



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**NOVA BUS 163**  
Component  
**Rear Diesel Engine**  
Fluid  
**ESSO XD-3 EXTRA 15W40 (24 LTR)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0889100</b>	WC0889145	WC0866426
Sample Date		Client Info		<b>28 Feb 2024</b>	14 Feb 2024	17 Nov 2023
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>1140</b>	9923	8974
Filter Age	kms	Client Info		<b>1140</b>	9923	8974
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	SEVERE	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	<b>6</b>	26	34
Chromium	ppm	ASTM D5185(m)	>5	<b>0</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>	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	<b>1</b>	2	2
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	1	1
Copper	ppm	ASTM D5185(m)	>100	<b>&lt;1</b>	2	3
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

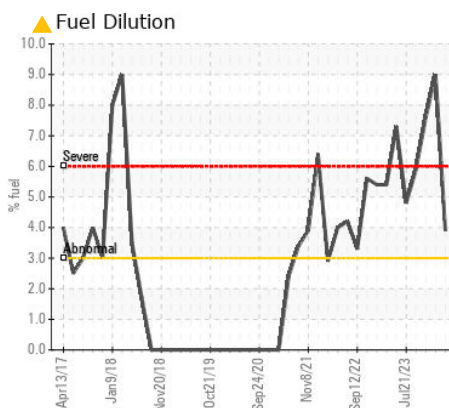
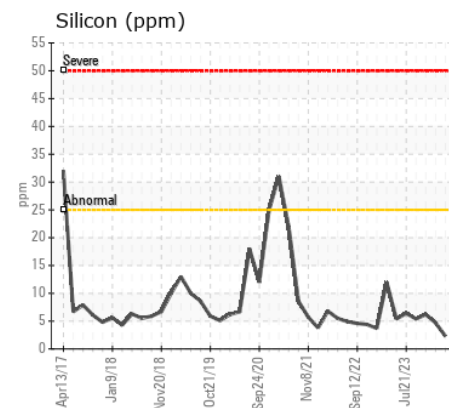
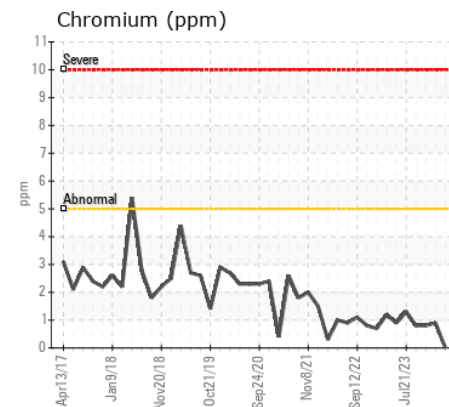
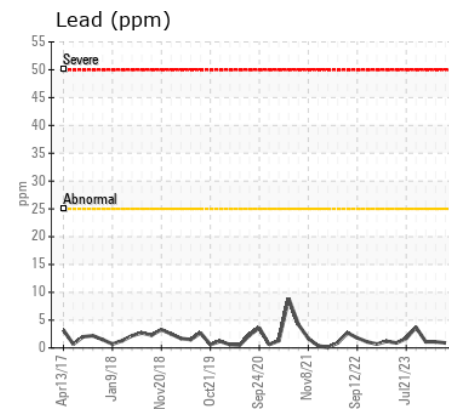
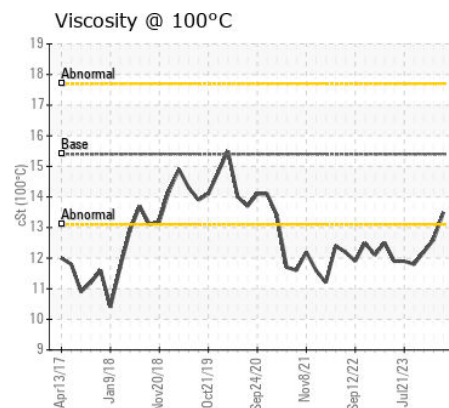
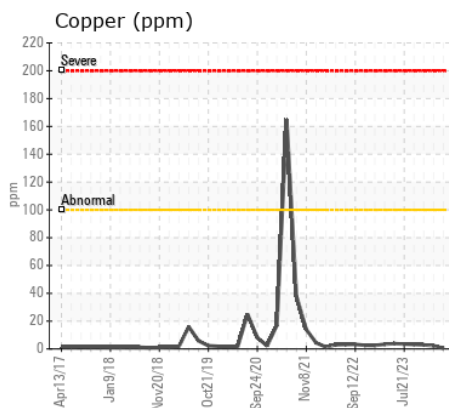
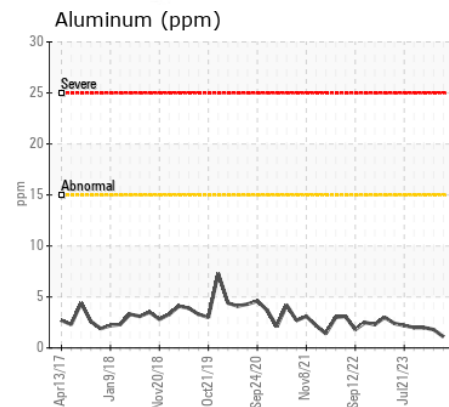
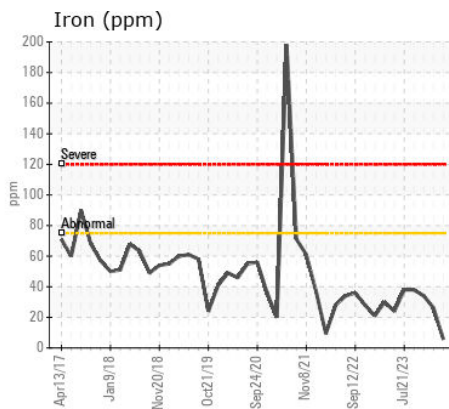
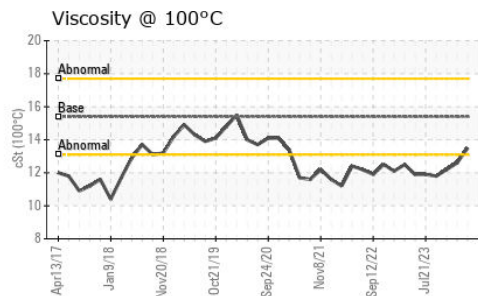
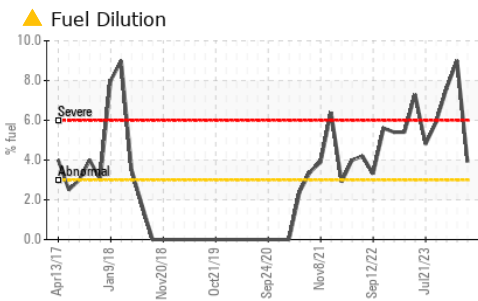
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	5	6
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	7	6
Fuel	%	ASTM D7593*	>3.0	<b>▲ 3.9</b>	▲ 9	▲ 7.6
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>	0.9	0.8
Nitration	Abs/cm	ASTM D7624*	>20	<b>6.9</b>	11.8	12.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.3</b>	27.4	30.6
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>192	<b>2</b>	6	13
Boron	ppm	ASTM D5185(m)		<b>141</b>	66	56
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>13</b>	15	29
Calcium	ppm	ASTM D5185(m)	3780	<b>2090</b>	2126	2071
Phosphorus	ppm	ASTM D5185(m)	1370	<b>941</b>	903	852
Zinc	ppm	ASTM D5185(m)	1500	<b>1072</b>	1073	1041
Sulfur	ppm	ASTM D5185(m)	3800	<b>2964</b>	2794	2590
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.4</b>	25.3	32.8
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.5</b>	12.6	▲ 12.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889100 **Received** : 08 Mar 2024  
**Lab Number** : 02620790 **Tested** : 11 Mar 2024  
**Unique Number** : 5737900 **Diagnosed** : 11 Mar 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

**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.