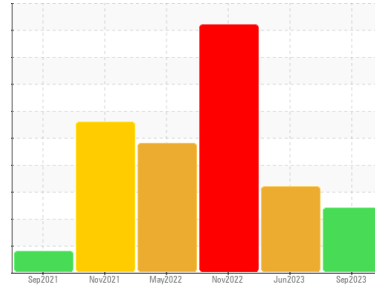




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
801185

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Check for low coolant level. The oil 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

There is a moderate amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. Tests confirm the presence of fuel in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants. The condition of the oil is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0077008	GFL0077031	GFL0054613
Sample Date	Client Info	19 Sep 2023	28 Jun 2023	23 Nov 2022
Machine Age	hrs	22695	22351	21122
Oil Age	hrs	344	729	0
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	SEVERE	SEVERE

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	68	75	74
Chromium	ppm	ASTM D5185(m) >20	4	4	3
Nickel	ppm	ASTM D5185(m) >4	<1	1	1
Titanium	ppm	ASTM D5185(m)	0	<1	<1
Silver	ppm	ASTM D5185(m) >3	<1	0	0
Aluminum	ppm	ASTM D5185(m) >20	12	16	9
Lead	ppm	ASTM D5185(m) >40	2	2	3
Copper	ppm	ASTM D5185(m) >330	2	2	3
Tin	ppm	ASTM D5185(m) >15	0	<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	6	7	20
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	66	68	63
Manganese	ppm	ASTM D5185(m) 0	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	877	903	684
Calcium	ppm	ASTM D5185(m) 1070	969	1013	1248
Phosphorus	ppm	ASTM D5185(m) 1150	884	970	982
Zinc	ppm	ASTM D5185(m) 1270	1075	1122	1096
Sulfur	ppm	ASTM D5185(m) 2060	2251	2196	2313
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >25	8	8	9
Sodium	ppm	ASTM D5185(m)	287	316	101
Potassium	ppm	ASTM D5185(m) >20	14	24	16
Fuel	%	ASTM D7593* >5	7.8	8.3	6.7
Glycol	%	ASTM D7922*	0.0	0.0	0.182

INFRA-RED

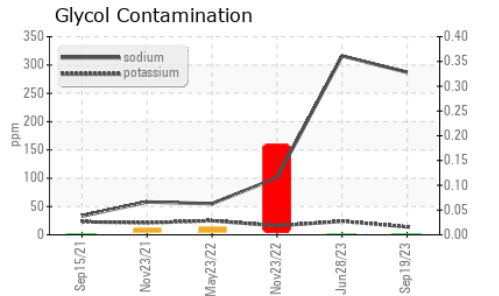
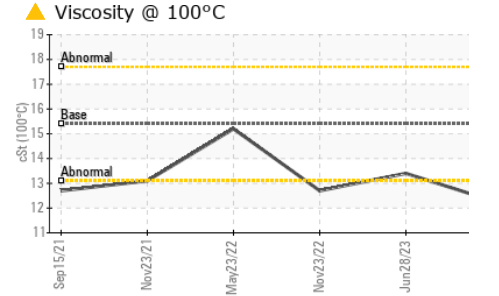
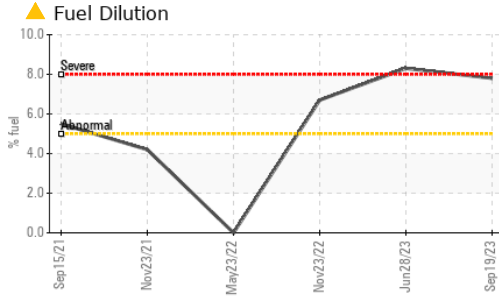
method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	1.1	1.7	1
Nitration	Abs/cm	ASTM D7624* >20	13.2	17.3	18.5
Sulfation	Abs/.1mm	ASTM D7415* >30	25.9	33.5	35.0

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	26.8	38.2	40.3



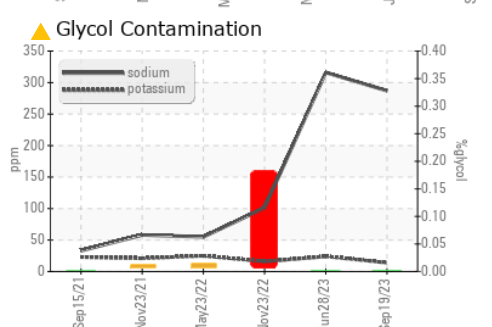
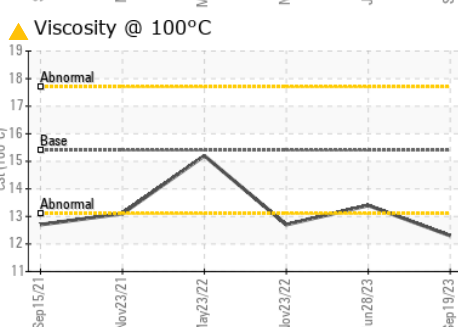
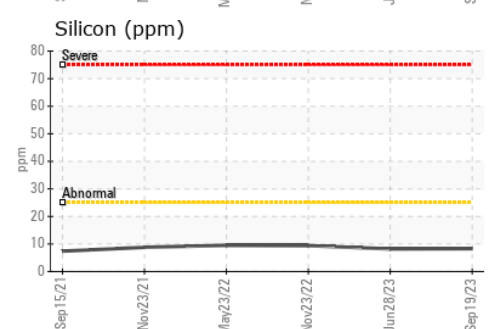
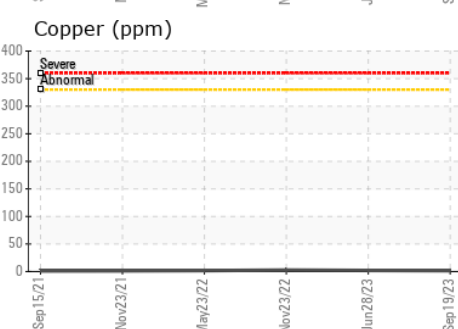
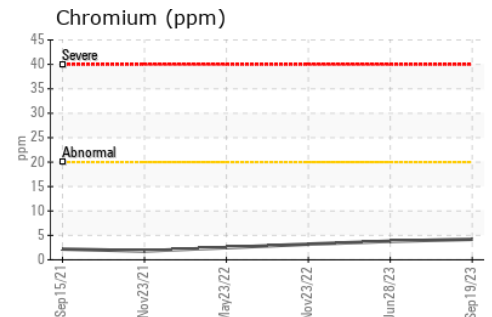
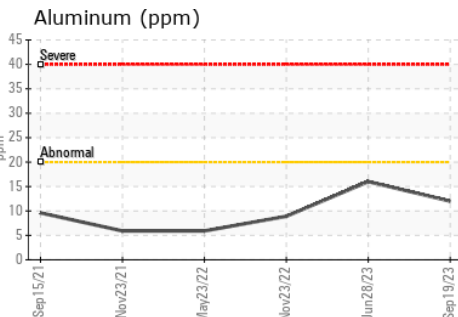
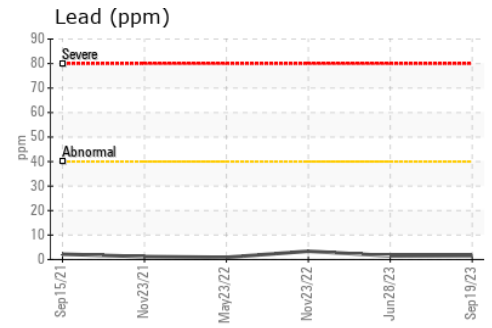
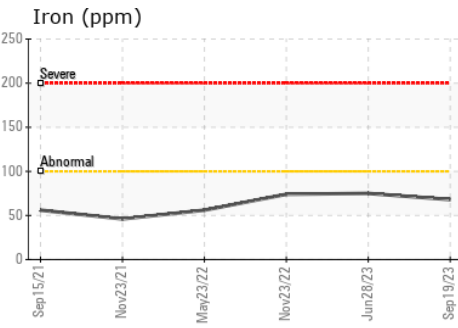
OIL ANALYSIS REPORT



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)	▲ 12.3	13.4	12.7

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 575 - Squamish Hauling
Sample No. : GFL0077008 **Received** : 25 Sep 2023 38950 Queens Way,
Lab Number : 02584794 **Diagnosed** : 26 Sep 2023 Squamish, BC
Unique Number : 5645859 **Diagnostician** : Bill Quesnel CA V8B 0K8
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)
 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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