



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS 232
Component
Rear Diesel Engine
Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0889103	WC0866442	WC0816380
Sample Date		Client Info		28 Dec 2023	24 Nov 2023	27 Sep 2023
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		9275	8939	9292
Filter Age	kms	Client Info		9275	8939	9292
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	6	6	8
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	1	2
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	1	1	2
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

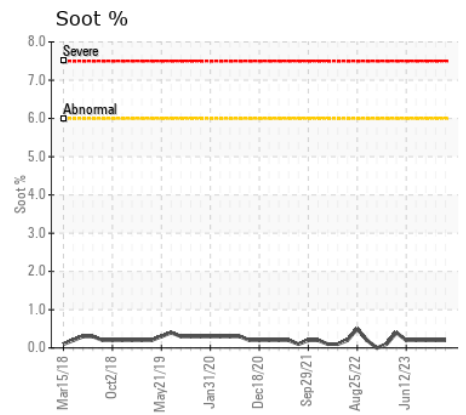
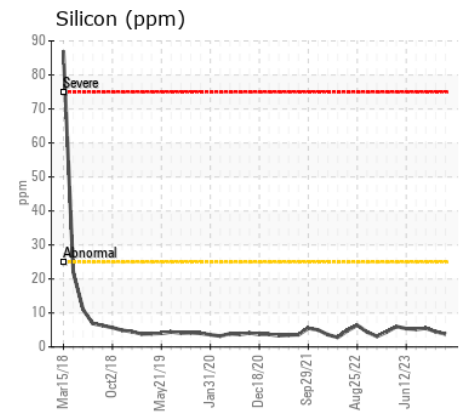
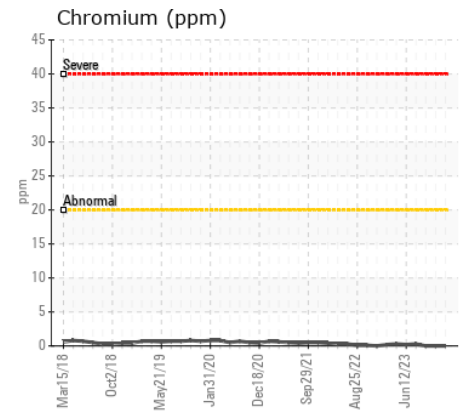
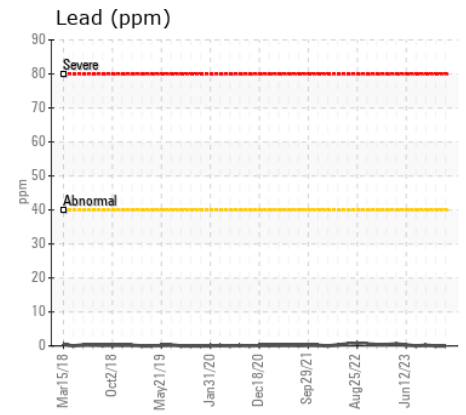
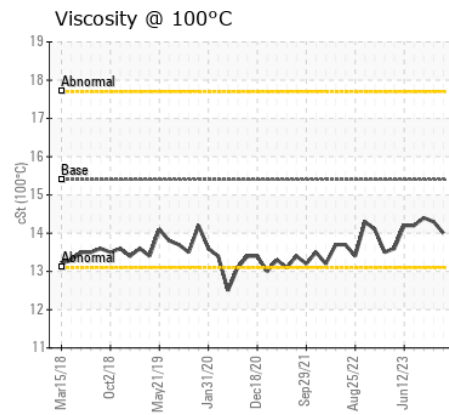
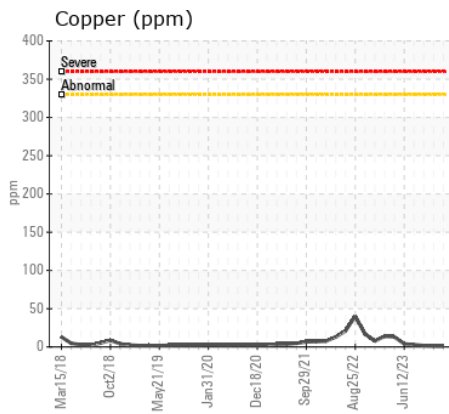
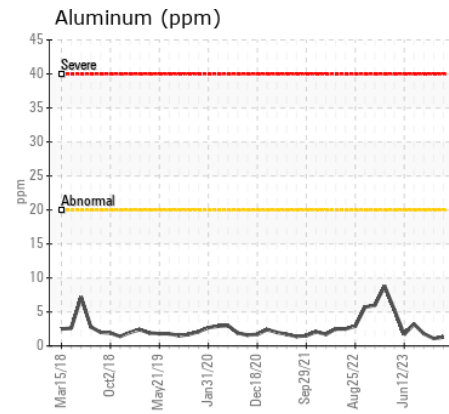
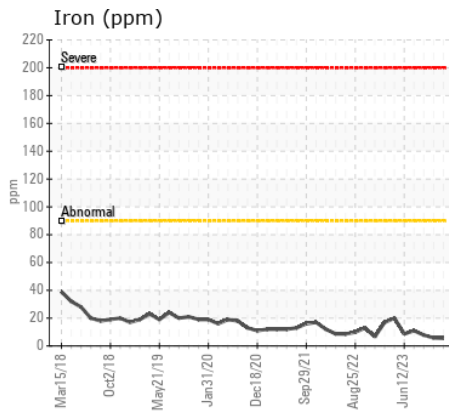
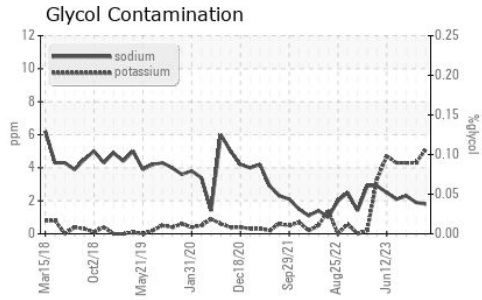
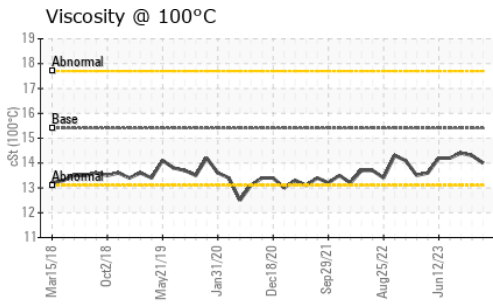
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	4	6
Potassium	ppm	ASTM D5185(m)	>20	5	4	4
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>6	0.2	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	8.7	8.6	9.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.4	22.7	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)		111	114	89
Barium	ppm	ASTM D5185(m)		0	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<1	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		14	12	13
Calcium	ppm	ASTM D5185(m)	3780	2201	2156	2143
Phosphorus	ppm	ASTM D5185(m)	1370	973	948	905
Zinc	ppm	ASTM D5185(m)	1500	1132	1146	1113
Sulfur	ppm	ASTM D5185(m)	3800	2995	2857	2785
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.7	19.7	22.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	14.3	14.4



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0889103 **Received** : 12 Jan 2024
Lab Number : 02608503 **Diagnosed** : 15 Jan 2024
Unique Number : 5709589 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol)

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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.