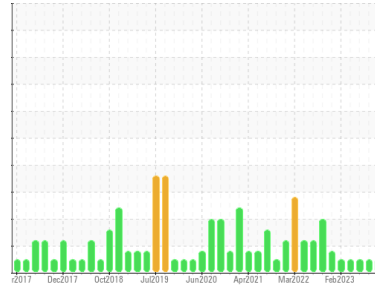




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**NOVA 157**

Component  
**Rear 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>WC0866564</b>	WC0816505	WC0816460
Sample Date	Client Info			<b>24 Oct 2023</b>	20 Jul 2023	01 Jun 2023
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>9570</b>	9416	9707
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
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	<b>54</b>	42	39
Chromium	ppm	ASTM D5185(m)	>5	<b>2</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	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>5</b>	3	2
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>100	<b>2</b>	1	1
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	<1
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>64</b>	57	57
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>2</b>	9	19
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>34</b>	114	222
Calcium	ppm	ASTM D5185(m)	3780	<b>2261</b>	2176	2300
Phosphorus	ppm	ASTM D5185(m)	1370	<b>937</b>	1016	1107
Zinc	ppm	ASTM D5185(m)	1500	<b>1150</b>	1178	1267
Sulfur	ppm	ASTM D5185(m)	3800	<b>2690</b>	2774	2934
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

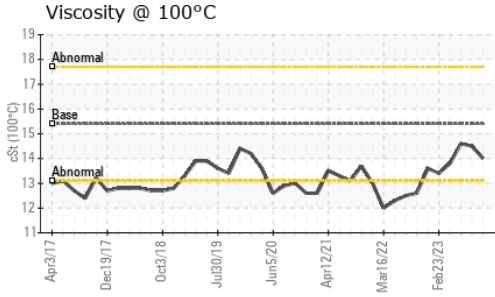
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>9</b>	8	9
Sodium	ppm	ASTM D5185(m)	>192	<b>5</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>7</b>	7	6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	<b>1.4</b>	1.2	1.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>13.6</b>	13.4	12.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>37.0</b>	36.6	31.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>42.1</b>	41.9	32.9



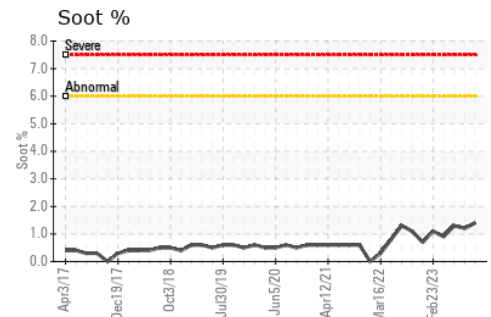
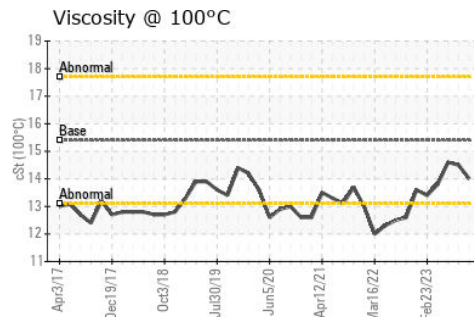
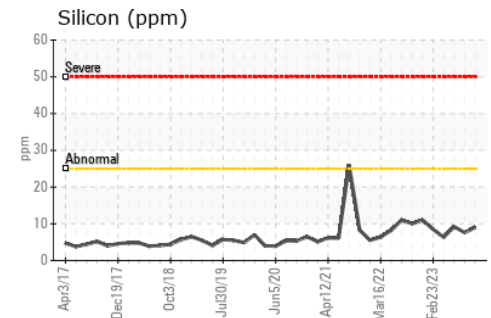
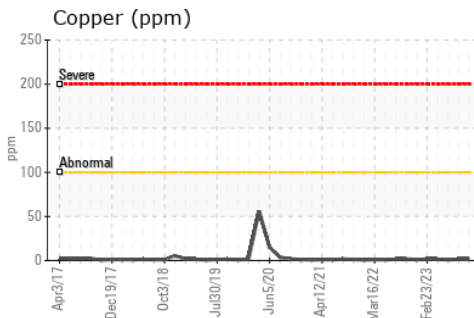
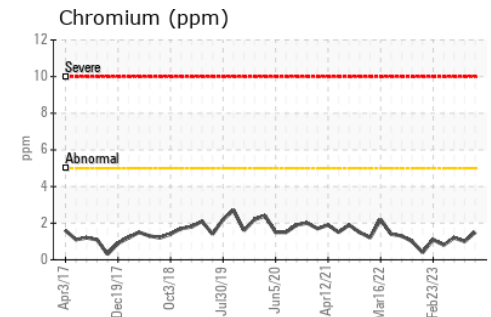
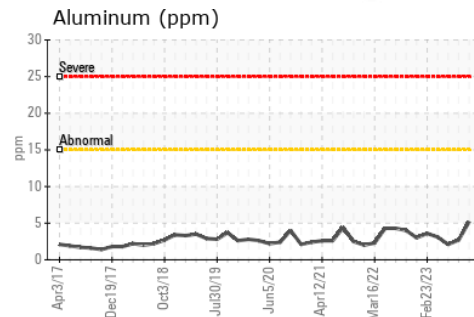
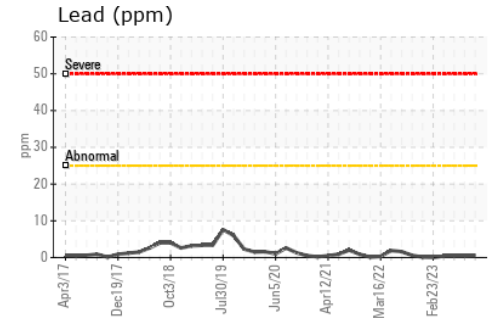
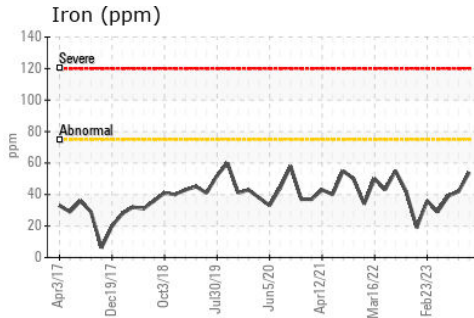
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>14.0</b>	14.5

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0866564      **Received** : 30 Oct 2023  
**Lab Number** : **02592593**      **Diagnosed** : 30 Oct 2023  
**Unique Number** : 5669672      **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1

**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.