



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS 178
 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		WC0866590	WC0889042	WC0889001
Sample Date		Client Info		16 May 2024	17 Apr 2024	08 Apr 2024
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		8533	1931	8972
Filter Age	kms	Client Info		8533	1931	8972
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	10	4	14
Chromium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	1	<1	2
Lead	ppm	ASTM D5185(m)	>40	0	0	0
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

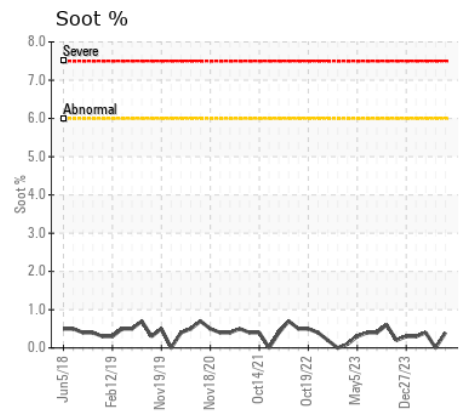
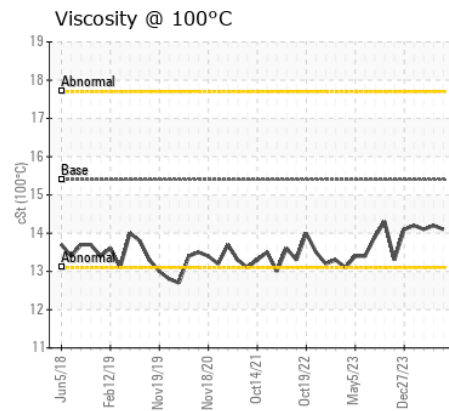
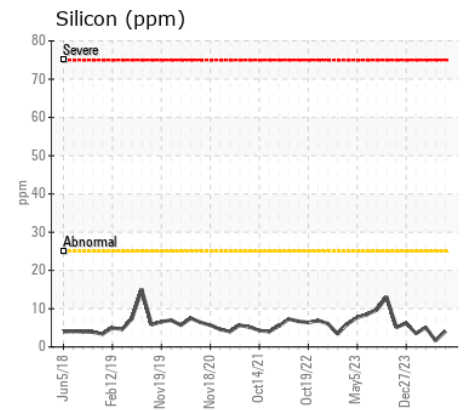
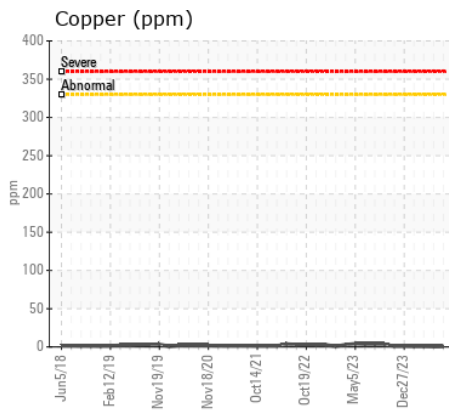
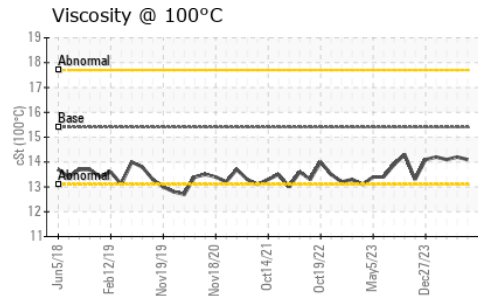
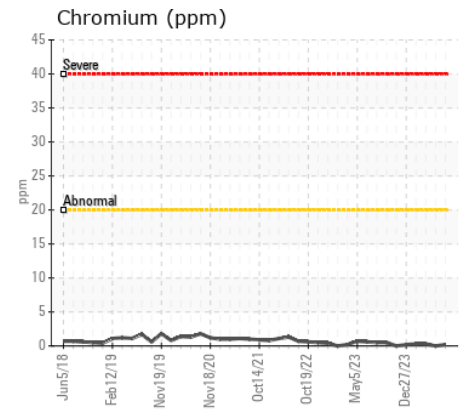
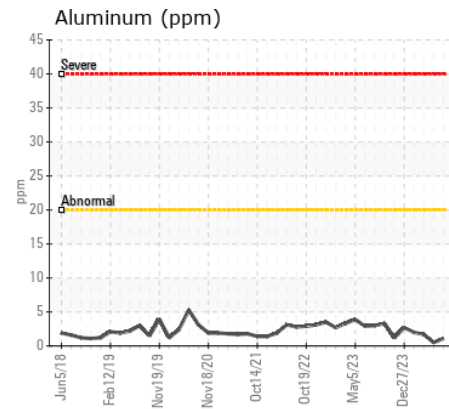
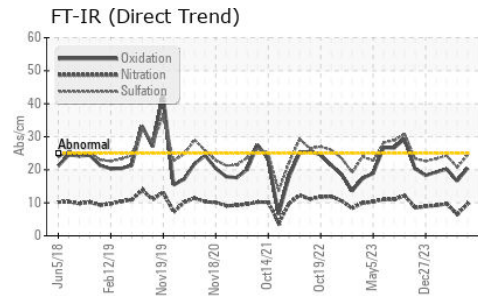
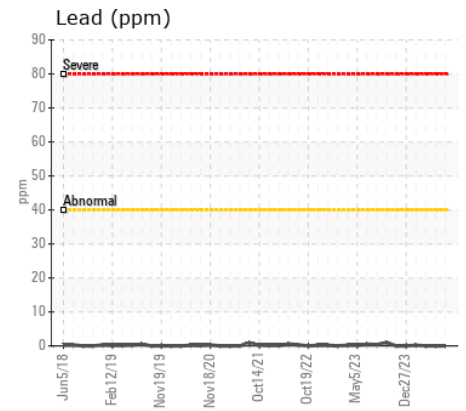
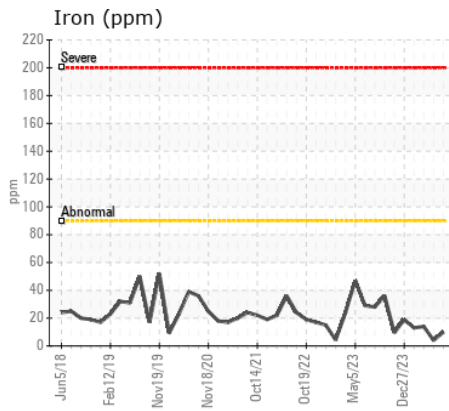
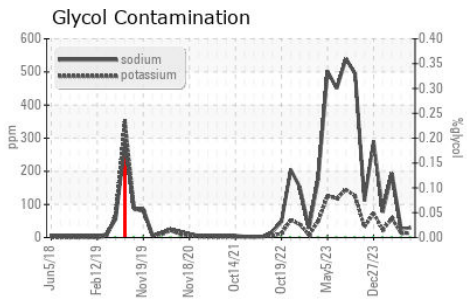
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	2	5
Potassium	ppm	ASTM D5185(m)	>20	14	12	▲ 57
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	0.0
Soot %	%	ASTM D7844*	>6	0.4	0	0.4
Nitration	Abs/cm	ASTM D7624*	>20	9.6	6.6	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.4	20.7	24.3
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	30	25	● 194
Boron	ppm	ASTM D5185(m)		87	142	97
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		16	12	17
Calcium	ppm	ASTM D5185(m)	3780	2266	2166	2215
Phosphorus	ppm	ASTM D5185(m)	1370	940	945	957
Zinc	ppm	ASTM D5185(m)	1500	1167	1112	1162
Sulfur	ppm	ASTM D5185(m)	3800	2763	2853	2826
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.5	16.6	20.2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.1	14.2	14.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866590 **Received** : 23 May 2024
Lab Number : 02637067 **Tested** : 24 May 2024
Unique Number : 5786229 **Diagnosed** : 24 May 2024 - Wes Davis
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.