



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**CUMMINS 161**  
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>WC0889138</b>	WC0866488	WC0866566
Sample Date		Client Info		<b>07 Feb 2024</b>	20 Dec 2023	24 Oct 2023
Machine Age	kms	Client Info		<b>0</b>	0	0
Oil Age	kms	Client Info		<b>9258</b>	9601	9825
Filter Age	kms	Client Info		<b>9258</b>	9601	9825
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	<b>26</b>	29	36
Chromium	ppm	ASTM D5185(m)	>5	<b>1</b>	2	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>2</b>	3	3
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	1
Copper	ppm	ASTM D5185(m)	>100	<b>1</b>	1	2
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

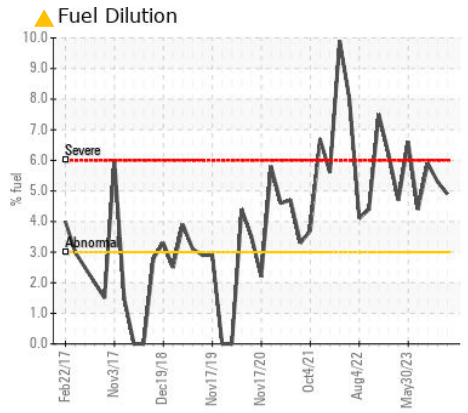
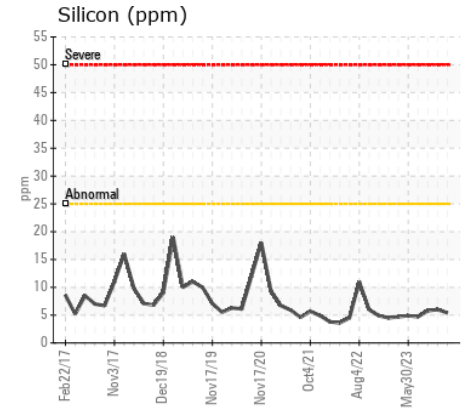
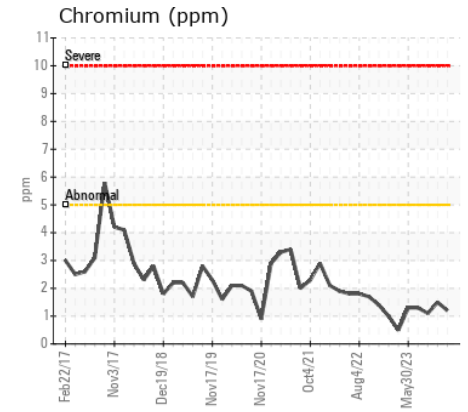
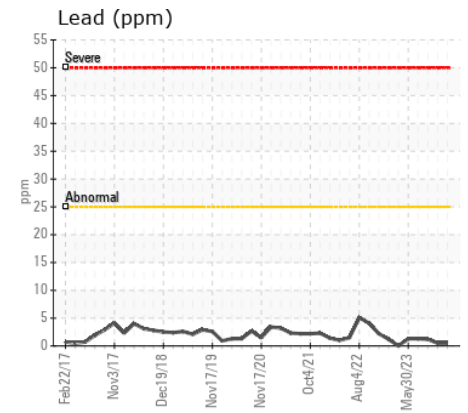
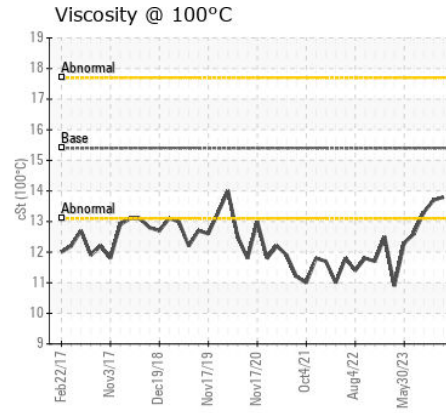
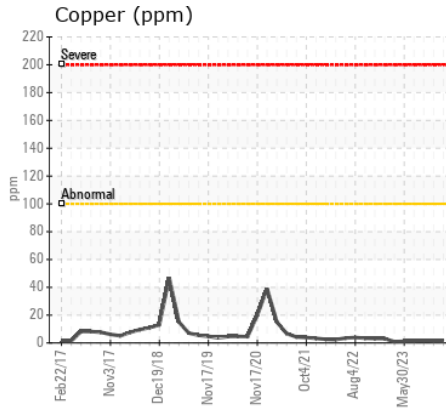
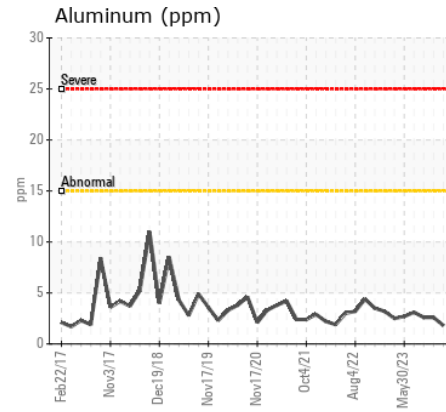
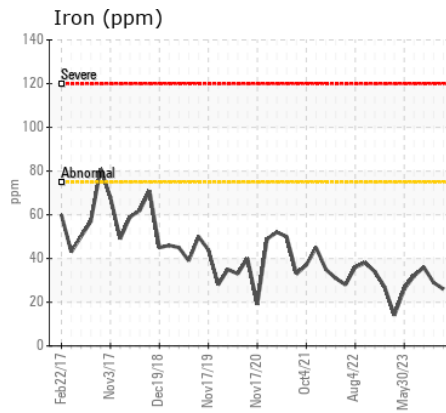
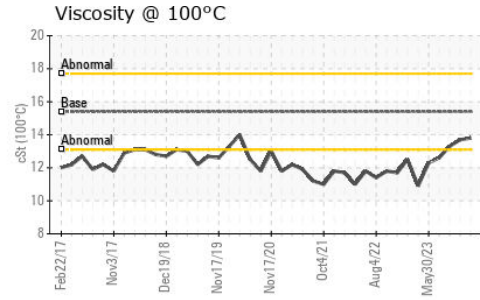
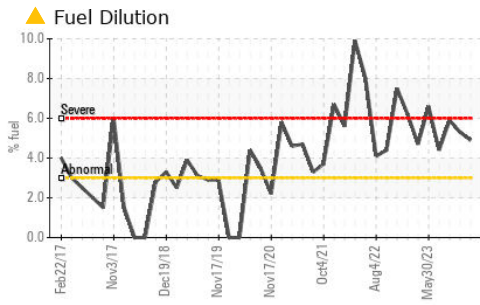
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>5</b>	6	6
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	7	5
Fuel	%	ASTM D7593*	>3.0	<b>▲ 4.9</b>	▲ 5.3	▲ 5.9
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>6	<b>1.3</b>	1.3	1.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>11.8</b>	12.0	13.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>27.1</b>	27.7	33.3
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>	2	4
Boron	ppm	ASTM D5185(m)		<b>75</b>	72	62
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>1</b>	<1	1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>21</b>	16	24
Calcium	ppm	ASTM D5185(m)	3780	<b>2272</b>	2254	2112
Phosphorus	ppm	ASTM D5185(m)	1370	<b>974</b>	956	873
Zinc	ppm	ASTM D5185(m)	1500	<b>1155</b>	1137	1077
Sulfur	ppm	ASTM D5185(m)	3800	<b>2963</b>	2875	2584
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>23.3</b>	25.0	36.5
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.8</b>	13.7	13.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0889138 **Received** : 20 Feb 2024  
**Lab Number** : 02616572 **Tested** : 22 Feb 2024  
**Unique Number** : 5733682 **Diagnosed** : 22 Feb 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

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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.