



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		WC0866540	WC0889055	WC0889138
Sample Date		Client Info		27 May 2024	03 Apr 2024	07 Feb 2024
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		9912	9918	9258
Filter Age	kms	Client Info		9912	9918	9258
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	31	26	26
Chromium	ppm	ASTM D5185(m)	>5	2	1	1
Nickel	ppm	ASTM D5185(m)	>4	<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)	>15	2	2	2
Lead	ppm	ASTM D5185(m)	>25	0	0	<1
Copper	ppm	ASTM D5185(m)	>100	1	1	1
Tin	ppm	ASTM D5185(m)	>4	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

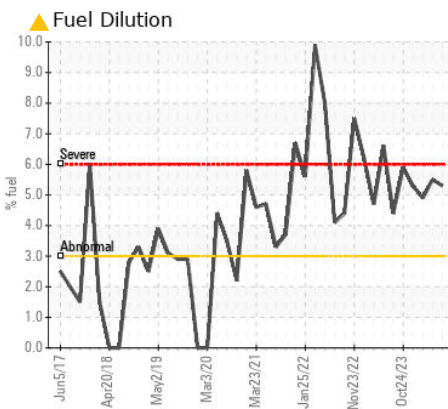
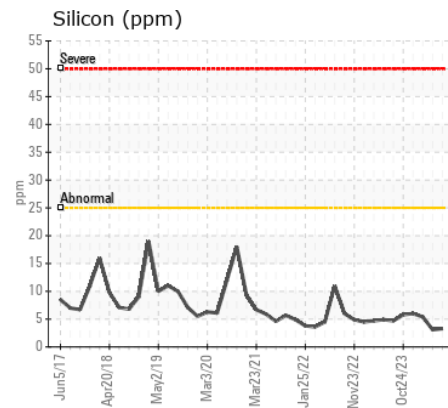
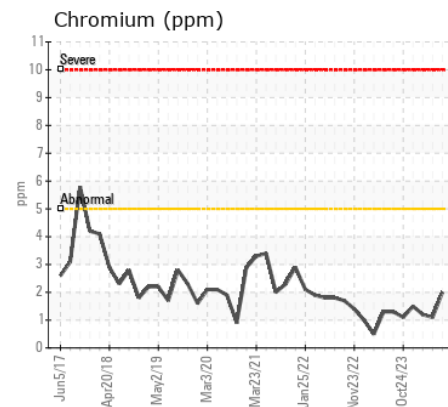
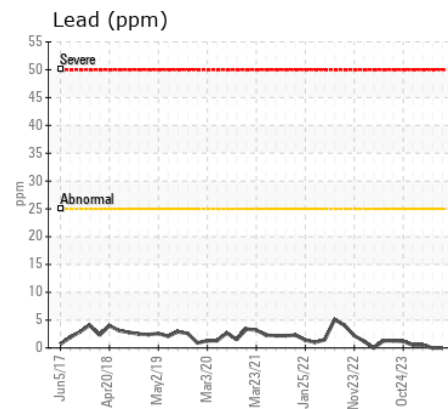
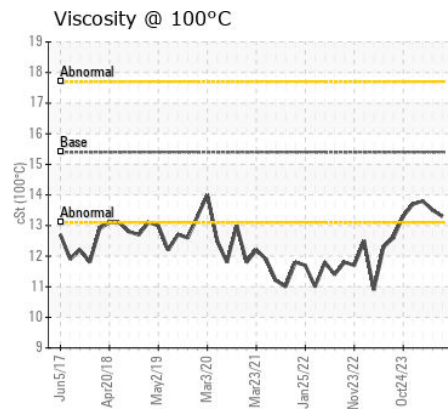
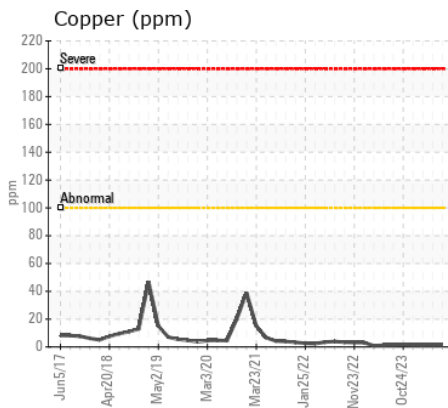
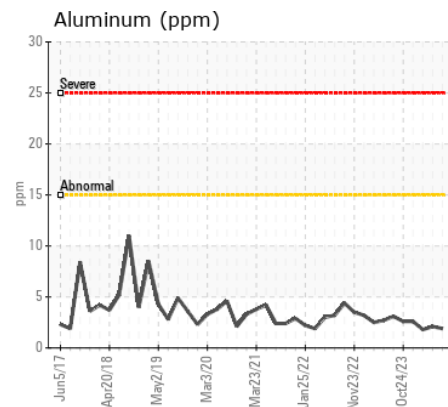
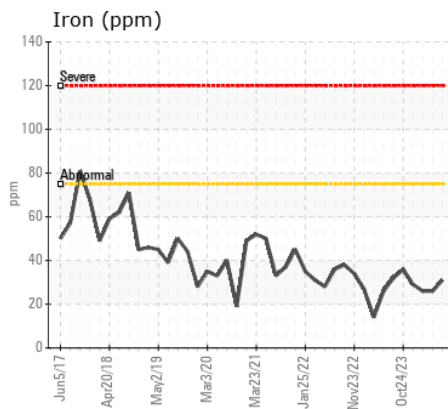
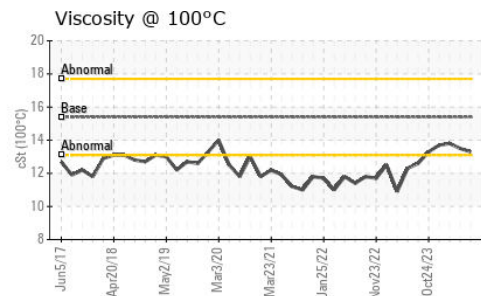
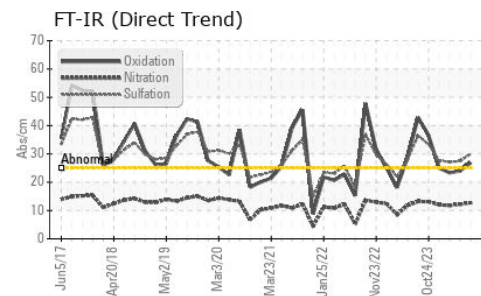
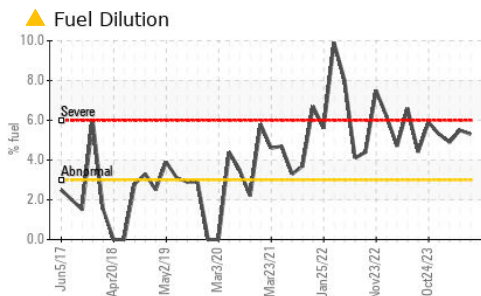
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	3	3	5
Potassium	ppm	ASTM D5185(m)	>20	6	7	6
Fuel	%	ASTM D7593*	>3.0	▲ 5.3	▲ 5.5	▲ 4.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>6	1.7	1.5	1.3
Nitration	Abs/cm	ASTM D7624*	>20	12.7	12.2	11.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	30.0	27.5	27.1
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>192	2	2	2
Boron	ppm	ASTM D5185(m)		58	72	75
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	1
Manganese	ppm	ASTM D5185(m)		<1	0	0
Magnesium	ppm	ASTM D5185(m)		14	17	21
Calcium	ppm	ASTM D5185(m)	3780	2335	2281	2272
Phosphorus	ppm	ASTM D5185(m)	1370	973	956	974
Zinc	ppm	ASTM D5185(m)	1500	1168	1185	1155
Sulfur	ppm	ASTM D5185(m)	3800	2758	2779	2963
Oxidation	Abs/.1mm	ASTM D7414*	>25	26.9	24.0	23.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.3	13.5	13.8



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866540 **Received** : 30 May 2024
Lab Number : 02638811 **Tested** : 31 May 2024
Unique Number : 5787973 **Diagnosed** : 31 May 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PercentFuel, Visual)

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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.