



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Machine Id
934037
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0108254	GFL0108318	GFL0098210
Sample Date		Client Info		09 Feb 2024	16 Jan 2024	30 Dec 2023
Machine Age	hrs	Client Info		538	344	250
Oil Age	hrs	Client Info		538	344	250
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	47	60	46
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	2	1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	5	6	5
Lead	ppm	ASTM D5185m	>40	2	<1	0
Copper	ppm	ASTM D5185m	>330	16	17	16
Tin	ppm	ASTM D5185m	>15	2	1	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

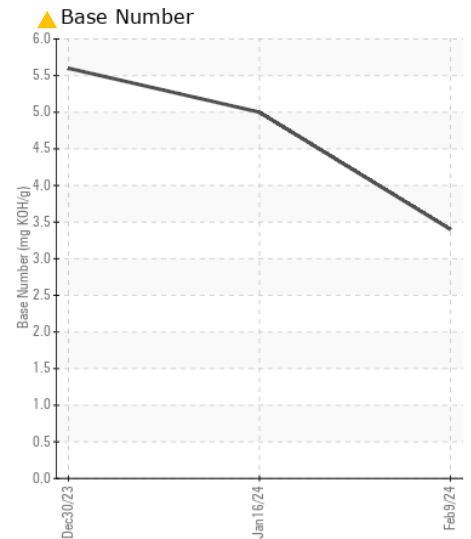
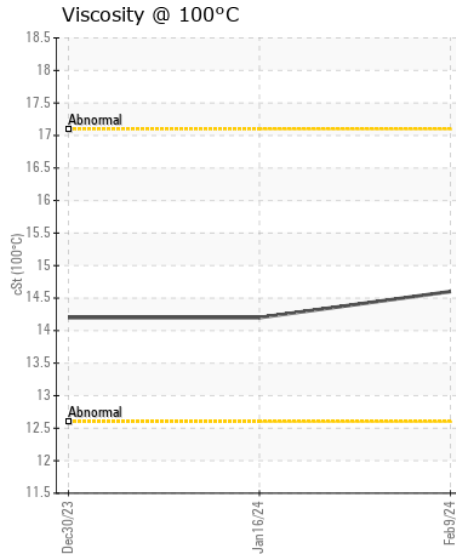
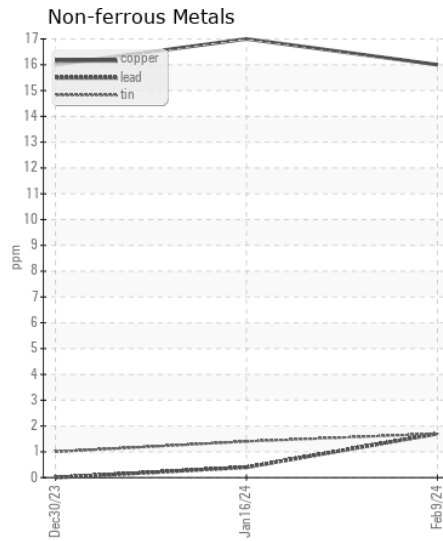
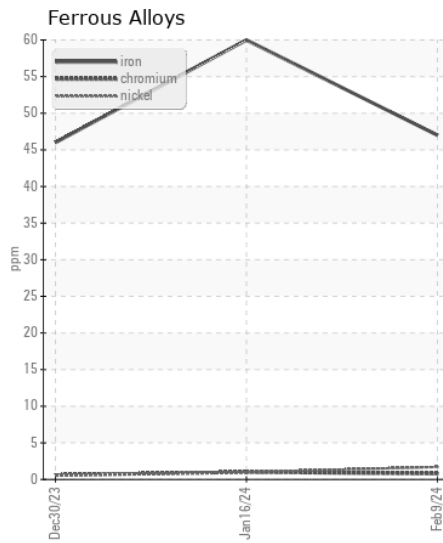
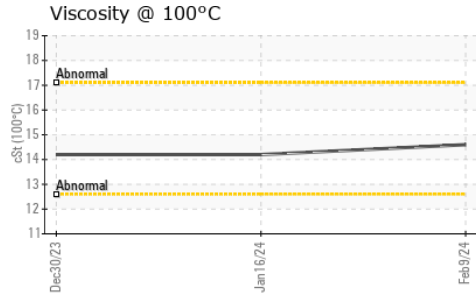
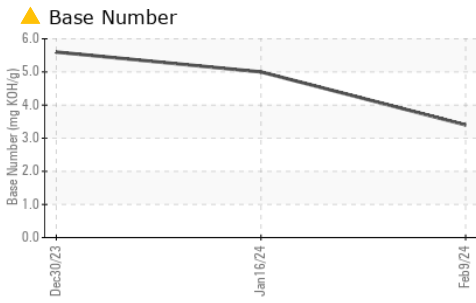
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	28	39	33
Potassium	ppm	ASTM D5185m	>20	18	30	15
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
Soot %	%	*ASTM D7844	>6	0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	11.7	12.2	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	21.4	20.3
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

FLUID CONDITION

The BN level is low.

Sodium	ppm	ASTM D5185m		1	6	4
Boron	ppm	ASTM D5185m		6	10	14
Barium	ppm	ASTM D5185m		17	4	0
Molybdenum	ppm	ASTM D5185m		50	56	49
Manganese	ppm	ASTM D5185m		14	17	15
Magnesium	ppm	ASTM D5185m		639	850	730
Calcium	ppm	ASTM D5185m		1090	1126	1001
Phosphorus	ppm	ASTM D5185m		690	790	717
Zinc	ppm	ASTM D5185m		822	1008	854
Sulfur	ppm	ASTM D5185m		2532	2592	2153
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.8	19.4	18.7
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 3.4	5.0	5.6
Visc @ 100°C	cSt	ASTM D445		14.6	14.2	14.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108254
Lab Number : 06085680
Unique Number : 10873125
Test Package : FLEET

Received : 12 Feb 2024
Tested : 12 Feb 2024
Diagnosed : 13 Feb 2024 - Sean Felton

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmiло@gflenv.com

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)

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