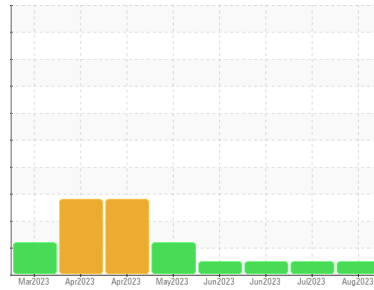




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
ALEXANDER CITY
Machine Id
413057
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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		GFL0081916	GFL0086068	GFL0086002
Sample Date	Client Info		15 Aug 2023	12 Jul 2023	22 Jun 2023
Machine Age	hrs	Client Info	1096	842	719
Oil Age	hrs	Client Info	1096	842	719
Oil Changed	Client Info		Not Chngd	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

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 >120	19	14	8
Chromium	ppm	ASTM D5185m >20	1	1	<1
Nickel	ppm	ASTM D5185m >5	2	1	<1
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	1	<1	<1
Aluminum	ppm	ASTM D5185m >20	13	11	8
Lead	ppm	ASTM D5185m >40	0	<1	<1
Copper	ppm	ASTM D5185m >330	40	10	10
Tin	ppm	ASTM D5185m >15	1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	12	22	26
Barium	ppm	ASTM D5185m 0	0	0	2
Molybdenum	ppm	ASTM D5185m 60	72	74	68
Manganese	ppm	ASTM D5185m 0	1	1	<1
Magnesium	ppm	ASTM D5185m 1010	951	971	779
Calcium	ppm	ASTM D5185m 1070	1250	1272	1158
Phosphorus	ppm	ASTM D5185m 1150	1039	1050	938
Zinc	ppm	ASTM D5185m 1270	1265	1271	1077
Sulfur	ppm	ASTM D5185m 2060	3439	3653	2867

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	14	13	11
Sodium	ppm	ASTM D5185m	6	5	0
Potassium	ppm	ASTM D5185m >20	28	26	21

INFRA-RED

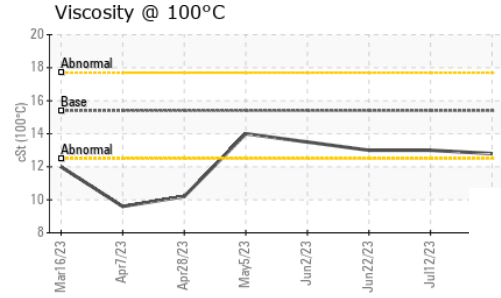
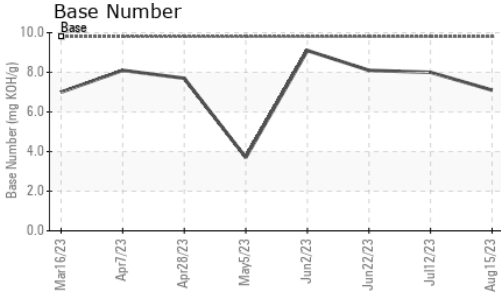
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.4	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	8.2	7.2	6.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.0	19.3	19.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.8	15.0	15.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.1	8.0	8.1



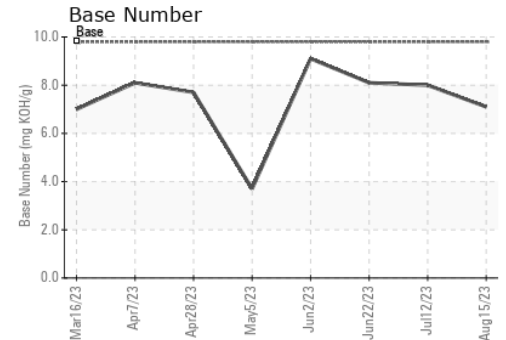
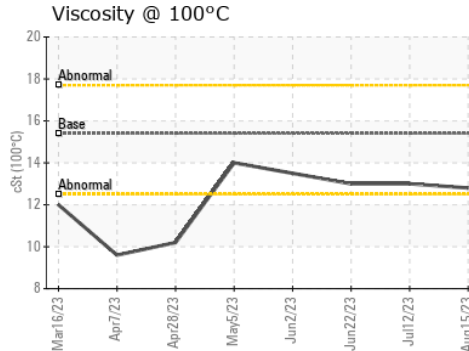
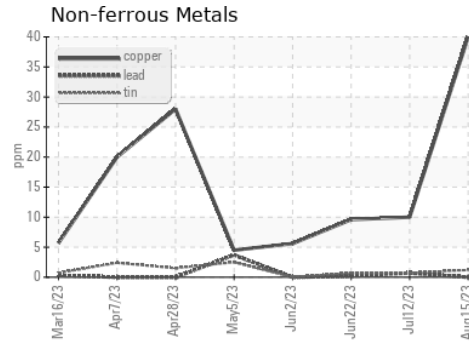
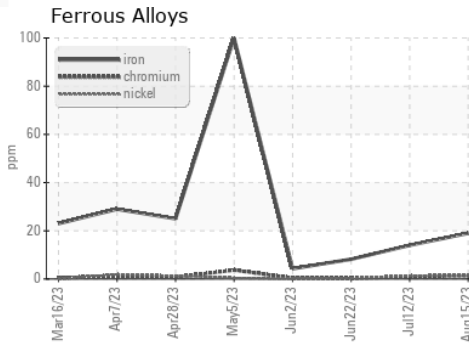
OIL ANALYSIS REPORT



PARAMETER	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

PARAMETER	method	limit/base	current	history1	history2
FLUID PROPERTIES					
Visc @ 100°C	cSt	ASTM D445	15.4	12.8	13.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0081916 Received : 24 Aug 2023
 Lab Number : 05934194 Diagnosed : 25 Aug 2023
 Unique Number : 10619465 Diagnostician : Wes Davis
 Test Package : FLEET

GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee
 Multiple Sites
 Montgomery, AL
 US 36108
 Contact: BRANDON HURST
 brandonhurst@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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F: