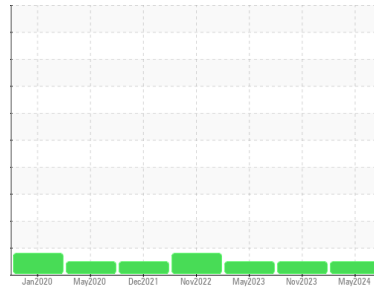




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
725001
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. 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		GFL0113225	GFL0085662	GFL0070446
Sample Date	Client Info		23 May 2024	10 Nov 2023	15 May 2023
Machine Age	hrs	Client Info	0	14420	14420
Oil Age	hrs	Client Info	15935	14420	0
Oil Changed	Client Info		N/A	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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	29	28	20
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>5	<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	12	8	4
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	3	1	<1
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
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	3	4	3
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	58	58	57
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	933	936	920
Calcium	ppm	ASTM D5185(m)	1070	998	990	1053
Phosphorus	ppm	ASTM D5185(m)	1150	967	988	1051
Zinc	ppm	ASTM D5185(m)	1270	1145	1160	1133
Sulfur	ppm	ASTM D5185(m)	2060	2458	2585	2656
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	3	3
Sodium	ppm	ASTM D5185(m)		3	3	2
Potassium	ppm	ASTM D5185(m)	>20	5	1	2
Water	%	ASTM D6304*	>0.2	0.072	---	---
ppm Water	ppm	ASTM D6304*	>2000	724	---	---
Glycol	%	ASTM D7922*		0.0	NEG	NEG

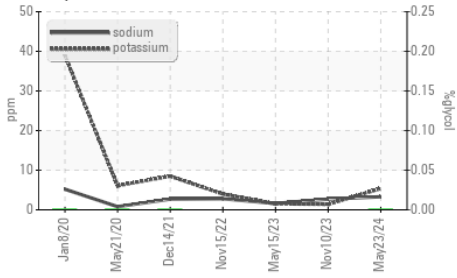
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0.4	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	7.9	5.7	5.4
Sulfation	Abs./1mm	ASTM D7415*	>30	19.0	17.9	18.0

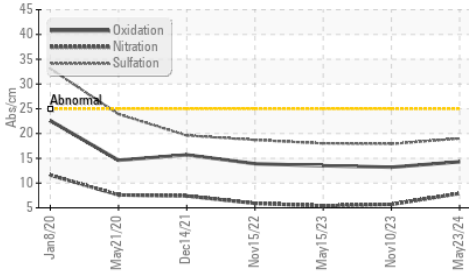


OIL ANALYSIS REPORT

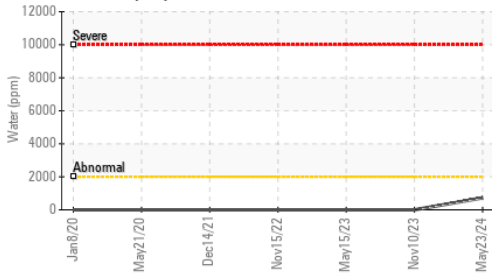
Glycol Contamination



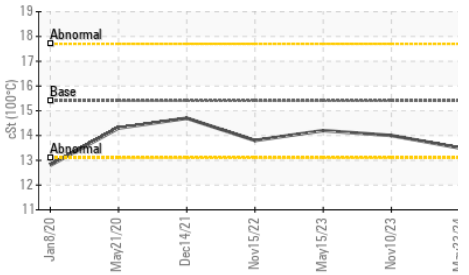
FT-IR (Direct Trend)



Water (KF)



Viscosity @ 100°C



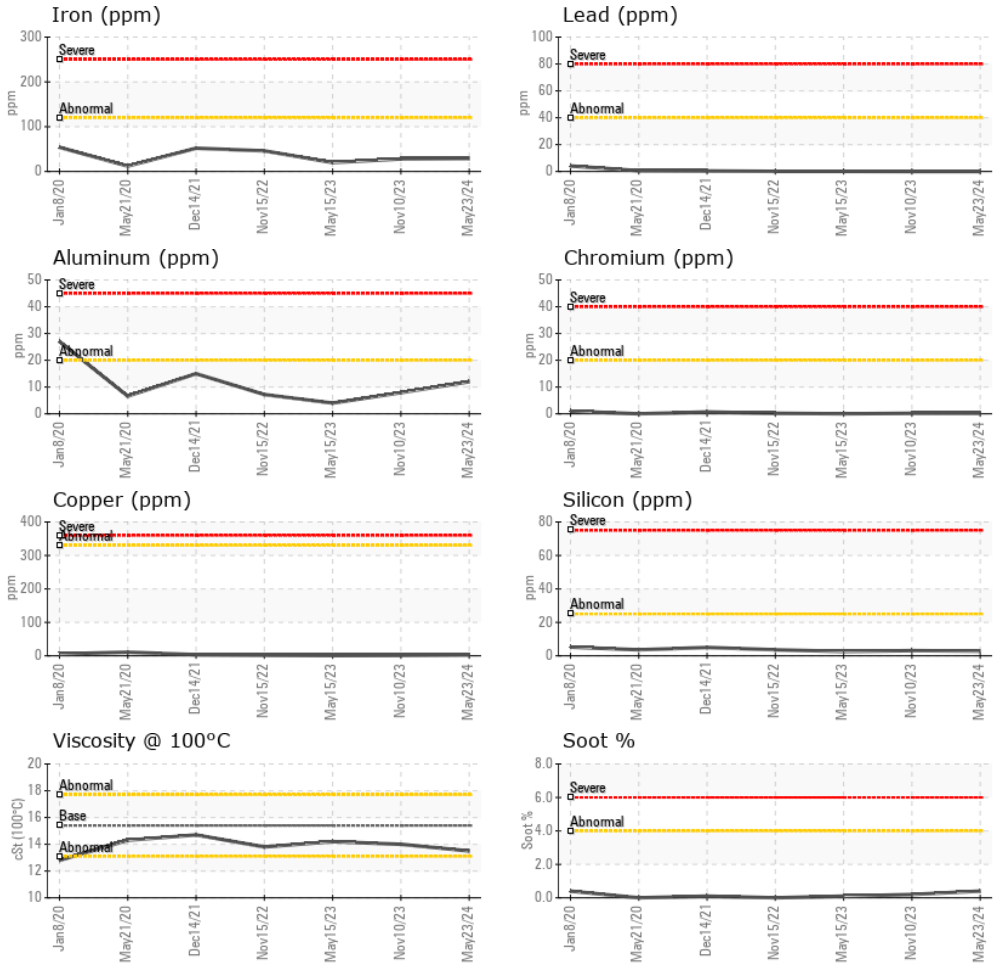
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	14.3	13.2	13.5
White Metal	scalar Visual*	NONE	NONE	---	---
Yellow Metal	scalar Visual*	NONE	NONE	---	---
Precipitate	scalar Visual*	NONE	NONE	---	---
Silt	scalar Visual*	NONE	NONE	---	---
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	.2%	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.4	13.5	14.0	14.2

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113225
Lab Number : 02637615
Unique Number : 5786777
Test Package : MOB 1 (Additional Tests: Glycol, KF, Visual)
Received : 27 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Wes Davis

GFL Environmental - 246 - Windsor
 2700 Deziel Dr
 Windsor, ON
 CA N8W 5H8
 Contact: Dave Varga
 dvarga@gflenv.com
 T: (519)944-8009
 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.