



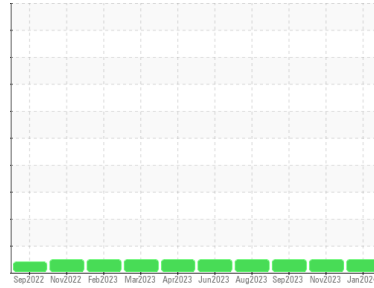
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



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



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>WC0889102</b>	WC0866638	WC0816366
Sample Date	Client Info			<b>03 Jan 2024</b>	15 Nov 2023	19 Sep 2023
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>8989</b>	9189	9632
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method		>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method		>0.2	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	<b>6</b>	7	5
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	1	1
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

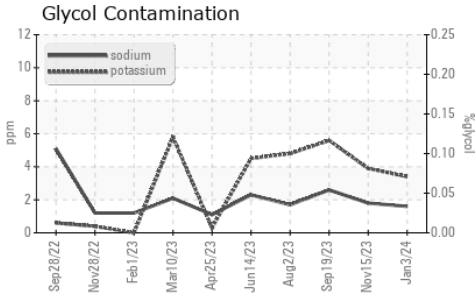
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>116</b>	120	100
Barium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>14</b>	13	15
Calcium	ppm	ASTM D5185(m)	3780	<b>2203</b>	2217	2171
Phosphorus	ppm	ASTM D5185(m)	1370	<b>984</b>	968	951
Zinc	ppm	ASTM D5185(m)	1500	<b>1146</b>	1161	1155
Sulfur	ppm	ASTM D5185(m)	3800	<b>3014</b>	2875	2881
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Sodium	ppm	ASTM D5185(m)	>192	<b>2</b>	2	3
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	4	6
Glycol	%	ASTM D7922*		<b>NEG</b>	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.6</b>	8.2	8.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.5</b>	22.2	23.4

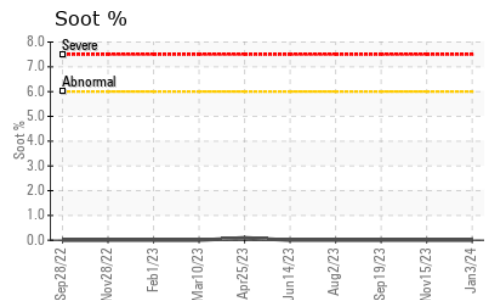
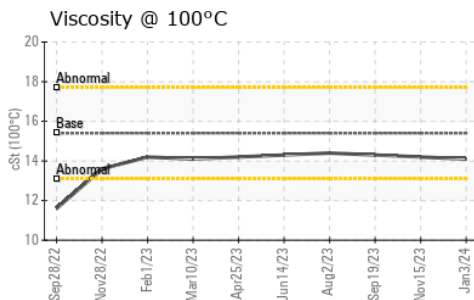
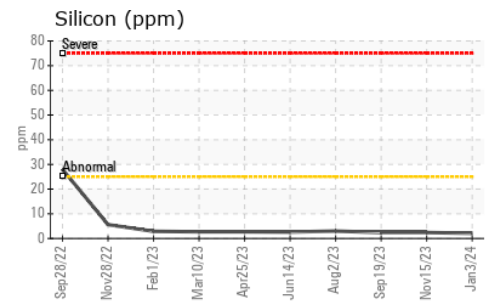
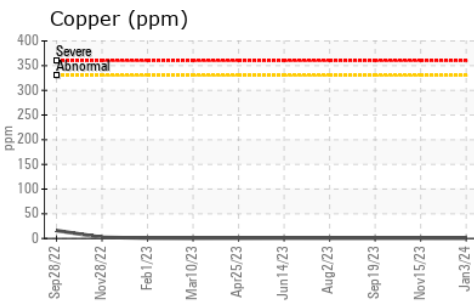
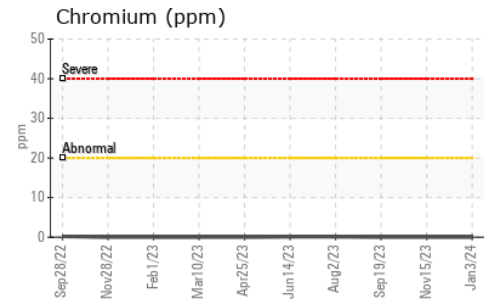
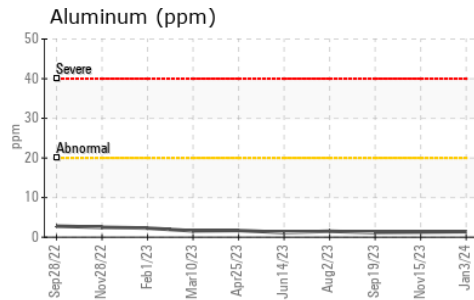
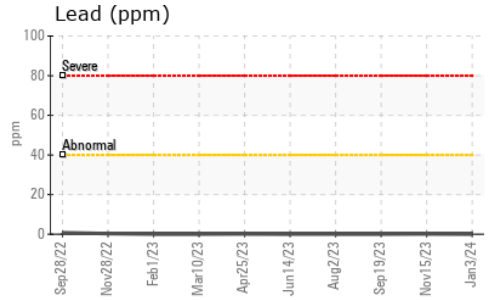
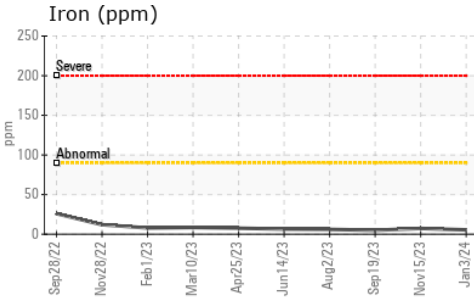
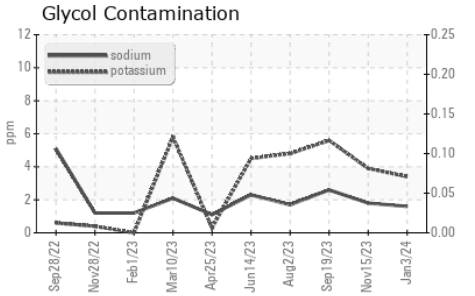


# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.2</b>	19.0	21.4
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.1</b>	14.2	14.3

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889102      **Received** : 12 Jan 2024  
**Lab Number** : **02608507**      **Diagnosed** : 15 Jan 2024  
**Unique Number** : 5709593      **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Glycol )

**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.