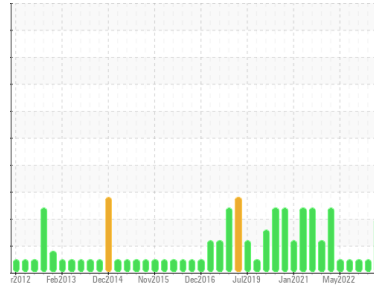




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
4416

Component
Diesel Engine

Fluid
CASTROL TECTION EXTRA SAE 15W-40 (40 LTR)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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	GFL0090399	GFL0090412	GFL0074300
Sample Date	Client Info	27 Feb 2024	16 Nov 2023	19 May 2023
Machine Age	hrs	1086423	79795	45740
Oil Age	hrs	0	0	593
Oil Changed	Client Info	N/A	Changed	Changed
Sample Status		SEVERE	NORMAL	NORMAL

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >120	16	11	36
Chromium	ppm ASTM D5185(m) >20	<1	<1	<1
Nickel	ppm ASTM D5185(m) >5	<1	<1	<1
Titanium	ppm ASTM D5185(m) >2	0	0	<1
Silver	ppm ASTM D5185(m) >2	0	<1	0
Aluminum	ppm ASTM D5185(m) >20	2	3	4
Lead	ppm ASTM D5185(m) >40	5	<1	3
Copper	ppm ASTM D5185(m) >330	12	<1	2
Tin	ppm ASTM D5185(m) >15	0	0	<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) 30	5	41	4
Barium	ppm ASTM D5185(m)	0	<1	0
Molybdenum	ppm ASTM D5185(m)	50	9	52
Manganese	ppm ASTM D5185(m)	0	0	<1
Magnesium	ppm ASTM D5185(m) 110	809	113	828
Calcium	ppm ASTM D5185(m) 2740	1065	1936	1034
Phosphorus	ppm ASTM D5185(m) 1240	932	956	945
Zinc	ppm ASTM D5185(m) 1350	1080	1085	1048
Sulfur	ppm ASTM D5185(m) 3520	2532	2958	2392
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	3	6	7
Sodium	ppm ASTM D5185(m)	4	6	8
Potassium	ppm ASTM D5185(m) >20	1	0	1
Fuel	% ASTM D7593* >3.0	▲ 6	<1.0	<1.0

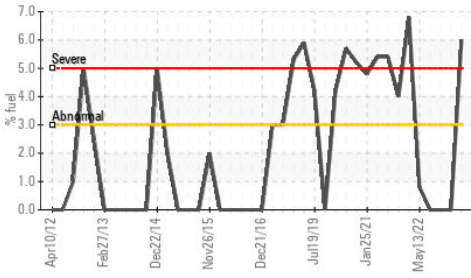
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >4	2.1	1.4	2.8
Nitration	Abs/cm ASTM D7624* >20	8.4	8.9	8.3
Sulfation	Abs/.1mm ASTM D7415* >30	21.4	19.8	22.6

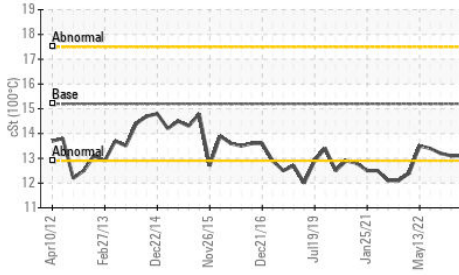


OIL ANALYSIS REPORT

▲ Fuel Dilution



Viscosity @ 100°C



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	13.8	12.3	13.4

VISUAL

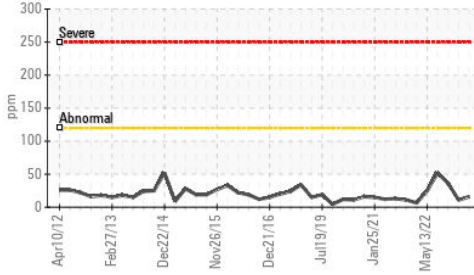
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG	NEG

FLUID PROPERTIES

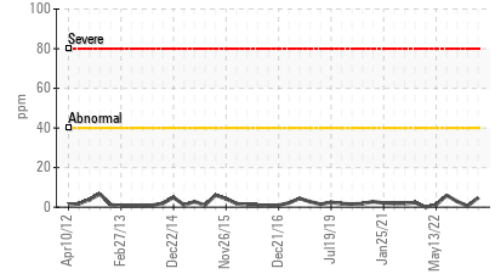
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.2	13.1	13.1	13.2

GRAPHS

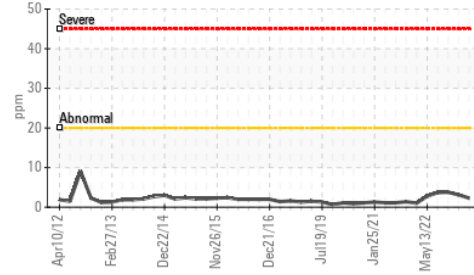
Iron (ppm)



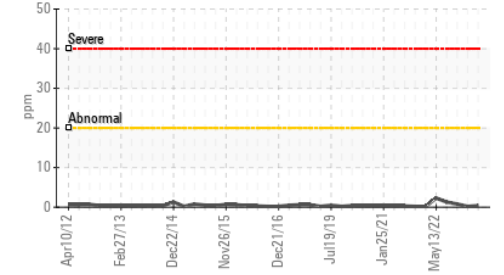
Lead (ppm)



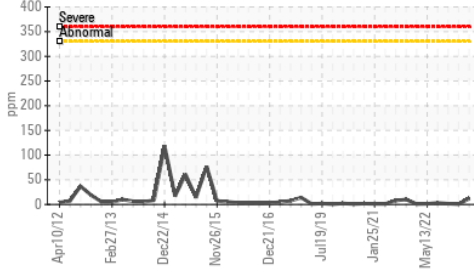
Aluminum (ppm)



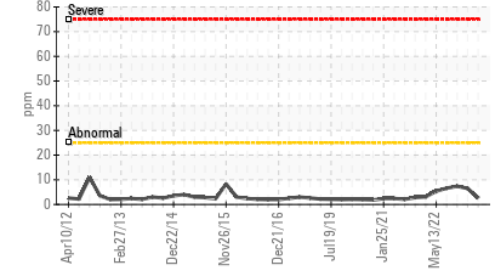
Chromium (ppm)



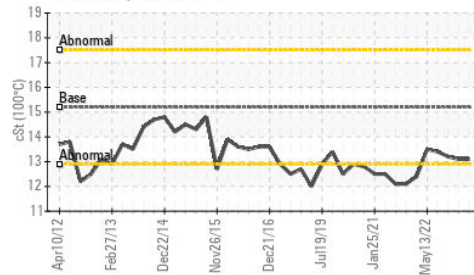
Copper (ppm)



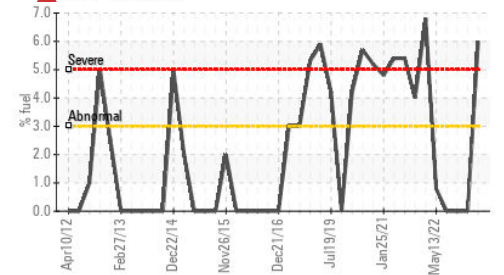
Silicon (ppm)



Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0090399 **Received** : 29 Feb 2024
Lab Number : 02618865 **Tested** : 04 Mar 2024
Unique Number : 5735975 **Diagnosed** : 04 Mar 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)

GFL Environmental - 216M
 2475 Beryl Drive
 Oakville, ON
 CA L6J 7X4
 Contact: Matthew Gunness
 mgunness@gflenv.com

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.

T:
F: