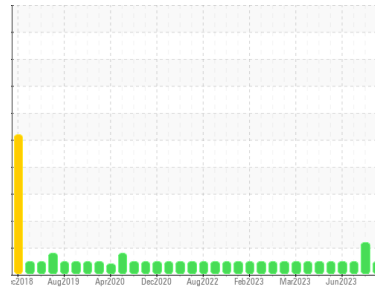




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
429049-402451

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. 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		GFL0090642	GFL0087148	GFL0087198
Sample Date	Client Info		17 Aug 2023	07 Aug 2023	17 Jul 2023
Machine Age	hrs	Client Info	14559	14447	14316
Oil Age	hrs	Client Info	600	0	0
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >110	20	10	12
Chromium	ppm	ASTM D5185m >4	2	<1	1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	5	2	2
Lead	ppm	ASTM D5185m >45	4	<1	<1
Copper	ppm	ASTM D5185m >85	2	1	<1
Tin	ppm	ASTM D5185m >4	<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	2	<1	2
Barium	ppm	ASTM D5185m 0	0	0	<1
Molybdenum	ppm	ASTM D5185m 60	70	60	65
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1085	870	1047
Calcium	ppm	ASTM D5185m 1070	1230	1024	1155
Phosphorus	ppm	ASTM D5185m 1150	1167	971	1104
Zinc	ppm	ASTM D5185m 1270	1422	1158	1362
Sulfur	ppm	ASTM D5185m 2060	3693	3050	3717

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	15	3	11
Sodium	ppm	ASTM D5185m	2	2	2
Potassium	ppm	ASTM D5185m >20	2	3	1
Fuel	%	ASTM D3524 >5	0.4	▲ 6.8	<1.0

INFRA-RED

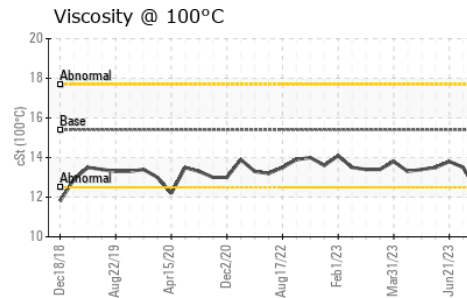
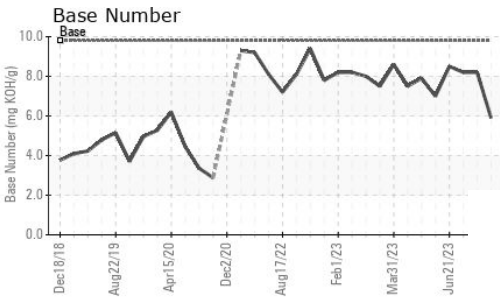
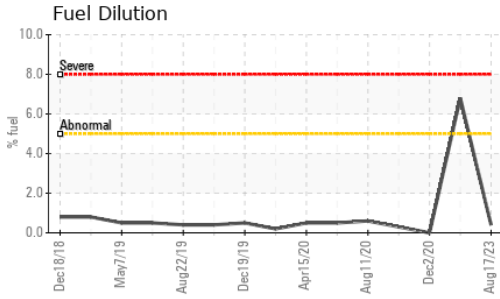
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	11.5	7.0	9.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.5	18.3	20.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.7	14.6	16.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.9	8.2	8.2



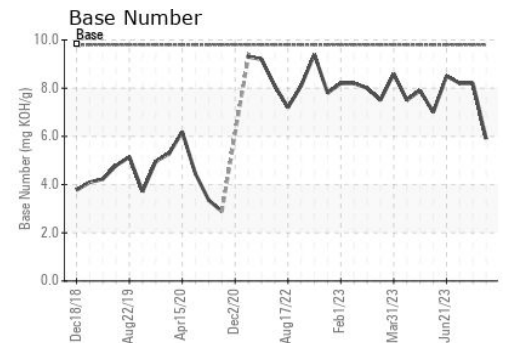
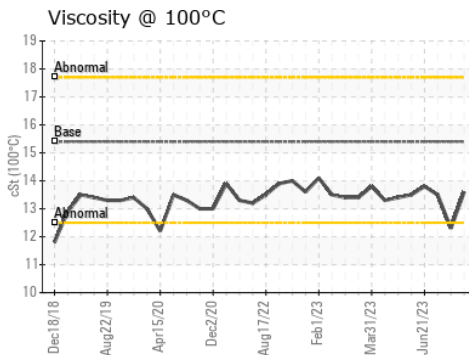
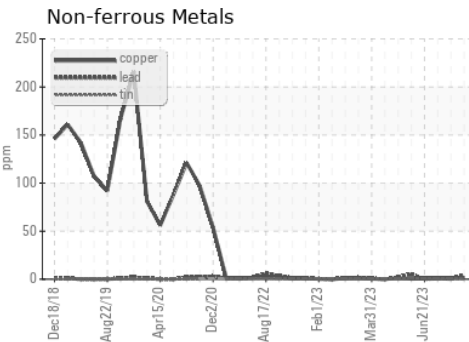
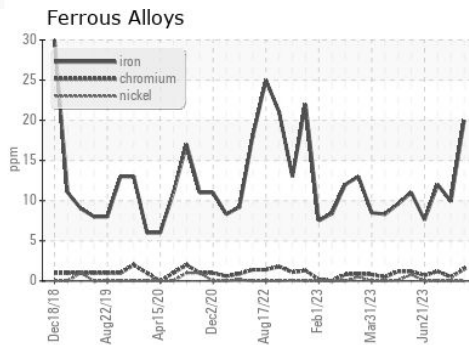
OIL ANALYSIS REPORT



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	13.6	▲ 12.3	13.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0090642
 Lab Number : 05934174
 Unique Number : 10619445
 Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Robert Hart
 rhart@gflenv.com
 T: (580)461-1509
 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)