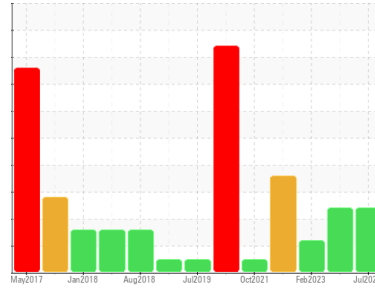




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
8196

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. 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 high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

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	GFL0085810	GFL0085954	GFL0072830
Sample Date	Client Info	31 Jul 2023	16 Jun 2023	16 Feb 2023
Machine Age	hrs	22649	22477	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		SEVERE	SEVERE	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	30	69	42
Chromium	ppm	ASTM D5185(m) >20	4	7	4
Nickel	ppm	ASTM D5185(m) >4	<1	1	1
Titanium	ppm	ASTM D5185(m)	<1	<1	<1
Silver	ppm	ASTM D5185(m) >3	<1	<1	0
Aluminum	ppm	ASTM D5185(m) >20	7	13	6
Lead	ppm	ASTM D5185(m) >40	4	18	1
Copper	ppm	ASTM D5185(m) >330	2	4	3
Tin	ppm	ASTM D5185(m) >15	<1	2	<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) 2	2	1	6
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 50	56	57	57
Manganese	ppm	ASTM D5185(m) 0	<1	2	1
Magnesium	ppm	ASTM D5185(m) 950	901	907	868
Calcium	ppm	ASTM D5185(m) 1050	977	1007	1039
Phosphorus	ppm	ASTM D5185(m) 995	1011	948	995
Zinc	ppm	ASTM D5185(m) 1180	1099	1096	1097
Sulfur	ppm	ASTM D5185(m) 2600	2464	2337	2491
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >25	10	14	8
Sodium	ppm	ASTM D5185(m)	6	17	38
Potassium	ppm	ASTM D5185(m) >20	7	18	13
Fuel	%	ASTM D7593* >2.0	8.7	9.9	7.1
Glycol	%	ASTM D7922*	0.0	0.0	0.0

INFRA-RED

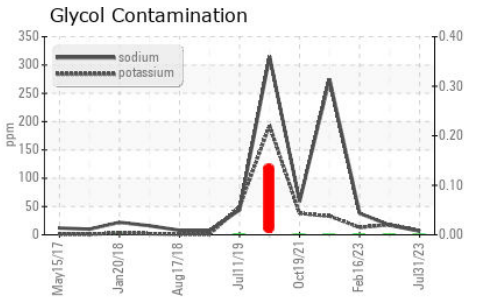
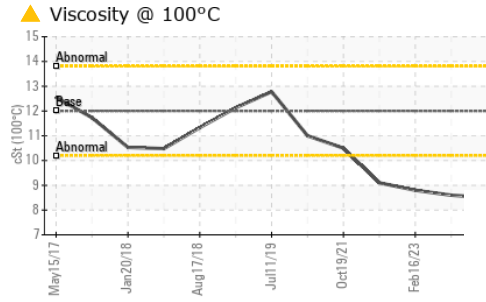
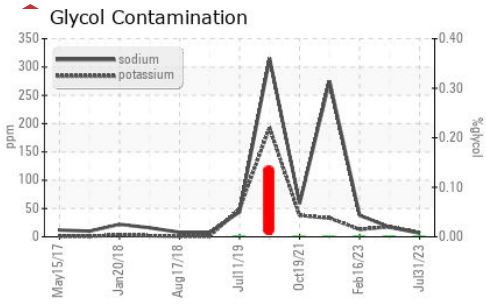
method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	0.4	0.9	0.2
Nitration	Abs/cm	ASTM D7624* >20	8.0	10.7	9.2
Sulfation	Abs/.1mm	ASTM D7415* >30	22.6	24.3	22.2

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	19.8	23.5	19.0



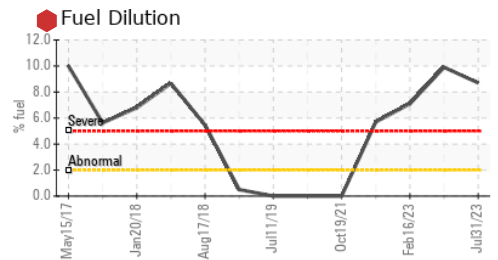
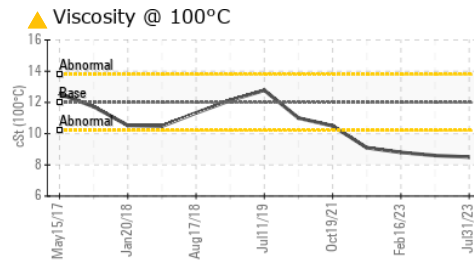
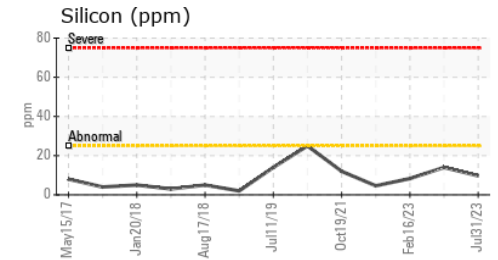
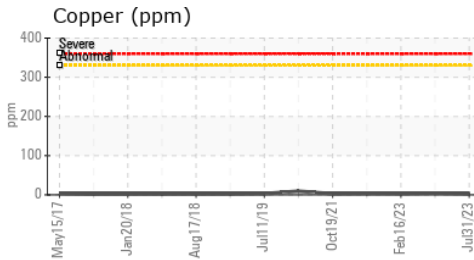
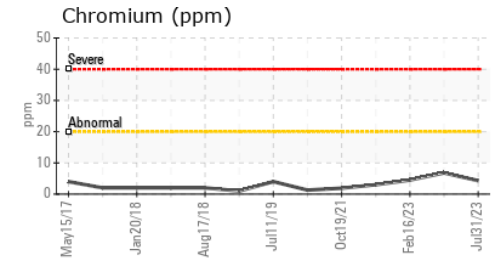
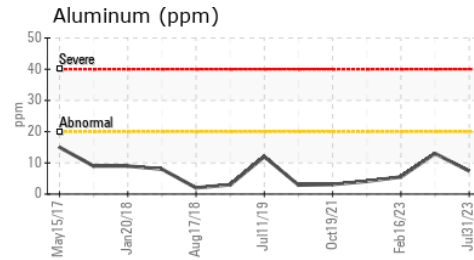
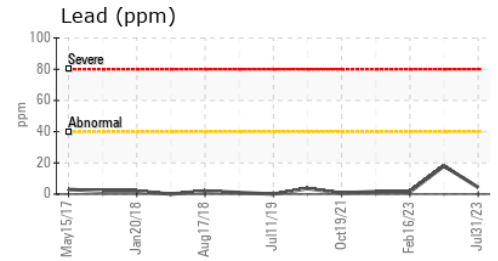
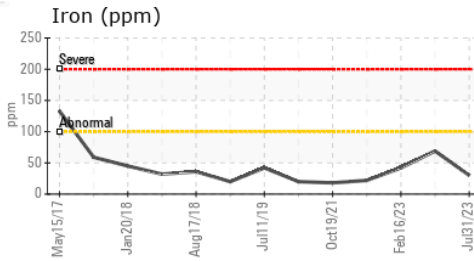
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML
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	▲ 8.5	▲ 8.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW
Sample No. : GFL0085810 **Received** : 21 Aug 2023
Lab Number : 02577000 **Diagnosed** : 22 Aug 2023
Unique Number : 5630060 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel, Visual)

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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