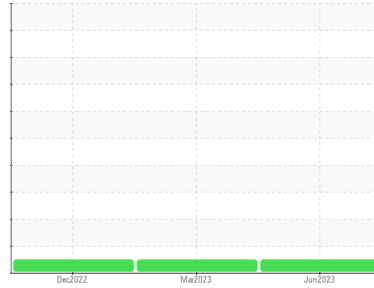




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
3238M
 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	history 1	history 2
Sample Number	Client Info		GFL0055939	GFL0067611	GFL0067628
Sample Date	Client Info		23 Jun 2023	13 Mar 2023	27 Dec 2022
Machine Age	hrs	Client Info	12263	11743	11260
Oil Age	hrs	Client Info	600	581	0
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >120	10	6	4
Chromium	ppm	ASTM D5185m >20	2	<1	0
Nickel	ppm	ASTM D5185m >5	<1	0	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >20	0	1	0
Lead	ppm	ASTM D5185m >40	4	0	0
Copper	ppm	ASTM D5185m >330	2	2	<1
Tin	ppm	ASTM D5185m >15	2	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	<1	4	93
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	63	59	63
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	982	865	880
Calcium	ppm	ASTM D5185m 1070	1116	1029	1104
Phosphorus	ppm	ASTM D5185m 1150	1017	903	999
Zinc	ppm	ASTM D5185m 1270	1276	1064	1180
Sulfur	ppm	ASTM D5185m 2060	3523	3166	3478

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	7	3	16
Sodium	ppm	ASTM D5185m	4	4	1
Potassium	ppm	ASTM D5185m >20	3	0	1

INFRA-RED

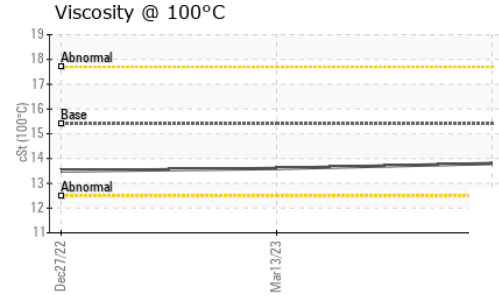
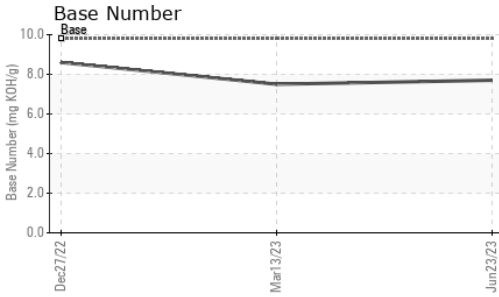
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >4	0.3	0.4	0.1
Nitration	Abs/cm	*ASTM D7624 >20	8.1	8.4	5.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	18.8	17.8

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.7	14.8	15.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.7	7.5	8.6



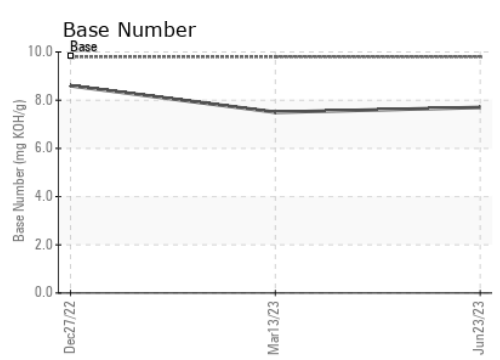
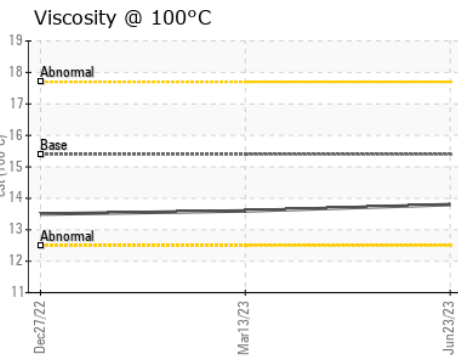
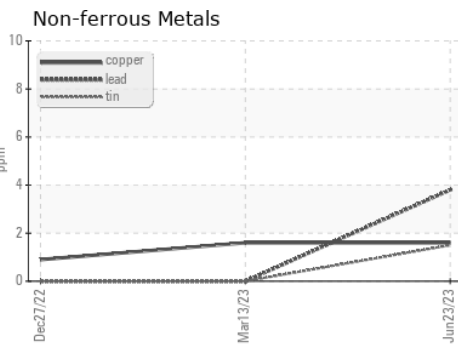
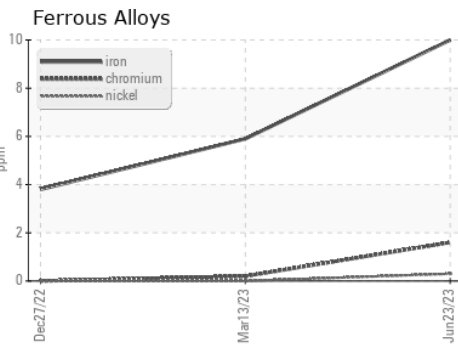
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.6	13.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0055939 **Received** : 28 Jun 2023
Lab Number : **05885403** **Diagnosed** : 30 Jun 2023
Unique Number : 10535886 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 463 - Cheboygan
 501 N. Western Ave
 Cheboygan, MI
 US 49721
 Contact: Chris Gee
 cgee@gflenv.com
 T: (231)597-8553
 F:

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)