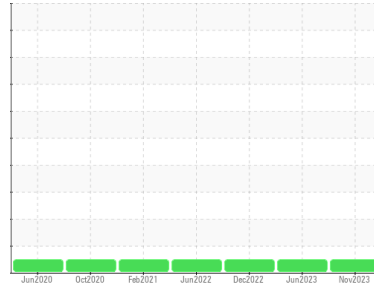




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
522004
 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		GFL0097316	GFL0082565	GFL0065873
Sample Date	Client Info		14 Nov 2023	08 Jun 2023	19 Dec 2022
Machine Age	kms	Client Info	0	0	19562
Oil Age	kms	Client Info	70620	548712	316
Oil Changed	Client Info		N/A	N/A	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	7	6	5
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	<1	2	1
Titanium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	1	2	2
Lead	ppm	ASTM D5185(m)	>40	0	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<1	1	<1
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	<1	<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	114	4	6
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	6	58	55
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	95	943	885
Calcium	ppm	ASTM D5185(m)	1070	2084	1128	1070
Phosphorus	ppm	ASTM D5185(m)	1150	955	1061	1031
Zinc	ppm	ASTM D5185(m)	1270	1142	1186	1122
Sulfur	ppm	ASTM D5185(m)	2060	2825	2652	2548
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	2	4	3
Sodium	ppm	ASTM D5185(m)		4	3	2
Potassium	ppm	ASTM D5185(m)	>20	6	<1	0
Glycol	%	ASTM D7922*		0.0	NEG	NEG

INFRA-RED

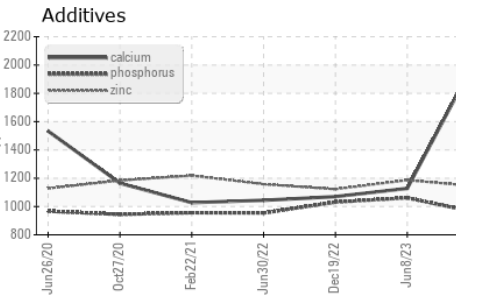
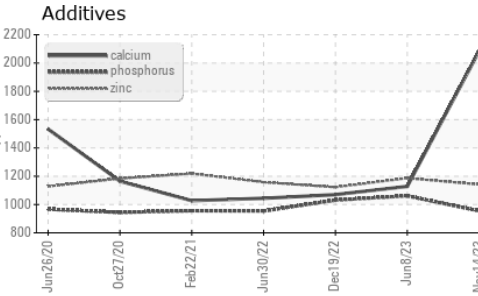
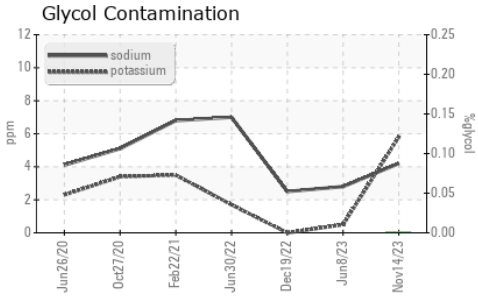
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0.1	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	8.4	7.9	7.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.6	18.5	19.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.6	15.1	14.7



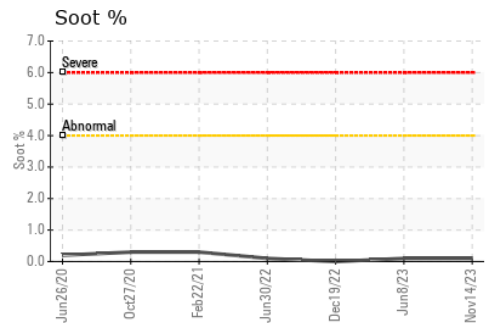
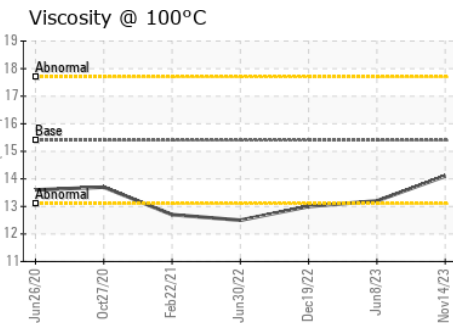
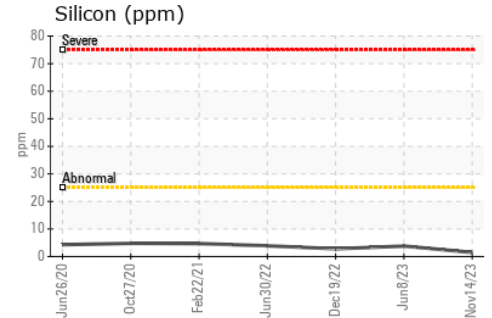
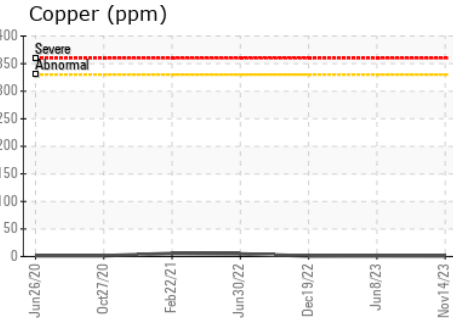
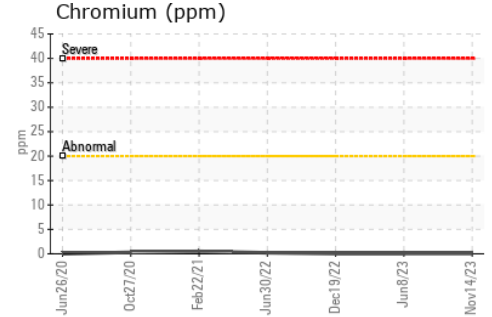
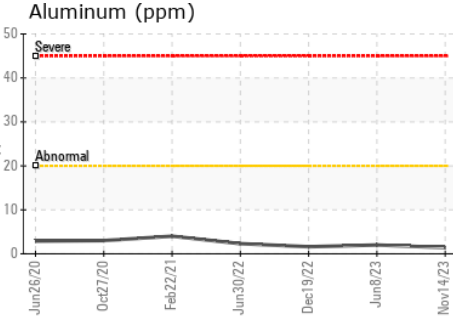
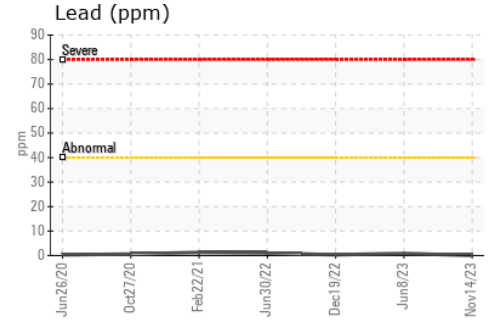
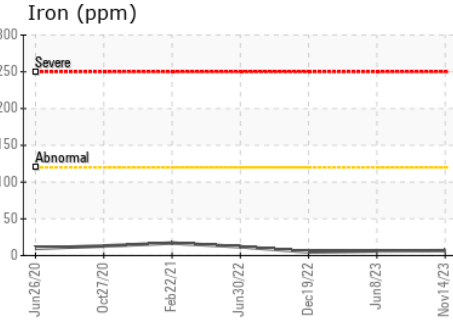
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.1	13.2

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0097316
Lab Number : 02596448
Unique Number : 5681528
Test Package : MOB 1 (Additional Tests: Glycol)

Received : 15 Nov 2023
Diagnosed : 15 Nov 2023
Diagnostician : Kevin Marson
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.