



# OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Area  
**Action Newark**  
Machine Id  
**CATERPILLAR 5660**  
Component  
**Diesel Engine**  
Fluid  
**NOT GIVEN (--- GAL)**



## DIAGNOSIS

### Recommendation

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

Piston, ring and cylinder wear is indicated.

### Contamination

Fuel content negligible. 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 acceptable for the time in service. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0864767</b>	---	---
Sample Date	Client Info		<b>19 Oct 2023</b>	---	---
Machine Age	hrs	Client Info	<b>7676</b>	---	---
Oil Age	hrs	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>N/A</b>	---	---
Sample Status			<b>SEVERE</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>▲ 119</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>10</b>	---	---
Nickel	ppm	ASTM D5185m >2	<b>3</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >25	<b>▲ 142</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>7</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>15</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>41</b>	---	---
Manganese	ppm	ASTM D5185m	<b>2</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>501</b>	---	---
Calcium	ppm	ASTM D5185m	<b>1641</b>	---	---
Phosphorus	ppm	ASTM D5185m	<b>905</b>	---	---
Zinc	ppm	ASTM D5185m	<b>1164</b>	---	---
Sulfur	ppm	ASTM D5185m	<b>2754</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>18</b>	---	---
Sodium	ppm	ASTM D5185m	<b>3</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>7</b>	---	---
Fuel	%	ASTM D3524 >5	<b>1.0</b>	---	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>1.6</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>14.2</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>26.6</b>	---	---

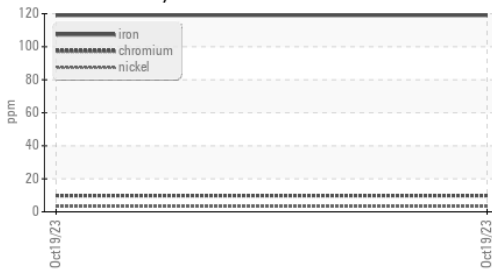
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>24.8</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	<b>7.5</b>	---	---



# OIL ANALYSIS REPORT

## ▲ Ferrous Alloys

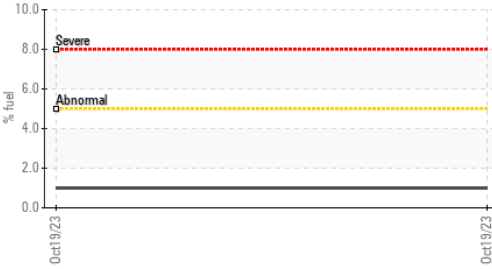


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	11.9	---	---

## GRAPHS

## ● Fuel Dilution



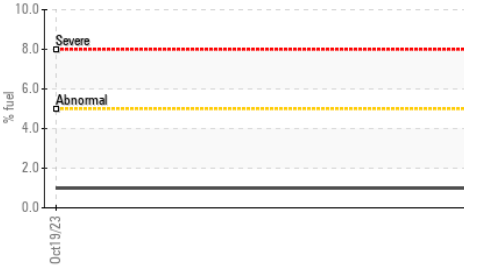
## ▲ Iron (ppm)



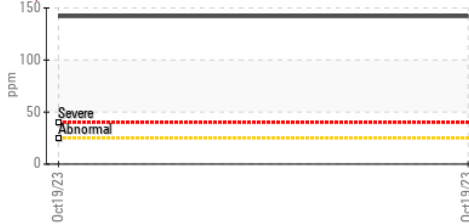
## Lead (ppm)



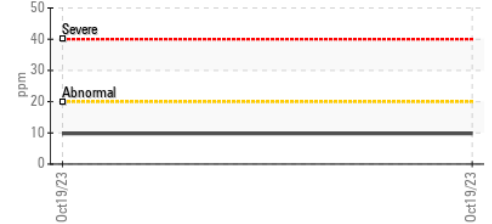
## ● Fuel Dilution



## ● Aluminum (ppm)



## Chromium (ppm)



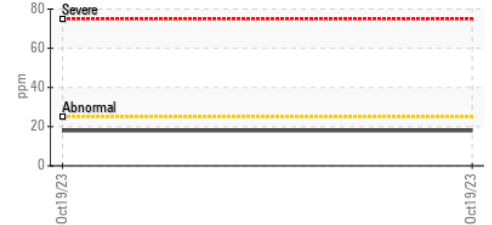
## Base Number



## Copper (ppm)



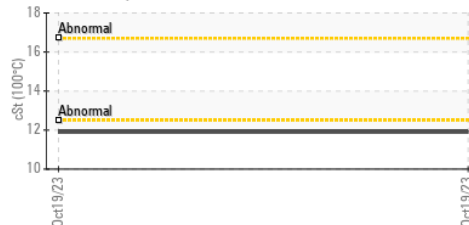
## Silicon (ppm)



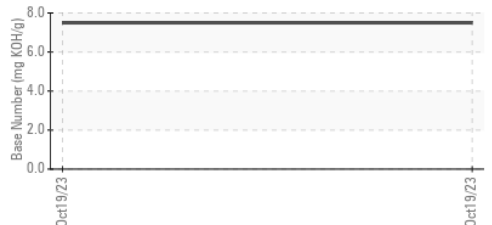
## Viscosity @ 100°C



## Viscosity @ 100°C



## Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0864767 **Received** : 21 Nov 2023  
**Lab Number** : 06013855 **Diagnosed** : 24 Nov 2023  
**Unique Number** : 10752999 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**INTERSTATE WASTE-NEWARK**  
 110 EVERGREEN AVE, BAY 3  
 NEWARK, NJ  
 US 07114  
 Contact: Robert Witynski  
 RWitynski@interstatewaste.com

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)

T:  
F: