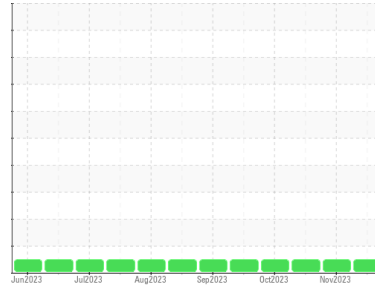




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
913051

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- QTS)

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	GFL0097158	GFL0097187	GFL0097212
Sample Date	Client Info	22 Dec 2023	25 Nov 2023	27 Oct 2023
Machine Age	hrs Client Info	2097	1950	1554
Oil Age	hrs Client Info	1029	882	486
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	3	3	7
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	0	<1	0
Aluminum	ppm ASTM D5185m >20	5	4	6
Lead	ppm ASTM D5185m >40	0	0	0
Copper	ppm ASTM D5185m >330	0	<1	<1
Tin	ppm ASTM D5185m >15	2	<1	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<1	4	3
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	51	52	55
Manganese	ppm ASTM D5185m 0	<1	<1	0
Magnesium	ppm ASTM D5185m 1010	864	867	859
Calcium	ppm ASTM D5185m 1070	897	932	968
Phosphorus	ppm ASTM D5185m 1150	967	998	1029
Zinc	ppm ASTM D5185m 1270	1217	1186	1124
Sulfur	ppm ASTM D5185m 2060	2905	2941	2811

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	1	2	3
Sodium	ppm ASTM D5185m	<1	3	5
Potassium	ppm ASTM D5185m >20	14	10	16

INFRA-RED

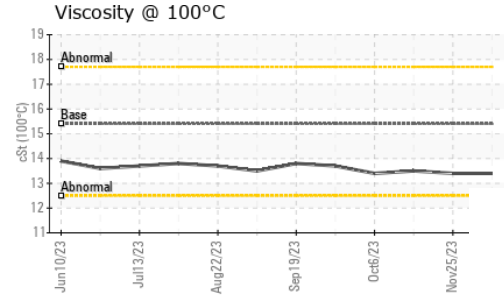
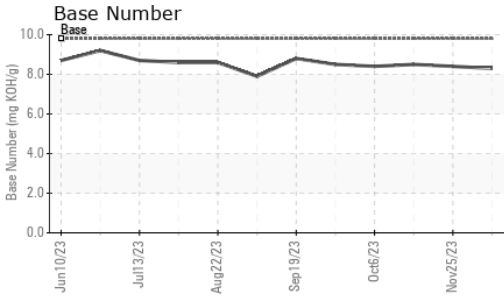
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.3	0.2	0.2
Nitration	Abs/cm *ASTM D7624 >20	5.8	5.3	6.1
Sulfation	Abs/.1mm *ASTM D7415 >30	17.3	17.5	17.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	12.8	12.5	13.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.3	8.4	8.5



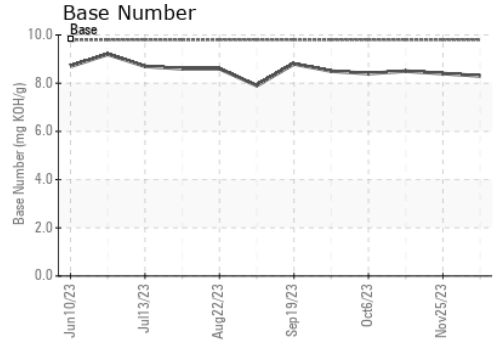
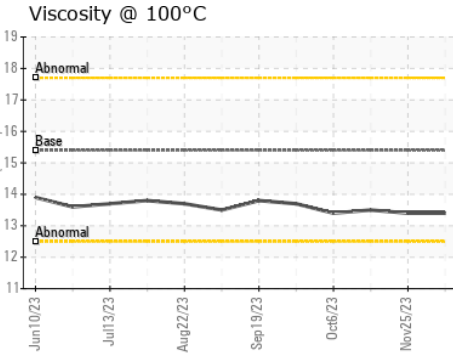
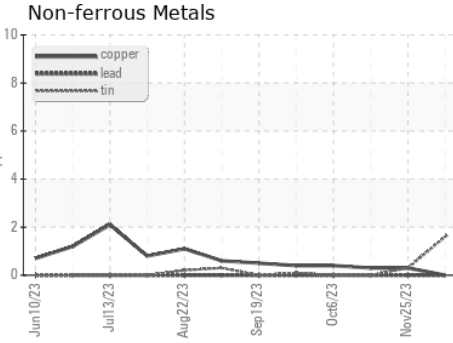
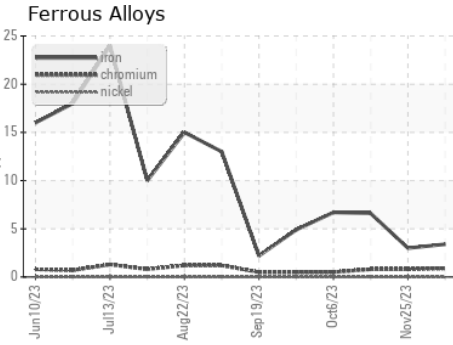
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.4	13.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0097158 **Received** : 28 Dec 2023
Lab Number : **06046811** **Diagnosed** : 28 Dec 2023
Unique Number : 10807419 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 073 - Warner Robins - Transwaste
 155 Story Road
 Warner Robins, GA
 US 31093
 Contact: JOSH MALONEY
 jmaloney@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)