



Machine Id
524003
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.
Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0102855	GFL0090843	GFL0082548
Sample Date		Client Info		18 Jan 2024	08 Aug 2023	31 May 2023
Machine Age	hrs	Client Info		17179	16656	438358
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	13	12	11
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	6	2	9
Titanium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	6	4	6
Lead	ppm	ASTM D5185(m)	>40	<1	1	1
Copper	ppm	ASTM D5185(m)	>330	3	2	4
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

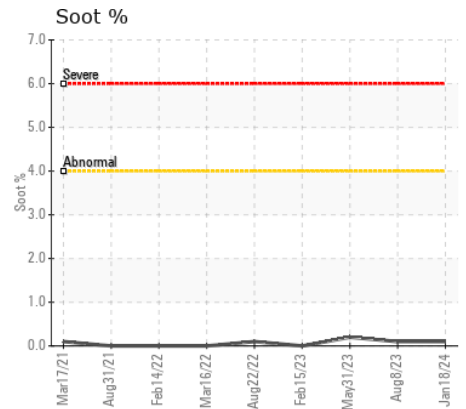
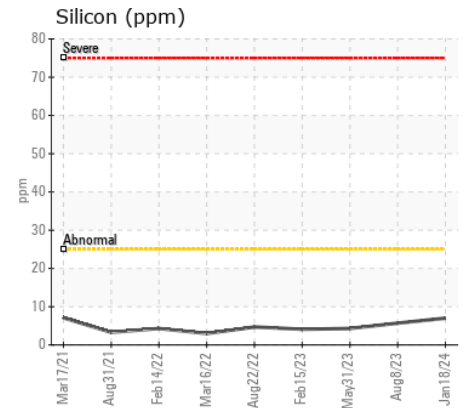
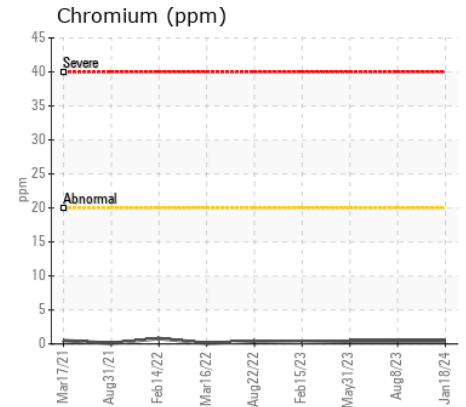
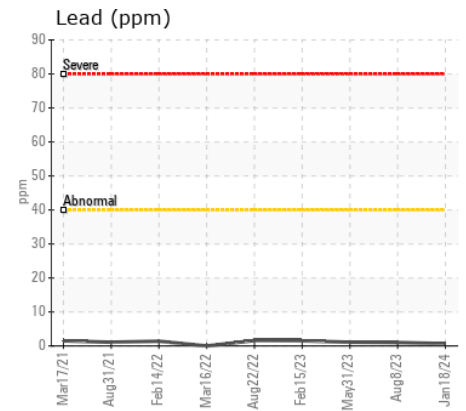
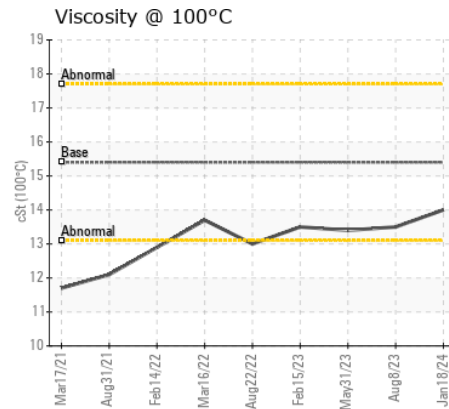
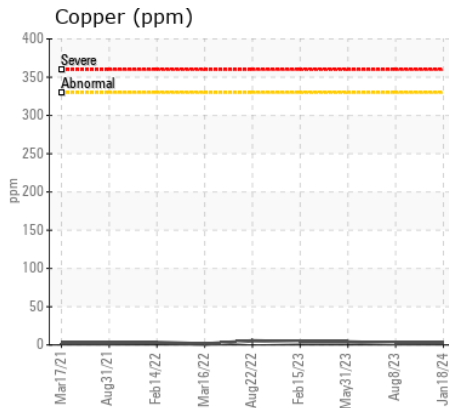
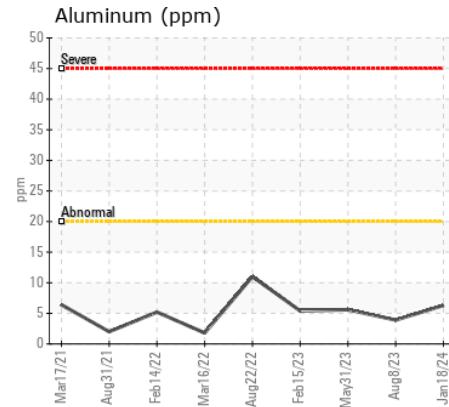
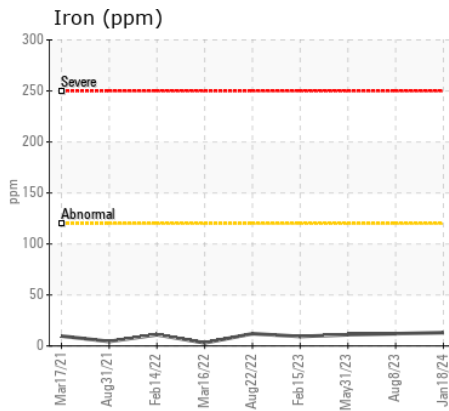
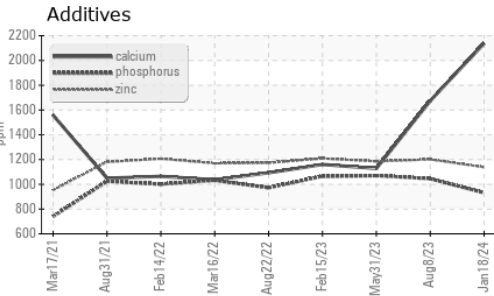
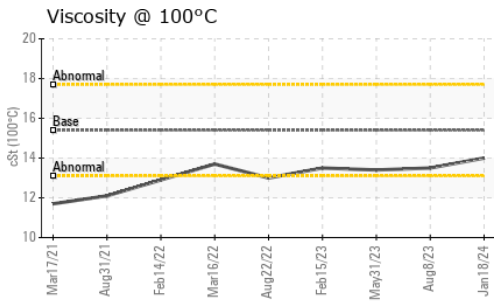
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	7	6	4
Potassium	ppm	ASTM D5185(m)	>20	12	6	3
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*	>4	0.1	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	8.8	8.0	7.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.3	21.7	18.5
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185(m)		7	5	5
Boron	ppm	ASTM D5185(m)	0	47	31	2
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	8	58	59
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	70	475	960
Calcium	ppm	ASTM D5185(m)	1070	2138	1674	1128
Phosphorus	ppm	ASTM D5185(m)	1150	932	1045	1070
Zinc	ppm	ASTM D5185(m)	1270	1138	1201	1185
Sulfur	ppm	ASTM D5185(m)	2060	2843	2596	2454
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.3	17.0	14.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	13.5	13.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0102855 **Received** : 19 Jan 2024
Lab Number : 02609922 **Diagnosed** : 19 Jan 2024
Unique Number : 5711008 **Diagnostician** : Wes Davis
Test Package : MOB 1

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.