



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[05W46859]

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		JR0214346	JR0208463	JR0199344
Sample Date		Client Info		17 May 2024	12 Mar 2024	05 Jan 2024
Machine Age	hrs	Client Info		4551	4023	3489
Oil Age	hrs	Client Info		528	1000	3489
Filter Age	hrs	Client Info		528	1000	0
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Not Chngd	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

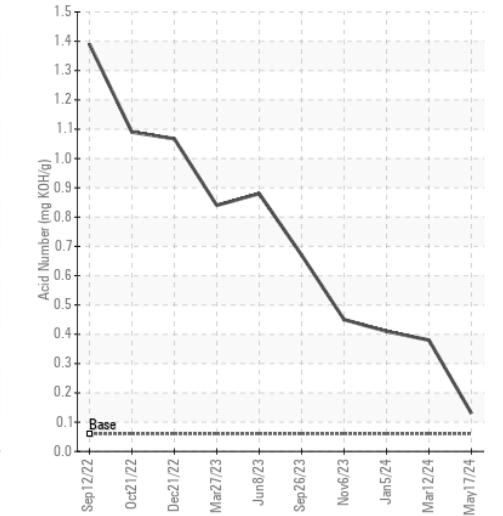
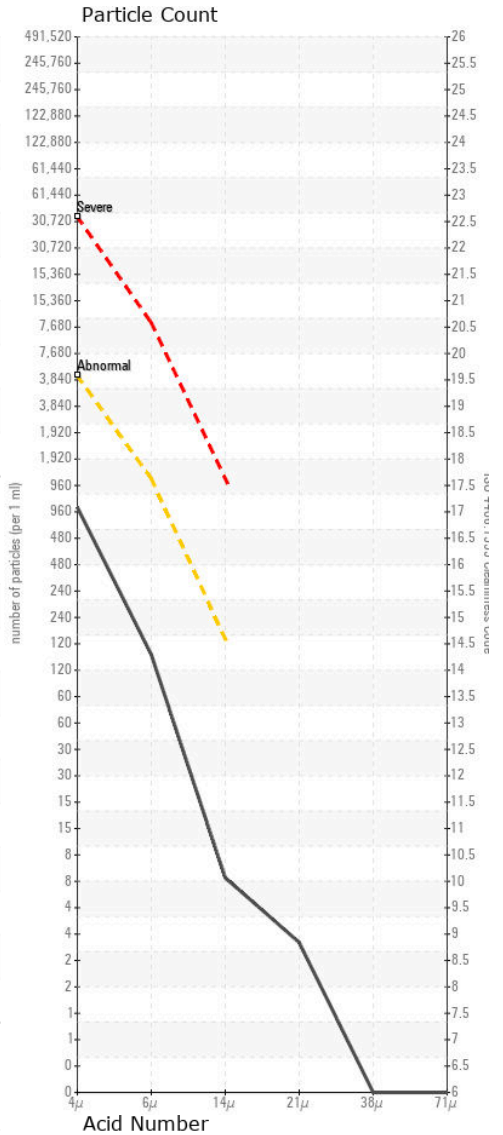
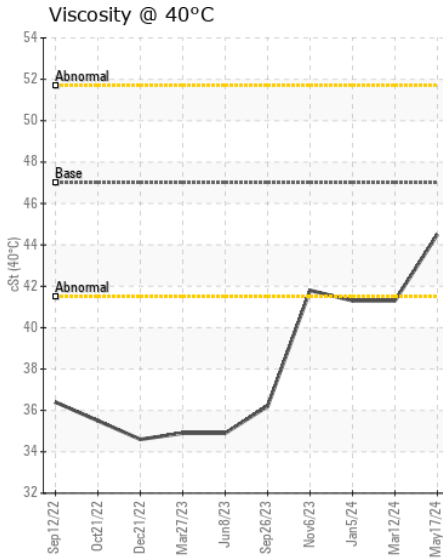
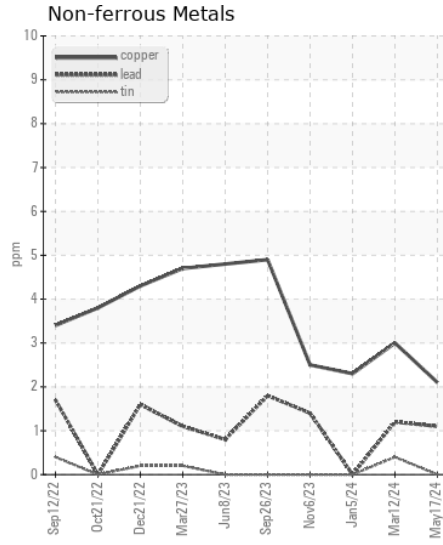
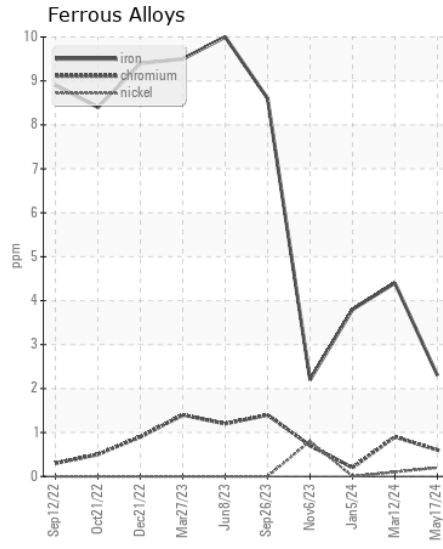
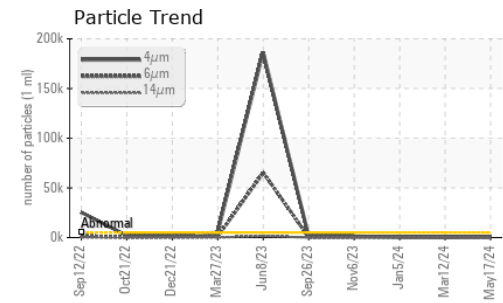
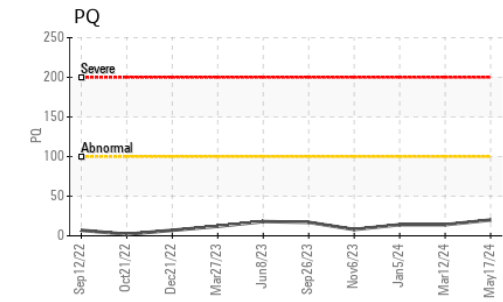
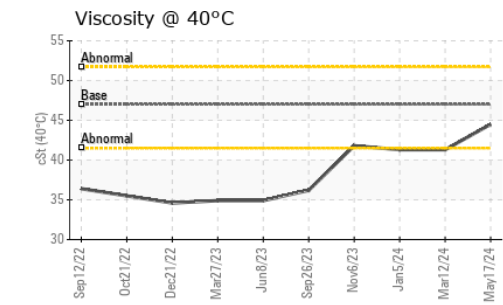
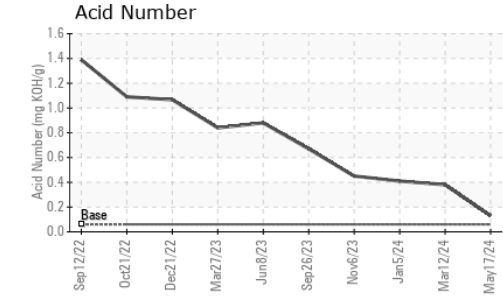
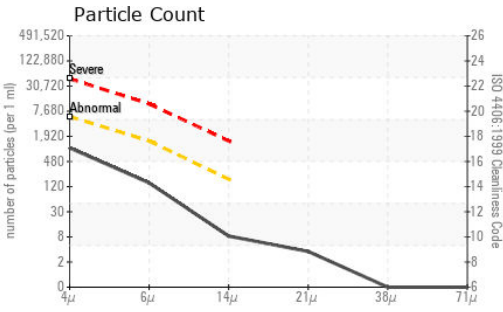
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	0	1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	893	208	681
Particles >6µm		ASTM D7647	>1300	130	77	255
Particles >14µm		ASTM D7647	>160	7	11	33
Particles >21µm		ASTM D7647	>40	3	3	9
Particles >38µm		ASTM D7647	>10	0	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/14/10	15/13/11	17/15/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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		2	0	2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		2	2	0
Calcium	ppm	ASTM D5185m		148	381	381
Phosphorus	ppm	ASTM D5185m		505	398	483
Zinc	ppm	ASTM D5185m		118	218	188
Sulfur	ppm	ASTM D5185m		977	1568	1407
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.13	0.38	0.41
Visc @ 40°C	cSt	ASTM D445	47	44.5	41.3	41.3



Certificate 12367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0214346 **Received** : 21 May 2024
Lab Number : 06186638 **Tested** : 23 May 2024
Unique Number : 11043390 **Diagnosed** : 23 May 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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 US 20111
 Contact: DON VEST
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 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)