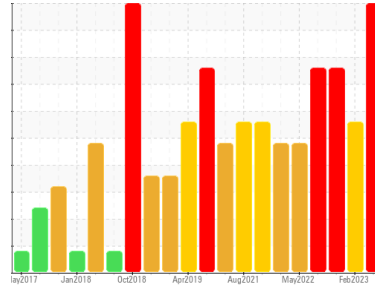




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
4586

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.

Wear

Chromium ppm levels are abnormal. Ring wear is indicated.

Contamination

Test for glycol is positive. There is a high amount of fuel present in the oil. There is a high concentration of glycol present in the oil. 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 as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	GFL0090623	GFL0072859	GFL0057720	
Sample Date	Client Info	06 Aug 2023	21 Feb 2023	28 Sep 2022	
Machine Age	hrs	Client Info	25969	25449	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info	N/A	Changed	Changed	
Sample Status		SEVERE	ABNORMAL	SEVERE	

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185(m)	>110	61	19	50
Chromium	ppm	ASTM D5185(m)	>4	7	2	3
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Titanium	ppm	ASTM D5185(m)		<1	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	9	3	4
Lead	ppm	ASTM D5185(m)	>45	6	6	6
Copper	ppm	ASTM D5185(m)	>85	47	3	2
Tin	ppm	ASTM D5185(m)	>4	1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<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)	2	2	3	2
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	50	202	89	101
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	798	937	645
Calcium	ppm	ASTM D5185(m)	1050	1019	1087	806
Phosphorus	ppm	ASTM D5185(m)	995	868	1075	675
Zinc	ppm	ASTM D5185(m)	1180	1030	1128	818
Sulfur	ppm	ASTM D5185(m)	2600	2190	2543	1867
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>30	15	8	10
Sodium	ppm	ASTM D5185(m)		3250	742	1172
Potassium	ppm	ASTM D5185(m)	>20	62	6	20
Fuel	%	ASTM D7593*	>5	9.5	5.2	12.3
Glycol	%	ASTM D7922*		0.137	0.064	0.06

INFRA-RED

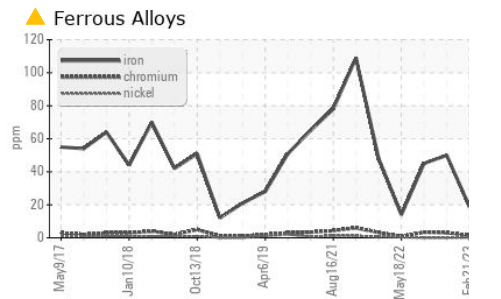
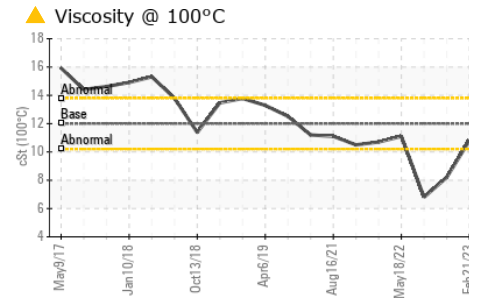
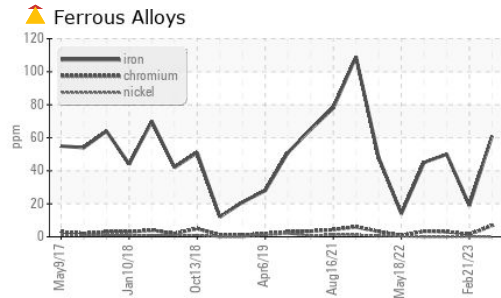
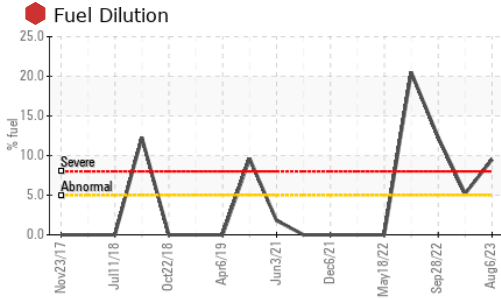
method	limit/base	current	history1	history2		
Soot %	%	ASTM D7844*	>3	1.5	0.3	1.1
Nitration	Abs/cm	ASTM D7624*	>20	20.7	10.4	16.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	28.7	22.3	31.1

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	ASTM D7414*	>25	26.2	15.6	39.2



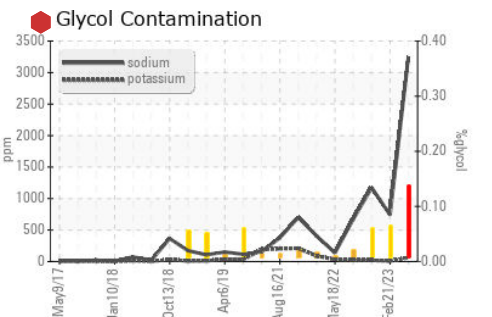
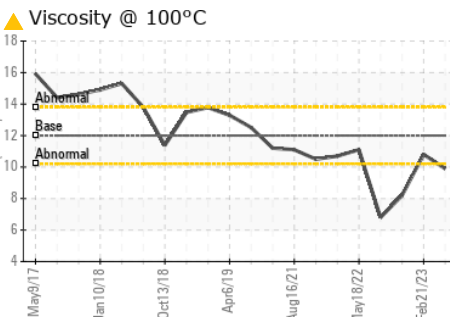
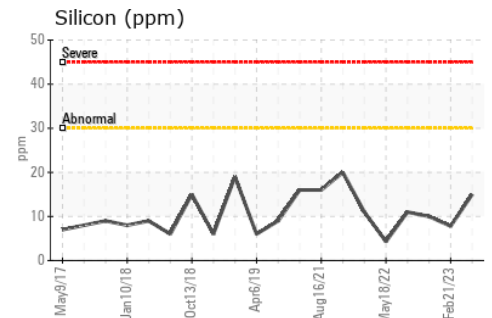
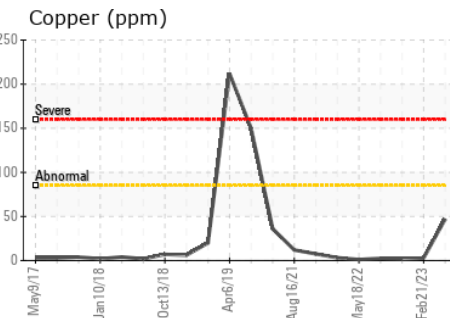
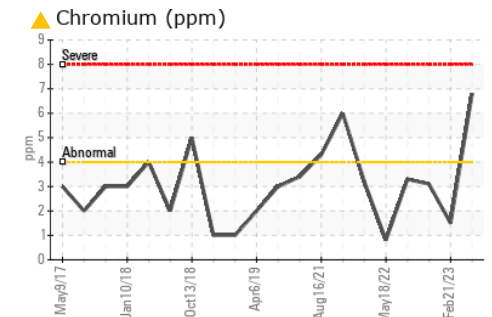
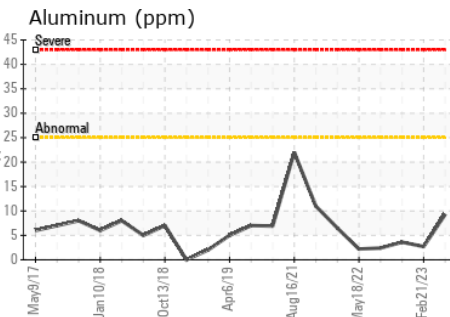
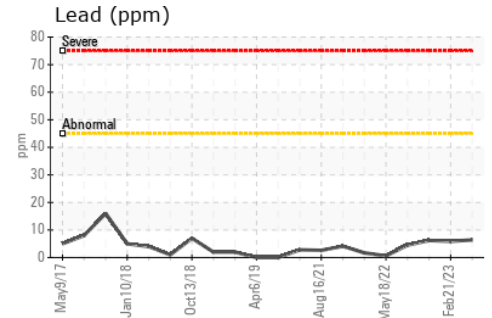
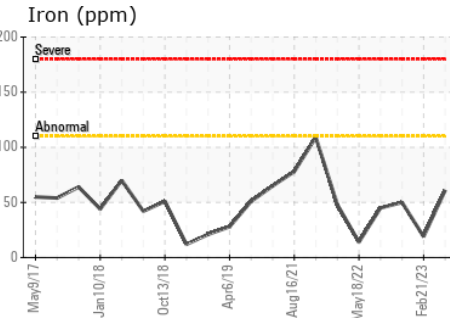
OIL ANALYSIS REPORT



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)	12.00	▲ 9.9	10.8

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW
Sample No. : GFL0090623 **Received** : 21 Aug 2023
Lab Number : 02577038 **Diagnosed** : 23 Aug 2023
Unique Number : 5630098 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: 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.

Contact: Tim Greig
 tgreig@gflenv.com

T:
 F: