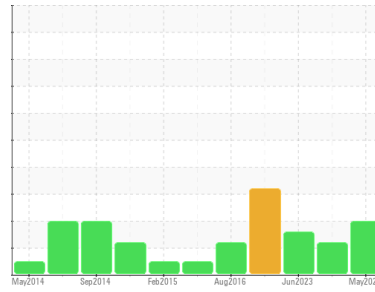


# OIL ANALYSIS REPORT

**Sample Rating Trend**

**GLYCOL**


Machine Id  
**JOHN DEERE 470GLC 1FF470GXJCE470633**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (44 GAL)**

**DIAGNOSIS**
**▲ Recommendation**

Check for low coolant level. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**

All component wear rates are normal.

**▲ Contamination**

Sodium and/or potassium levels are high. There is an abnormal amount of solids and carbon present 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.

**SAMPLE INFORMATION**

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>JR0179721</b>	JR0165983	JR0165436
Sample Date	Client Info		<b>16 May 2024</b>	16 Jan 2024	08 Jun 2023
Machine Age	hrs	Client Info	<b>9011</b>	8442	7807
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

**CONTAMINATION**

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.1	<b>&lt;1.0</b>	<1.0	▲ 2.2
Water	WC Method	>0.21	<b>NEG</b>	NEG	NEG

**WEAR METALS**

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>58	<b>38</b>	50	34
Chromium	ppm	ASTM D5185m	>11	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>49	<b>5</b>	9	2
Lead	ppm	ASTM D5185m	>10	<b>3</b>	2	<1
Copper	ppm	ASTM D5185m	>26	<b>20</b>	8	▲ 30
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	2	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

**ADDITIVES**

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>73</b>	115	71
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>180</b>	192	48
Manganese	ppm	ASTM D5185m		<b>1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>665</b>	690	296
Calcium	ppm	ASTM D5185m		<b>1612</b>	1653	1891
Phosphorus	ppm	ASTM D5185m		<b>906</b>	934	945
Zinc	ppm	ASTM D5185m		<b>1139</b>	1251	1149
Sulfur	ppm	ASTM D5185m		<b>3126</b>	3045	3260

**CONTAMINANTS**

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>22	<b>8</b>	11	5
Sodium	ppm	ASTM D5185m	>31	<b>24</b>	6	0
Potassium	ppm	ASTM D5185m	>20	▲ <b>58</b>	5	4
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG

**INFRA-RED**

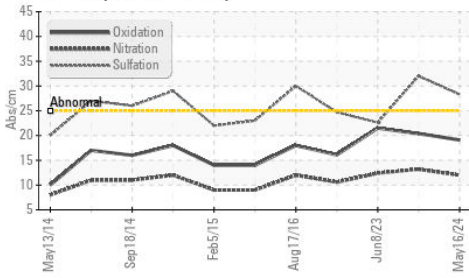
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	▲ <b>3.5</b>	▲ 4.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.0</b>	13.2	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>28.3</b>	32.0	22.6

**FLUID DEGRADATION**

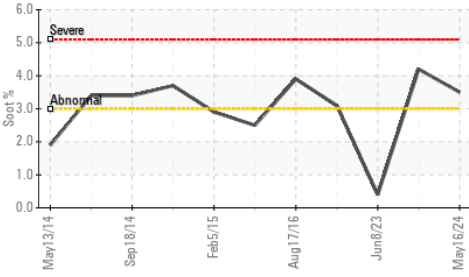
	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.1</b>	20.4	21.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.0</b>	4.9	10.8

# OIL ANALYSIS REPORT

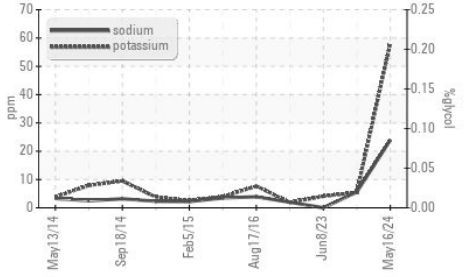
### ▲ FT-IR (Direct Trend)



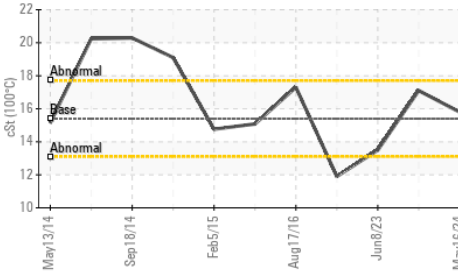
### ▲ Soot %



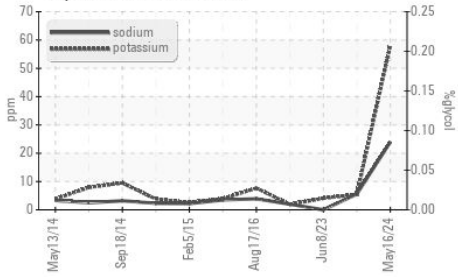
### Glycol Contamination



### Viscosity @ 100°C



### Glycol Contamination

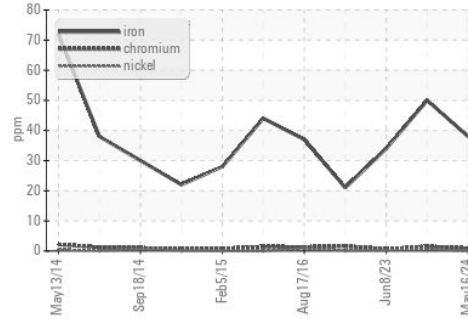


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

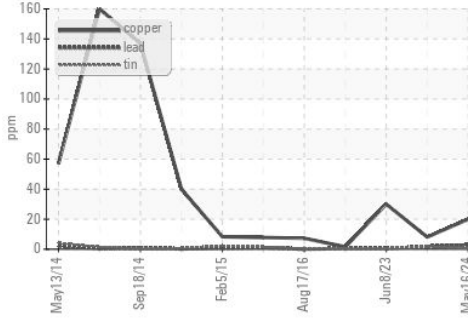
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	15.8	▲ 17.1	13.5

### GRAPHS

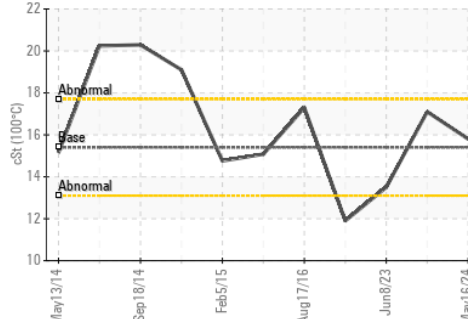
#### Ferrous Alloys



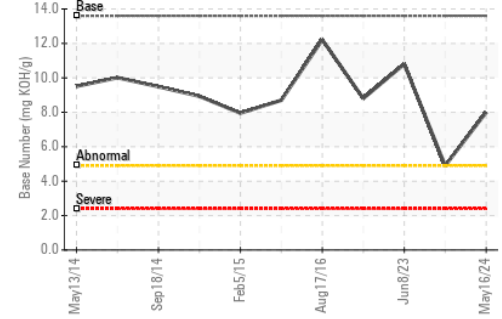
#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0179721  
**Lab Number** : 06184092  
**Unique Number** : 11035418  
**Test Package** : CONST ( Additional Tests: Glycol, TBN )

**Received** : 20 May 2024  
**Tested** : 21 May 2024  
**Diagnosed** : 21 May 2024 - Sean Felton

**JRE - ASHLAND**  
 11047 LEADBETTER RD  
 ASHLAND, VA  
 US 23005

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)

Contact: DAVID ZIEG  
 dzieg@jamesriverequipment.com

T: (804)798-6001

F: (804)798-0292