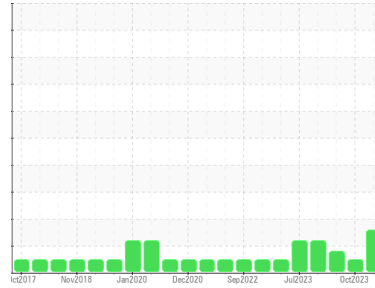




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
701027
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 LTR)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0107147	GFL0094192	GFL0094198
Sample Date	Client Info		15 Jan 2024	18 Oct 2023	13 Oct 2023
Machine Age	hrs	Client Info	11377	186902	186902
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	1.7	▲ 6.6
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>80	58	7	27
Chromium	ppm	ASTM D5185(m)	>5	4	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>30	10	2	4
Lead	ppm	ASTM D5185(m)	>30	0	<1	0
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	28	70	6
Barium	ppm	ASTM D5185(m)	0	0	<1	<1
Molybdenum	ppm	ASTM D5185(m)	60	60	60	57
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	1010	811	810	866
Calcium	ppm	ASTM D5185(m)	1070	1079	1065	976
Phosphorus	ppm	ASTM D5185(m)	1150	926	956	872
Zinc	ppm	ASTM D5185(m)	1270	1111	1115	1077
Sulfur	ppm	ASTM D5185(m)	2060	2436	2487	2203
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

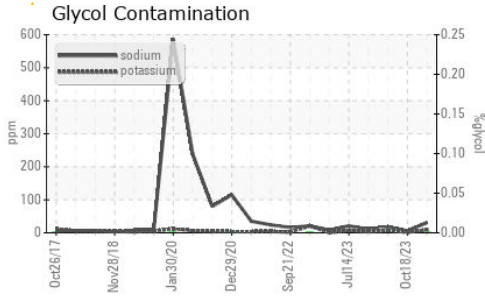
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	▲ 22	5	6
Sodium	ppm	ASTM D5185(m)		31	6	18
Potassium	ppm	ASTM D5185(m)	>20	9	2	7
Glycol	%	ASTM D7922*		0.0	NEG	0.0

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.4	0	0.3
Nitration	Abs/cm	ASTM D7624*	>20	13.6	6.3	13.0
Sulfation	Abs.1mm	ASTM D7415*	>30	25.9	19.5	24.1



OIL ANALYSIS REPORT



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25	15.1	25.2

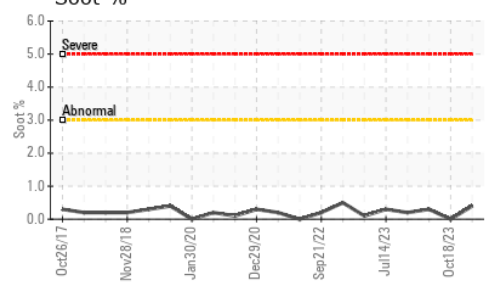
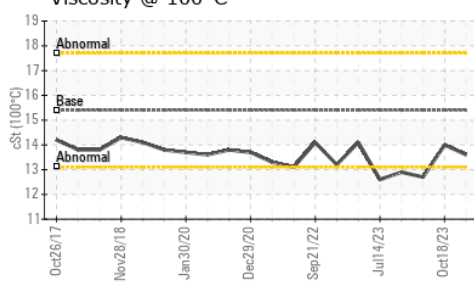
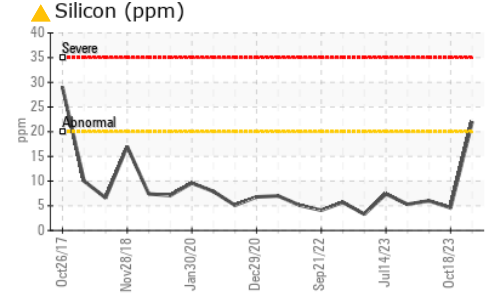
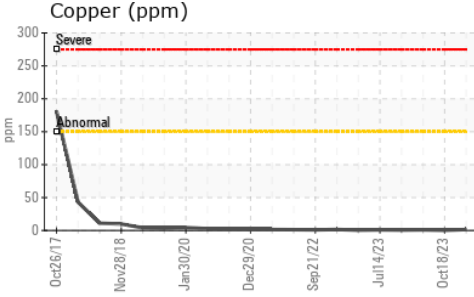
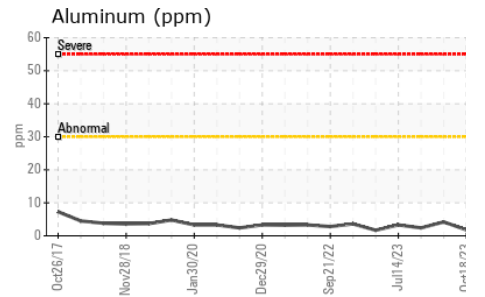
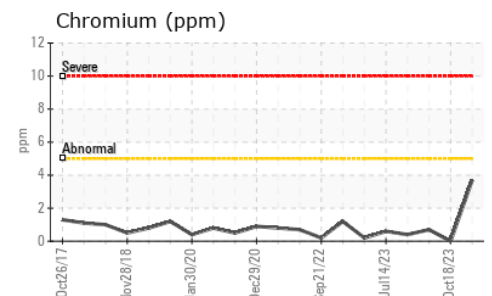
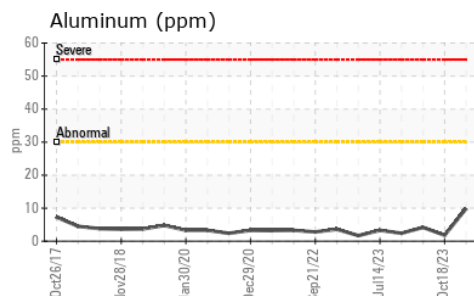
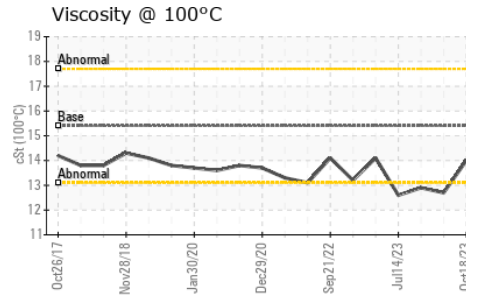
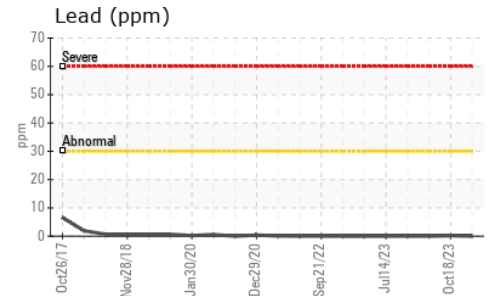
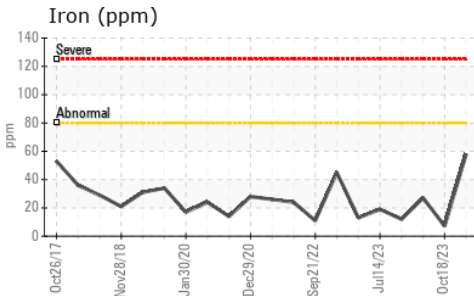
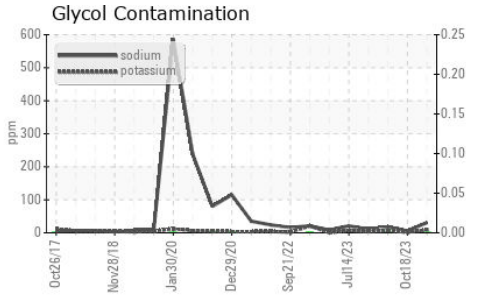
VISUAL

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	13.6	14.0

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0107147
Lab Number : 02609189
Unique Number : 5710275
Test Package : MOB 1 (Additional Tests: Glycol)

GFL Environmental - 217 - Aurora
 14131 BAYVIEW AVE, AURORA YARD
 AURORA, ON
 CA L4G 0K6
 Contact: Mike Havens
 MHavens@gflenv.com
 T:
 F: (905)713-2445

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.