

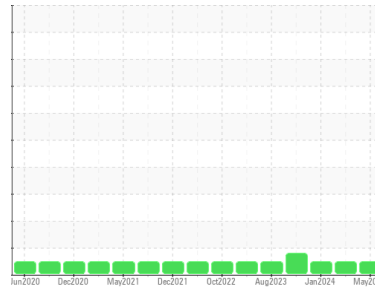


OIL ANALYSIS REPORT



Machine Id
401198
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0112007	GFL0111993	GFL0090404
Sample Date	Client Info		16 May 2024	21 Mar 2024	22 Jan 2024
Machine Age	kms	Client Info	20574	440064	430886
Oil Age	kms	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	8	8	12
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>15	0	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	4	8
Lead	ppm	ASTM D5185(m)	>40	<1	0	<1
Copper	ppm	ASTM D5185(m)	>330	2	<1	1
Tin	ppm	ASTM D5185(m)	>15	0	0	0
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)	0	2	2	4
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	59	59	59
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	1010	965	985	955
Calcium	ppm	ASTM D5185(m)	1070	1063	1058	1038
Phosphorus	ppm	ASTM D5185(m)	1150	1013	1003	1009
Zinc	ppm	ASTM D5185(m)	1270	1211	1192	1151
Sulfur	ppm	ASTM D5185(m)	2060	2505	2510	2590
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

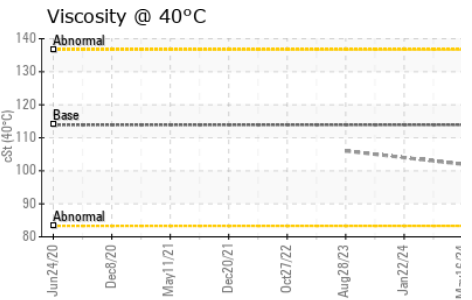
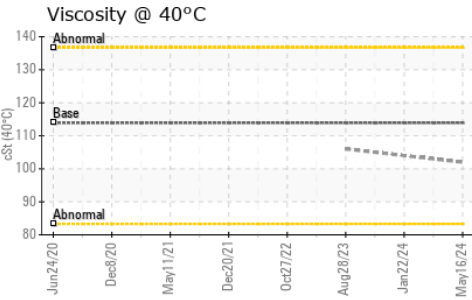
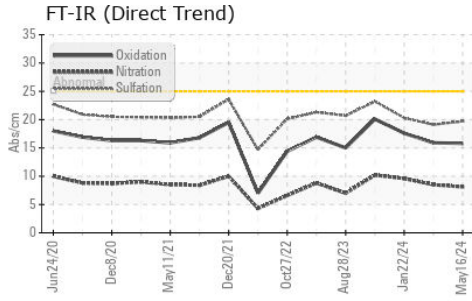
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	1	1	3
Sodium	ppm	ASTM D5185(m)		5	3	4
Potassium	ppm	ASTM D5185(m)	>20	1	1	2

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0.3	0.2	0.3
Nitration	Abs/cm	ASTM D7624*	>20	8.1	8.5	9.6
Sulfation	Abs./1mm	ASTM D7415*	>30	19.7	19.1	20.3



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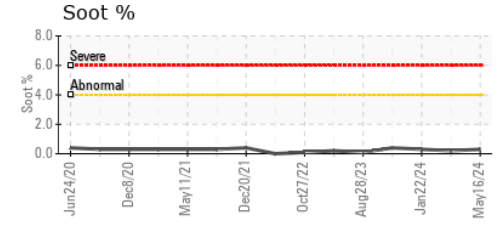
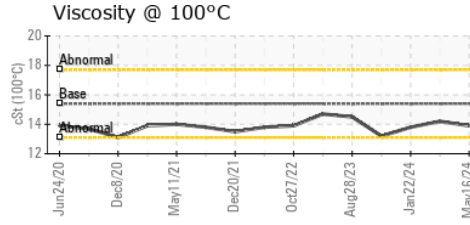
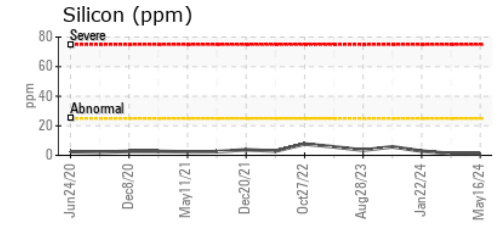
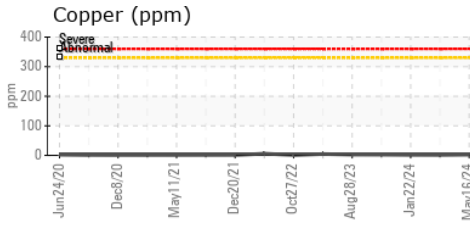
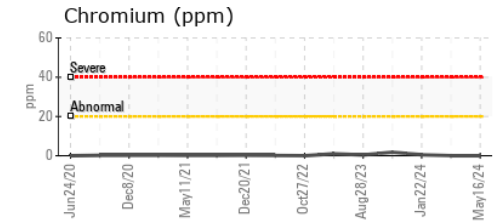
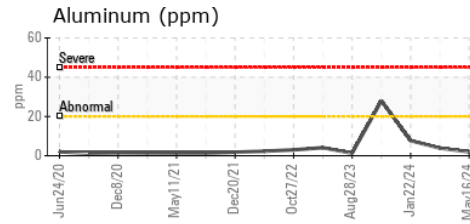
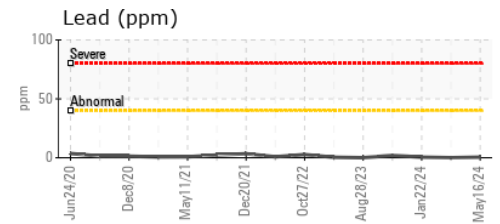
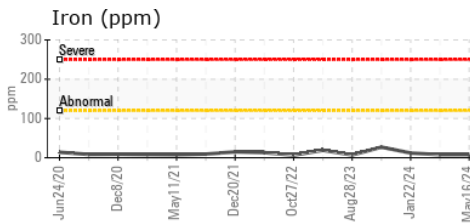


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	15.8	15.9	17.6

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	VLITE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
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 @ 40°C	cSt	ASTM D7279(m)	113.9	102	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.9	14.2	13.8
Viscosity Index (VI)	Scale	ASTM D2270*	142	137	---	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112007 **Received** : 21 May 2024
Lab Number : **02636589** **Tested** : 22 May 2024
Unique Number : 5785751 **Diagnosed** : 22 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

GFL Environmental - 216M
 2475 Beryl Drive
 Oakville, ON
 CA L6J 7X4
 Contact: Matthew Gunness
 mgunness@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.