



Machine Id
8982
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0113173	GFL0085246	GFL0060032
Sample Date		Client Info		28 Feb 2024	21 Jun 2023	26 Feb 2023
Machine Age	hrs	Client Info		183252	7985	164746
Oil Age	hrs	Client Info		0	152862	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	36	25	36
Chromium	ppm	ASTM D5185(m)	>20	2	3	2
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	1	0
Aluminum	ppm	ASTM D5185(m)	>20	3	4	1
Lead	ppm	ASTM D5185(m)	>40	0	<1	0
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

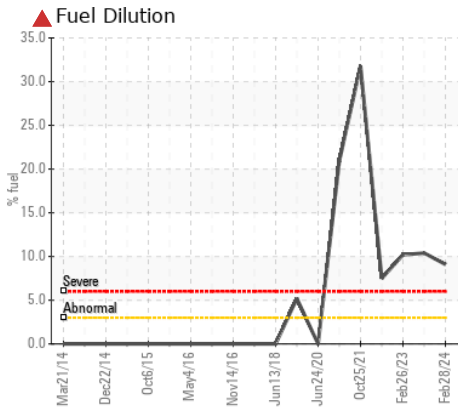
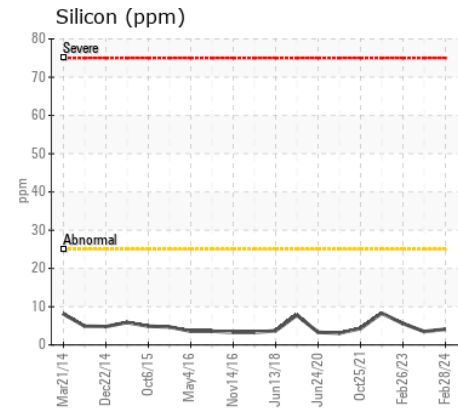
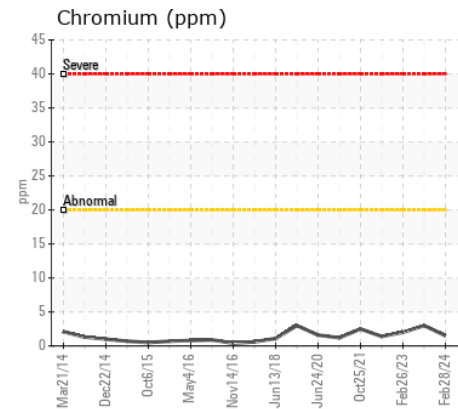
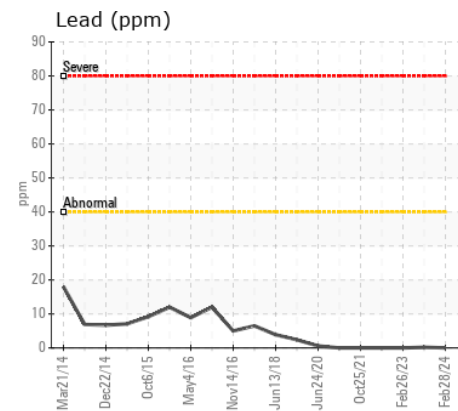
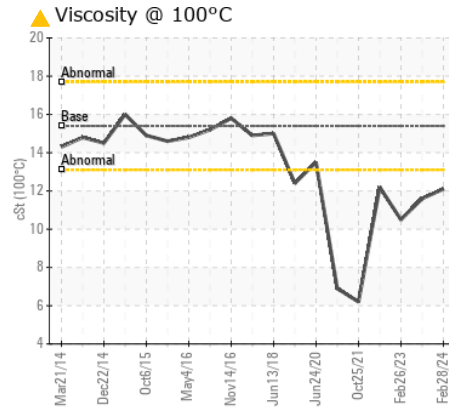
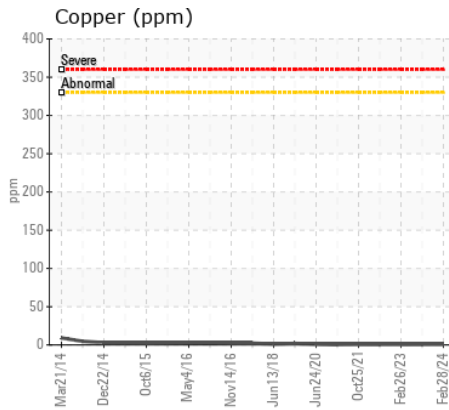
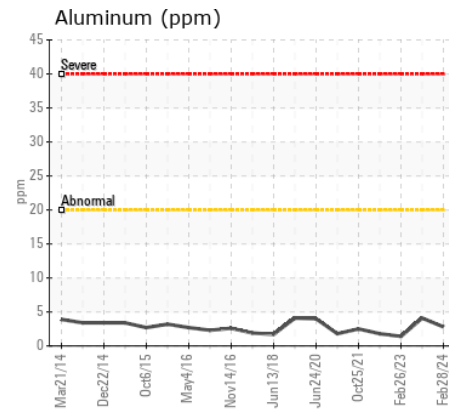
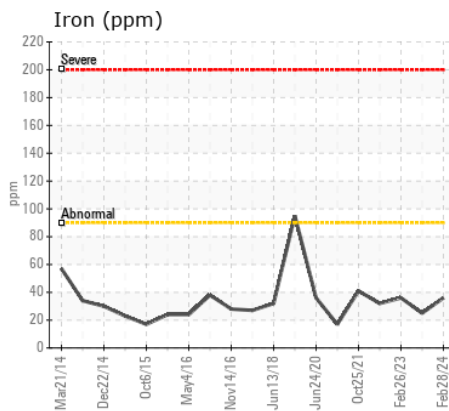
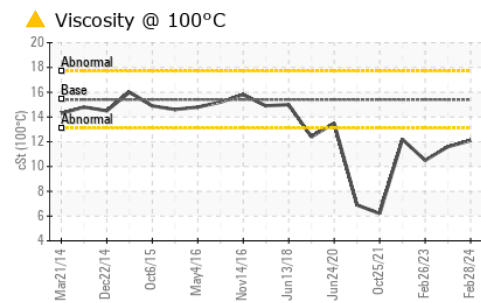
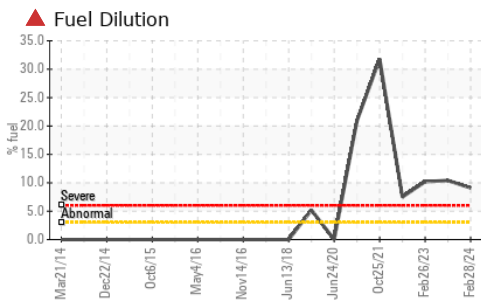
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	4	6
Potassium	ppm	ASTM D5185(m)	>20	1	2	0
Fuel	%	ASTM D7593*	>3.0	▲ 9.1	▲ 10.4	▲ 10.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	ASTM D7844*	>6	1	0.4	0.5
Nitration	Abs/cm	ASTM D7624*	>20	9.2	7.1	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.7	18.6	22.2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		26	● 166	3
Boron	ppm	ASTM D5185(m)	0	4	3	4
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	53	52	49
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	814	858	782
Calcium	ppm	ASTM D5185(m)	1070	921	928	893
Phosphorus	ppm	ASTM D5185(m)	1150	891	973	884
Zinc	ppm	ASTM D5185(m)	1270	1035	1050	955
Sulfur	ppm	ASTM D5185(m)	2060	2387	2344	2115
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.4	14.0	18.0
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 12.1	▲ 11.6	▲ 10.5



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113173 **Received** : 05 Mar 2024
Lab Number : 02619839 **Tested** : 06 Mar 2024
Unique Number : 5736949 **Diagnosed** : 06 Mar 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PercentFuel)

GFL Environmental - 225 - COT(D2)
 20 Brydon Drive
 Etobicoke, ON
 CA M9W 5R6
 Contact: Kim McCall
 kmccall@gflenv.com

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.