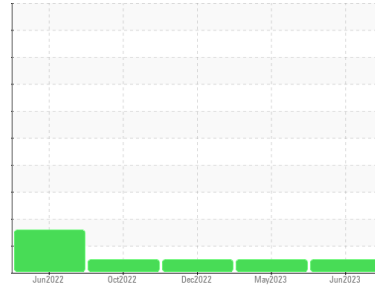




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
827075

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		GFL0067553	GFL0067573	GFL0055927
Sample Date	Client Info		21 Jun 2023	01 May 2023	13 Dec 2022
Machine Age	mls	Client Info	293931	542	0
Oil Age	mls	Client Info	4997	590	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	>5	<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 >80	21	41	23
Chromium	ppm	ASTM D5185m >5	2	3	2
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	<1
Aluminum	ppm	ASTM D5185m >30	2	5	5
Lead	ppm	ASTM D5185m >30	<1	<1	0
Copper	ppm	ASTM D5185m >150	<1	2	<1
Tin	ppm	ASTM D5185m >5	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	17	30	82
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	58	46	8
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	946	860	604
Calcium	ppm	ASTM D5185m 1070	1211	1236	1549
Phosphorus	ppm	ASTM D5185m 1150	1032	948	759
Zinc	ppm	ASTM D5185m 1270	1270	1162	912
Sulfur	ppm	ASTM D5185m 2060	3712	3013	3902

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >20	4	5	6
Sodium	ppm	ASTM D5185m	3	0	2
Potassium	ppm	ASTM D5185m >20	3	2	4

INFRA-RED

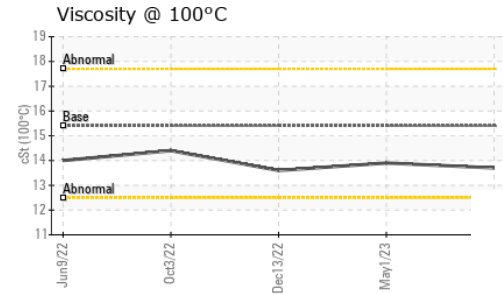
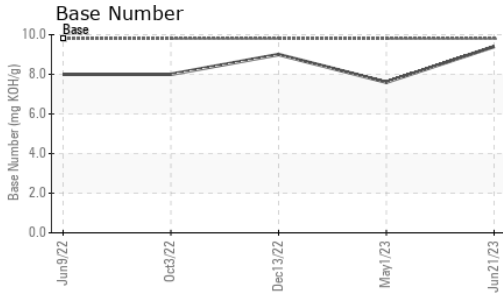
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	0.2	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	7.5	9.4	10.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.2	19.3	21.8

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.7	17.8	16.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.4	7.6	9.0



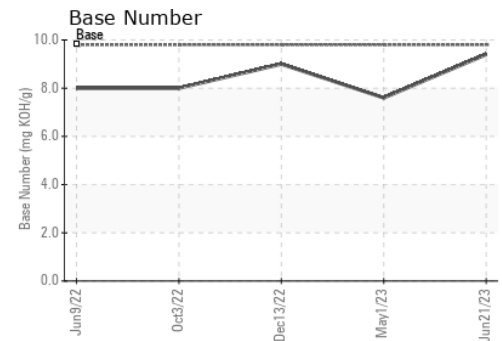
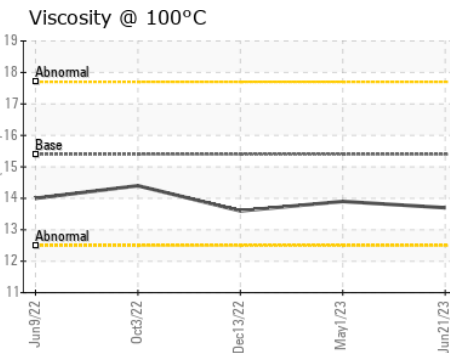
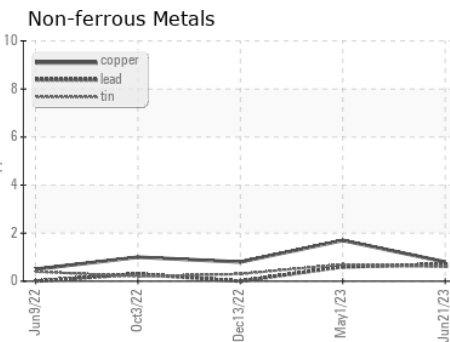
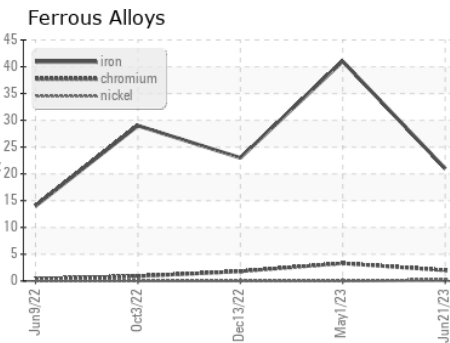
OIL ANALYSIS REPORT



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	13.7	13.9	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0067553 **Received** : 28 Jun 2023
Lab Number : 05885369 **Diagnosed** : 30 Jun 2023
Unique Number : 10535852 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 641 - Alpena
 1241 KING SETTLEMENT RD
 ALPENA, MI
 US 49707
 Contact: DYLAN TOLAN
 dylan.tolan@gflenv.com
 T: (989)854-7203
 F:

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)