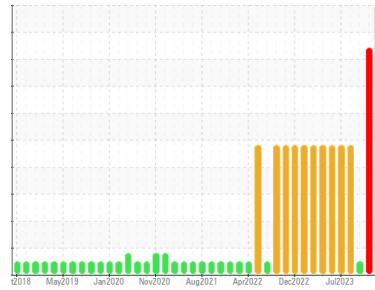




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
CUMMINS 236

Component
Rear Diesel Engine

Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Test values may be askew due high concentration of free water present in sample.

Wear

All component wear rates are normal.

Contamination

Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a high concentration of water present in the oil. Excessive free water present.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0889099	WC0889181	WC0866456
Sample Date	Client Info		16 Jan 2024	28 Dec 2023	18 Oct 2023
Machine Age	kms	Client Info	0	0	0
Oil Age	kms	Client Info	1915	9294	10519
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>90	4	10	10
Chromium	ppm	ASTM D5185(m)	>20	0	<1	0
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	2	5	2
Lead	ppm	ASTM D5185(m)	>40	4	2	<1
Copper	ppm	ASTM D5185(m)	>330	148	87	37
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		58	28	18
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		1	<1	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		22	17	17
Calcium	ppm	ASTM D5185(m)	3780	1953	2020	2176
Phosphorus	ppm	ASTM D5185(m)	1370	958	945	906
Zinc	ppm	ASTM D5185(m)	1500	1092	1111	1094
Sulfur	ppm	ASTM D5185(m)	3800	3026	2909	2830
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	6	8
Sodium	ppm	ASTM D5185(m)	>192	▲ 110	▲ 123	138
Potassium	ppm	ASTM D5185(m)	>20	▲ 25	▲ 32	35
Glycol	%	ASTM D7922*		● 0.419	● 0.261	0.0

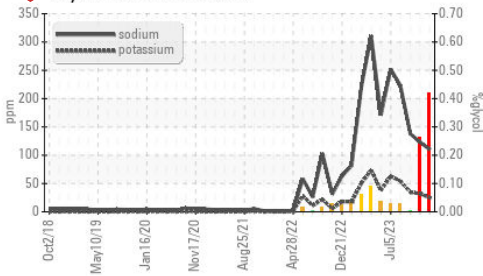
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	0	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	6.7	9.8	9.5
Sulfation	Abs.1mm	ASTM D7415*	>30	20.1	23.3	23.7



OIL ANALYSIS REPORT

Glycol Contamination



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Abs./1mm	ASTM D7414*	>25	16.1	18.1	21.7

VISUAL

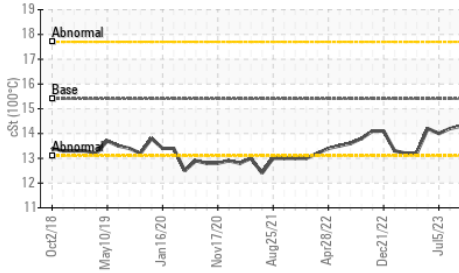
method	limit/base	current	history1	history2	
scalar	Visual*	>0.2	▲ .2%	▲ .2%	NEG
scalar	Visual*		▲ 1%	NEG	NEG

FLUID PROPERTIES

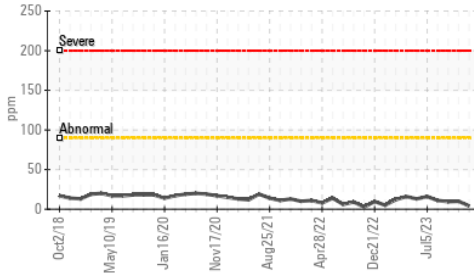
method	limit/base	current	history1	history2	
cSt	ASTM D7279(m)	15.4	13.6	14.2	14.3

GRAPHS

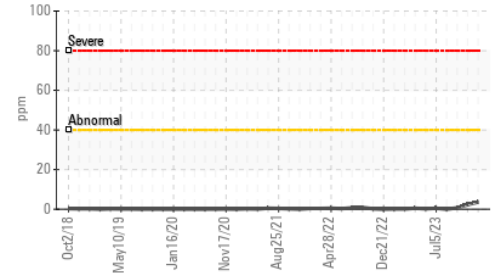
Viscosity @ 100°C



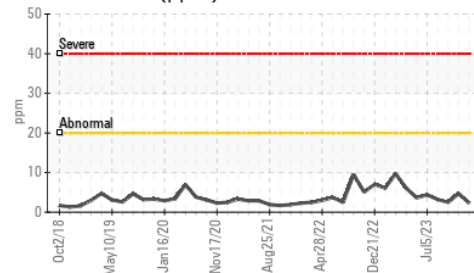
Iron (ppm)



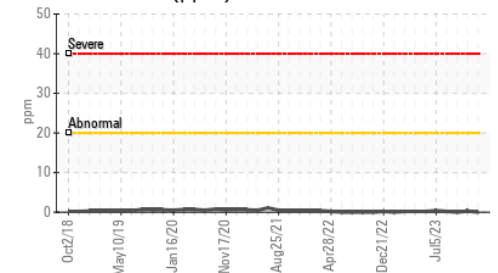
Lead (ppm)



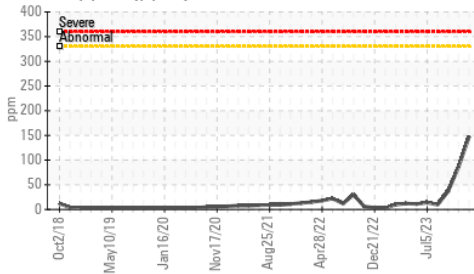
Aluminum (ppm)



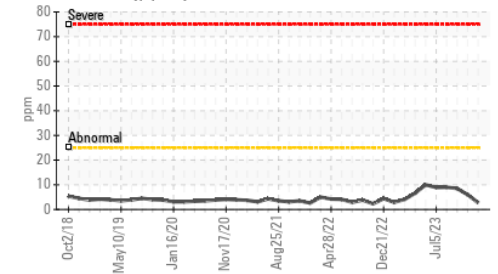
Chromium (ppm)



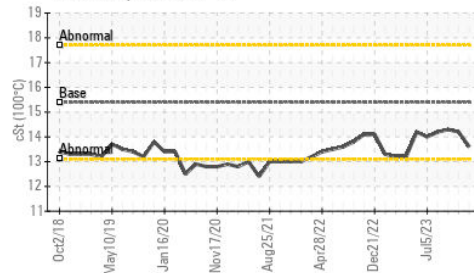
Copper (ppm)



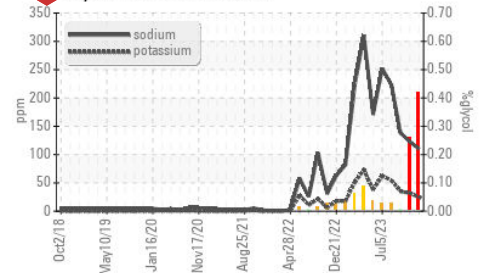
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0889099 **Received** : 19 Jan 2024
Lab Number : 02609877 **Diagnosed** : 22 Jan 2024
Unique Number : 5710963 **Diagnostician** : Kevin Marson
Test Package : MOB 1

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 CA P7B 2Z8
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 sean.malcolm@thunderbay.ca
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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.