



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**JOHN DEERE 644K 1DW644KZAED661834**

Component  
**Hydraulic System**

Fluid  
**JOHN DEERE HY-GARD HYD/TRANS (--- GAL)**

### RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0197514</b>	JR0167648	---
Sample Date		Client Info		<b>15 Jan 2024</b>	18 May 2023	---
Machine Age	hrs	Client Info		<b>11098</b>	10147	---
Oil Age	hrs	Client Info		<b>11098</b>	3000	---
Filter Age	hrs	Client Info		<b>0</b>	3000	---
Oil Changed		Client Info		<b>Not Changed</b>	N/A	---
Filter Changed		Client Info		<b>Not Changed</b>	Changed	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	<b>12</b>	19	---
Iron	ppm	ASTM D5185m	>71	<b>8</b>	8	---
Chromium	ppm	ASTM D5185m	>11	<b>2</b>	3	---
Nickel	ppm	ASTM D5185m	>6	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m		<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>11	<b>6</b>	7	---
Lead	ppm	ASTM D5185m	>13	<b>&lt;1</b>	1	---
Copper	ppm	ASTM D5185m	>21	<b>7</b>	8	---
Tin	ppm	ASTM D5185m	>5	<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

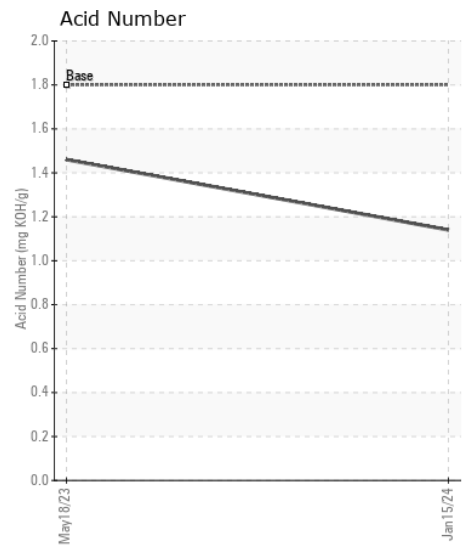
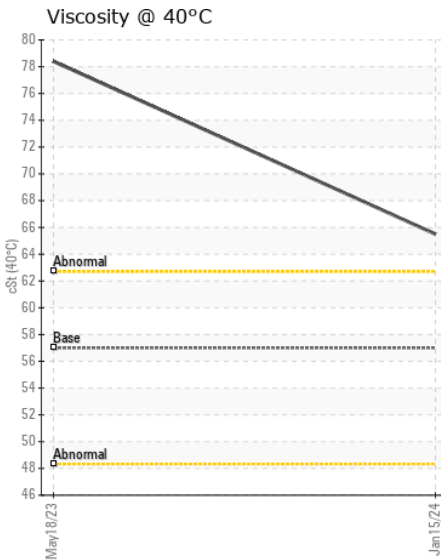
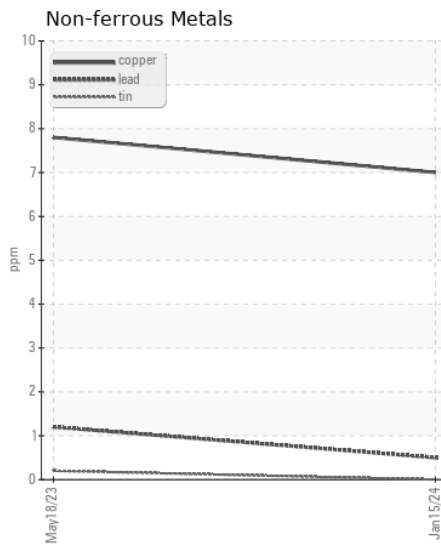
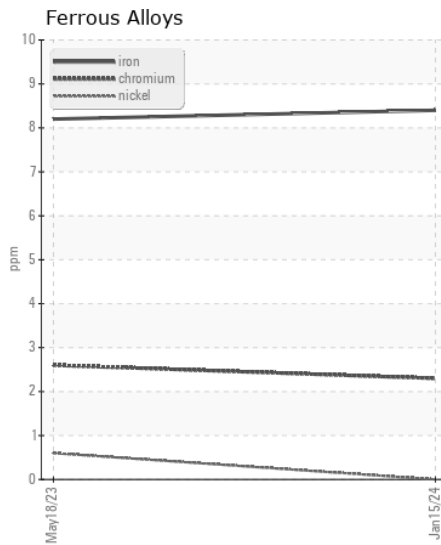
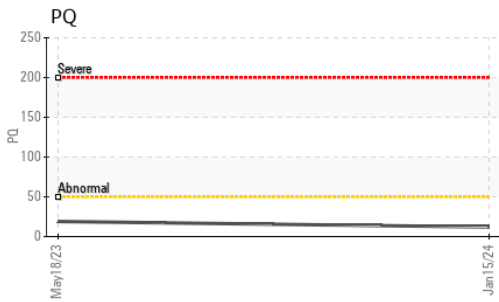
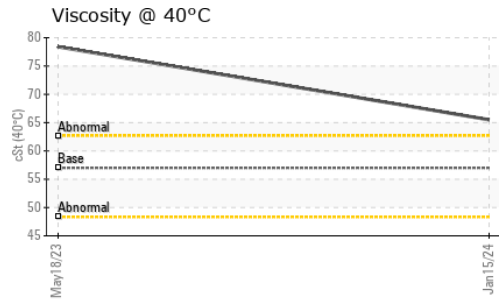
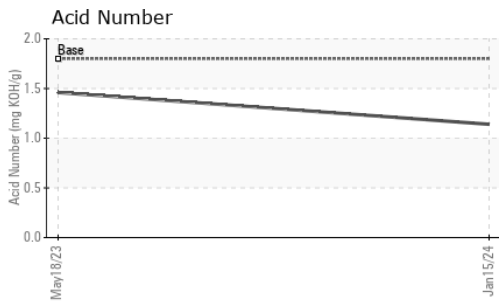
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>24	<b>10</b>	12	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	---
Water		WC Method	>0.075	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>80000	<b>---</b>	26568	---
Particles >6µm		ASTM D7647	>5000	<b>---</b>	4630	---
Particles >14µm		ASTM D7647	>640	<b>---</b>	177	---
Particles >21µm		ASTM D7647	>160	<b>---</b>	26	---
Particles >38µm		ASTM D7647	>40	<b>---</b>	0	---
Particles >71µm		ASTM D7647	>10	<b>---</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>23/19/16	<b>---</b>	22/19/15	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>▲ MODER</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.075	<b>NEG</b>	NEG	---

### FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>21	<b>5</b>	6	---
Boron	ppm	ASTM D5185m	6	<b>133</b>	180	---
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	0	<b>125</b>	176	---
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185m	145	<b>515</b>	734	---
Calcium	ppm	ASTM D5185m	3570	<b>1360</b>	1705	---
Phosphorus	ppm	ASTM D5185m	1290	<b>806</b>	1031	---
Zinc	ppm	ASTM D5185m	1640	<b>930</b>	1228	---
Sulfur	ppm	ASTM D5185m		<b>2612</b>	3750	---
Acid Number (AN)	mg KOH/g	ASTM D8045	1.8	<b>1.14</b>	1.46	---
Visc @ 40°C	cSt	ASTM D445	57.0	<b>65.5</b>	78.4	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0197514 **Received** : 17 Jan 2024  
**Lab Number** : 06062561 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833943 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - GARNER**  
 4161 AUBURN CHURCH RD  
 GARNER, NC  
 US 27529

Contact: RALEIGH SHOP  
 sean.betts@jamesriverequipment.com; catherine.anastasio@wearcheck.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)

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