



# PROBLEM SUMMARY

Sample Rating Trend



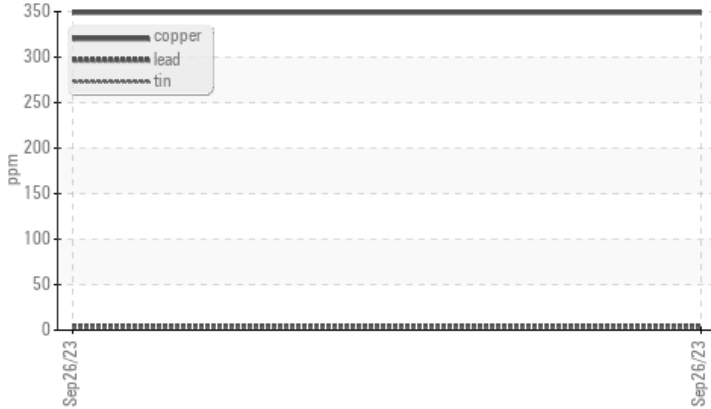
**WEAR**



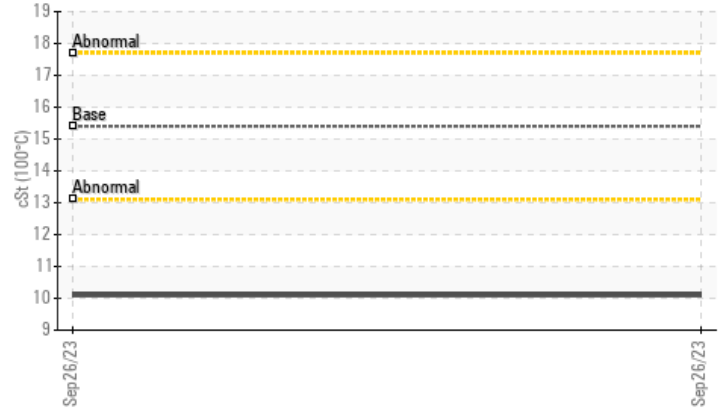
Machine Id  
**JOHN DEERE 524P 17213**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



### ▲ Viscosity @ 100°C



## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	---	---
Copper	ppm	ASTM D5185m	>26	▲ 349	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.1	---	---

Customer Id: MURCAM  
 Sample No.: MT0006052  
 Lab Number: 05967608  
 Test Package: CONST



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Doug Bogart +1 (800)237-1369 x4016  
[dougb@wearcheckusa.com](mailto:dougb@wearcheckusa.com)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS



# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**JOHN DEERE 524P 17213**

Component  
**Diesel Engine**

Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

Resample at the next service interval to monitor.

### ▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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. Confirm oil type.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>MT0006052</b>	---	---
Sample Date	Client Info		<b>26 Sep 2023</b>	---	---
Machine Age	hrs	Client Info	<b>298</b>	---	---
Oil Age	hrs	Client Info	<b>298</b>	---	---
Oil Changed	Client Info		<b>Not Chngd</b>	---	---
Sample Status			<b>ABNORMAL</b>	---	---

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >51	<b>23</b>	---	---
Chromium	ppm	ASTM D5185m >11	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >5	<b>1</b>	---	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >31	<b>&lt;1</b>	---	---
Lead	ppm	ASTM D5185m >26	<b>4</b>	---	---
Copper	ppm	ASTM D5185m >26	<b>▲ 349</b>	---	---
Tin	ppm	ASTM D5185m >4	<b>2</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>261</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>252</b>	---	---
Manganese	ppm	ASTM D5185m	<b>5</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>841</b>	---	---
Calcium	ppm	ASTM D5185m	<b>1424</b>	---	---
Phosphorus	ppm	ASTM D5185m	<b>886</b>	---	---
Zinc	ppm	ASTM D5185m	<b>1070</b>	---	---
Sulfur	ppm	ASTM D5185m	<b>2969</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >22	<b>12</b>	---	---
Sodium	ppm	ASTM D5185m >31	<b>6</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>0</b>	---	---
Fuel	%	ASTM D3524 >2.1	<b>0.3</b>	---	---

## INFRA-RED

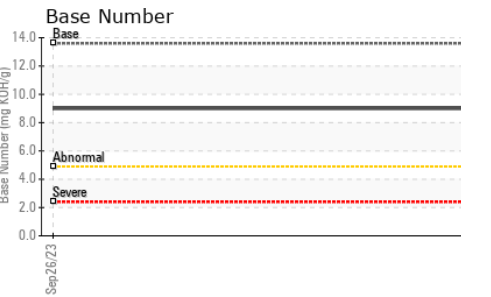
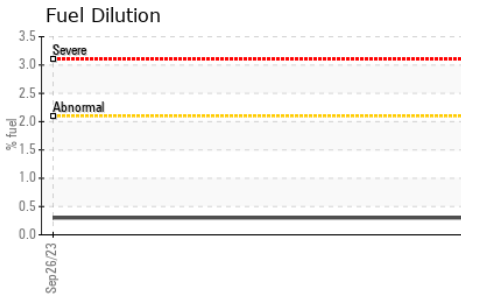
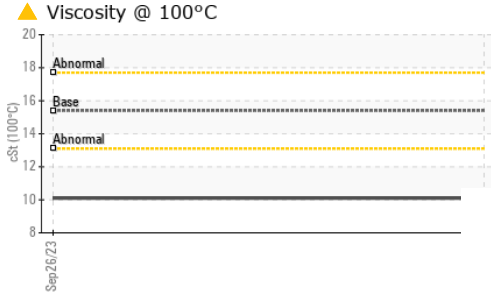
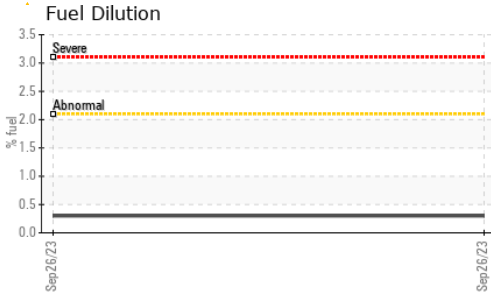
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.1</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.4</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.2</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 13.6	<b>9.0</b>	---	---



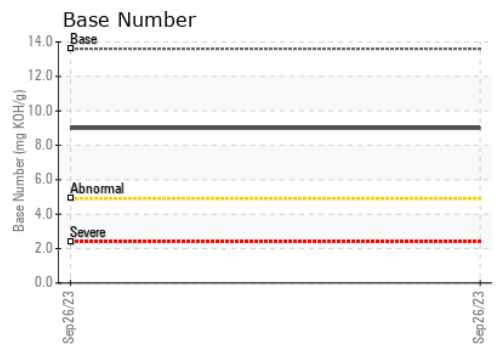
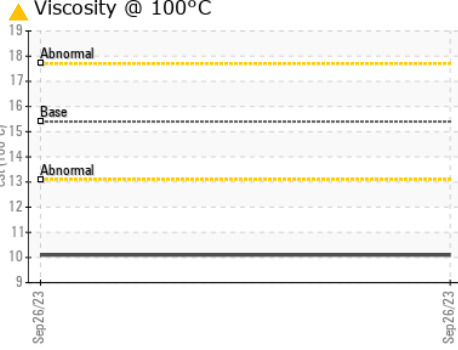
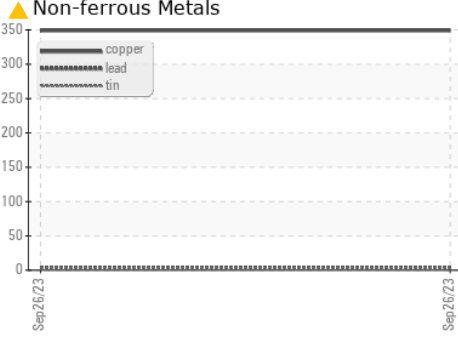
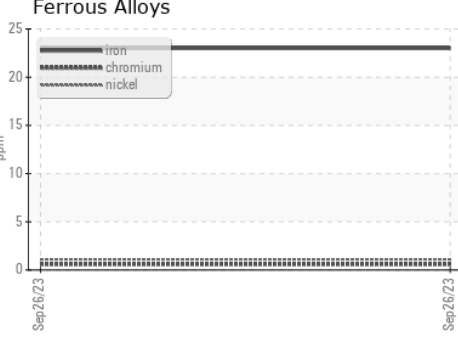
# OIL ANALYSIS REPORT



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	>0.21	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 10.1	---	---

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MT0006052 **Received** : 03 Oct 2023  
**Lab Number** : 05967608 **Diagnosed** : 08 Oct 2023  
**Unique Number** : 10674159 **Diagnostician** : Doug Bogart  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**MURPHY TRACTOR - CAMBRIDGE**  
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 CAMBRIDGE, OH  
 US 43725  
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 DDAILEY@MURPHYTRACTOR.COM

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)