



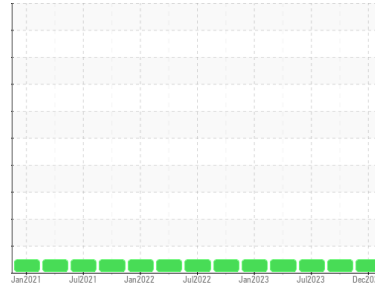
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
411007
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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. There is no indication of any contamination in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0097335	GFL0090874	GFL0078493
Sample Date	Client Info		21 Dec 2023	21 Sep 2023	18 Jul 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	6849	6223	17595
Oil Changed	Client Info		N/A	N/A	N/A
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 D5185(m) >120	10	6	2
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >5	<1	<1	0
Titanium	ppm	ASTM D5185(m) >2	0	0	0
Silver	ppm	ASTM D5185(m) >2	0	<1	0
Aluminum	ppm	ASTM D5185(m) >20	2	<1	<1
Lead	ppm	ASTM D5185(m) >40	<1	<1	0
Copper	ppm	ASTM D5185(m) >330	1	1	<1
Tin	ppm	ASTM D5185(m) >15	<1	<1	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	50	6	5
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	10	57	57
Manganese	ppm	ASTM D5185(m) 0	0	0	<1
Magnesium	ppm	ASTM D5185(m) 1010	116	899	933
Calcium	ppm	ASTM D5185(m) 1070	2169	1116	1019
Phosphorus	ppm	ASTM D5185(m) 1150	972	941	1036
Zinc	ppm	ASTM D5185(m) 1270	1157	1146	1143
Sulfur	ppm	ASTM D5185(m) 2060	2963	2377	2580
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

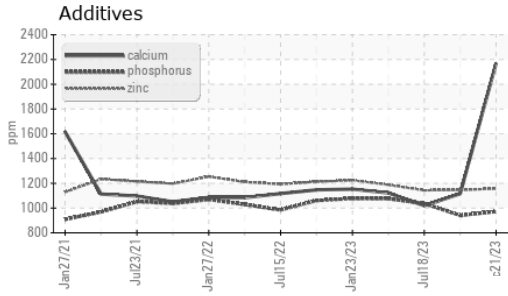
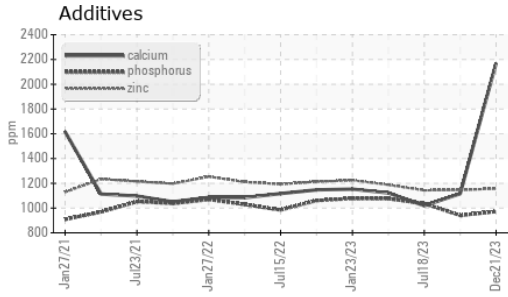
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	3	2	3
Sodium	ppm	ASTM D5185(m)	2	2	2
Potassium	ppm	ASTM D5185(m) >20	7	2	<1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	0.2	0.1	0
Nitration	Abs/cm	ASTM D7624* >20	10.1	7.5	4.8
Sulfation	Abs./1mm	ASTM D7415* >30	25.1	19.6	18.1



OIL ANALYSIS REPORT

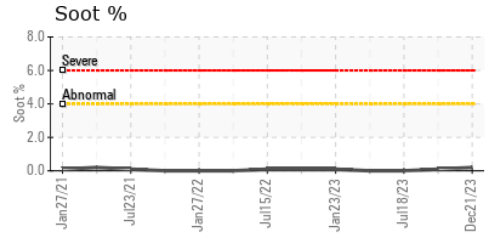
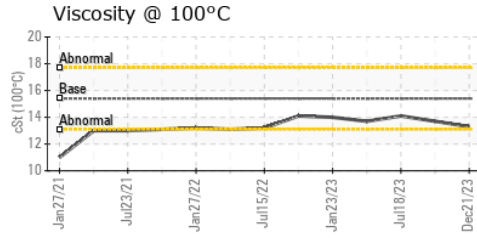
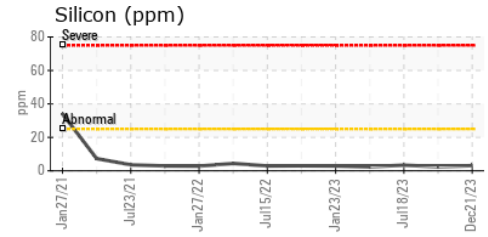
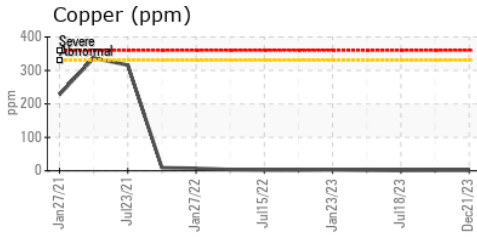
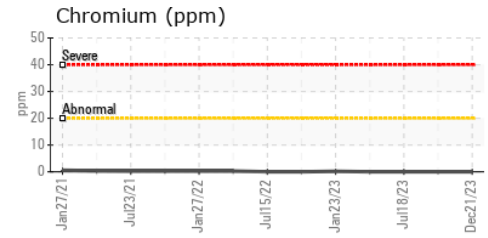
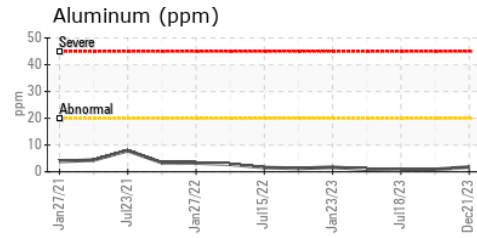
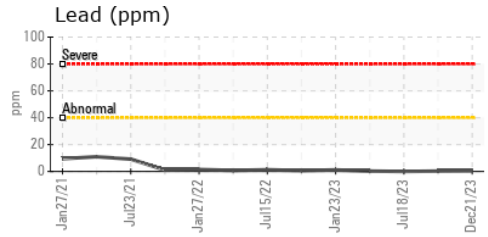
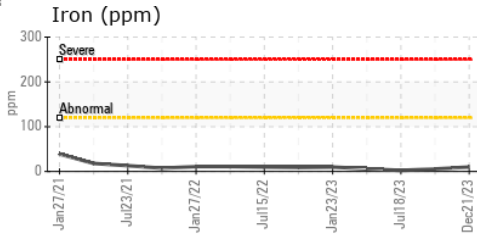


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	20.3	15.3	13.4

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	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 D7279(m)	15.4	13.3	13.7	14.1

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0097335 **Received** : 22 Dec 2023 2700 Deziel Dr
Lab Number : **02604815** **Diagnosed** : 22 Dec 2023 Windsor, ON
Unique Number : 5697900 **Diagnostician** : Wes Davis CA N8W 5H8
Test Package : MOB 1 (Additional Tests: Visual)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.