



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

Area

**[05W48110]**

Machine Id

**SENNEBOGEN 821M 821.0.2814**

Component

**Hydraulic System**

Fluid

**JOHN DEERE ZINC-FREE HYDRAULIC OIL 46 (60 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0226624</b>	JR0214346	JR0208463
Sample Date		Client Info		<b>16 Jul 2024</b>	17 May 2024	12 Mar 2024
Machine Age	hrs	Client Info		<b>5030</b>	4551	4023
Oil Age	hrs	Client Info		<b>1000</b>	528	1000
Filter Age	hrs	Client Info		<b>1000</b>	528	1000
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185m	>20	<b>8</b>	2	4
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	0	2
Lead	ppm	ASTM D5185m	>10	<b>0</b>	1	1
Copper	ppm	ASTM D5185m	>75	<b>2</b>	2	3
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

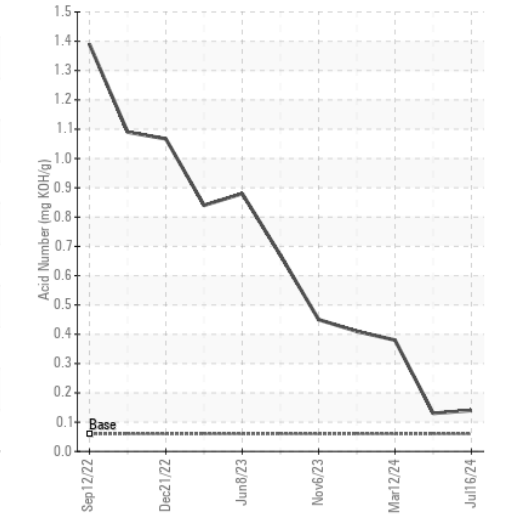
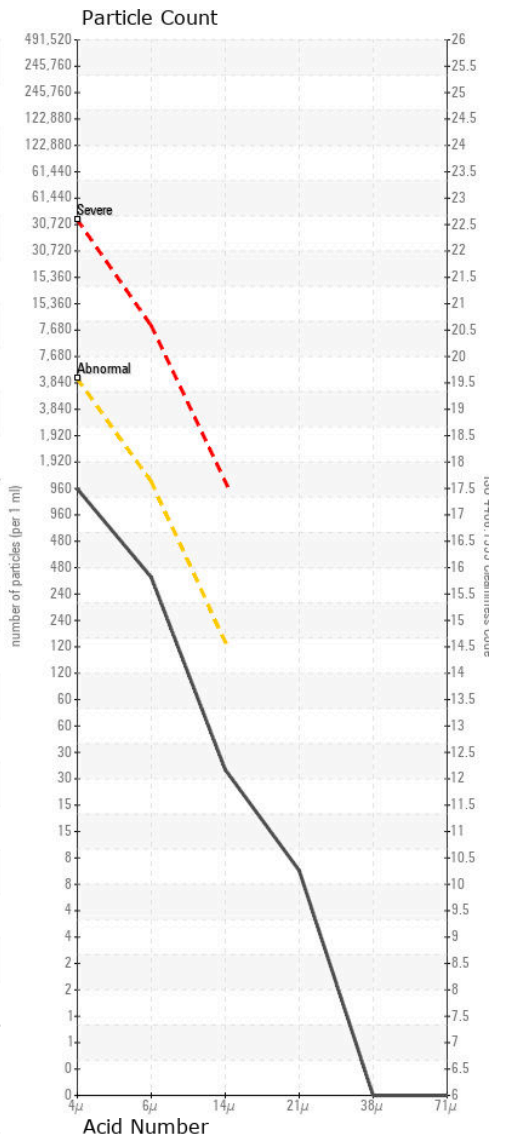
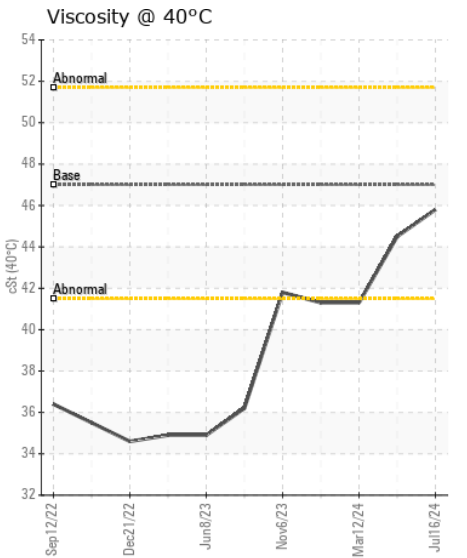
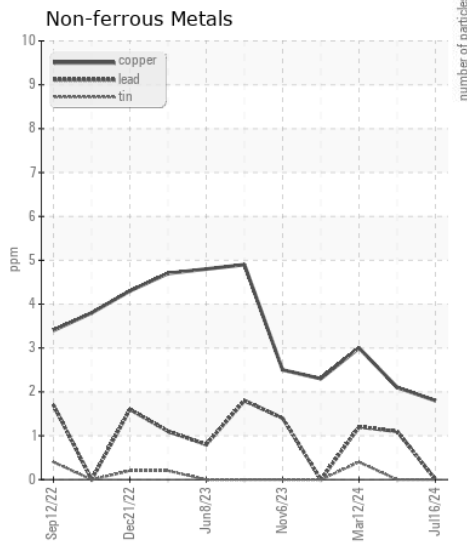
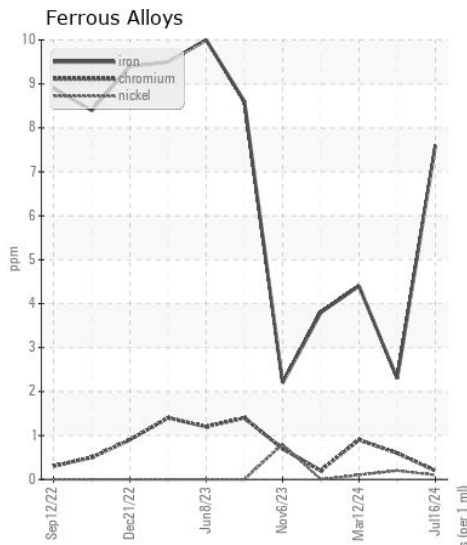
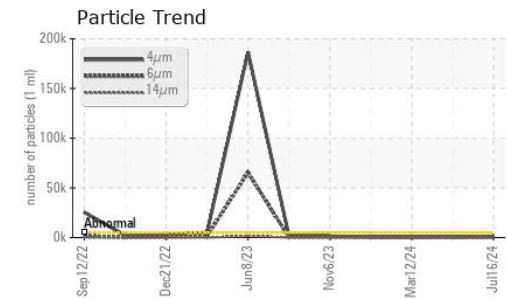
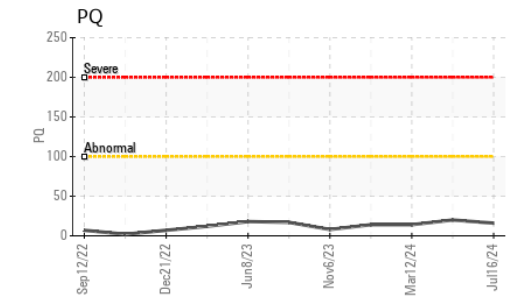
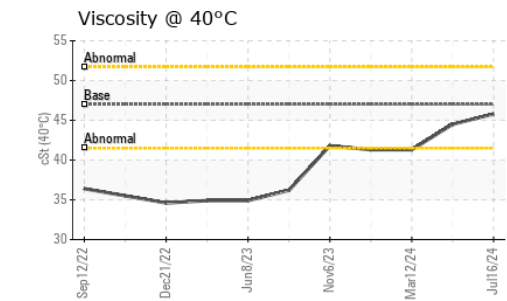
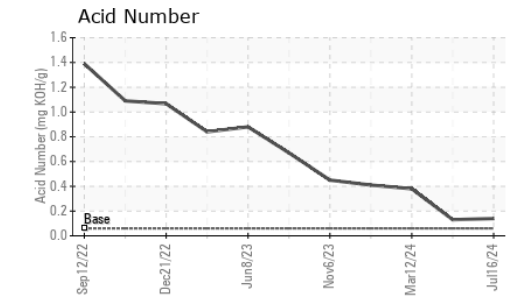
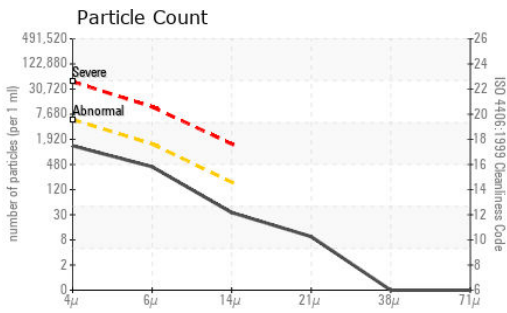
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>1181</b>	893	208
Particles >6µm		ASTM D7647	>1300	<b>372</b>	130	77
Particles >14µm		ASTM D7647	>160	<b>30</b>	7	11
Particles >21µm		ASTM D7647	>40	<b>8</b>	3	3
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/16/12</b>	17/14/10	15/13/11
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	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		<b>6</b>	2	0
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>3</b>	2	2
Calcium	ppm	ASTM D5185m		<b>52</b>	148	381
Phosphorus	ppm	ASTM D5185m		<b>541</b>	505	398
Zinc	ppm	ASTM D5185m		<b>48</b>	118	218
Sulfur	ppm	ASTM D5185m		<b>731</b>	977	1568
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.14</b>	0.13	0.38
Visc @ 40°C	cSt	ASTM D445	47	<b>45.8</b>	44.5	41.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0226624 **Received** : 17 Jul 2024  
**Lab Number** : 06239045 **Tested** : 18 Jul 2024  
**Unique Number** : 11127879 **Diagnosed** : 18 Jul 2024 - Don Baldridge  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - MANASSAS PARK**  
 9107 OWENS DRIVE  
 MANASSAS PARK, VA  
 US 20111  
 Contact: DON VEST  
 dvest@jamesriverequipment.com  
 T: (703)631-8500  
 F: (703)631-4715

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)