

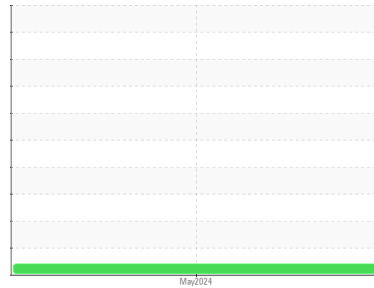


# OIL ANALYSIS REPORT



Area  
**MINING**  
Machine Id  
**ME-116 CATERPILLAR 980M KRS02985**  
Component  
**Diesel Engine**  
Fluid  
**SHELL RIMULA SUPER SAE 15W40 (--- GAL)**

## Sample Rating Trend



## VISCOSITY



### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

#### Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0919975</b>	---	---
Sample Date	Client Info		<b>29 May 2024</b>	---	---
Machine Age	hrs	Client Info	<b>14785</b>	---	---
Oil Age	hrs	Client Info	<b>500</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>ATTENTION</b>	---	---

### CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>11</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>0</b>	---	---
Nickel	ppm	ASTM D5185m >2	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>0</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >25	<b>1</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>5</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>28</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>37</b>	---	---
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>474</b>	---	---
Calcium	ppm	ASTM D5185m 2840	<b>1854</b>	---	---
Phosphorus	ppm	ASTM D5185m 1150	<b>983</b>	---	---
Zinc	ppm	ASTM D5185m 1270	<b>1114</b>	---	---
Sulfur	ppm	ASTM D5185m 2829	<b>3491</b>	---	---

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>2</b>	---	---
Sodium	ppm	ASTM D5185m	<b>4</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Fuel	%	ASTM D3524 >5	<b>0.7</b>	---	---

### INFRA-RED

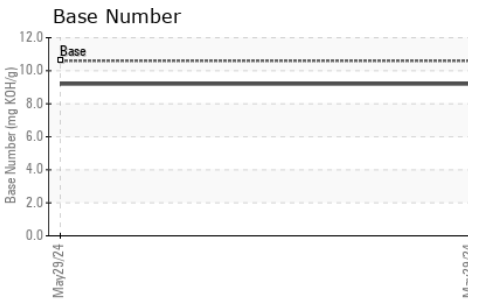
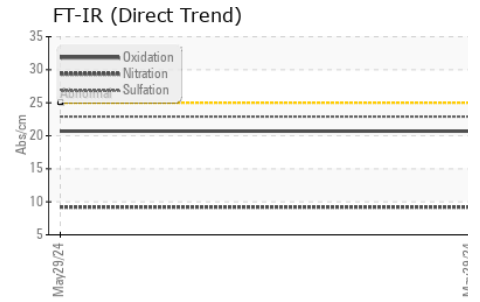
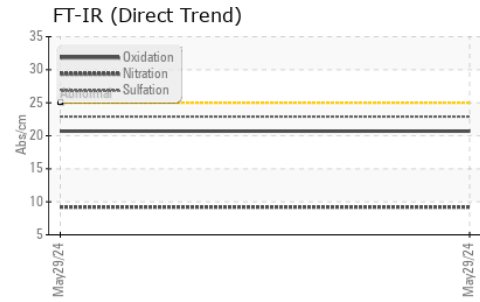
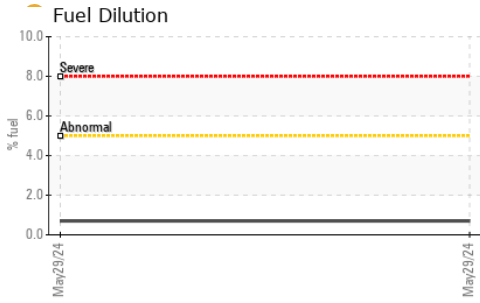
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.2</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>22.9</b>	---	---

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>20.7</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.6	<b>9.2</b>	---	---



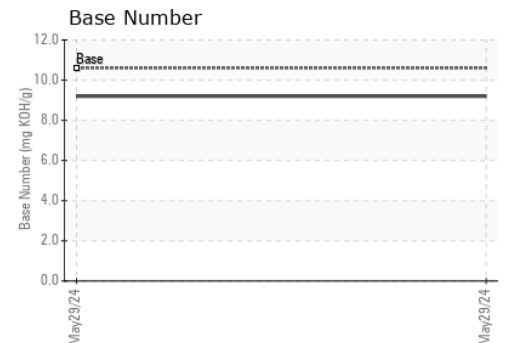
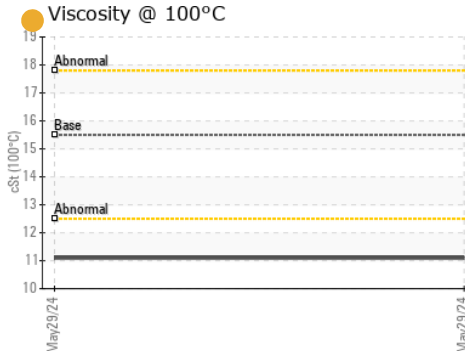
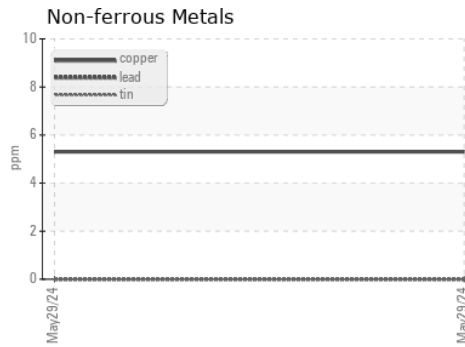
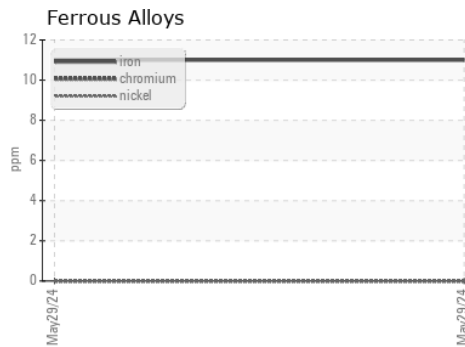
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.5	11.1	---	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0919975 **Received** : 03 Jun 2024  
**Lab Number** : 06197241 **Tested** : 05 Jun 2024  
**Unique Number** : 11059364 **Diagnosed** : 05 Jun 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**COVIA - MENOMONIE - 852**  
 N5628 580TH STREET  
 MENOMONIE, WI  
 US 54751  
 Contact: Jeremy Wagner  
 jeremy.wagner@coviacorp.com  
 T: (715)235-0942  
 F:

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)