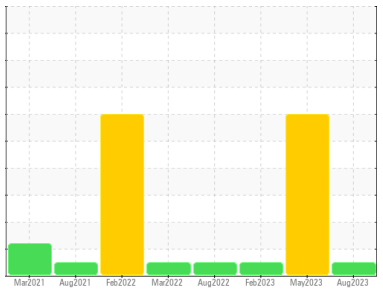
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
524003
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		**GFL0090843**	GFL0082548	GFL0071314
Sample Date		Client Info		**08 Aug 2023**	31 May 2023	15 Feb 2023
Machine Age	hrs	Client Info		**16656**	438358	15720
Oil Age	hrs	Client Info		**0**	0	15720
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**NORMAL**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**12**	11	9
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**2**	9	4
Titanium	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**4**	6	5
Lead	ppm	ASTM D5185(m)	>40	**1**	1	2
Copper	ppm	ASTM D5185(m)	>330	**2**	4	4
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	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	**31**	2	3
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**58**	59	59
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**475**	960	973
Calcium	ppm	ASTM D5185(m)	1070	**1674**	1128	1160
Phosphorus	ppm	ASTM D5185(m)	1150	**1045**	1070	1065
Zinc	ppm	ASTM D5185(m)	1270	**1201**	1185	1209
Sulfur	ppm	ASTM D5185(m)	2060	**2596**	2454	2531
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	4	4
Sodium	ppm	ASTM D5185(m)		**5**	5	6
Potassium	ppm	ASTM D5185(m)	>20	**6**	3	8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.1**	0.2	0
Nitration	Abs/cm	ASTM D7624*	>20	**8.0**	7.3	8.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.7**	18.5	21.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.0**	14.2	16.8

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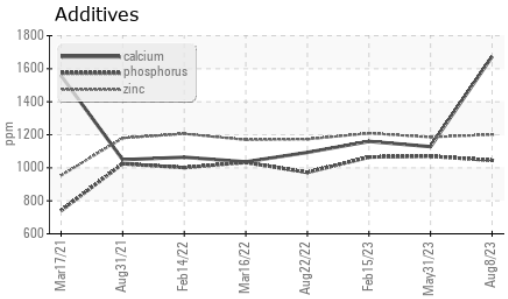
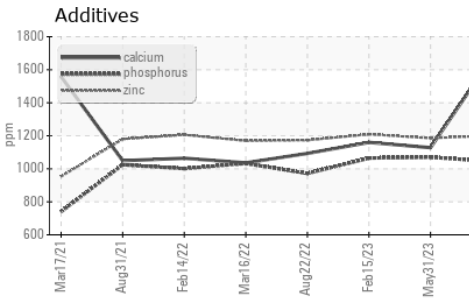
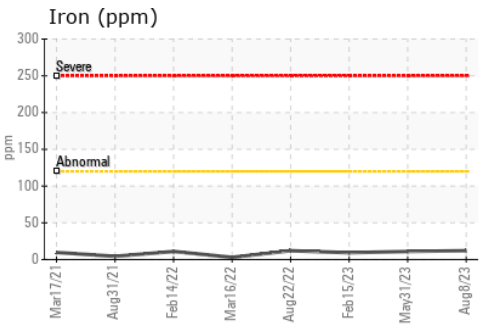


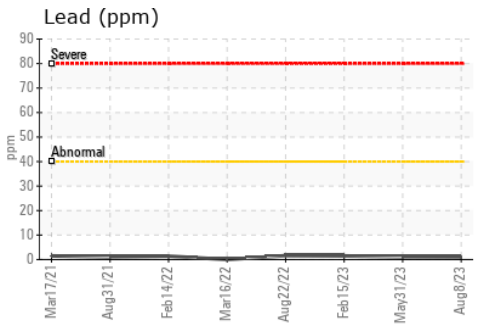


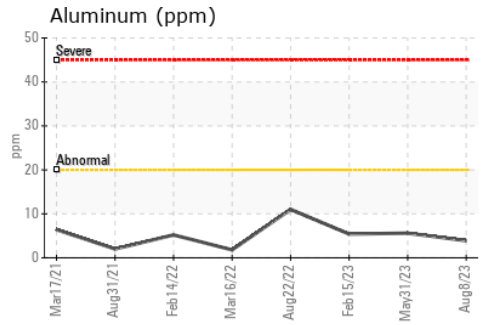
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

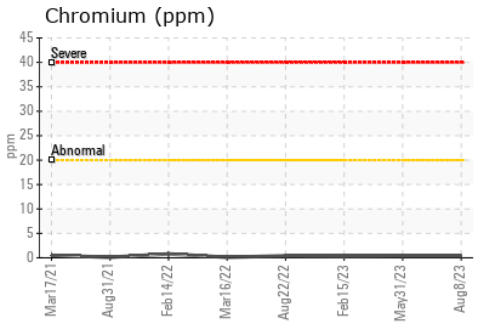
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**13.5**	13.4	13.5

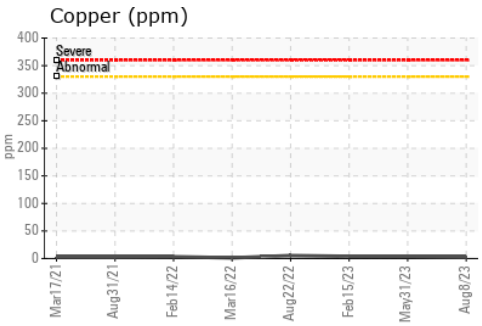
GRAPHS

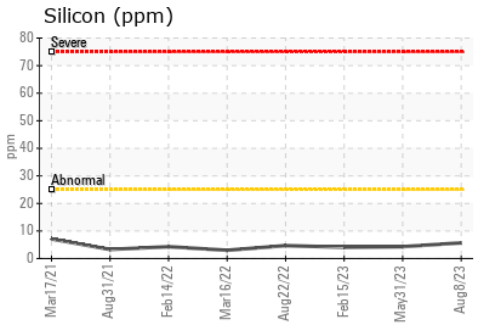


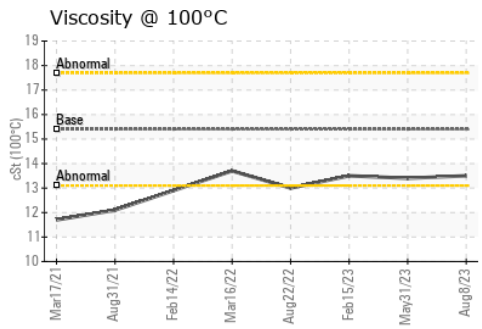


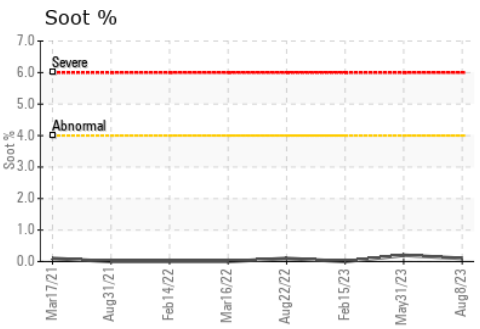












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0090843
Lab Number : 02576644
Unique Number : 5629704
Test Package : MOB 1

Received : 18 Aug 2023
Diagnosed : 18 Aug 2023
Diagnostician : Wes Davis

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.

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