



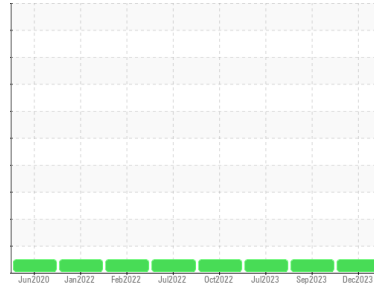
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
[1188633]
 Machine Id
828010
 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		GFL0093942	GFL0093934	GFL0062924
Sample Date	Client Info		04 Dec 2023	13 Sep 2023	06 Jul 2023
Machine Age	hrs Client Info		11175	16627	10252
Oil Age	hrs Client Info		0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
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	15	14	17
Chromium	ppm ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm ASTM D5185(m)		0	0	0
Silver	ppm ASTM D5185(m)	>3	<1	0	<1
Aluminum	ppm ASTM D5185(m)	>30	3	3	2
Lead	ppm ASTM D5185(m)	>30	<1	<1	<1
Copper	ppm ASTM D5185(m)	>150	1	1	1
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	5	5	7
Barium	ppm ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm ASTM D5185(m)	60	57	57	60
Manganese	ppm ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm ASTM D5185(m)	1010	903	932	942
Calcium	ppm ASTM D5185(m)	1070	1098	1055	1072
Phosphorus	ppm ASTM D5185(m)	1150	920	1017	1016
Zinc	ppm ASTM D5185(m)	1270	1139	1164	1173
Sulfur	ppm ASTM D5185(m)	2060	2370	2448	2455
Lithium	ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

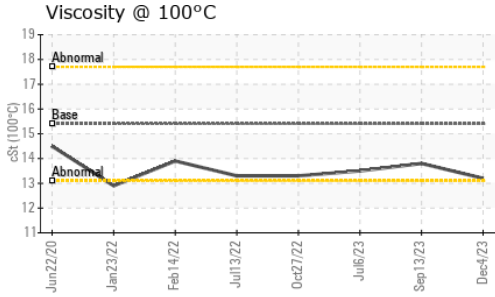
	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	>20	7	4	4
Sodium	ppm ASTM D5185(m)		7	7	7
Potassium	ppm ASTM D5185(m)	>20	2	3	2

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	>3	0.3	0.1	0.3
Nitration	Abs/cm ASTM D7624*	>20	9.0	7.1	8.6
Sulfation	Abs.1mm ASTM D7415*	>30	19.2	19.2	19.9

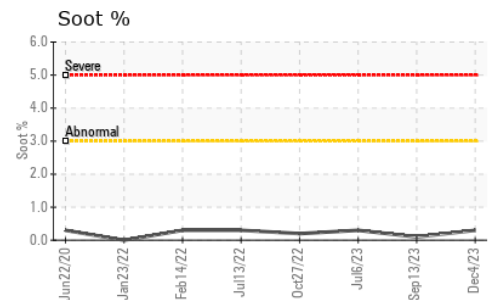
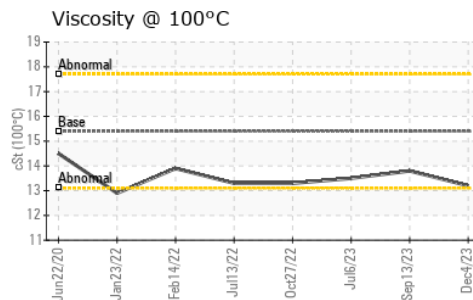
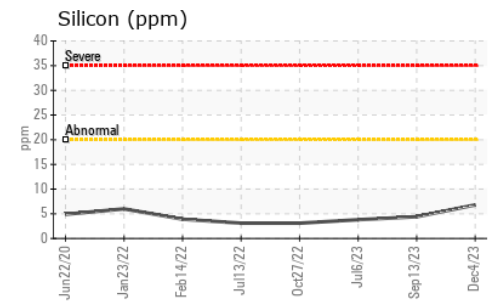
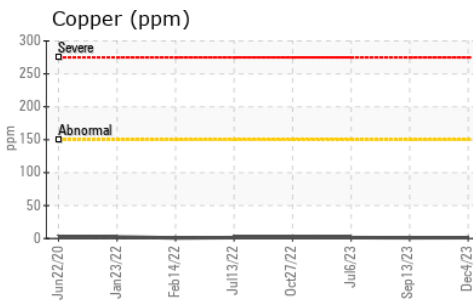
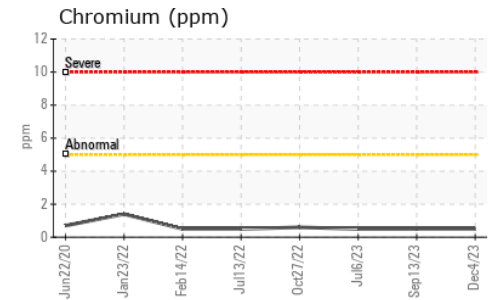
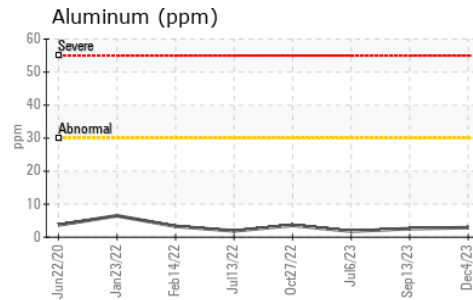
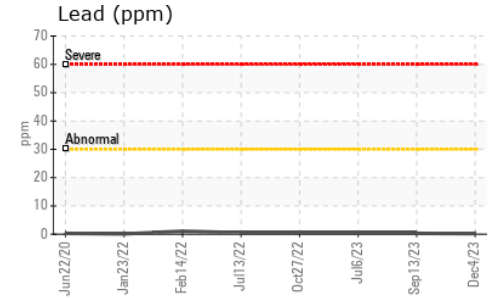
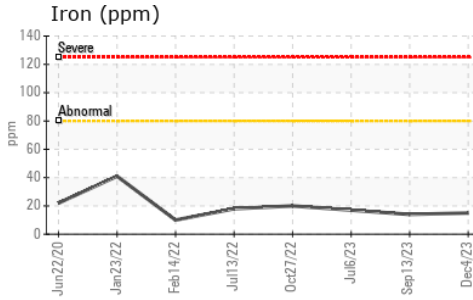


OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	15.8	15.0	16.2
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	13.2	13.8	13.5

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 777 - Belleville-Municipal waste
Sample No. : GFL0093942 **Received** : 06 Dec 2023 197 Putman Industrial Road
Lab Number : 02601125 **Diagnosed** : 06 Dec 2023 Belleville, ON
Unique Number : 5694210 **Diagnostician** : Wes Davis CA K8N 4Z6
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.

Contact: Andrea Michael
 amichael@gflenv.com
 T: (613)962-7144
 F: (613)962-1994