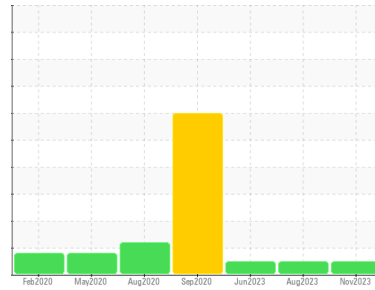




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
825054-101235
 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		GFL0098621	GFL0087698	GFL0078555
Sample Date	Client Info		14 Nov 2023	24 Aug 2023	01 Jun 2023
Machine Age	hrs	Client Info	12740	12599	12599
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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 >80	18	7	5
Chromium	ppm	ASTM D5185m >5	2	0	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >30	23	4	1
Lead	ppm	ASTM D5185m >30	<1	<1	0
Copper	ppm	ASTM D5185m >150	7	<1	4
Tin	ppm	ASTM D5185m >5	<1	0	0
Antimony	ppm	ASTM D5185m	---	---	---
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	4	2
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	58	59	62
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	994	992	975
Calcium	ppm	ASTM D5185m 1070	1085	1151	1103
Phosphorus	ppm	ASTM D5185m 1150	1097	1009	1051
Zinc	ppm	ASTM D5185m 1270	1320	1262	1209
Sulfur	ppm	ASTM D5185m 2060	3361	3767	3621
Lithium	ppm	ASTM D5185m	---	---	---

CONTAMINANTS

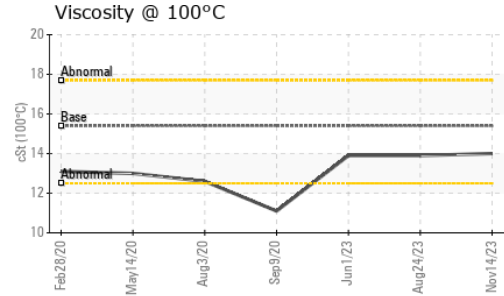
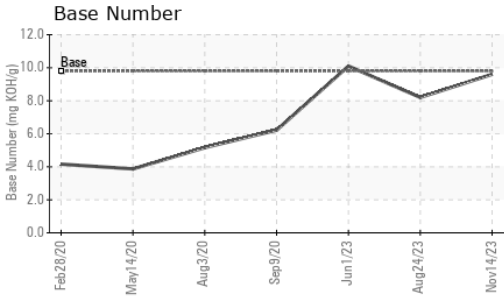
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	5	13	5
Sodium	ppm	ASTM D5185m	8	2	3
Potassium	ppm	ASTM D5185m >20	3	2	0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	5.7	6.3	5.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.8	18.5	17.6



OIL ANALYSIS REPORT

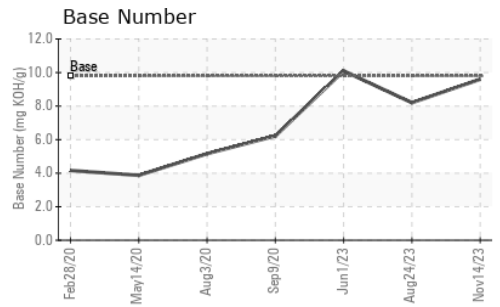
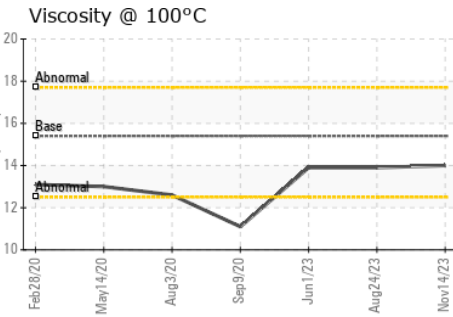
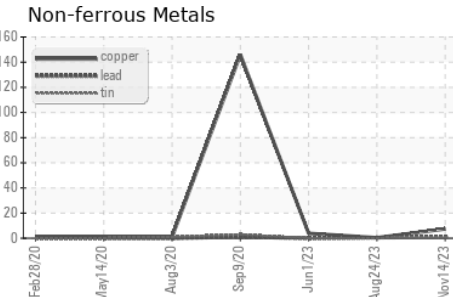
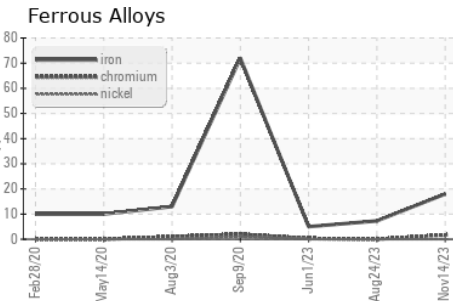


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	13.6	14.4	13.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.6	8.2	10.1

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.9	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098621 **Received** : 20 Nov 2023
Lab Number : **06013097** **Diagnosed** : 29 Nov 2023
Unique Number : 10752241 **Diagnostician** : Jonathan Hester
Test Package : FLEET

GFL Environmental - 837 - Harrison TS
 22820 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: BRYAN SWANSON
 bryanswanson@gflenv.com
 T:
 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)