



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**147**  
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		WC0889031	WC0889161	WC0816357
Sample Date		Client Info		25 Mar 2024	01 Feb 2024	16 Oct 2023
Machine Age	kms	Client Info		1126269	0	0
Oil Age	kms	Client Info		9118	9032	10777
Filter Age	kms	Client Info		9118	9032	10777
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	4	10	11
Chromium	ppm	ASTM D5185(m)	>5	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	<1	2	1
Lead	ppm	ASTM D5185(m)	>25	0	2	5
Copper	ppm	ASTM D5185(m)	>100	<1	2	2
Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

## CONTAMINATION

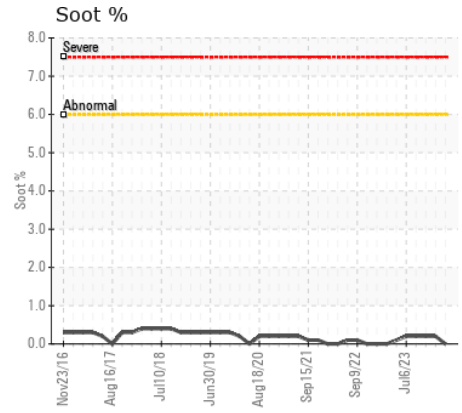
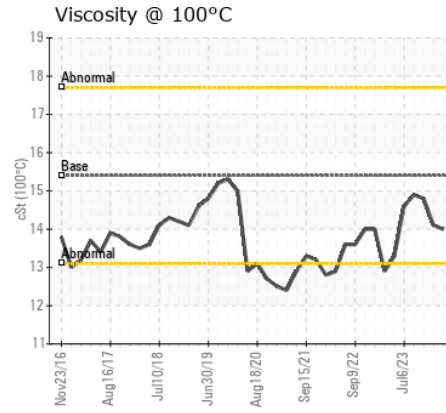
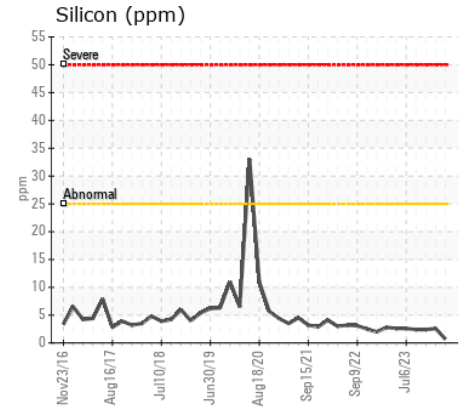
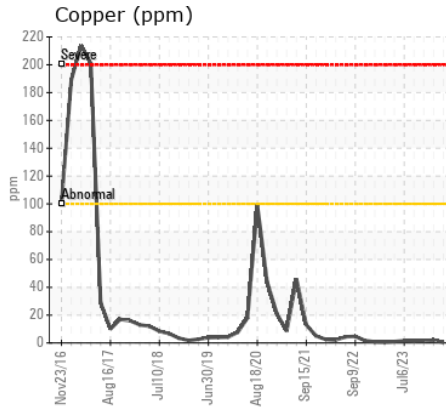
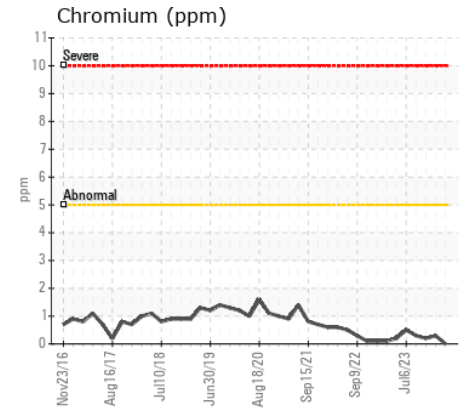
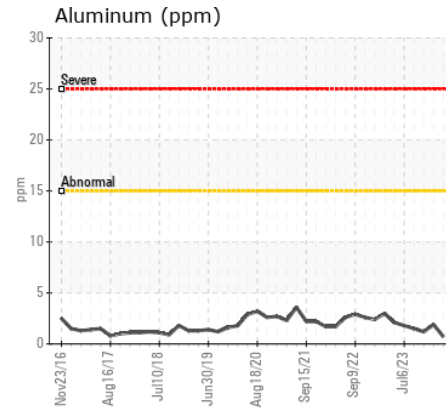
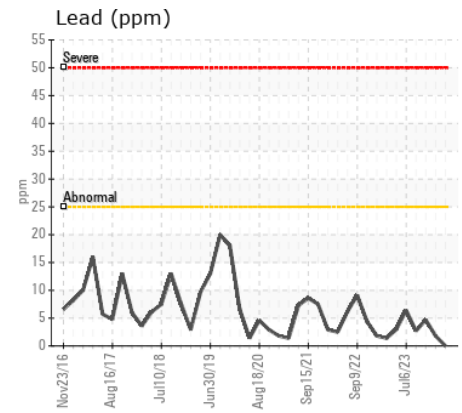
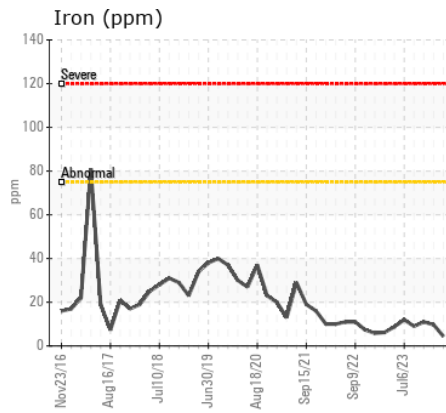
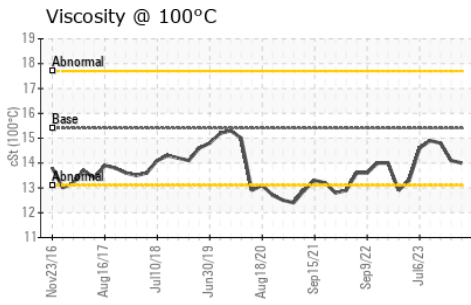
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<1	3	2
Potassium	ppm	ASTM D5185(m)	>20	6	6	5
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>6	0	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	7.9	10.0	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.5	24.0	24.1
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>192	2	2	2
Boron	ppm	ASTM D5185(m)		136	107	87
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		0	<1	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		13	13	19
Calcium	ppm	ASTM D5185(m)	3780	2186	2292	2333
Phosphorus	ppm	ASTM D5185(m)	1370	943	974	941
Zinc	ppm	ASTM D5185(m)	1500	1133	1164	1164
Sulfur	ppm	ASTM D5185(m)	3800	2822	3087	2933
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.1	21.9	22.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	14.1	14.8



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889031  
**Lab Number** : 02626342  
**Unique Number** : 5759474  
**Test Package** : MOB 1  
**Received** : 03 Apr 2024  
**Tested** : 03 Apr 2024  
**Diagnosed** : 03 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.