



# OIL ANALYSIS REPORT

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

Machine Id  
**242**  
 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>WC0889017</b>	WC0889047	WC0889154
Sample Date		Client Info		<b>26 Apr 2024</b>	12 Mar 2024	26 Jan 2024
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>9000</b>	9452	9201
Filter Age	kms	Client Info		<b>9000</b>	9452	9201
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>6</b>	6	6
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>1</b>	2	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	0	0
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

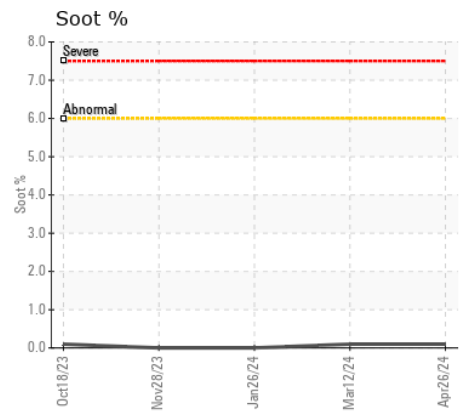
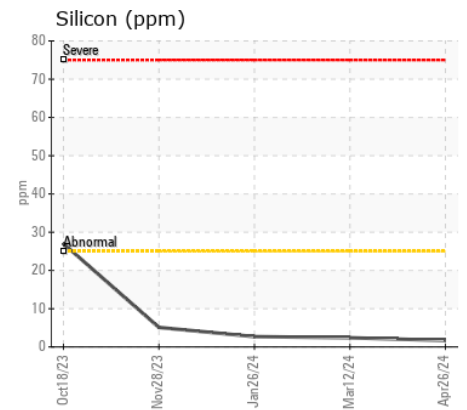
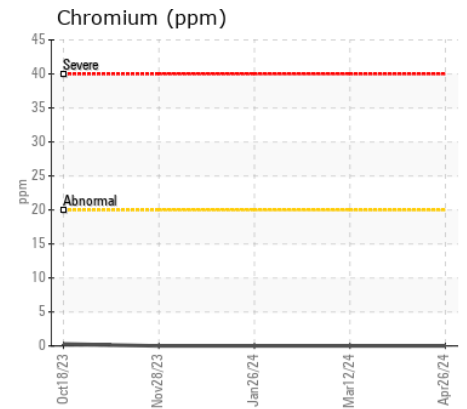
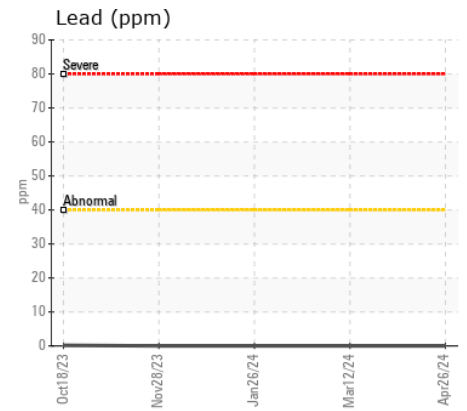
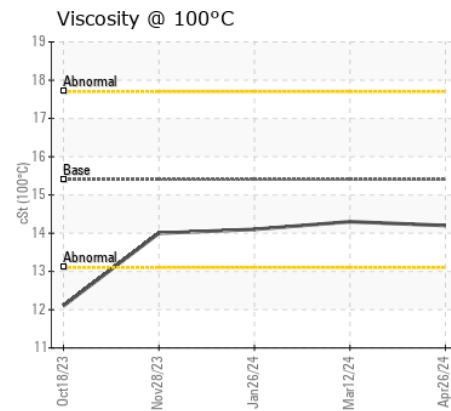
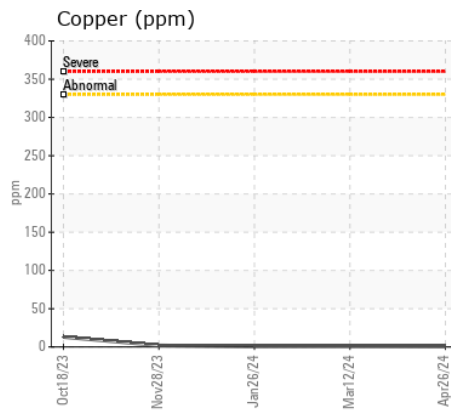
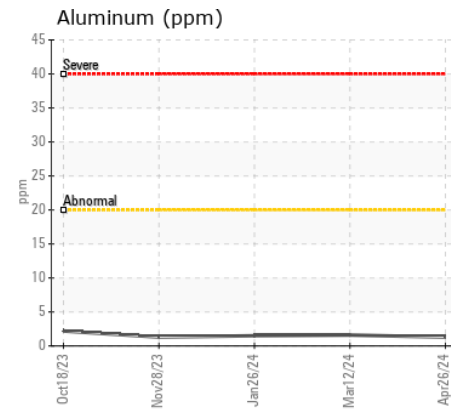
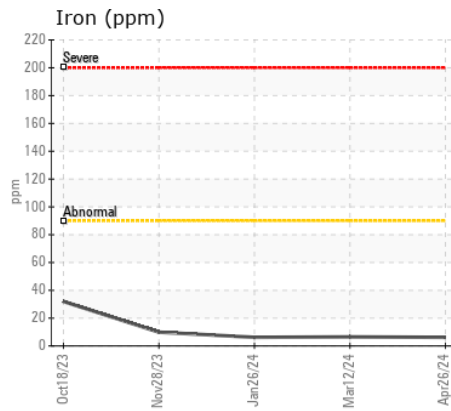
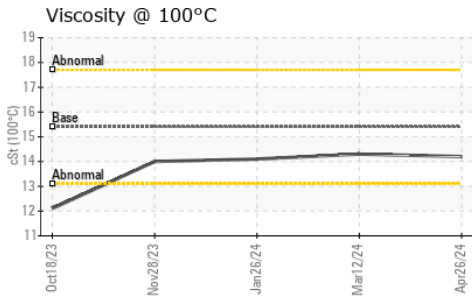
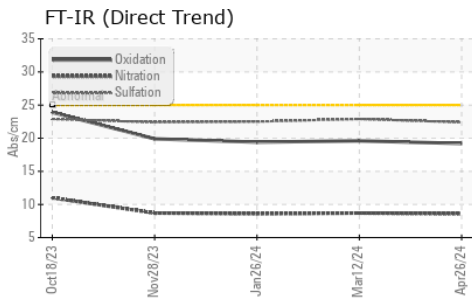
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	3
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	7	6
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>0.1</b>	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.6</b>	8.7	8.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.4</b>	22.9	22.5
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>119</b>	119	121
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>13</b>	15	22
Calcium	ppm	ASTM D5185(m)	3780	<b>2280</b>	2228	2156
Phosphorus	ppm	ASTM D5185(m)	1370	<b>980</b>	978	973
Zinc	ppm	ASTM D5185(m)	1500	<b>1172</b>	1146	1133
Sulfur	ppm	ASTM D5185(m)	3800	<b>2881</b>	3035	3058
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.2</b>	19.6	19.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.2</b>	14.3	14.1



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889017  
**Lab Number** : 02633469  
**Unique Number** : 5774622  
**Test Package** : MOB 1

**Received** : 06 May 2024  
**Tested** : 06 May 2024  
**Diagnosed** : 06 May 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.