



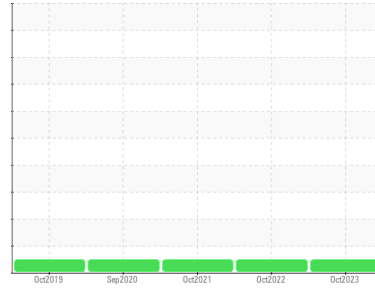
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**CATERPILLAR PORT (S/N 9WR01479)**  
 Component  
**Port Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>RW0004160</b>	RW0004155	RW0001505
Sample Date	Client Info		<b>14 Oct 2023</b>	29 Oct 2022	02 Oct 2021
Machine Age	hrs	Client Info	<b>2079</b>	2003	1930
Oil Age	hrs	Client Info	<b>76</b>	73	43
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>14</b>	13	12
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>1</b>	1	<1
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>32</b>	26	9
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185m	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 316	<b>156</b>	153	154
Barium	ppm	ASTM D5185m 0.0	<b>7</b>	0	0
Molybdenum	ppm	ASTM D5185m 1.2	<b>1</b>	<1	1
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 24	<b>43</b>	15	12
Calcium	ppm	ASTM D5185m 2292	<b>2228</b>	2171	2299
Phosphorus	ppm	ASTM D5185m 1064	<b>1070</b>	941	910
Zinc	ppm	ASTM D5185m 1160	<b>1172</b>	1159	1045
Sulfur	ppm	ASTM D5185m 4996	<b>3830</b>	4118	5088

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	3	3
Sodium	ppm	ASTM D5185m	<b>0</b>	2	2
Potassium	ppm	ASTM D5185m >20	<b>8</b>	8	8

## INFRA-RED

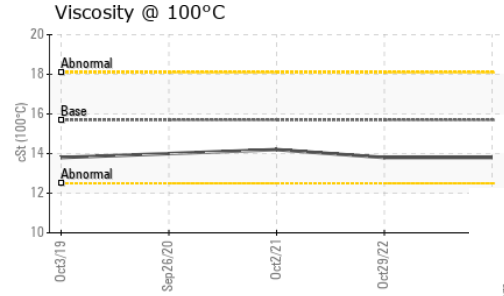
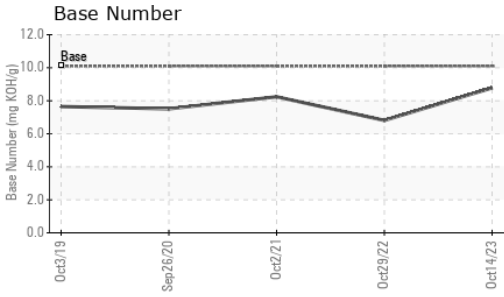
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.8</b>	8.6	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.2</b>	23	21.5

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.8</b>	18.4	17.3
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	<b>8.78</b>	6.81	8.24



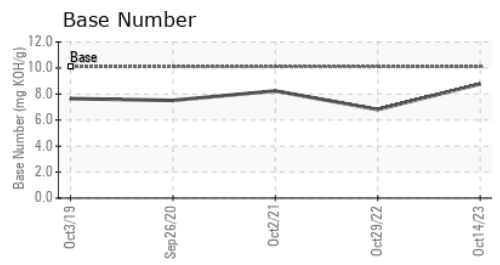
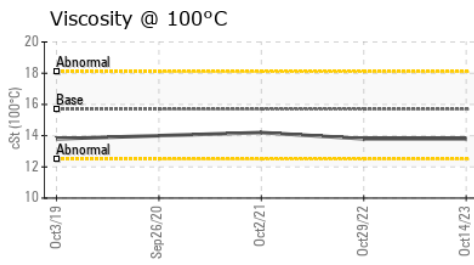
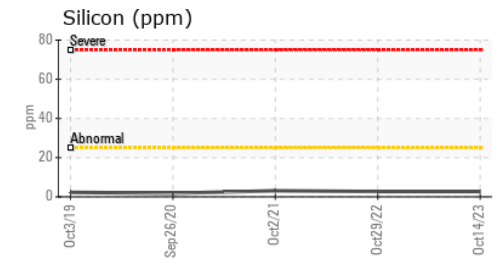
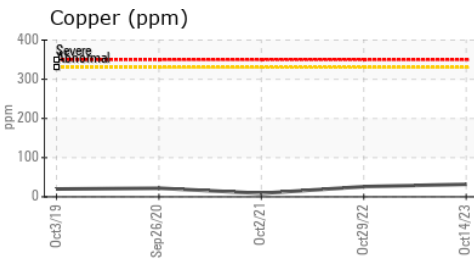
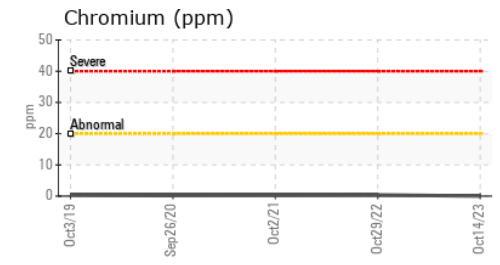
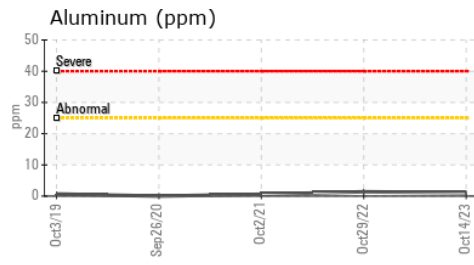
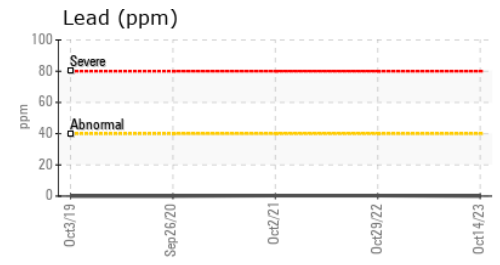
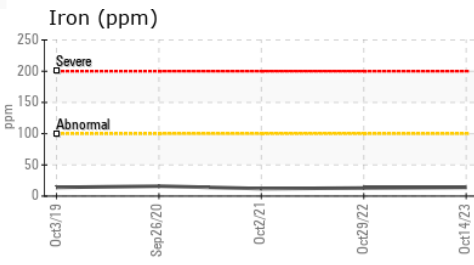
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.8</b>	13.8	14.2

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RW0004160 **Received** : 15 Nov 2023  
**Lab Number** : 06009154 **Diagnosed** : 17 Nov 2023  
**Unique Number** : 10742916 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2

**RUSS SAGER**  
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Certificate L2367  
 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)