



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**241**  
 Component  
**Diesel Engine**  
 Fluid  
**ESSO XD-3 EXTRA 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0889081</b>	WC0889109	WC0866428
Sample Date		Client Info		<b>28 Feb 2024</b>	08 Jan 2024	23 Nov 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>38894</b>	9625	9258
Filter Age	hrs	Client Info		<b>38894</b>	9625	9258
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>7</b>	8	11
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>2</b>	2	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	3
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

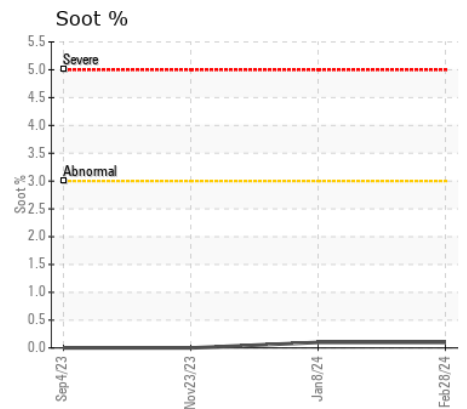
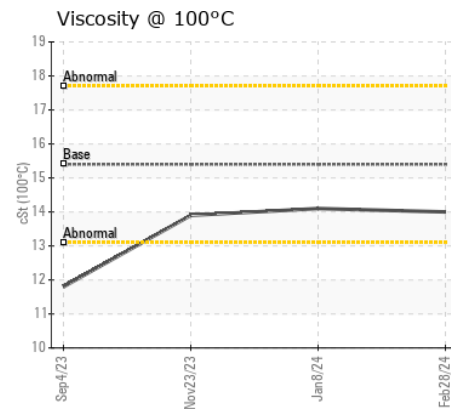
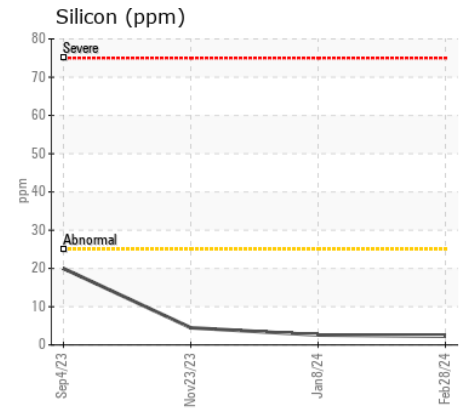
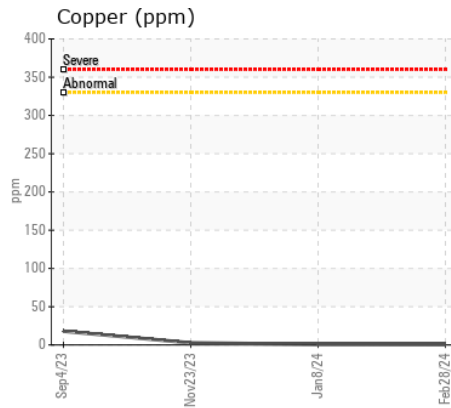
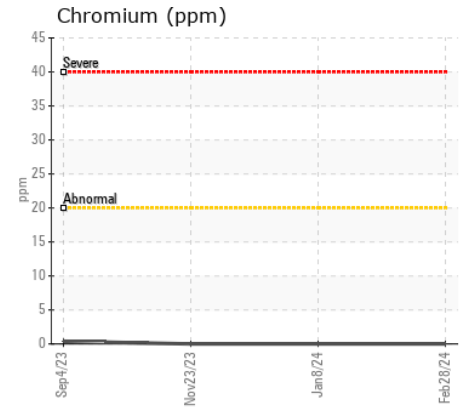
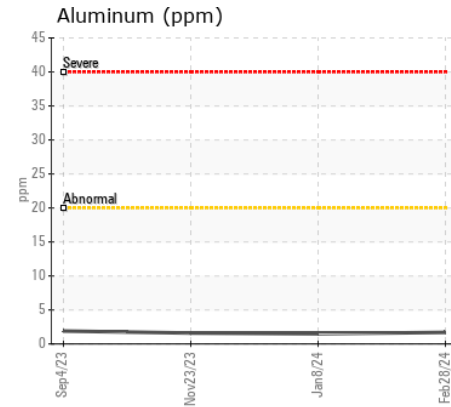
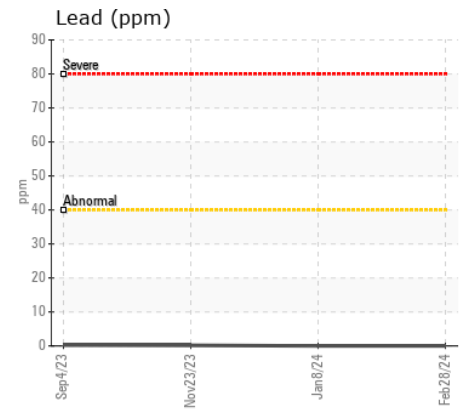
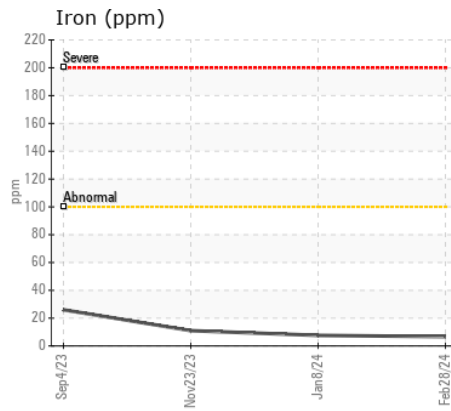
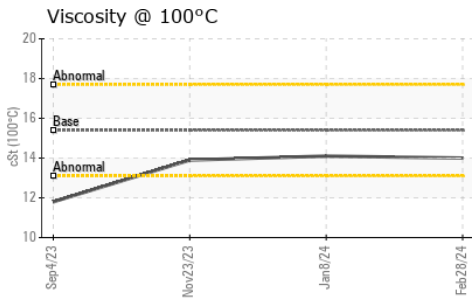
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	3	4
Potassium	ppm	ASTM D5185(m)	>20	<b>7</b>	6	4
Fuel		WC Method	>5	<b>&lt;1.0</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*	>3	<b>0.1</b>	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.5</b>	8.8	8.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.5</b>	23.2	22.8
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>192	<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)		<b>114</b>	109	113
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>1</b>	1	5
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>22</b>	22	87
Calcium	ppm	ASTM D5185(m)	3780	<b>2153</b>	2193	2120
Phosphorus	ppm	ASTM D5185(m)	1370	<b>973</b>	989	936
Zinc	ppm	ASTM D5185(m)	1500	<b>1125</b>	1134	1144
Sulfur	ppm	ASTM D5185(m)	3800	<b>3020</b>	3027	2794
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.2</b>	20.1	20.1
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.0</b>	14.1	13.9



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889081  
**Lab Number** : 02620791  
**Unique Number** : 5737901  
**Test Package** : MOB 1  
**Received** : 08 Mar 2024  
**Tested** : 08 Mar 2024  
**Diagnosed** : 08 Mar 2024 - Wes Davis

**CITY OF THUNDER BAY**  
 AUTO MAINTENANCE STORES, 570 FORT WILLIAM ROAD  
 THUNDER BAY, ON  
 CA P7B 2Z8  
 Contact: Sean Malcolm  
 sean.malcolm@thunderbay.ca  
 T: (807)684-2716  
 F: (807)344-0237

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.