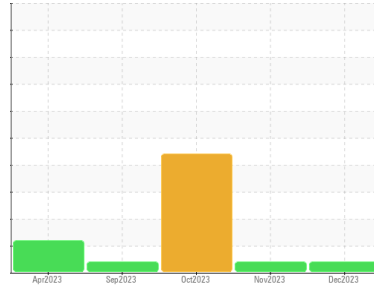




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
913146
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0102410	GFL0102544	GFL0093696
Sample Date	Client Info		14 Dec 2023	25 Nov 2023	13 Oct 2023
Machine Age	hrs	Client Info	29232	0	1015
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	Changed
Sample Status			ATTENTION	ATTENTION	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	0.0	<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 >120	8	6	▲ 100
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	1	<1	3
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	1	2	▲ 12
Lead	ppm	ASTM D5185m >40	0	0	2
Copper	ppm	ASTM D5185m >330	3	2	19
Tin	ppm	ASTM D5185m >15	0	0	2
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	46	62	4
Barium	ppm	ASTM D5185m 0	0	5	13
Molybdenum	ppm	ASTM D5185m 60	41	41	71
Manganese	ppm	ASTM D5185m 0	<1	0	15
Magnesium	ppm	ASTM D5185m 1010	553	511	790
Calcium	ppm	ASTM D5185m 1070	1563	1590	1234
Phosphorus	ppm	ASTM D5185m 1150	762	737	733
Zinc	ppm	ASTM D5185m 1270	913	874	921
Sulfur	ppm	ASTM D5185m 2060	2552	2801	2402

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	9	8	▲ 32
Sodium	ppm	ASTM D5185m	3	1	4
Potassium	ppm	ASTM D5185m >20	2	4	11

INFRA-RED

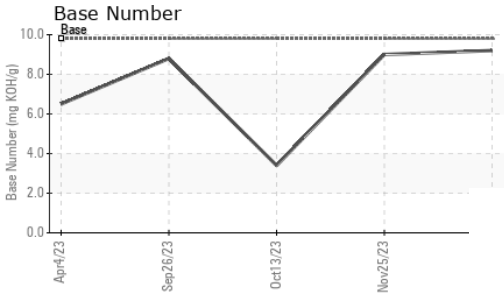
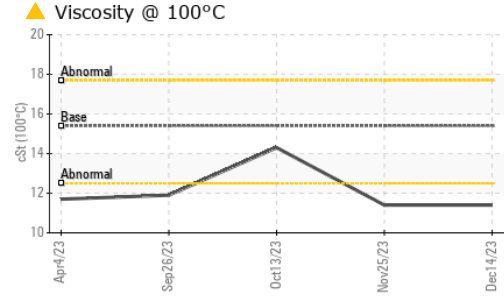
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.3	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	6.8	5.6	13.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.5	21.7	25.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.4	19.9	24.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.2	9.0	▲ 3.4



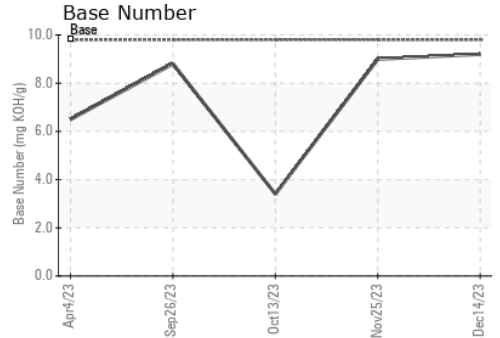
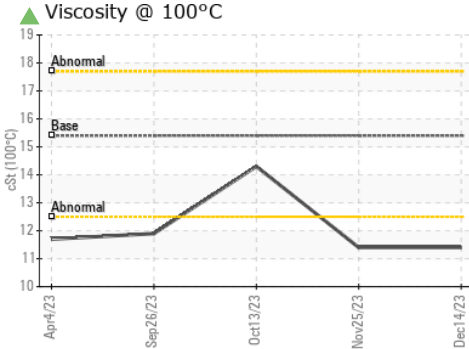
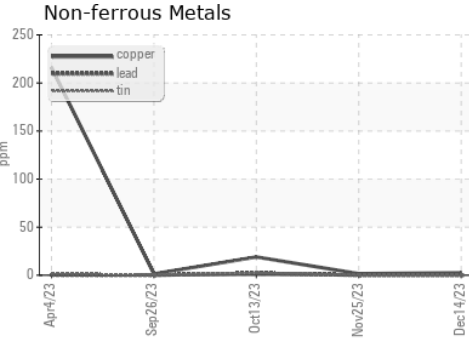
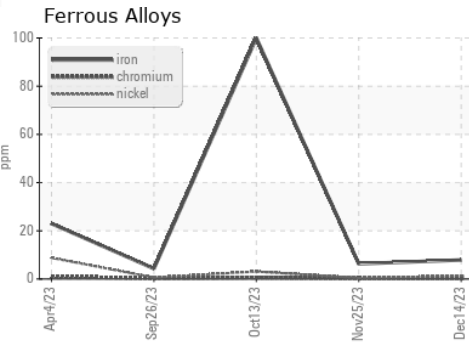
OIL ANALYSIS REPORT



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	▲ 11.4	▲ 11.4	14.3	

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0102410 **Received** : 20 Dec 2023
Lab Number : 06041240 **Diagnosed** : 22 Dec 2023
Unique Number : 10796469 **Diagnostician** : Don Baldrige
Test Package : FLEET

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:

Certificate L2367
 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)