



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>SEVERE</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id

**4416**

Component

**Diesel Engine**

Fluid

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

**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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0090399</b>	GFL0090412	GFL0074300
Sample Date		Client Info		<b>27 Feb 2024</b>	16 Nov 2023	19 May 2023
Machine Age	hrs	Client Info		<b>1086423</b>	79795	45740
Oil Age	hrs	Client Info		<b>0</b>	0	593
Filter Age	hrs	Client Info		<b>0</b>	0	593
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>SEVERE</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	<b>16</b>	11	36
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>2</b>	3	4
Lead	ppm	ASTM D5185(m)	>40	<b>5</b>	<1	3
Copper	ppm	ASTM D5185(m)	>330	<b>12</b>	<1	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

**CONTAMINATION**

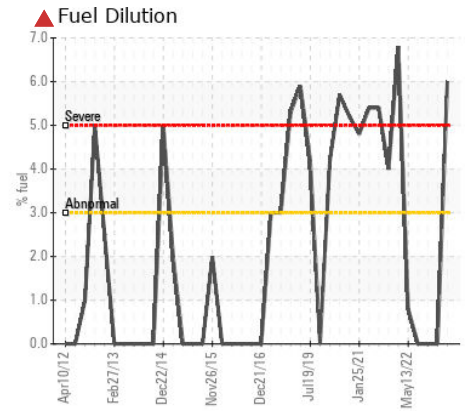
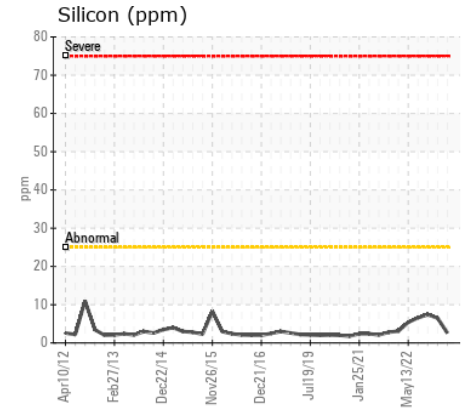
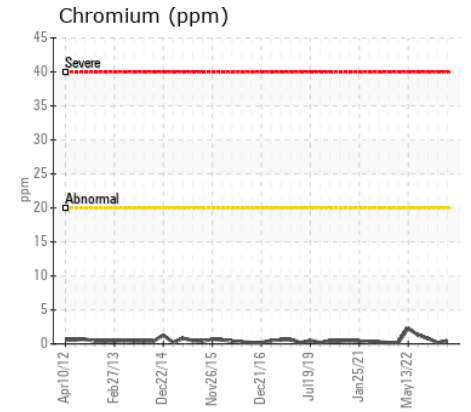
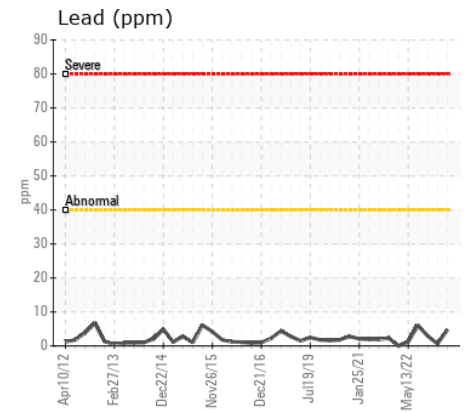
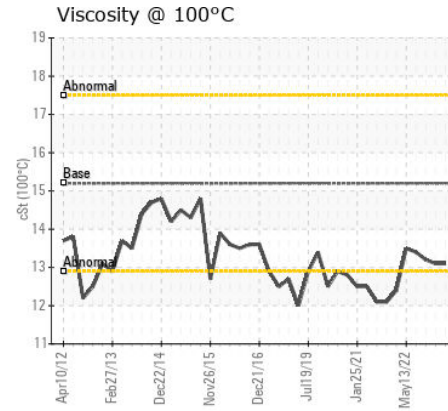
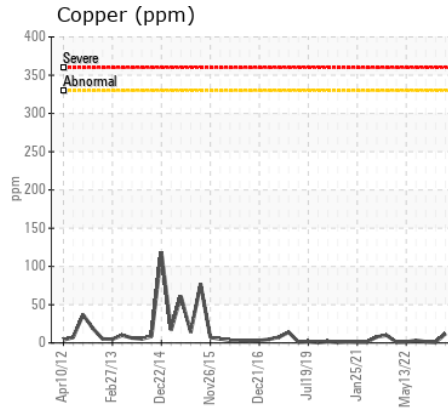
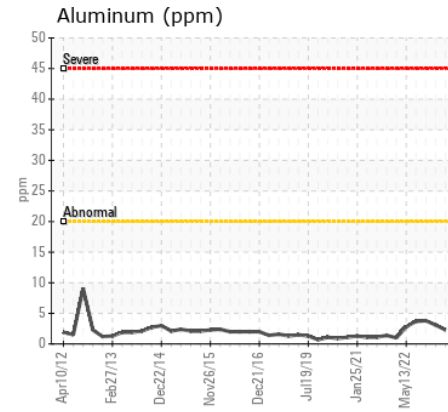
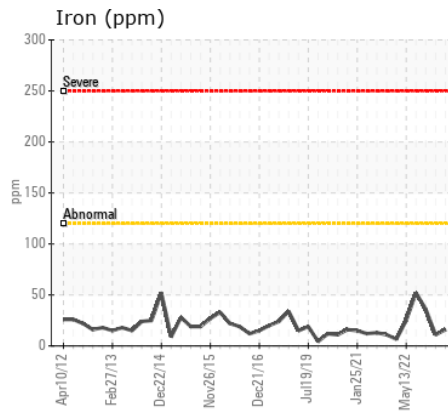
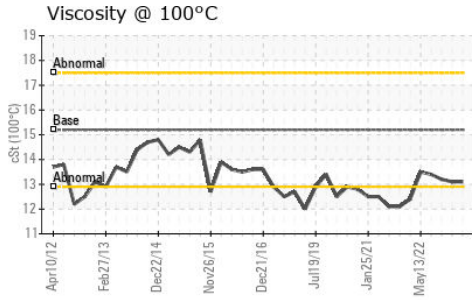
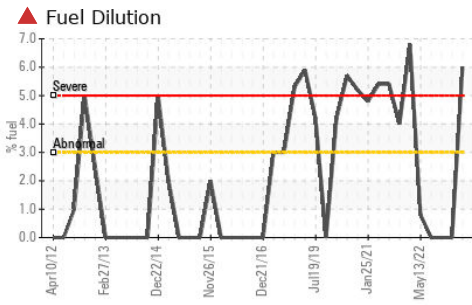
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>3</b>	6	7
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	0	1
Fuel	%	ASTM D7593*	>3.0	<b>▲ 6</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>4	<b>2.1</b>	1.4	2.8
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.4</b>	8.9	8.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.4</b>	19.8	22.6
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		<b>4</b>	6	8
Boron	ppm	ASTM D5185(m)	30	<b>5</b>	41	4
Barium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)		<b>50</b>	9	52
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	110	<b>809</b>	113	828
Calcium	ppm	ASTM D5185(m)	2740	<b>1065</b>	1936	1034
Phosphorus	ppm	ASTM D5185(m)	1240	<b>932</b>	956	945
Zinc	ppm	ASTM D5185(m)	1350	<b>1080</b>	1085	1048
Sulfur	ppm	ASTM D5185(m)	3520	<b>2532</b>	2958	2392
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>13.8</b>	12.3	13.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	<b>13.1</b>	13.1	13.2



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 Guinness  
 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.

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F: