



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
412019 MACK GR64F
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (48 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0094660	GFL0094643	GFL0094717
Sample Date		Client Info		28 Feb 2024	05 Dec 2023	09 Nov 2023
Machine Age	hrs	Client Info		5482	4815	4660
Oil Age	hrs	Client Info		667	155	607
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	6	2	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	2	2	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

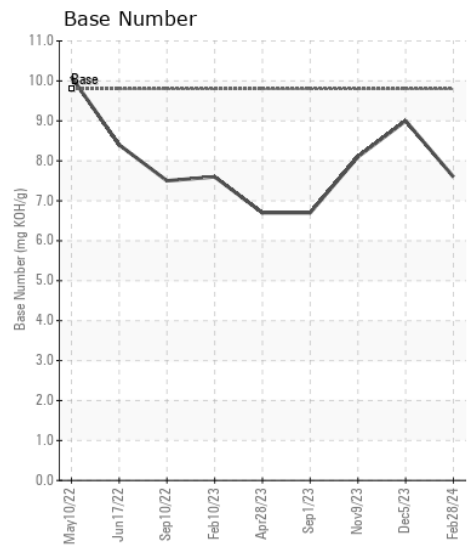
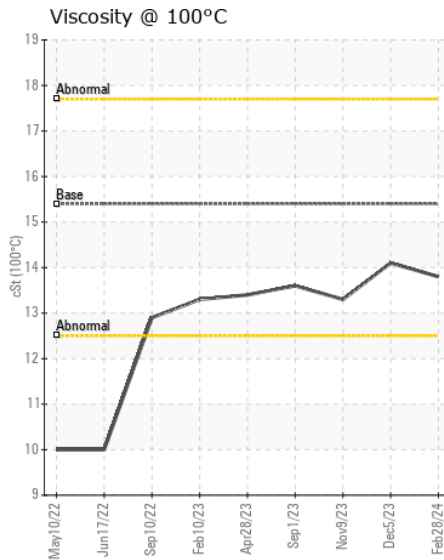
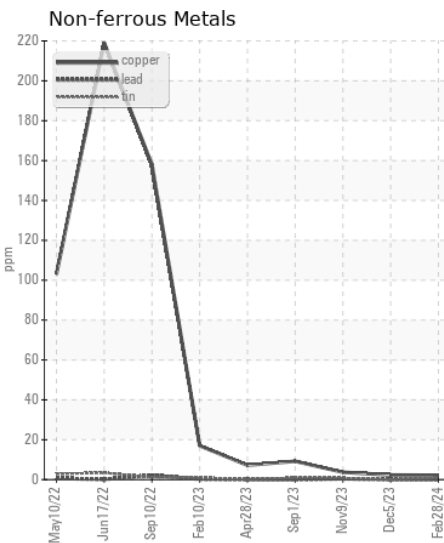
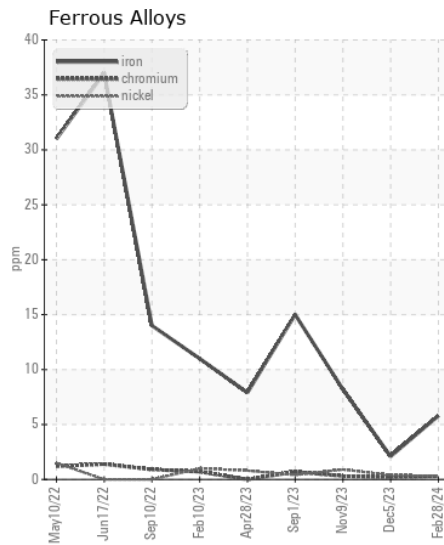
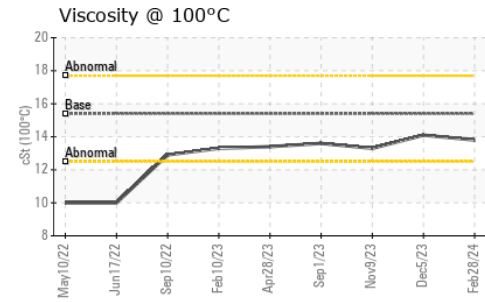
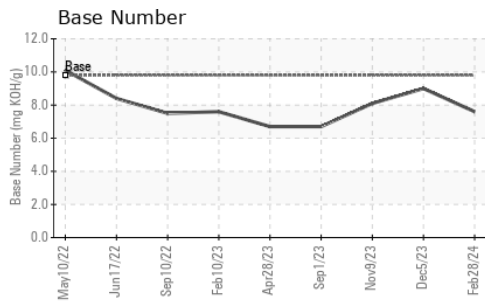
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	3	4
Potassium	ppm	ASTM D5185m	>20	3	0	6
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
Soot %	%	*ASTM D7844	>4	0.4	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.1	5.7	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	17.9	19.4
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		<1	1	0
Boron	ppm	ASTM D5185m	0	2	3	2
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	58	56	62
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	939	952	963
Calcium	ppm	ASTM D5185m	1070	1005	1068	1115
Phosphorus	ppm	ASTM D5185m	1150	998	1040	1022
Zinc	ppm	ASTM D5185m	1270	1266	1252	1241
Sulfur	ppm	ASTM D5185m	2060	2882	3010	3061
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	13.8	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.6	9.0	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.1	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0094660
 Lab Number : 06105841
 Unique Number : 10909338
 Test Package : FLEET

Received : 01 Mar 2024
 Tested : 02 Mar 2024
 Diagnosed : 02 Mar 2024 - Wes Davis

GFL Environmental - 001 - Raleigh(CNG)
 3741 Conquest Drive
 Garner, NC
 US 27529

Contact: Craig Johnson
 craig.johnson@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)

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