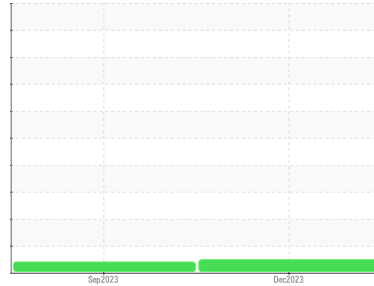




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
414051 MACK GR64BR
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (48 QTS)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination 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		GFL0094641	GFL0089290	---
Sample Date	Client Info		05 Dec 2023	08 Sep 2023	---
Machine Age	hrs	Client Info	1193	585	---
Oil Age	hrs	Client Info	608	585	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			NORMAL	ATTENTION	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	14	22	---
Chromium	ppm	ASTM D5185m >5	<1	1	---
Nickel	ppm	ASTM D5185m >4	<1	1	---
Titanium	ppm	ASTM D5185m >5	<1	<1	---
Silver	ppm	ASTM D5185m >3	<1	1	---
Aluminum	ppm	ASTM D5185m >25	7	11	---
Lead	ppm	ASTM D5185m >40	2	<1	---
Copper	ppm	ASTM D5185m >150	237	215	---
Tin	ppm	ASTM D5185m >4	<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 50	5	160	---
Barium	ppm	ASTM D5185m 5	0	0	---
Molybdenum	ppm	ASTM D5185m 50	62	111	---
Manganese	ppm	ASTM D5185m 0	<1	4	---
Magnesium	ppm	ASTM D5185m 560	994	803	---
Calcium	ppm	ASTM D5185m 1510	1114	1474	---
Phosphorus	ppm	ASTM D5185m 780	1030	754	---
Zinc	ppm	ASTM D5185m 870	1271	948	---
Sulfur	ppm	ASTM D5185m 2040	2616	3076	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	61	---
Sodium	ppm	ASTM D5185m	2	3	---
Potassium	ppm	ASTM D5185m >20	17	23	---

INFRA-RED

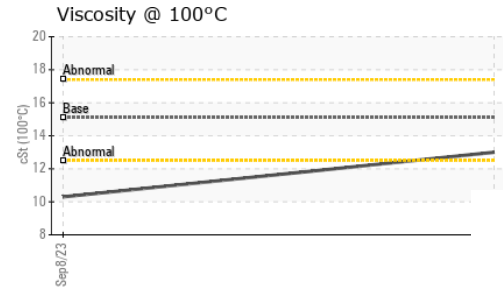
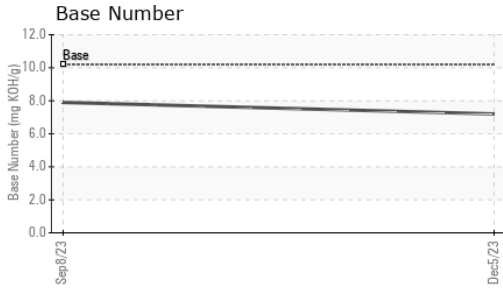
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	8.1	8.8	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	23.2	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.3	21.1	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	7.2	7.9	---



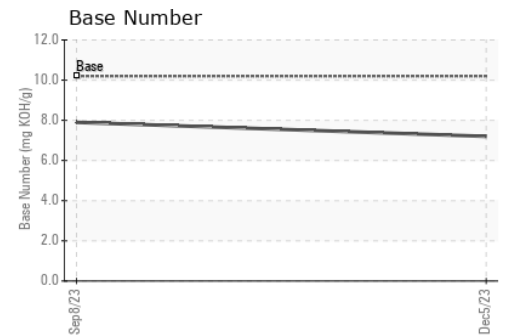
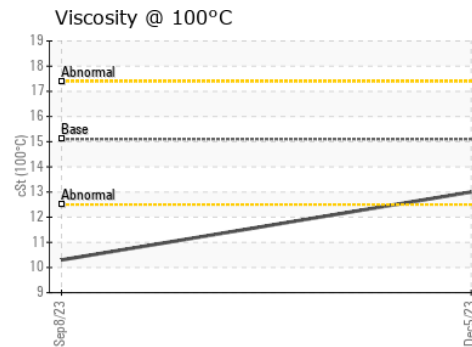
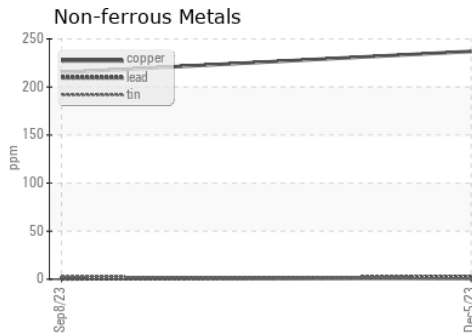
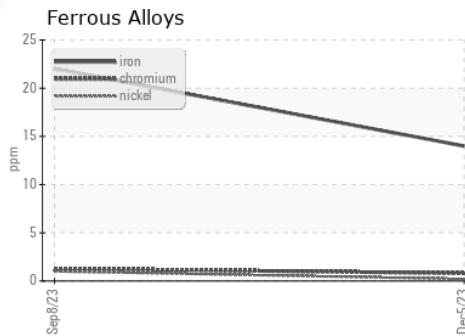
OIL ANALYSIS REPORT



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	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	13.0	▲ 10.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0094641 **Received** : 07 Dec 2023
Lab Number : **06028506** **Diagnosed** : 10 Dec 2023
Unique Number : 10778297 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 001 - Raleigh(CNG)
 3741 Conquest Drive
 Garner, NC
 US 27529
 Contact: Craig Johnson
 craig.johnson@gflenv.com
 T: (919)662-7100
 F: (919)662-7130

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)