



Machine Id
1119
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0118507	GFL0102692	GFL0077884
Sample Date		Client Info		19 Apr 2024	22 Nov 2023	23 May 2023
Machine Age	hrs	Client Info		5433	4907	4484
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

Aluminum ppm levels are severe. Piston wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	67	43	30
Chromium	ppm	ASTM D5185(m)	>20	8	5	4
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	▲ 248	▲ 151	▲ 68
Lead	ppm	ASTM D5185(m)	>40	<1	1	<1
Copper	ppm	ASTM D5185(m)	>330	2	2	3
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

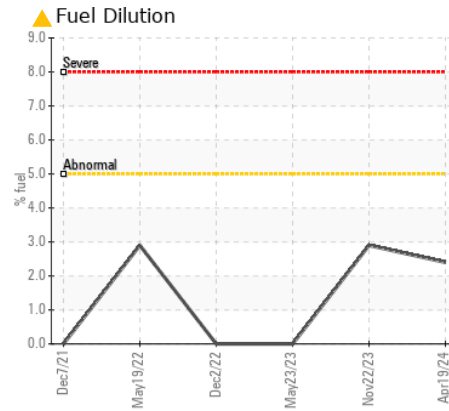
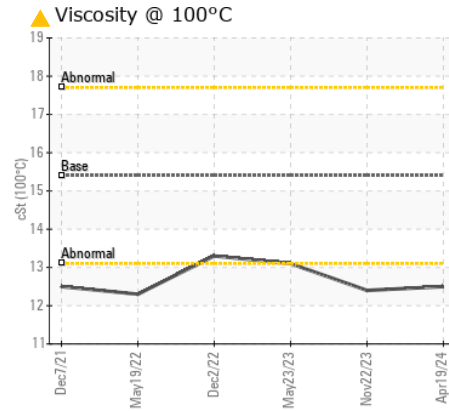
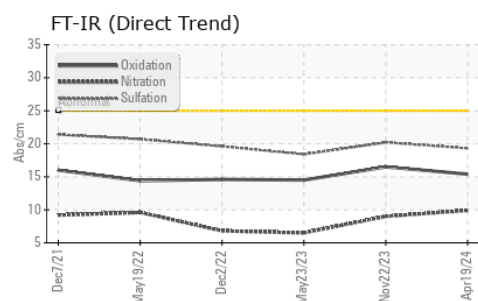
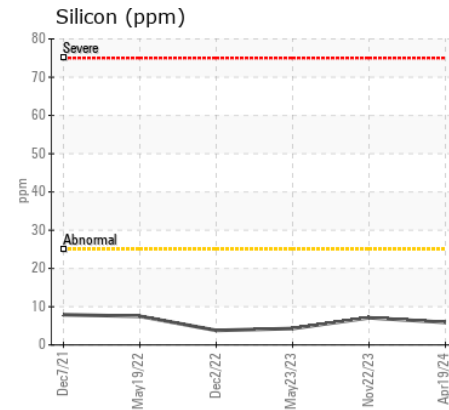
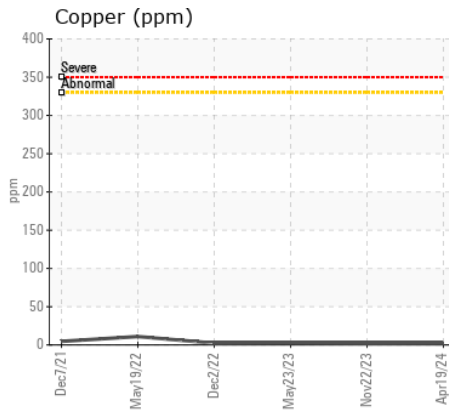
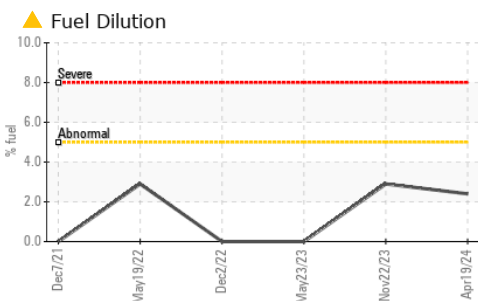
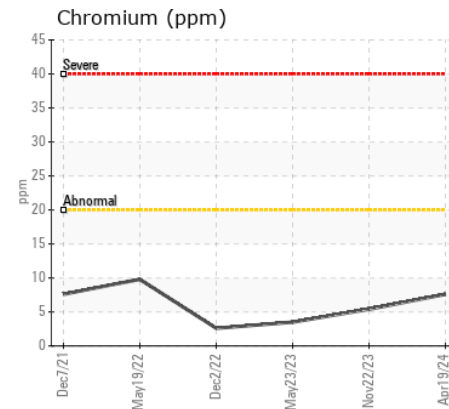
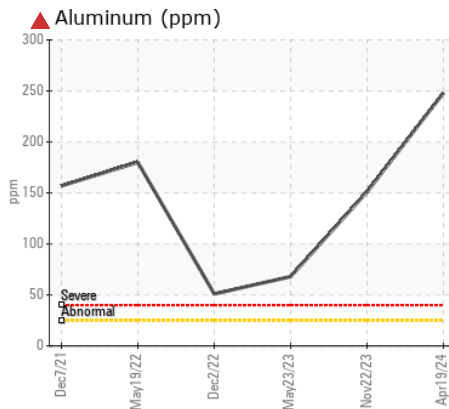
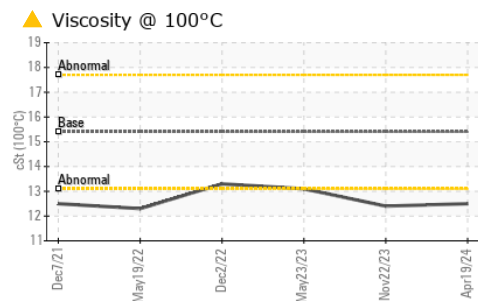
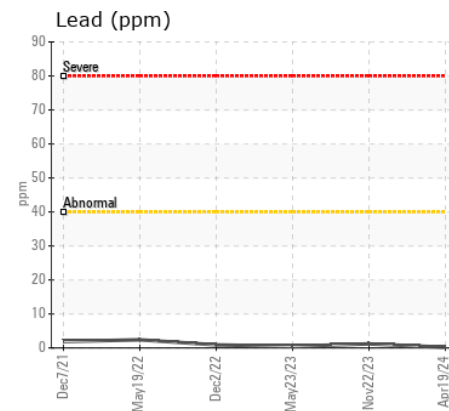
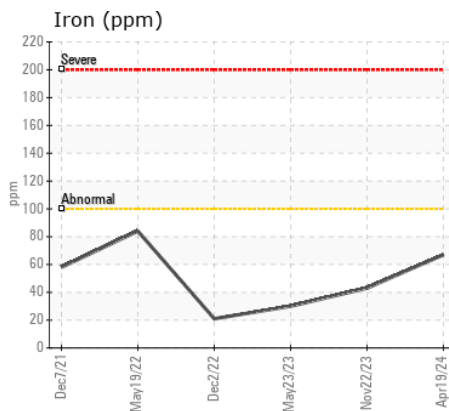
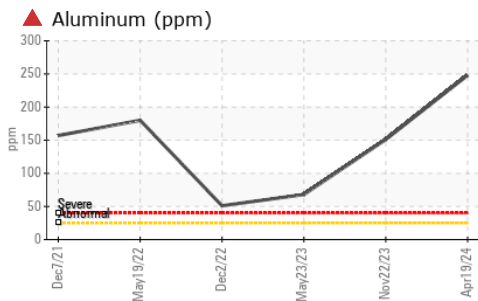
Light fuel dilution occurring.

Silicon	ppm	ASTM D5185(m)	>25	6	7	4
Potassium	ppm	ASTM D5185(m)	>20	1	0	2
Fuel	%	ASTM D7593*	>5	▲ 2.4	▲ 2.9	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.5	0.4	0.2
Nitration	Abs/cm	ASTM D7624*	>20	9.9	9.0	6.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.3	20.2	18.4
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		4	5	5
Boron	ppm	ASTM D5185(m)	0	3	4	4
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	58	58	57
Manganese	ppm	ASTM D5185(m)	0	4	3	1
Magnesium	ppm	ASTM D5185(m)	1010	934	928	932
Calcium	ppm	ASTM D5185(m)	1070	1005	1009	1068
Phosphorus	ppm	ASTM D5185(m)	1150	966	962	1076
Zinc	ppm	ASTM D5185(m)	1270	1144	1148	1150
Sulfur	ppm	ASTM D5185(m)	2060	2545	2532	2732
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.4	16.5	14.5
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 12.5	▲ 12.4	13.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0118507
Lab Number : 02630907
Unique Number : 5772060
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)
Received : 23 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 24 Apr 2024 - Kevin Marson

GFL Environmental - 207 - Pickering SW
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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.