



# OIL ANALYSIS REPORT

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

Machine Id  
**239**  
Component  
**Diesel Engine**  
Fluid  
**ESSO XD-3 EXTRA 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0889129</b>	WC0889102	WC0866638
Sample Date		Client Info		<b>15 Feb 2024</b>	03 Jan 2024	15 Nov 2023
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>9212</b>	8989	9189
Filter Age	kms	Client Info		<b>9212</b>	8989	9189
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)	>90	<b>5</b>	6	7
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	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>2</b>	1	1
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

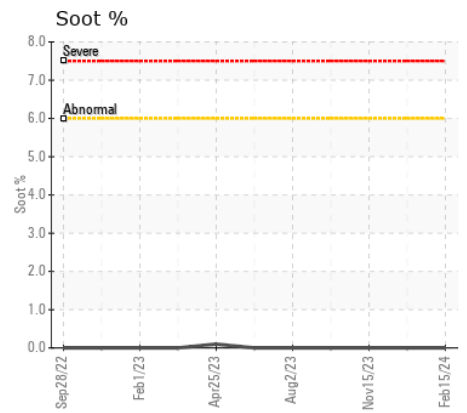
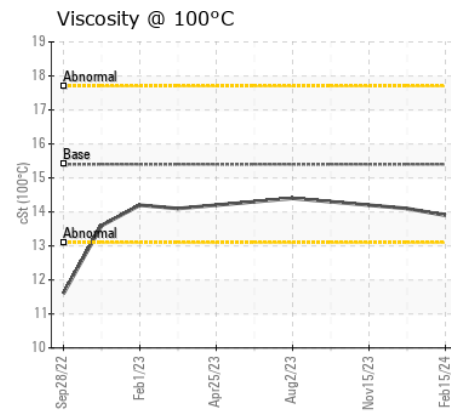
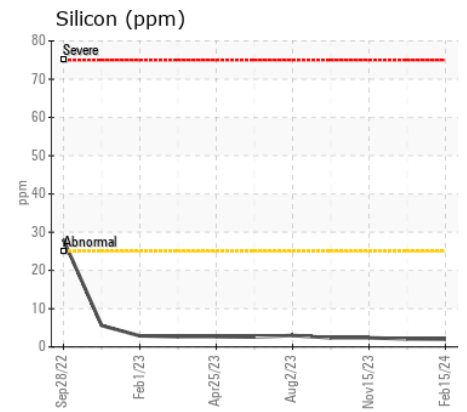
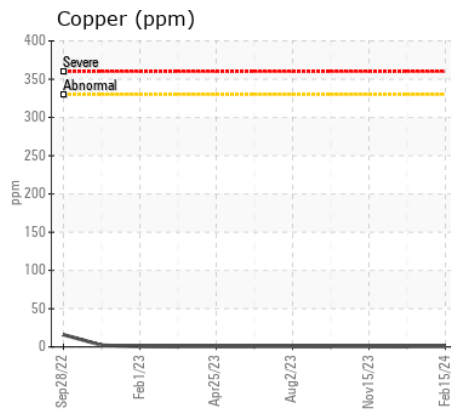
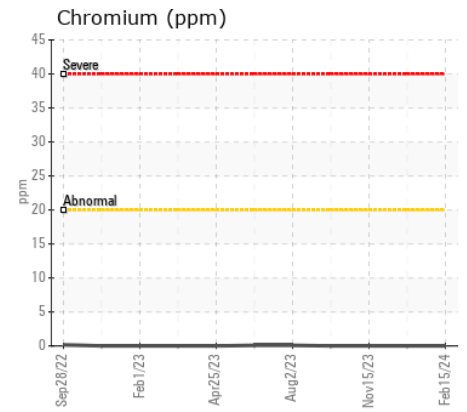
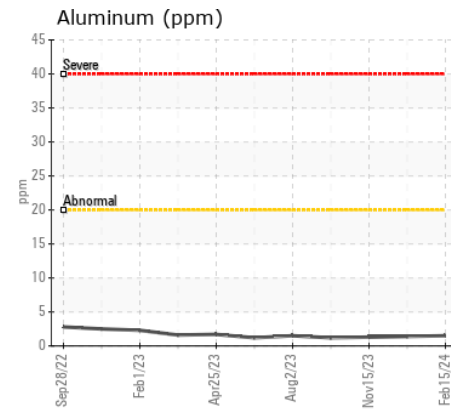
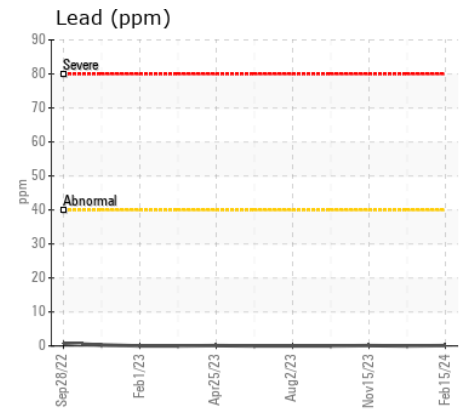
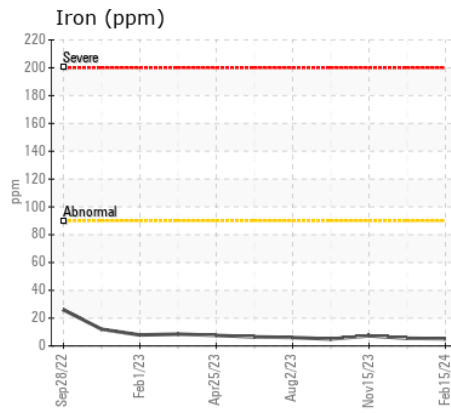
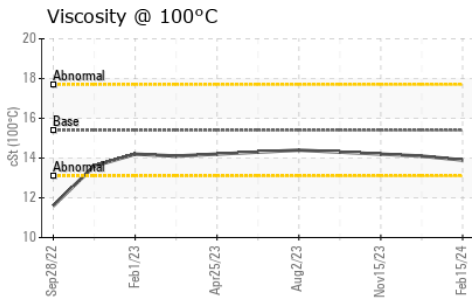
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	3	4
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		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>6	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.7</b>	8.6	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.6</b>	22.5	22.2
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>107</b>	116	120
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>1</b>	<1	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>20</b>	14	13
Calcium	ppm	ASTM D5185(m)	3780	<b>2164</b>	2203	2217
Phosphorus	ppm	ASTM D5185(m)	1370	<b>935</b>	984	968
Zinc	ppm	ASTM D5185(m)	1500	<b>1118</b>	1146	1161
Sulfur	ppm	ASTM D5185(m)	3800	<b>2940</b>	3014	2875
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.5</b>	19.2	19.0
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.9</b>	14.1	14.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889129  
**Lab Number** : 02618655  
**Unique Number** : 5735765  
**Test Package** : MOB 1  
**Received** : 28 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 28 Feb 2024 - Wes Davis

**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.