



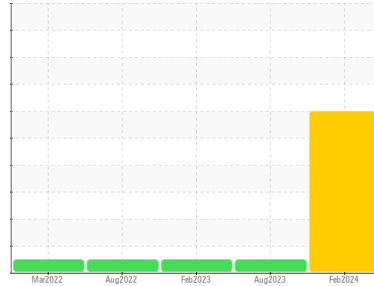
OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Machine Id
731043
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (--- LTR)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Chromium ppm levels are severe. Ring wear is indicated. A cylinder ring may be cracked or broken.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0110248	GFL0085860	GFL0071063
Sample Date	Client Info		21 Feb 2024	10 Aug 2023	11 Feb 2023
Machine Age	hrs	Client Info	6512	5383	4382
Oil Age	hrs	Client Info	600	1200	1200
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG
Glycol	WC Method		---	---	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	29	10	13
Chromium	ppm	ASTM D5185(m)	>4	17	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>9	4	2	2
Lead	ppm	ASTM D5185(m)	>30	12	2	2
Copper	ppm	ASTM D5185(m)	>35	2	2	3
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	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)	50	5	7	6
Barium	ppm	ASTM D5185(m)	5	0	0	0
Molybdenum	ppm	ASTM D5185(m)	50	58	53	53
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	560	614	582	574
Calcium	ppm	ASTM D5185(m)	1510	1641	1526	1705
Phosphorus	ppm	ASTM D5185(m)	780	738	713	747
Zinc	ppm	ASTM D5185(m)	870	951	915	942
Sulfur	ppm	ASTM D5185(m)	2040	2185	2025	2062
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>+100	4	4	4
Sodium	ppm	ASTM D5185(m)		10	8	10
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	12.4	11.3	12.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	27.0	24.1	26.2

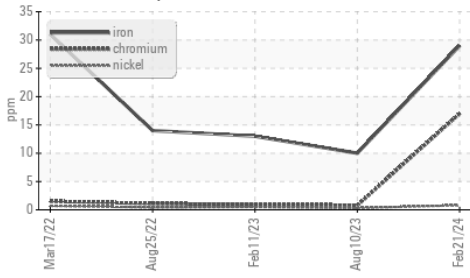
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.1	18.2	20.1

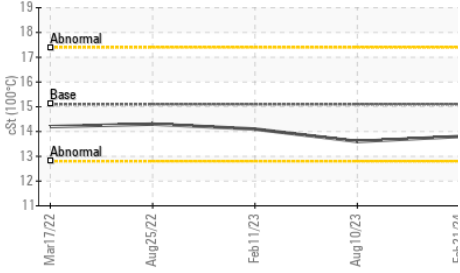


OIL ANALYSIS REPORT

Ferrous Alloys



Viscosity @ 100°C

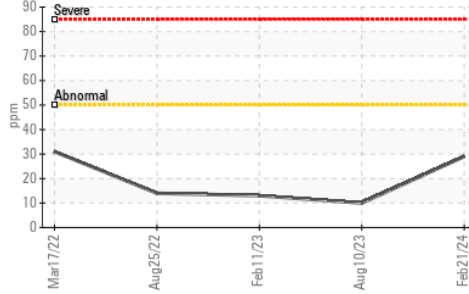


VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

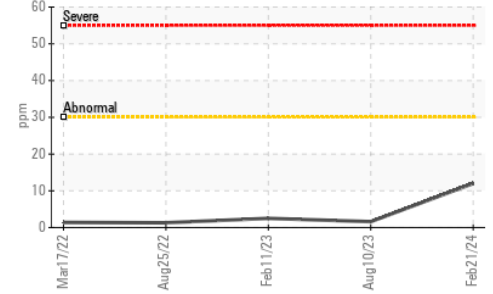
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	13.8	13.6

GRAPHS

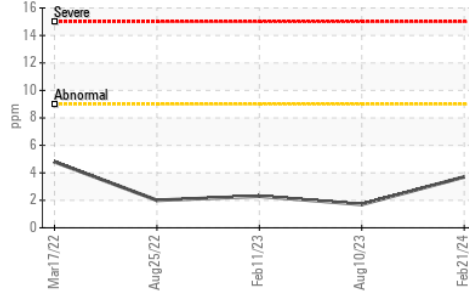
Iron (ppm)



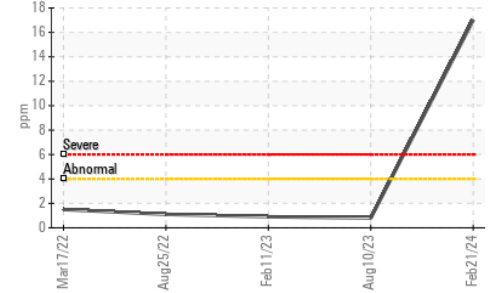
Lead (ppm)



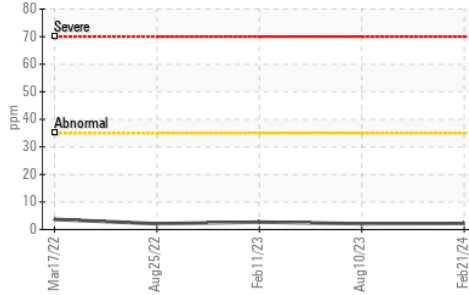
Aluminum (ppm)



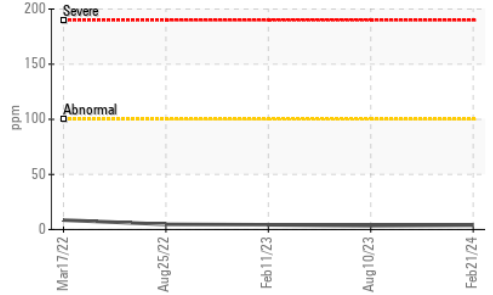
Chromium (ppm)



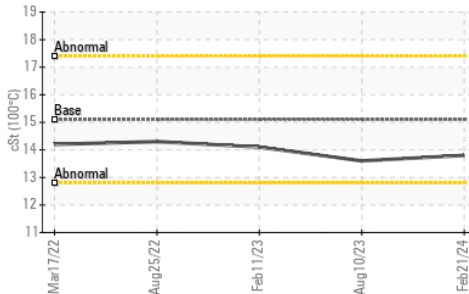
Copper (ppm)



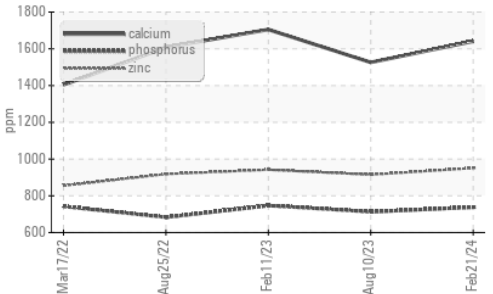
Silicon (ppm)



Viscosity @ 100°C



Additives



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0110248
Lab Number : 02617599
Unique Number : 5734709
Test Package : MOB 1
Received : 23 Feb 2024
Tested : 23 Feb 2024
Diagnosed : 23 Feb 2024 - Kevin Marson

GFL Environmental - 209 - Hamilton
 560 Seaman Street
 Stoney Creek, ON
 CA L8E 3X7
 Contact: Fred Carleton
 fred.carleton@gflenv.com
 T: (289)925-6693
 F: (905)664-9008

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.