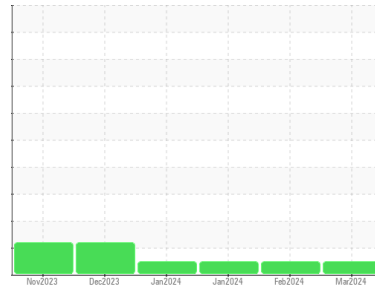




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

834094

Component

Diesel Engine

Fluid

PETRO CANADA DURON GEO LD 15W40 (--- QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected 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		GFL0114110	GFL0108045	GFL0108162
Sample Date	Client Info		18 Mar 2024	23 Feb 2024	17 Jan 2024
Machine Age	hrs	Client Info	860	716	0
Oil Age	hrs	Client Info	716	593	0
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	53	58	46
Chromium	ppm	ASTM D5185m	>20	2	1	<1
Nickel	ppm	ASTM D5185m	>4	2	2	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	27	25	18
Lead	ppm	ASTM D5185m	>40	2	<1	<1
Copper	ppm	ASTM D5185m	>330	15	16	16
Tin	ppm	ASTM D5185m	>15	2	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	50	10	9	15
Barium	ppm	ASTM D5185m	5	2	3	2
Molybdenum	ppm	ASTM D5185m	50	58	60	50
Manganese	ppm	ASTM D5185m	0	12	14	12
Magnesium	ppm	ASTM D5185m	560	720	871	705
Calcium	ppm	ASTM D5185m	1510	1286	1369	1126
Phosphorus	ppm	ASTM D5185m	780	706	803	609
Zinc	ppm	ASTM D5185m	870	885	1025	803
Sulfur	ppm	ASTM D5185m	2040	2553	2627	1989

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	24	29	30
Sodium	ppm	ASTM D5185m		8	6	5
Potassium	ppm	ASTM D5185m	>20	113	92	77
Glycol	%	*ASTM D2982		NEG	NEG	NEG

INFRA-RED

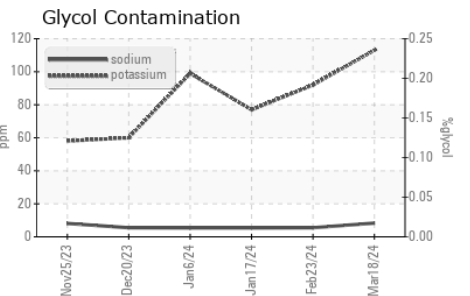
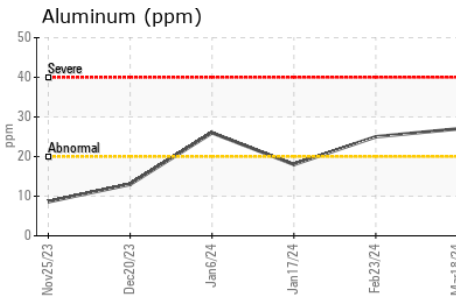
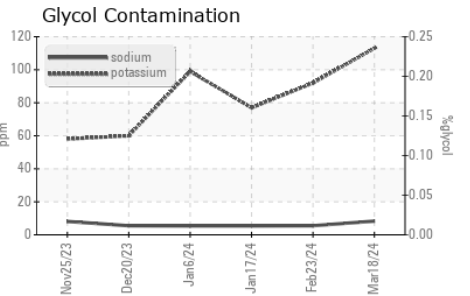
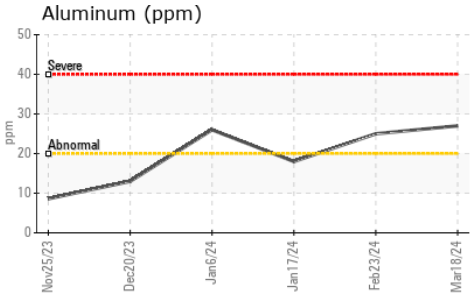
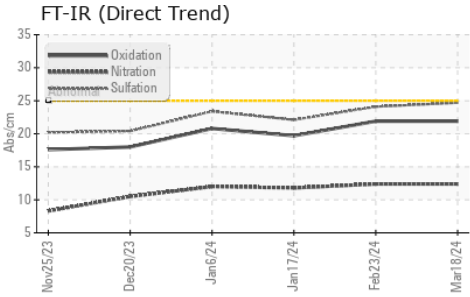
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	12.4	12.4	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.7	24.1	22.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.9	21.9	19.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	3.5	3.2	4.0



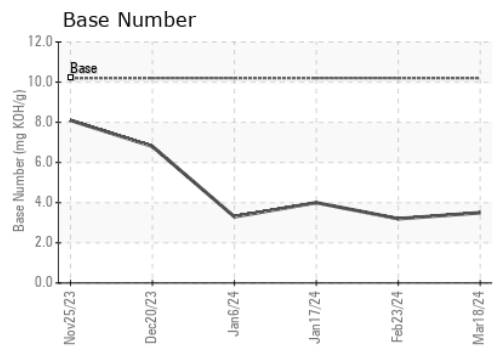
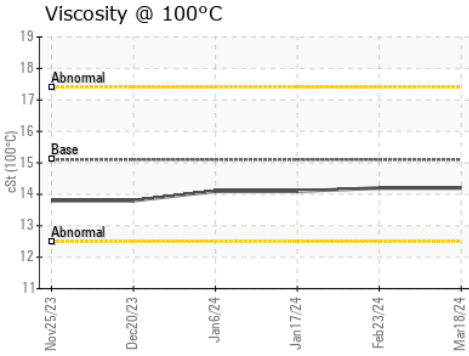
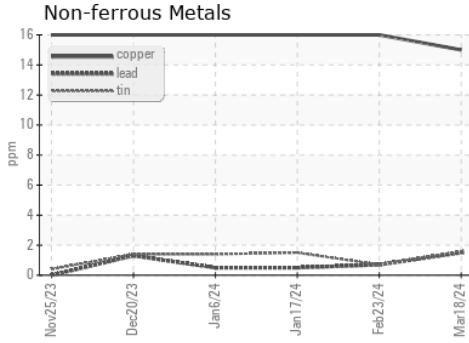
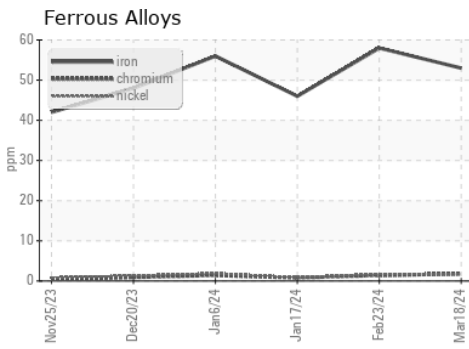
OIL ANALYSIS REPORT



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	15.1	14.2	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0114110 **Received** : 16 Apr 2024
Lab Number : **06150947** **Tested** : 19 Apr 2024
Unique Number : 10981025 **Diagnosed** : 19 Apr 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 837 - Harrison TS
 22820 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: SARA PATRICK
 spatrack@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)