



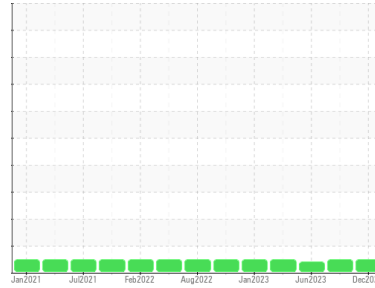
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
426016
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0097303	GFL0090870	GFL0082568
Sample Date	Client Info		08 Dec 2023	05 Sep 2023	27 Jun 2023
Machine Age	hrs	Client Info	0	0	508207
Oil Age	hrs	Client Info	568	16810	0
Oil Changed	Client Info		Changed	N/A	N/A
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	0.7
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	4	7
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >5	<1	0	<1
Titanium	ppm	ASTM D5185(m) >2	0	0	<1
Silver	ppm	ASTM D5185(m) >2	<1	0	0
Aluminum	ppm	ASTM D5185(m) >20	2	<1	1
Lead	ppm	ASTM D5185(m) >40	<1	1	2
Copper	ppm	ASTM D5185(m) >330	<1	<1	<1
Tin	ppm	ASTM D5185(m) >15	<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) 0	56	5	25
Barium	ppm	ASTM D5185(m) 0	<1	0	0
Molybdenum	ppm	ASTM D5185(m) 60	17	56	44
Manganese	ppm	ASTM D5185(m) 0	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	173	907	598
Calcium	ppm	ASTM D5185(m) 1070	1997	1063	1543
Phosphorus	ppm	ASTM D5185(m) 1150	903	967	831
Zinc	ppm	ASTM D5185(m) 1270	1157	1127	947
Sulfur	ppm	ASTM D5185(m) 2060	2631	2359	2182
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

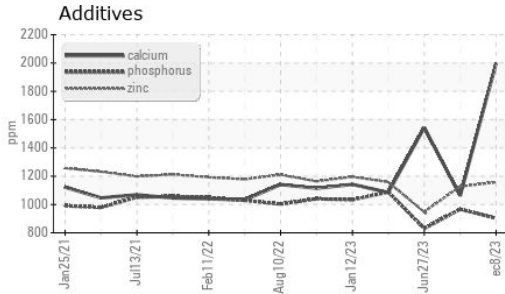
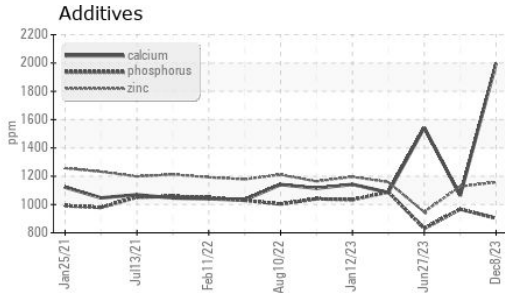
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	3	3	5
Sodium	ppm	ASTM D5185(m)	6	4	3
Potassium	ppm	ASTM D5185(m) >20	4	<1	<1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	0.4	0.2	0.2
Nitration	Abs/cm	ASTM D7624* >20	9.1	7.0	8.4
Sulfation	Abs./1mm	ASTM D7415* >30	23.1	20.6	22.0



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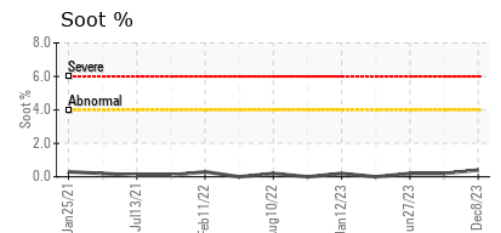
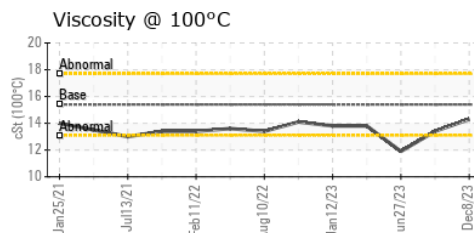
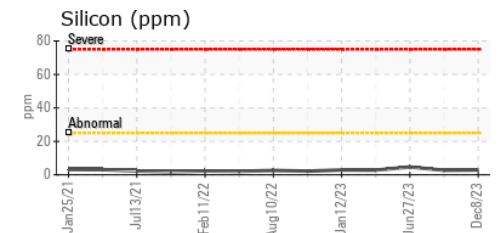
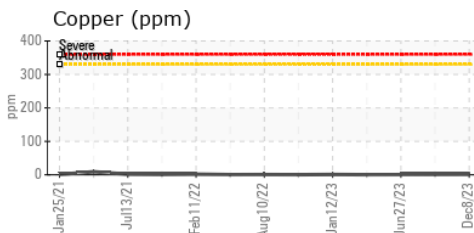
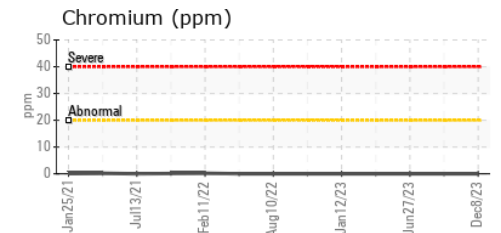
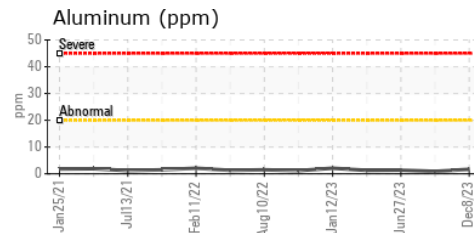
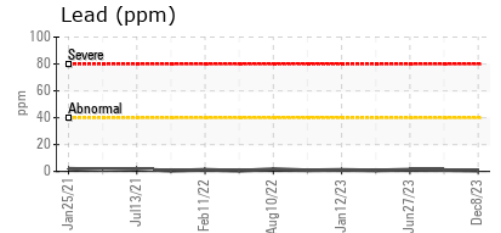
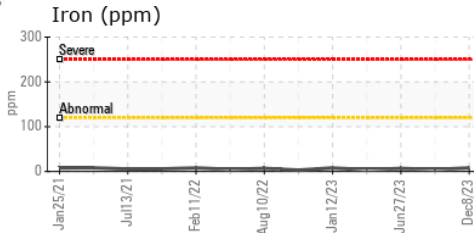


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	18.3	14.9	20.2

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	---	NONE
Precipitate	scalar	Visual*	NONE	NONE	---	NONE
Silt	scalar	Visual*	NONE	NONE	---	NONE
Debris	scalar	Visual*	NONE	NONE	---	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	---	NONE
Appearance	scalar	Visual*	NORML	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 @ 100°C	cSt	ASTM D7279(m)	15.4	14.3	13.4	▲ 11.9

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0097303 **Received** : 13 Dec 2023 2700 Deziel Dr
Lab Number : 02602751 **Diagnosed** : 13 Dec 2023 Windsor, ON
Unique Number : 5695836 **Diagnostician** : Wes Davis CA N8W 5H8
Test Package : MOB 1 (Additional Tests: Visual)

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.

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