



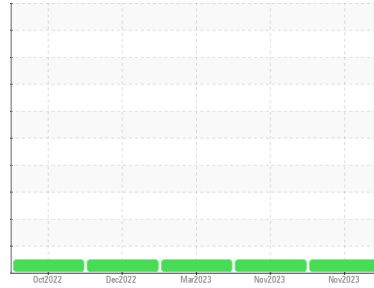
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
712038
 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	GFL0089087	GFL0101493	GFL0068697	
Sample Date	Client Info	22 Nov 2023	17 Nov 2023	08 Mar 2023	
Machine Age	hrs	Client Info	6588	6202	4175
Oil Age	hrs	Client Info	2600	0	3563
Oil Changed	Client Info	Changed	N/A	Changed	
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	6	6	18
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >2	<1	<1	0
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	2	2	1
Lead	ppm ASTM D5185m >40	0	<1	0
Copper	ppm ASTM D5185m >330	0	<1	<1
Tin	ppm ASTM D5185m >15	<1	0	<1
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	2	<1	2
Barium	ppm ASTM D5185m 0	0	9	0
Molybdenum	ppm ASTM D5185m 60	55	59	58
Manganese	ppm ASTM D5185m 0	<1	<1	1
Magnesium	ppm ASTM D5185m 1010	912	876	938
Calcium	ppm ASTM D5185m 1070	1045	1073	1105
Phosphorus	ppm ASTM D5185m 1150	1102	1012	986
Zinc	ppm ASTM D5185m 1270	1265	1181	1298
Sulfur	ppm ASTM D5185m 2060	3008	3298	3300

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	2	3	3
Sodium	ppm ASTM D5185m	5	<1	4
Potassium	ppm ASTM D5185m >20	2	2	2

INFRA-RED

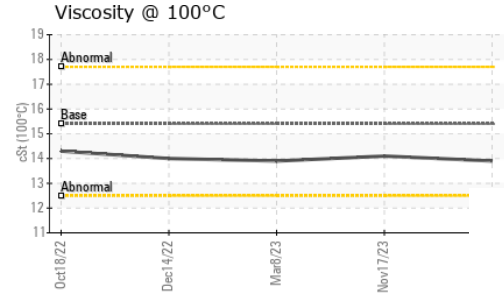
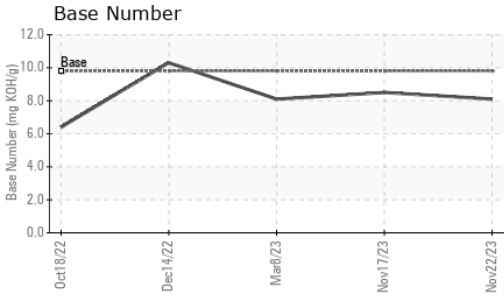
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.4	0.2	0.7
Nitration	Abs/cm *ASTM D7624 >20	8.3	6.2	9.1
Sulfation	Abs/.1mm *ASTM D7415 >30	19.7	18.5	20.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.2	14.4	16.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.1	8.5	8.1



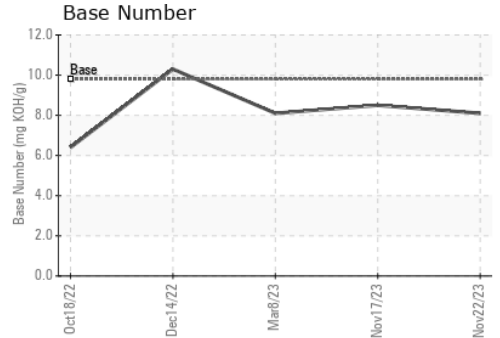
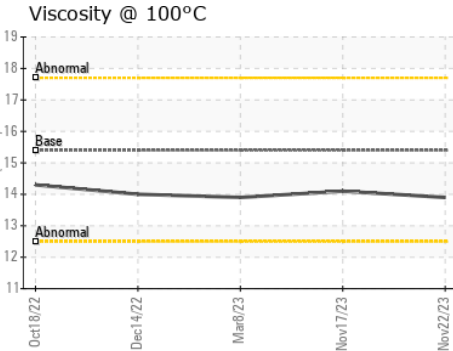
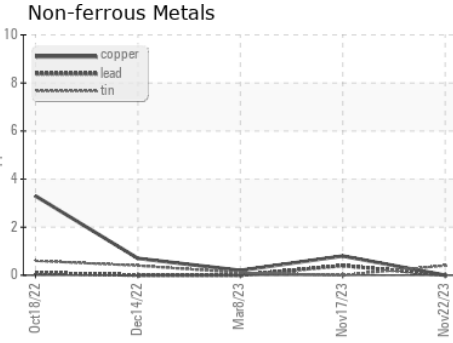
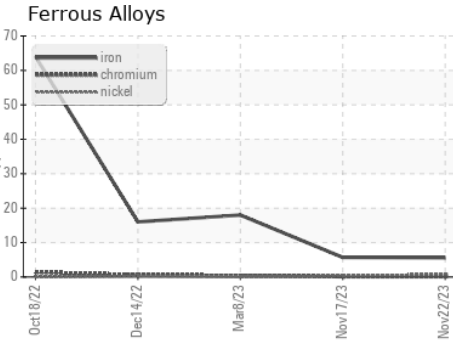
OIL ANALYSIS REPORT



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	13.9	14.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0089087
 Lab Number : 06017711
 Unique Number : 10756855
 Test Package : FLEET

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
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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)