



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>

Machine Id  
**CUMMINS 236**  
Component  
**Rear Diesel Engine**  
Fluid  
**ESSO XD-3 EXTRA 15W40 (--- GAL)**

## RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0888971</b>	WC0889131	WC0889099
Sample Date		Client Info		<b>08 May 2024</b>	15 Feb 2024	16 Jan 2024
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>8599</b>	8786	1915
Filter Age	kms	Client Info		<b>8599</b>	8786	1915
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	<b>7</b>	5	4
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>2</b>	3	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	2	4
Copper	ppm	ASTM D5185(m)	>330	<b>40</b>	76	148
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

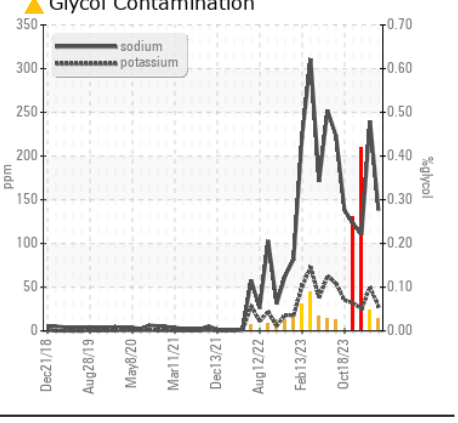
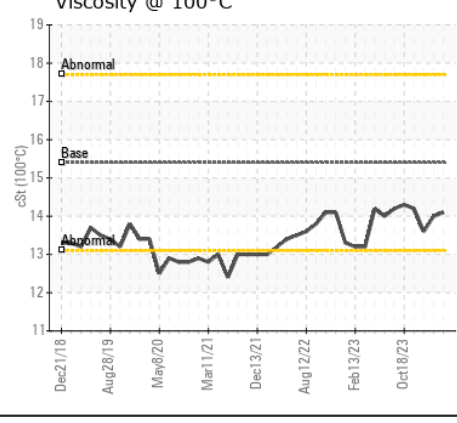
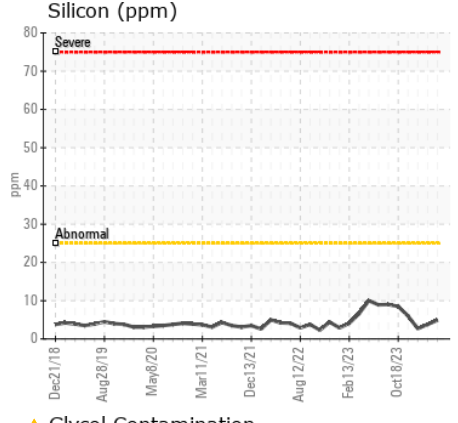
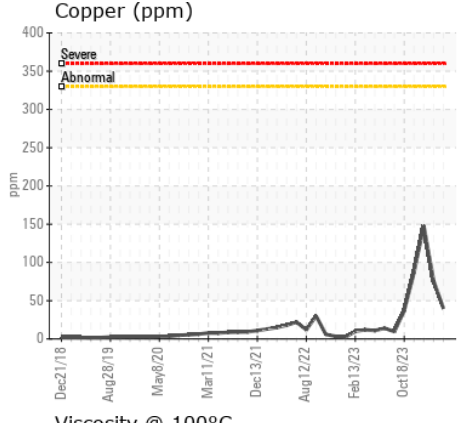
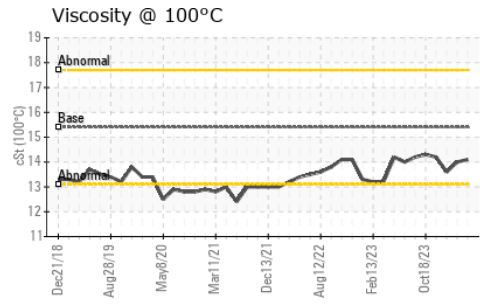
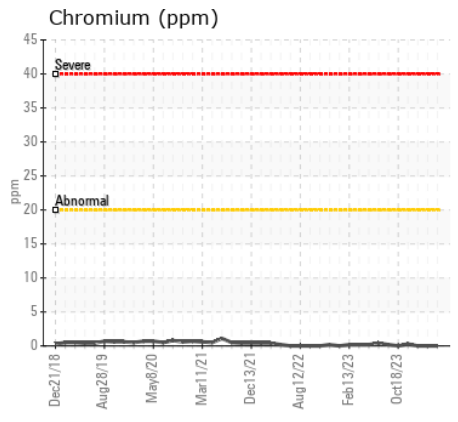
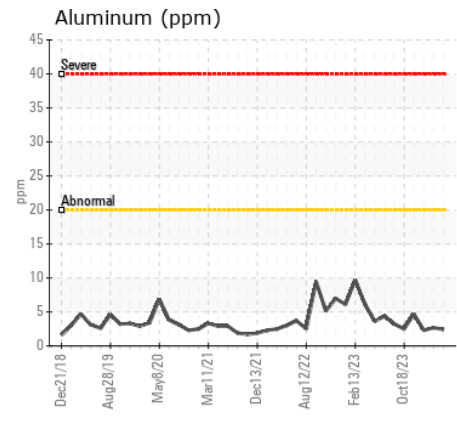
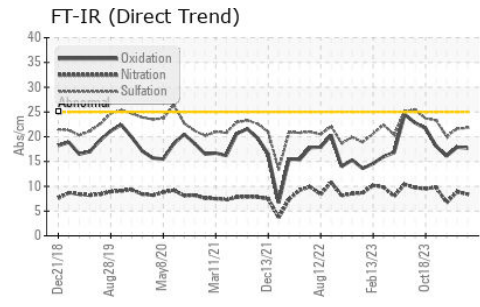
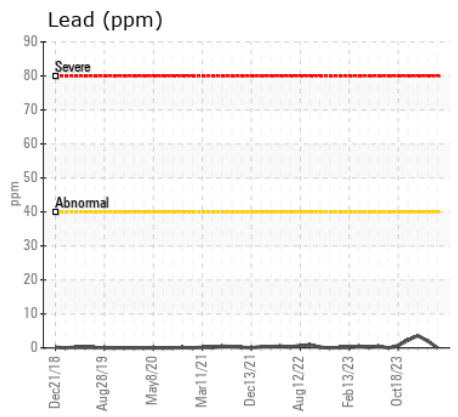
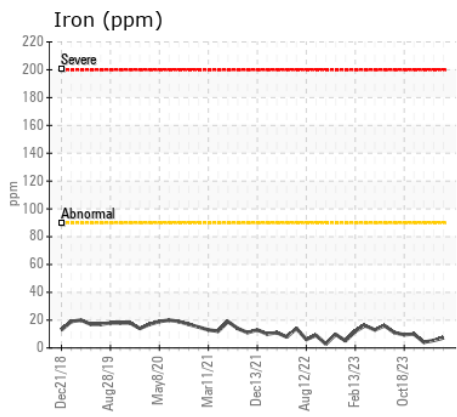
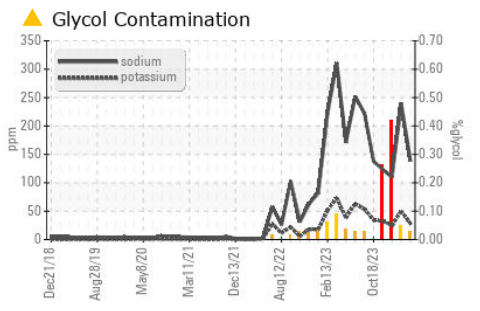
Test for glycol is positive. There is a light concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>5</b>	4	3
Potassium	ppm	ASTM D5185(m)	>20	<b>▲ 28</b>	▲ 50	▲ 25
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	ASTM D7922*		<b>▲ 0.027</b>	▲ 0.047	▲ 0.419
Soot %	%	ASTM D7844*	>6	<b>0.1</b>	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.4</b>	8.9	6.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.8</b>	21.6	20.1
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	▲ .2%

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>192	<b>● 138</b>	● 240	● 110
Boron	ppm	ASTM D5185(m)		<b>31</b>	21	58
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>16</b>	15	22
Calcium	ppm	ASTM D5185(m)	3780	<b>2111</b>	2100	1953
Phosphorus	ppm	ASTM D5185(m)	1370	<b>925</b>	922	958
Zinc	ppm	ASTM D5185(m)	1500	<b>1135</b>	1108	1092
Sulfur	ppm	ASTM D5185(m)	3800	<b>2785</b>	2897	3026
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.7</b>	17.9	16.1
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.1</b>	14.0	13.6



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0888971  
**Lab Number** : 02634876  
**Unique Number** : 5776029  
**Test Package** : MOB 1  
**Received** : 13 May 2024  
**Tested** : 13 May 2024  
**Diagnosed** : 13 May 2024 - Kevin Marson

**CITY OF THUNDER BAY**  
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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.