



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>MARGINAL</b>
FLUID CONDITION	<b>ABNORMAL</b>

Machine Id  
**CUMMINS 846-5110 - Breakthru**  
 Component  
**Diesel Engine**  
 Fluid  
**MOBIL 15W40 (--- GAL)**

## RECOMMENDATION

The oil is near the end of it's useful service life, recommend schedule an oil change. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>RPL0019342</b>	RPL0017543	---
Sample Date		Client Info		<b>20 Apr 2024</b>	22 Jan 2024	---
Machine Age	mls	Client Info		<b>10632</b>	3324	---
Oil Age	mls	Client Info		<b>7308</b>	3324	---
Filter Age	mls	Client Info		<b>7308</b>	3324	---
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>90	<b>96</b>	42	---
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	---
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	4	---
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	---
Copper	ppm	ASTM D5185m	>330	<b>23</b>	16	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

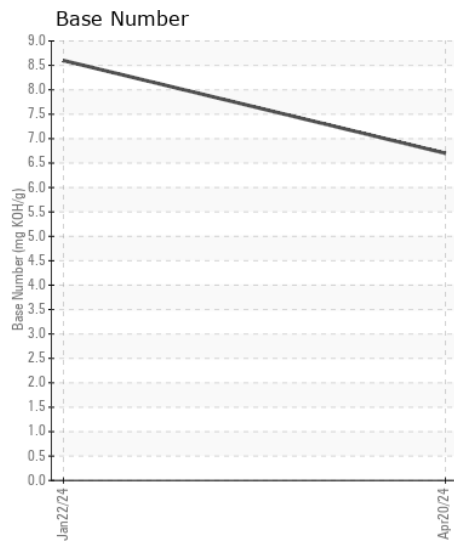
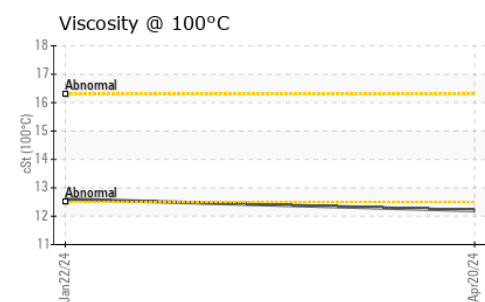
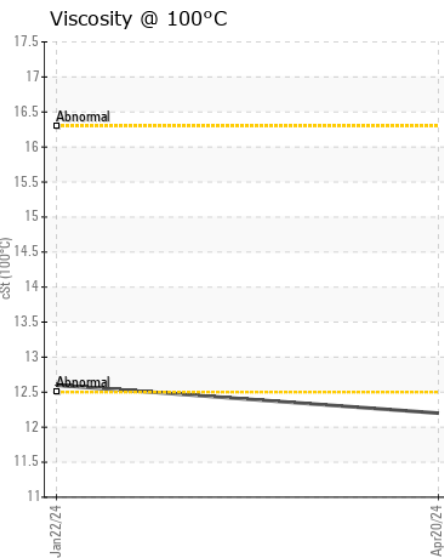
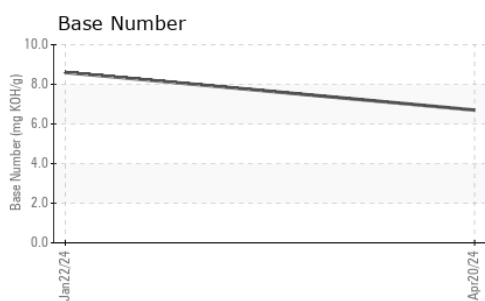
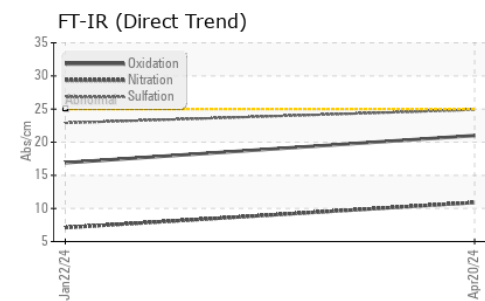
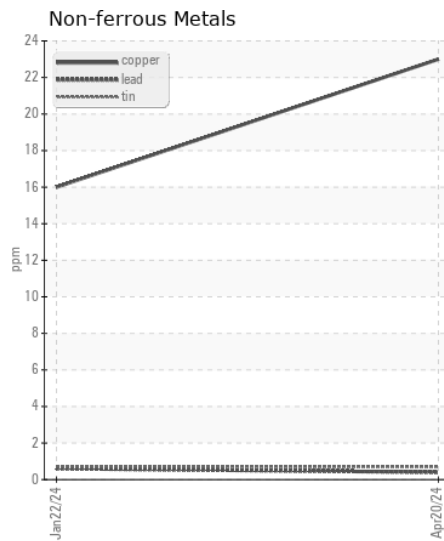
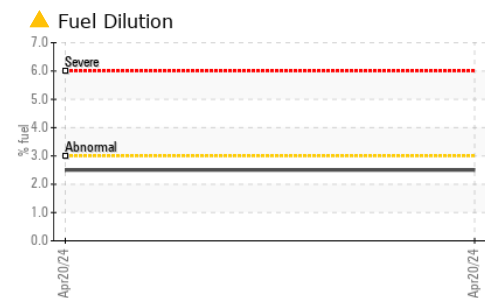
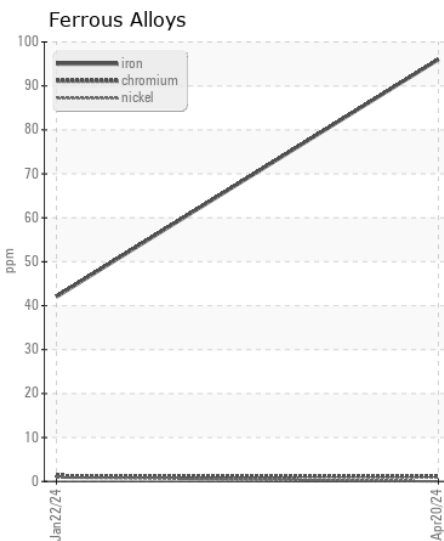
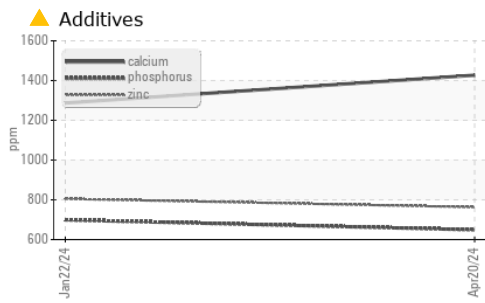
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>38</b>	34	---
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	4	---
Fuel	%	ASTM D3524	>3.0	<b>▲ 2.5</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>6	<b>0.8</b>	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.9</b>	7.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.9</b>	22.9	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

## FLUID CONDITION

Molybdenum ppm levels are abnormally high. Phosphorus ppm levels are abnormally low. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>118	<b>5</b>	<1	---
Boron	ppm	ASTM D5185m		<b>140</b>	267	---
Barium	ppm	ASTM D5185m		<b>4</b>	<1	---
Molybdenum	ppm	ASTM D5185m		<b>▲ 111</b>	111	---
Manganese	ppm	ASTM D5185m		<b>8</b>	6	---
Magnesium	ppm	ASTM D5185m		<b>669</b>	658	---
Calcium	ppm	ASTM D5185m		<b>1427</b>	1287	---
Phosphorus	ppm	ASTM D5185m		<b>▲ 649</b>	699	---
Zinc	ppm	ASTM D5185m		<b>763</b>	805	---
Sulfur	ppm	ASTM D5185m		<b>2558</b>	2387	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.0</b>	16.9	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.7</b>	8.6	---
Visc @ 100°C	cSt	ASTM D445		<b>12.2</b>	12.6	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RPL0019342 **Received** : 10 May 2024  
**Lab Number** : 06175313 **Tested** : 15 May 2024  
**Unique Number** : 11021366 **Diagnosed** : 15 May 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

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To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)