



# OIL ANALYSIS REPORT

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

Machine Id  
**146**  
 Component  
**Rear Diesel Engine**  
 Fluid  
**ESSO XD-3 EXTRA 15W40 (--- LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0888993</b>	WC0889171	WC0866600
Sample Date		Client Info		<b>05 Apr 2024</b>	06 Feb 2024	11 Dec 2023
Machine Age	kms	Client Info		<b>0</b>	0	1083240
Oil Age	kms	Client Info		<b>9221</b>	8868	9451
Filter Age	kms	Client Info		<b>9221</b>	8868	9451
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)	>75	<b>9</b>	9	11
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
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)	>15	<b>1</b>	2	2
Lead	ppm	ASTM D5185(m)	>25	<b>0</b>	1	1
Copper	ppm	ASTM D5185(m)	>100	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

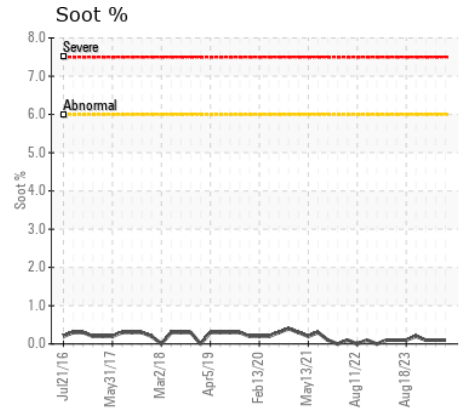
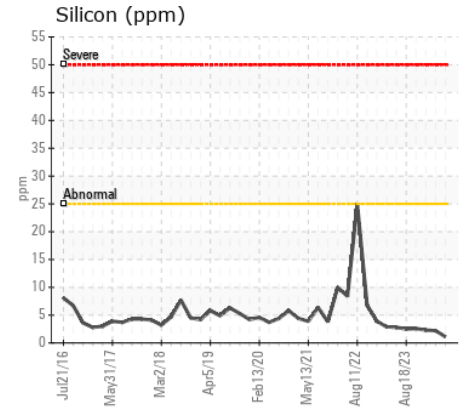
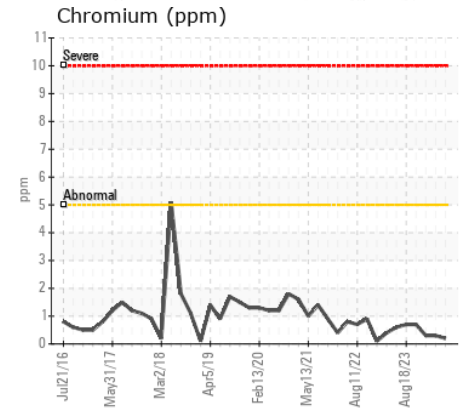
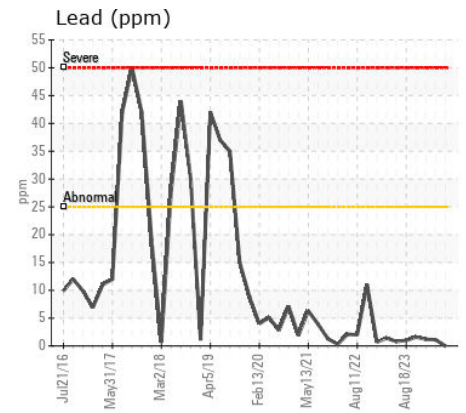
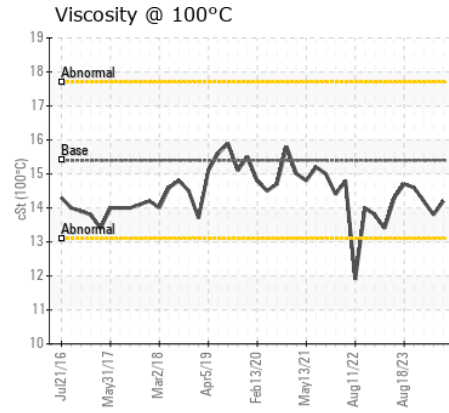
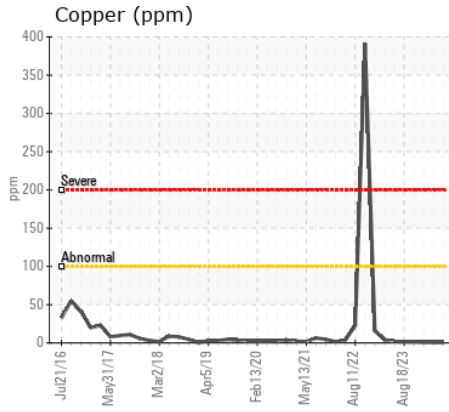
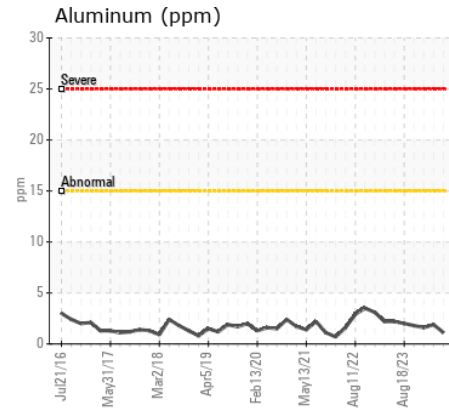
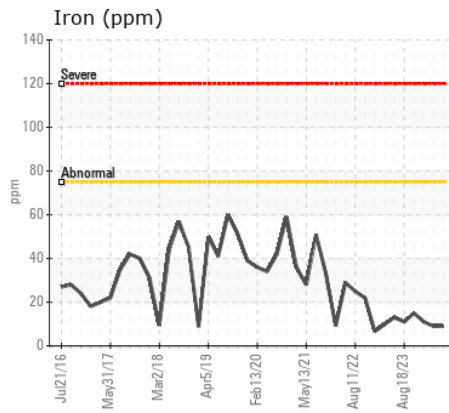
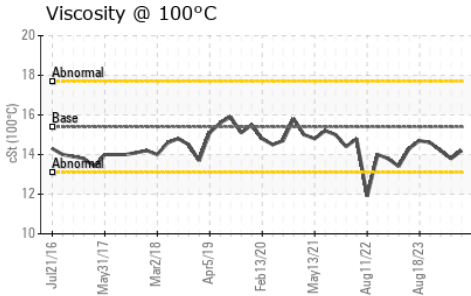
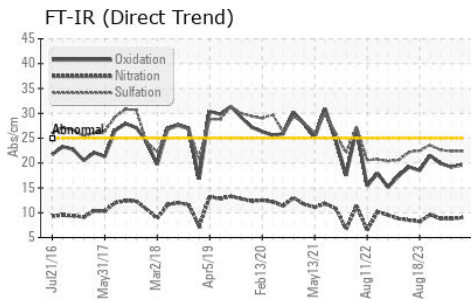
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>1</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>5</b>	6	5
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	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.0</b>	8.8	8.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.4</b>	22.4	22.6
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>120</b>	112	119
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
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>14</b>	20	13
Calcium	ppm	ASTM D5185(m)	3780	<b>2224</b>	2191	2214
Phosphorus	ppm	ASTM D5185(m)	1370	<b>928</b>	928	936
Zinc	ppm	ASTM D5185(m)	1500	<b>1153</b>	1131	1169
Sulfur	ppm	ASTM D5185(m)	3800	<b>2799</b>	3005	2915
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.6</b>	19.2	19.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.2</b>	13.8	14.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0888993  
**Lab Number** : 02628777  
**Unique Number** : 5761909  
**Test Package** : MOB 1

**Received** : 15 Apr 2024  
**Tested** : 16 Apr 2024  
**Diagnosed** : 16 Apr 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.