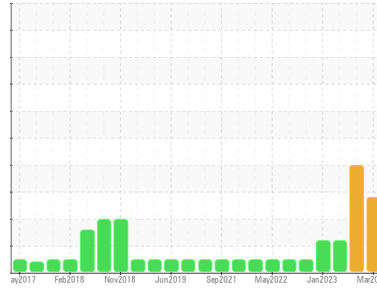




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
8408
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- 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

Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.

Contamination

There is a high amount of fuel present in the oil. Test for glycol is negative. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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		GFL0112467	GFL0099586	GFL0070747
Sample Date	Client Info		11 Mar 2024	11 Dec 2023	08 Mar 2023
Machine Age	hrs	Client Info	17015	16561	15099
Oil Age	hrs	Client Info	0	0	450
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m) >75	86	101	41
Chromium	ppm	ASTM D5185(m) >5	3	3	1
Nickel	ppm	ASTM D5185(m) >4	1	<1	<1
Titanium	ppm	ASTM D5185(m) >2	0	0	<1
Silver	ppm	ASTM D5185(m) >2	0	0	0
Aluminum	ppm	ASTM D5185(m) >15	8	5	3
Lead	ppm	ASTM D5185(m) >25	<1	0	0
Copper	ppm	ASTM D5185(m) >100	2	2	1
Tin	ppm	ASTM D5185(m) >4	0	<1	0
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) 1	2	2	1
Barium	ppm	ASTM D5185(m) 1	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	61	58	86
Manganese	ppm	ASTM D5185(m) 1	<1	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	847	833	897
Calcium	ppm	ASTM D5185(m) 1070	967	931	1119
Phosphorus	ppm	ASTM D5185(m) 1150	900	866	1030
Zinc	ppm	ASTM D5185(m) 1270	1051	1035	1142
Sulfur	ppm	ASTM D5185(m) 2060	2288	2197	2500
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

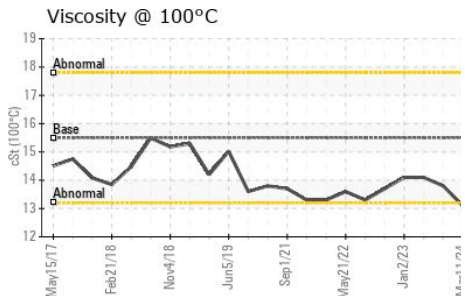
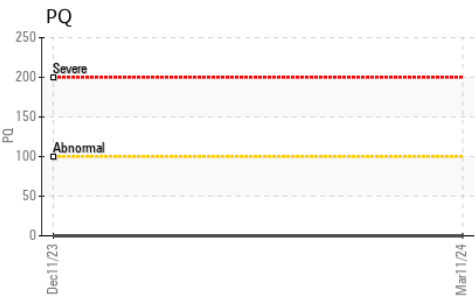
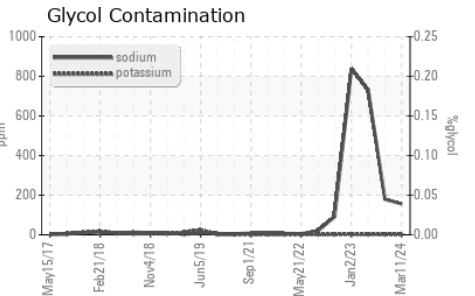
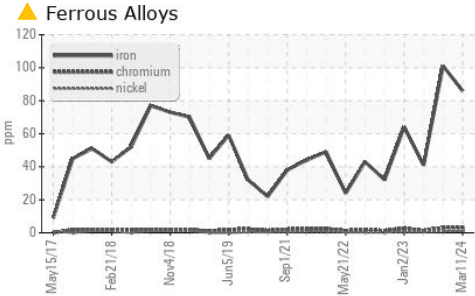
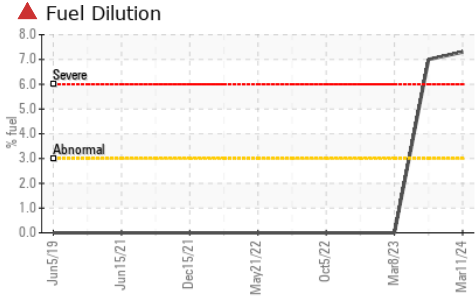
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	10	11	6
Sodium	ppm	ASTM D5185(m)	156	179	732
Potassium	ppm	ASTM D5185(m) >20	2	2	2
Fuel	%	ASTM D7593* >3.0	7.3	7	<1.0
Glycol	%	ASTM D7922*	0.0	0.0	0.0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >6	3.1	3.7	0.5
Nitration	Abs/cm	ASTM D7624* >20	14.1	15.2	10.8
Sulfation	Abs./1mm	ASTM D7415* >30	27.8	30.9	23.8



OIL ANALYSIS REPORT

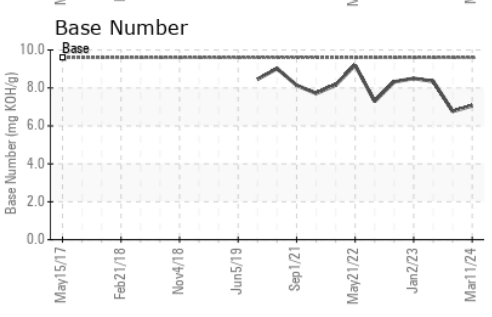
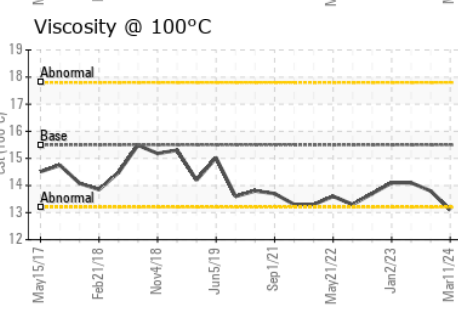
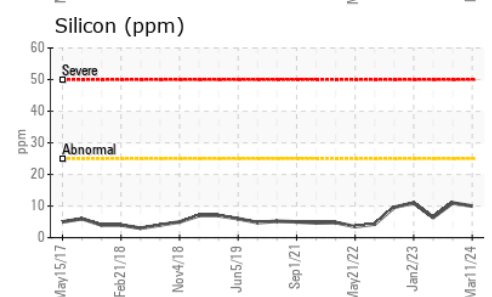
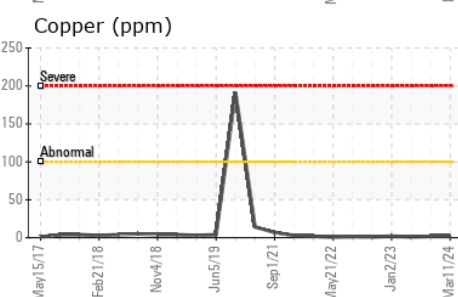
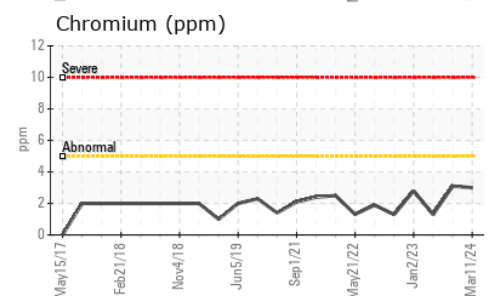
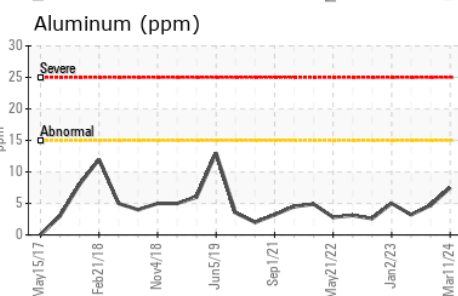
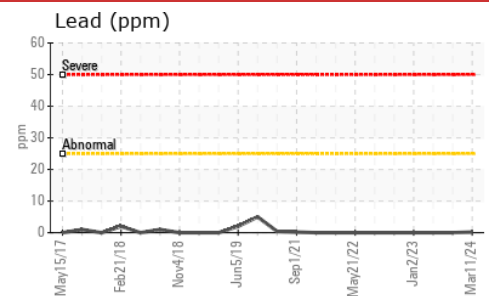
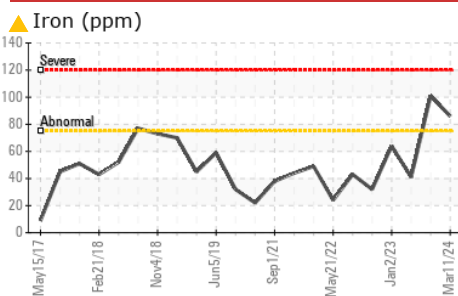


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	22.6	26.7	18.5
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	7.06	6.77	8.35

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	13.1	13.8	14.1

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112467
Lab Number : 02623199
Unique Number : 5748318
Test Package : MOB 2 (Additional Tests: Glycol, PercentFuel, PQ)

Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 20 Mar 2024 - Kevin Marson

GFL Environmental - 550 - Rocky View County
 220 Carmek Blvd
 Rocky View County, AB
 CA T1X 1X1
 Contact: GFL Calgary
 calgarymaintenance@gflenv.com
 T: (403)369-6163

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.