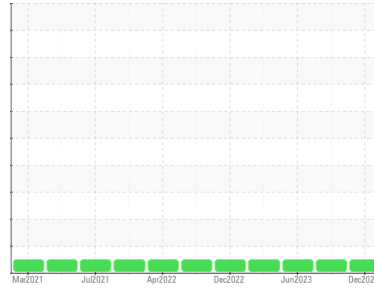




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
520009

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

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		GFL0104019	GFL0093852	GFL0086174
Sample Date	Client Info		12 Dec 2023	12 Sep 2023	14 Jun 2023
Machine Age	kms	Client Info	1280343	1275221	1266681
Oil Age	kms	Client Info	1850	1780	2136
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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)	>80	7	8	6
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>30	2	2	2
Lead	ppm	ASTM D5185(m)	>30	0	0	<1
Copper	ppm	ASTM D5185(m)	>150	2	2	2
Tin	ppm	ASTM D5185(m)	>5	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	10	4	8
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	61	58	61
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	951	949	949
Calcium	ppm	ASTM D5185(m)	1070	1060	1063	1113
Phosphorus	ppm	ASTM D5185(m)	1150	962	1036	1083
Zinc	ppm	ASTM D5185(m)	1270	1167	1151	1171
Sulfur	ppm	ASTM D5185(m)	2060	2558	2549	2673
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

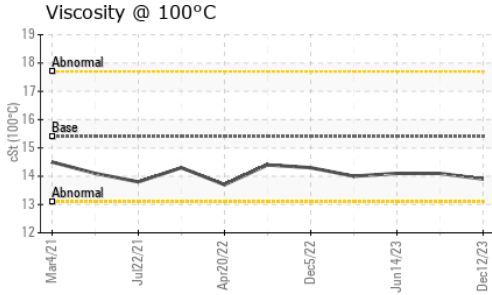
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	3	4	3
Sodium	ppm	ASTM D5185(m)		2	2	2
Potassium	ppm	ASTM D5185(m)	>20	0	<1	0

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.2	0.3	0.2
Nitration	Abs/cm	ASTM D7624*	>20	6.0	6.2	6.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.7	18.9	19.1



OIL ANALYSIS REPORT



FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	13.7	13.5	13.9

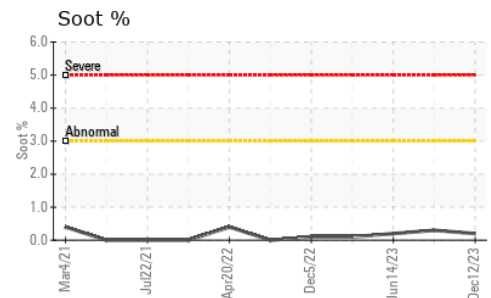
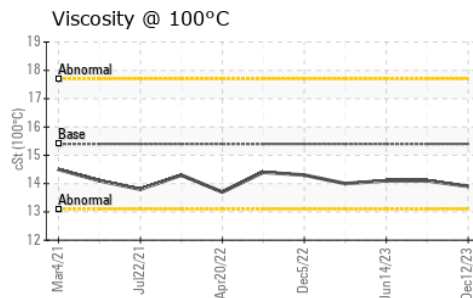
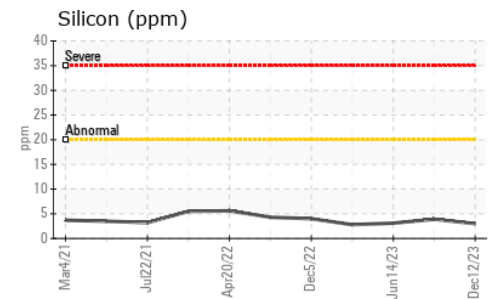
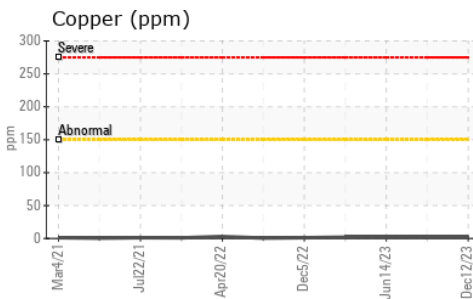
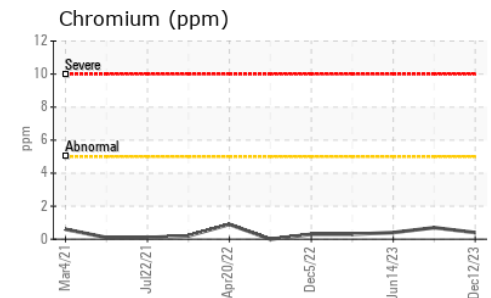
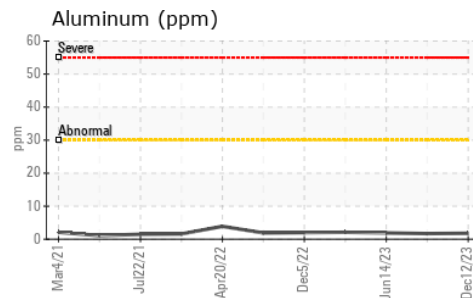
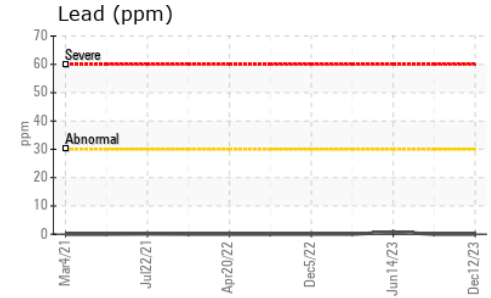
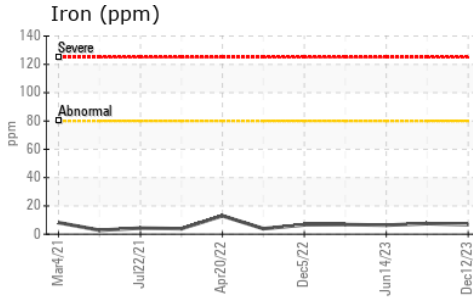
VISUAL

	method	limit/base	current	history1	history2	
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	13.9	14.1	14.1

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 257 - North York
Sample No. : GFL0104019 **Received** : 14 Dec 2023
Lab Number : 02603076 **Diagnosed** : 14 Dec 2023
Unique Number : 5696161 **Diagnostician** : Kevin Marson
Test Package : MOB 1

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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 Contact: Jasvir Bains
 jbains@gflenv.com

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F: