



WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
501111
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

RECOMMENDATION

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		GFL0108194	GFL0084225	GFL0072250
Sample Date		Client Info		01 Mar 2024	06 Sep 2023	04 Apr 2023
Machine Age	kms	Client Info		664264	606129	588773
Oil Age	kms	Client Info		58135	0	61926
Filter Age	kms	Client Info		58135	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

Nickel ppm levels are severe. Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	56	28	38
Chromium	ppm	ASTM D5185(m)	>20	1	1	<1
Nickel	ppm	ASTM D5185(m)	>2	▲ 9	▲ 21	▲ 5
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	5	3	4
Lead	ppm	ASTM D5185(m)	>40	2	<1	3
Copper	ppm	ASTM D5185(m)	>330	11	6	8
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

There is no indication of any contamination in the oil.

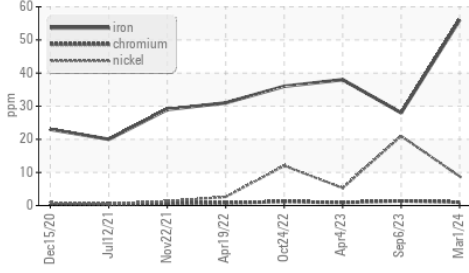
Silicon	ppm	ASTM D5185(m)	>25	5	4	4
Potassium	ppm	ASTM D5185(m)	>20	2	<1	2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.5	0.2	0.5
Nitration	Abs/cm	ASTM D7624*	>20	10.0	7.1	10.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.8	19.4	25.7
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

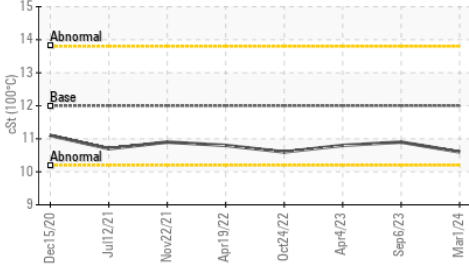
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		6	5	8
Boron	ppm	ASTM D5185(m)	2	2	6	1
Barium	ppm	ASTM D5185(m)	0	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	50	60	58	62
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	937	929	982
Calcium	ppm	ASTM D5185(m)	1050	1094	1039	1161
Phosphorus	ppm	ASTM D5185(m)	995	925	1014	1027
Zinc	ppm	ASTM D5185(m)	1180	1165	1148	1194
Sulfur	ppm	ASTM D5185(m)	2600	2279	2428	2267
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.7	13.5	19.4
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	10.6	10.9	10.8

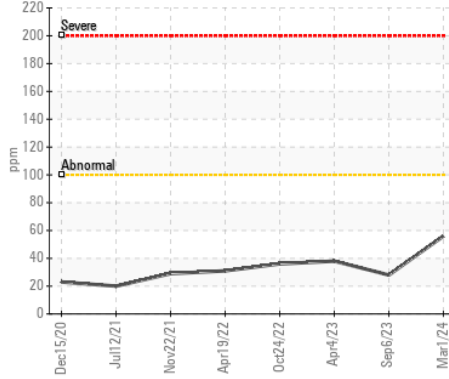
▲ Ferrous Alloys



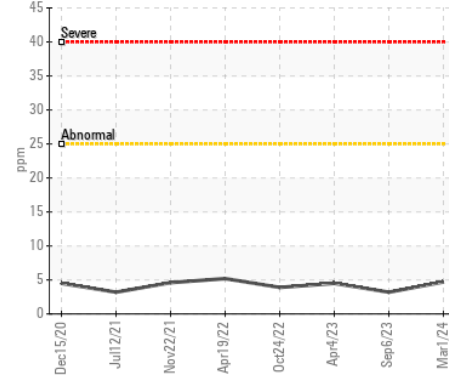
Viscosity @ 100°C



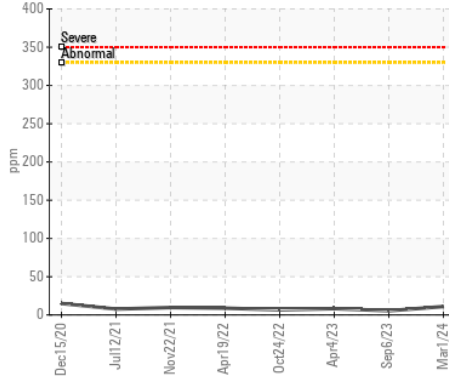
Iron (ppm)



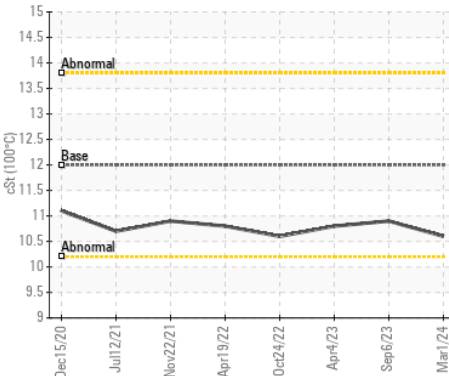
Aluminum (ppm)



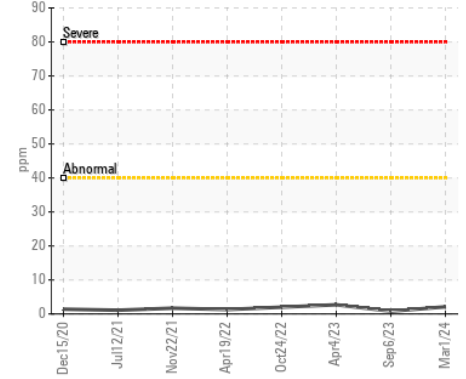
Copper (ppm)



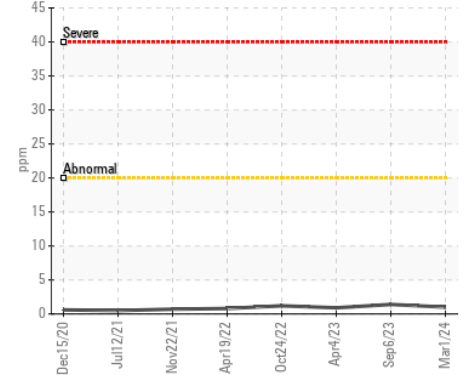
Viscosity @ 100°C



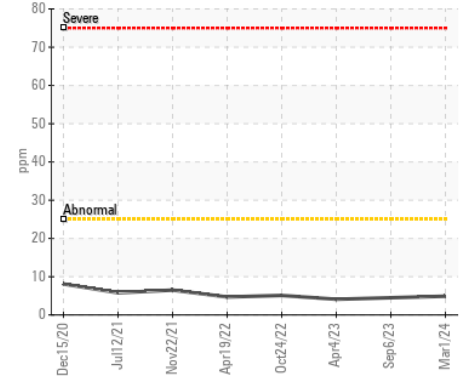
Lead (ppm)



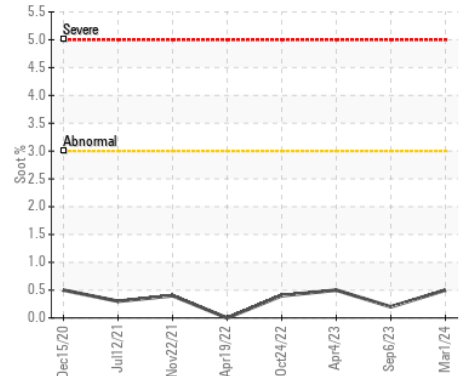
Chromium (ppm)



Silicon (ppm)



Soot %



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0108194
Lab Number : 02619457
Unique Number : 5736567
Test Package : MOB 1

Received : 04 Mar 2024
Tested : 04 Mar 2024
Diagnosed : 04 Mar 2024 - Kevin Marson

GFL Environmental - 245 - BJ Bear
 2616 Cedar Creek Road
 Ayr, ON
 CA N0B 1E0
 Contact: Erik Prpic
 eprpic@gflenv.com
 T: (519)570-9000
 F:

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.