



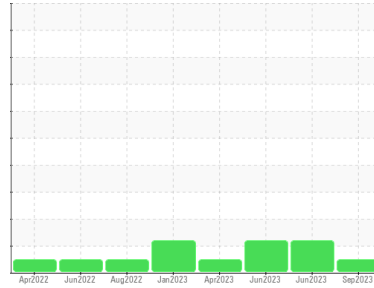
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
MACK 732000
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

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 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		GFL0087475	GFL0071813	GFL0071830
Sample Date	Client Info		05 Sep 2023	22 Jun 2023	14 Jun 2023
Machine Age	hrs	Client Info	4091	3522	3460
Oil Age	hrs	Client Info	569	1180	1118
Oil Changed	Client Info		Not Changed	Changed	Not Changed
Sample Status			NORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >75	7	14	12
Chromium	ppm	ASTM D5185m >5	<1	1	0
Nickel	ppm	ASTM D5185m >4	<1	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >15	2	1	<1
Lead	ppm	ASTM D5185m >25	<1	2	0
Copper	ppm	ASTM D5185m >100	<1	2	2
Tin	ppm	ASTM D5185m >4	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	13	8	8
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	60	66	63
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	611	622	990
Calcium	ppm	ASTM D5185m 1070	1700	1833	1212
Phosphorus	ppm	ASTM D5185m 1150	757	845	1081
Zinc	ppm	ASTM D5185m 1270	1061	1087	1356
Sulfur	ppm	ASTM D5185m 2060	3009	2870	3973

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	5	4
Sodium	ppm	ASTM D5185m	6	7	2
Potassium	ppm	ASTM D5185m >20	3	6	2

INFRA-RED

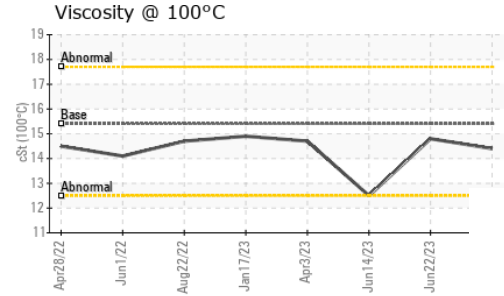
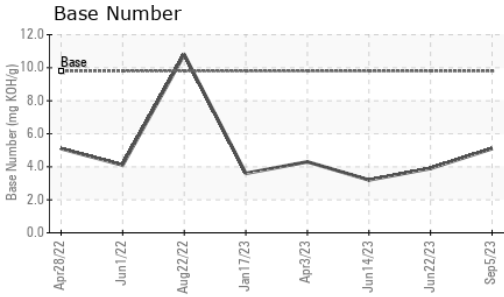
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	10.2	12.0	12.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.9	27.1	27.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.0	23.2	23.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.1	▲ 3.9	▲ 3.2



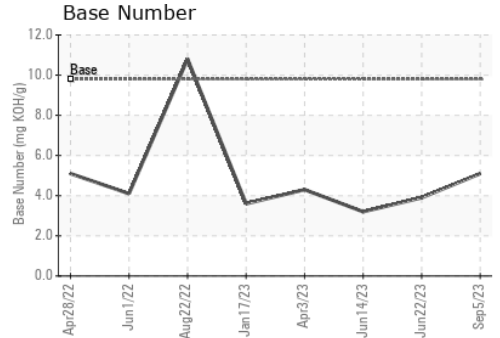
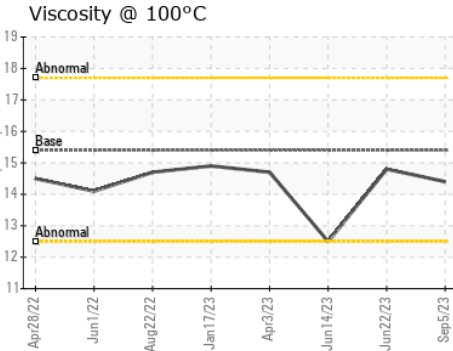
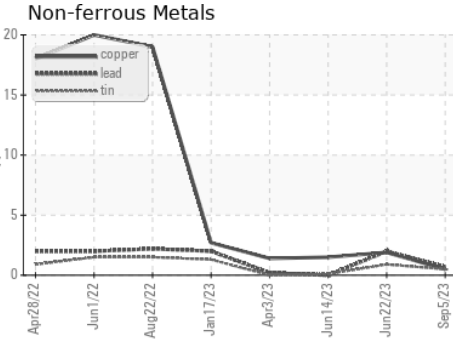
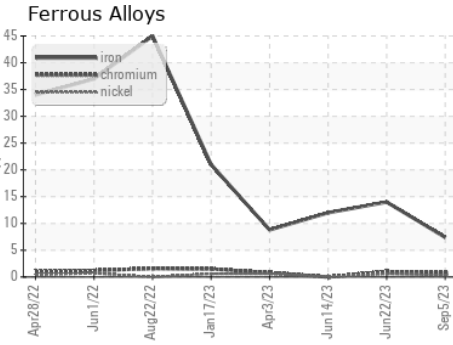
OIL ANALYSIS REPORT



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	14.8	12.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087475 **Received** : 06 Sep 2023
Lab Number : **05943313** **Diagnosed** : 08 Sep 2023
Unique Number : 10633925 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 331 - Columbus
 180 Ada Moore Rd
 Columbus, NC
 US 28722
 Contact: Matt Segars
 matt.segars@gflenv.com
 T: (800)207-6618
 F: (252)617-2494

Certificate L2367
 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)