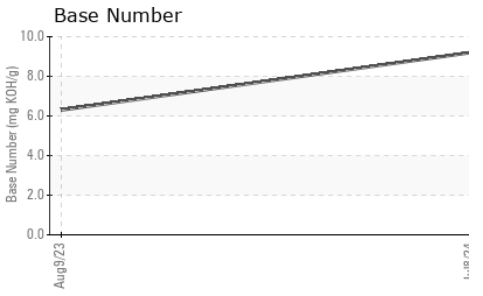
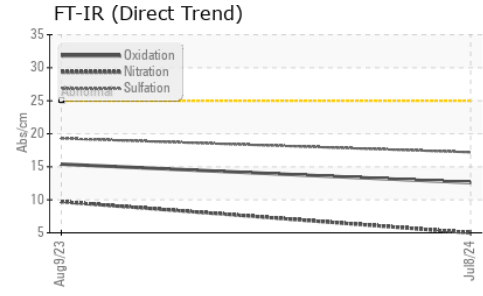
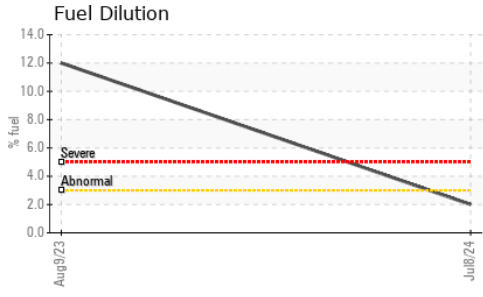
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>4	0.1	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	5.0	9.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.2	19.3	---

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.6	15.4	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.2	6.3	---



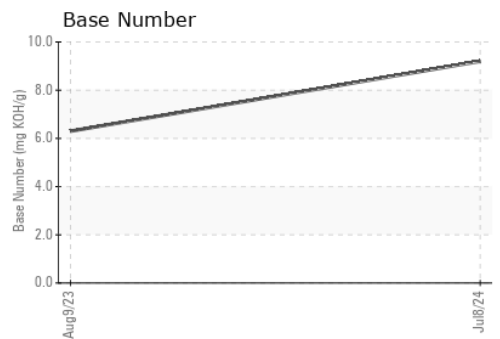
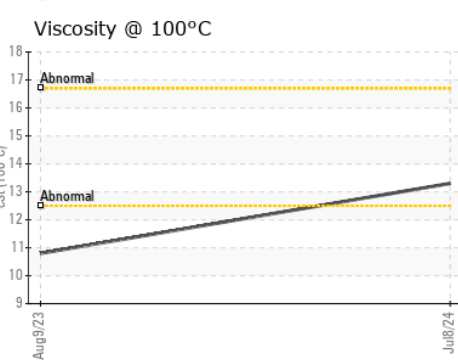
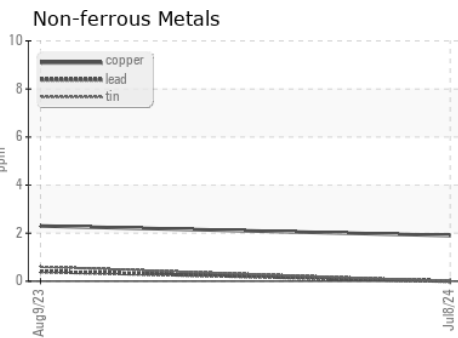
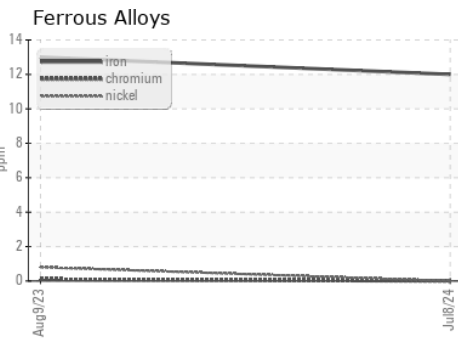
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.3	▲ 10.8	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115229 **Received** : 11 Jul 2024
Lab Number : 06234330 **Tested** : 16 Jul 2024
Unique Number : 11123164 **Diagnosed** : 16 Jul 2024 - Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 642- Grand Rapids Hauling
 5826 Alden Nash Ave SE
 Lowell, MI 49331
 Contact: Josh Arnett
 joshuaarnett@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)