



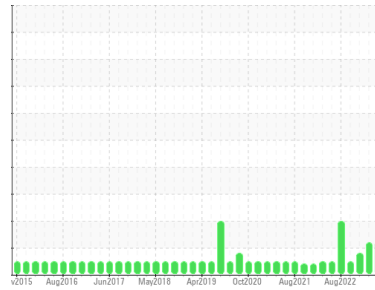
OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Machine Id
2339 MACK GRANITE
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (60 QTS)



DIAGNOSIS

▲ Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

▲ Fluid Condition

The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0103213	GFL0089359	GFL0056696
Sample Date	Client Info		14 Dec 2023	14 Aug 2023	05 Jun 2023
Machine Age	hrs	Client Info	43696	43085	42507
Oil Age	hrs	Client Info	0	0	1265
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	37	44	46
Chromium	ppm	ASTM D5185m >20	<1	1	1
Nickel	ppm	ASTM D5185m >5	0	0	<1
Titanium	ppm	ASTM D5185m >2	0	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	1	1	0
Lead	ppm	ASTM D5185m >40	0	2	1
Copper	ppm	ASTM D5185m >330	4	3	4
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	<1	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	53	57	60
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	885	931	848
Calcium	ppm	ASTM D5185m 1070	991	1085	1059
Phosphorus	ppm	ASTM D5185m 1150	909	975	956
Zinc	ppm	ASTM D5185m 1270	1174	1200	1164
Sulfur	ppm	ASTM D5185m 2060	2725	3394	3024

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	4	4
Sodium	ppm	ASTM D5185m	0	2	0
Potassium	ppm	ASTM D5185m >20	<1	3	2

INFRA-RED

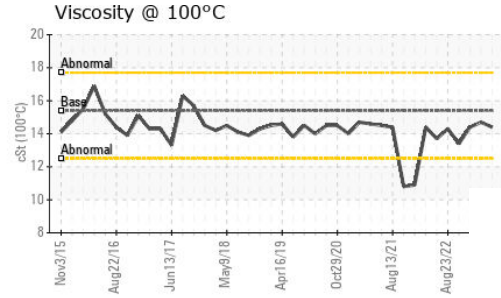
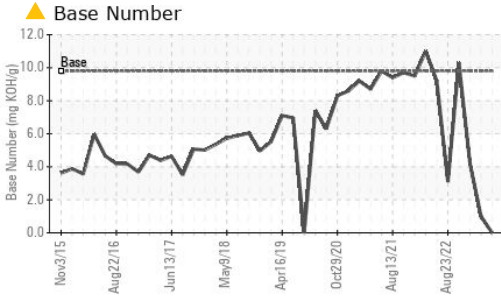
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	3.9	3.9	▲ 4.3
Nitration	Abs/cm	*ASTM D7624 >20	8.7	9.7	9.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.8	25.1	26.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	11.9	15.2	16.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ 0.0	▲ 1.0	4.2



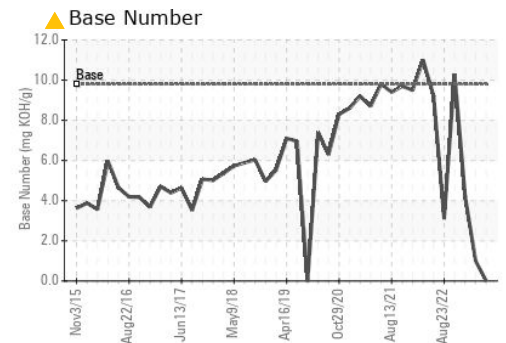
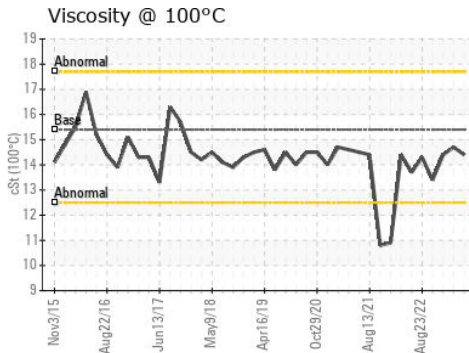
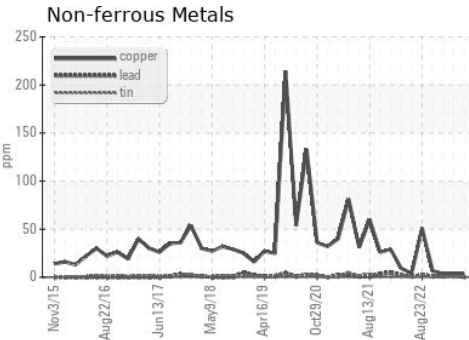
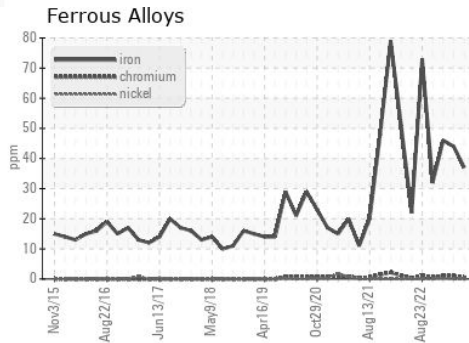
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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	15.4	14.4	14.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0103213
 Lab Number : 06037508
 Unique Number : 10792737
 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)