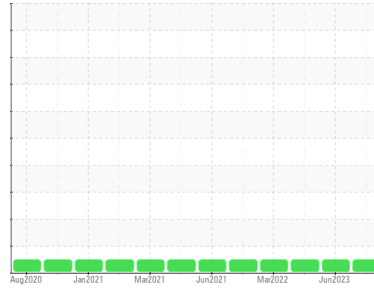




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
528006

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		GFL0086570	GFL0067958	GFL0045485
Sample Date	Client Info		15 Aug 2023	06 Jun 2023	28 Feb 2023
Machine Age	hrs	Client Info	13308	12970	12343
Oil Age	hrs	Client Info	12343	0	0
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >110	22	12	24
Chromium	ppm	ASTM D5185m >4	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	4	1	4
Lead	ppm	ASTM D5185m >45	0	0	<1
Copper	ppm	ASTM D5185m >85	9	5	27
Tin	ppm	ASTM D5185m >4	<1	<1	1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	2	8	11
Barium	ppm	ASTM D5185m 0	0	0	3
Molybdenum	ppm	ASTM D5185m 60	67	59	41
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	987	1001	844
Calcium	ppm	ASTM D5185m 1070	1146	1189	1169
Phosphorus	ppm	ASTM D5185m 1150	1005	1070	894
Zinc	ppm	ASTM D5185m 1270	1217	1446	1078
Sulfur	ppm	ASTM D5185m 2060	2961	4073	2666

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	9	7	12
Sodium	ppm	ASTM D5185m	18	2	2
Potassium	ppm	ASTM D5185m >20	89	12	5
Glycol	%	*ASTM D2982	0.0	NEG	NEG

INFRA-RED

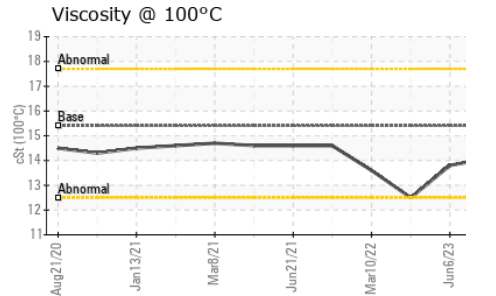
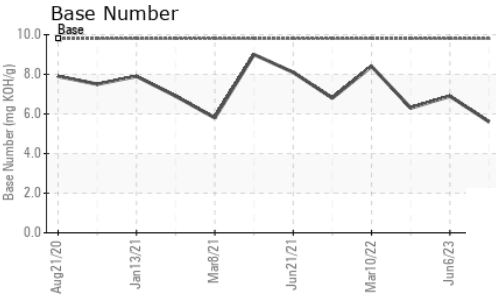
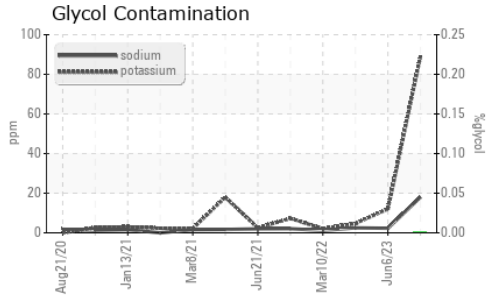
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.3	0.4
Nitration	Abs/cm	*ASTM D7624 >20	10.7	8.7	10.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.1	21.0	22.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.0	18.4	18.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.6	6.9	6.3



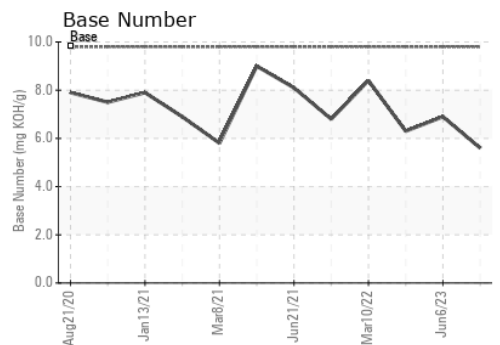
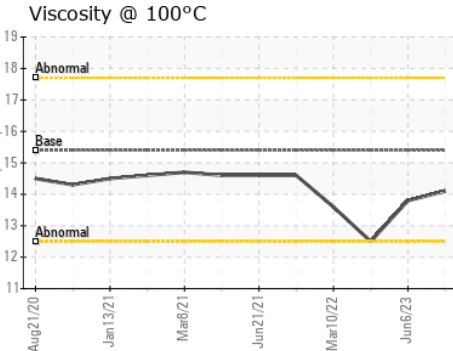
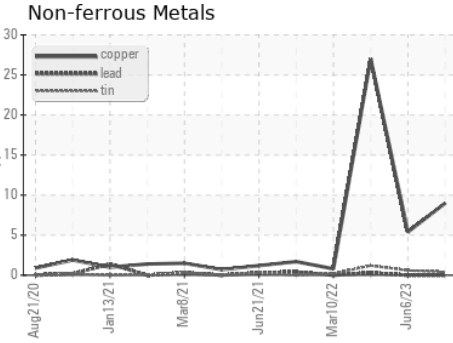
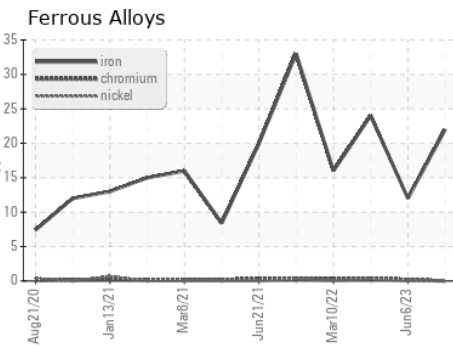
OIL ANALYSIS REPORT



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	14.1	13.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086570 **Received** : 23 Aug 2023
Lab Number : 05931907 **Diagnosed** : 24 Aug 2023
Unique Number : 10617178 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 654 - Richmond Hauling
 11800 Lewis Road
 Chester, VA
 US 23831
 Contact: Steven Palmore
 spalmore@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)

T:
F: