



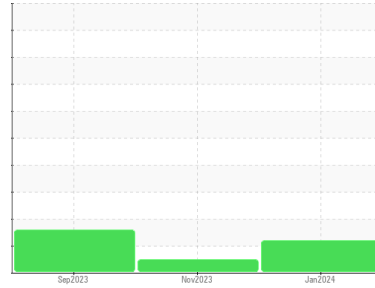
OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Area
GFL035
Machine Id
934042
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (42 QTS)



DIAGNOSIS

Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. 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 level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0085176	GFL0102299	GFL0071608
Sample Date	Client Info	23 Jan 2024	17 Nov 2023	28 Sep 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	600	300	600
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	NORMAL	ABNORMAL

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 >120	21	16	40
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >5	<1	<1	<1
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >20	3	2	2
Lead	ppm ASTM D5185m >40	4	<1	2
Copper	ppm ASTM D5185m >330	4	3	16
Tin	ppm ASTM D5185m >15	2	<1	2
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	4	14	8
Barium	ppm ASTM D5185m 0	<1	0	<1
Molybdenum	ppm ASTM D5185m 60	53	51	50
Manganese	ppm ASTM D5185m 0	3	2	12
Magnesium	ppm ASTM D5185m 1010	573	532	755
Calcium	ppm ASTM D5185m 1070	1512	1450	1147
Phosphorus	ppm ASTM D5185m 1150	691	701	658
Zinc	ppm ASTM D5185m 1270	921	901	921
Sulfur	ppm ASTM D5185m 2060	2260	2294	2313

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	8	7	▲ 29
Sodium	ppm ASTM D5185m	8	5	4
Potassium	ppm ASTM D5185m >20	5	4	4

INFRA-RED

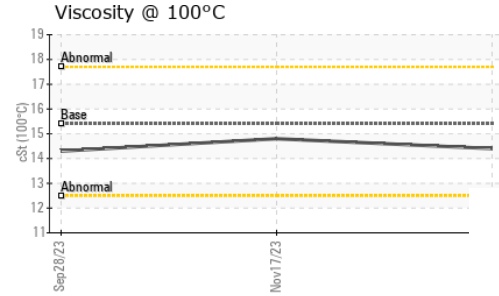
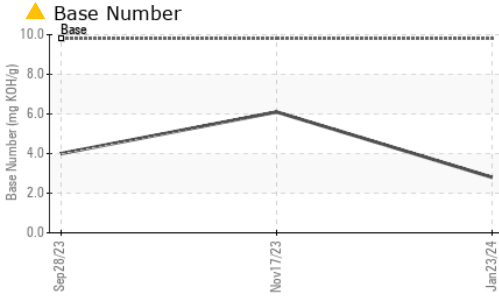
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0	0	0
Nitration	Abs/cm *ASTM D7624 >20	12.0	10.1	11.6
Sulfation	Abs/.1mm *ASTM D7415 >30	24.6	19.8	21.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	20.6	17.3	19.9
Base Number (BN)	mg KOH/g ASTM D2896 9.8	▲ 2.8	6.1	4.0



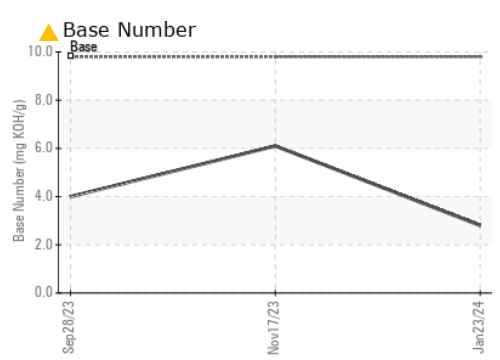
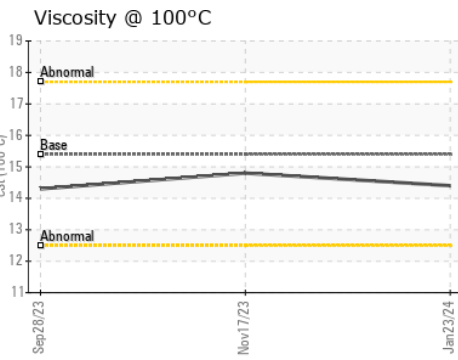
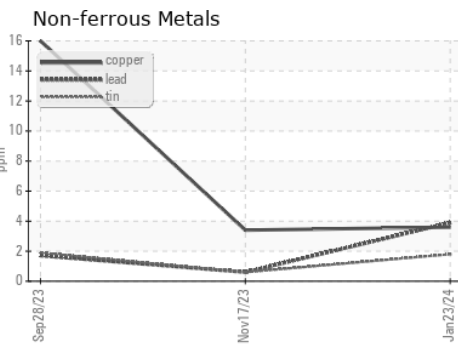
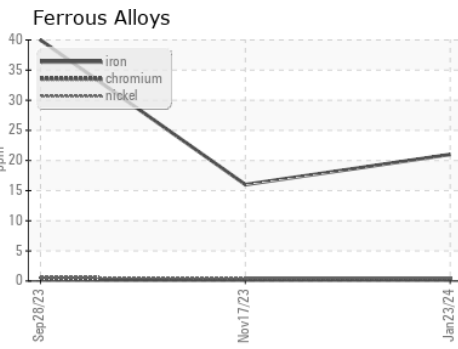
OIL ANALYSIS REPORT



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	14.4	14.8	14.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0085176 **Received** : 29 Jan 2024
Lab Number : **06072674** **Diagnosed** : 30 Jan 2024
Unique Number : 10849351 **Diagnostician** : Jonathan Hester
Test Package : FLEET

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
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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)