



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[05W44186]

Machine Id

SENNEBOGEN 821M 821.0.2814

Component

Hydraulic System

Fluid

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

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0199344	JR0192206	JR0187904
Sample Date		Client Info		05 Jan 2024	06 Nov 2023	26 Sep 2023
Machine Age	hrs	Client Info		3489	3022	2732
Oil Age	hrs	Client Info		3489	100	2732
Filter Age	hrs	Client Info		0	0	737
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
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	4	2	9
Chromium	ppm	ASTM D5185m	>10	<1	<1	1
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	0	0	0
Lead	ppm	ASTM D5185m	>10	0	1	2
Copper	ppm	ASTM D5185m	>75	2	2	5
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

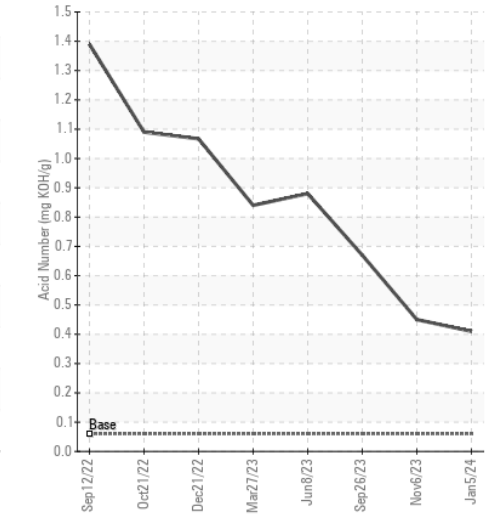
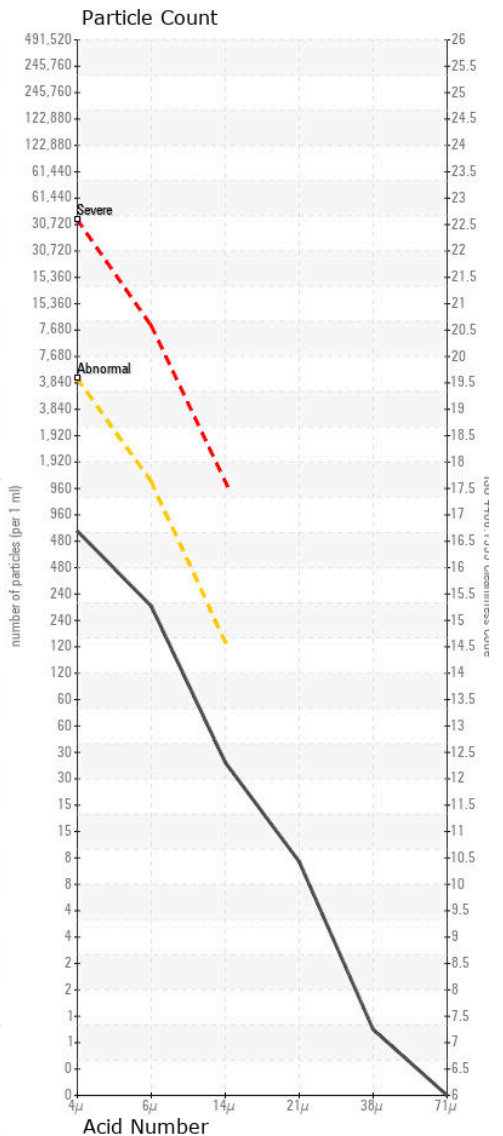
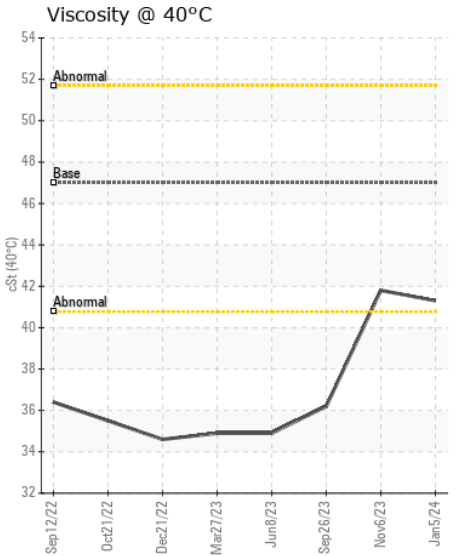
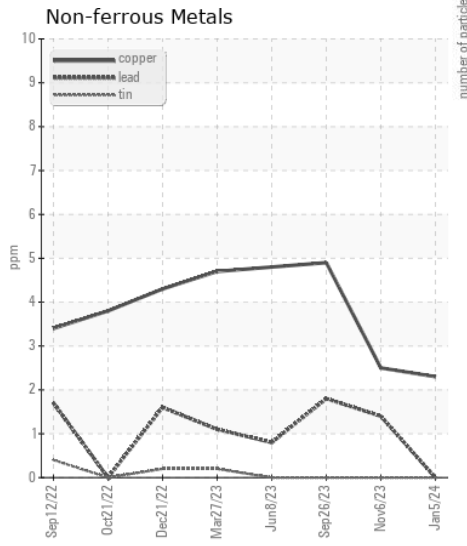
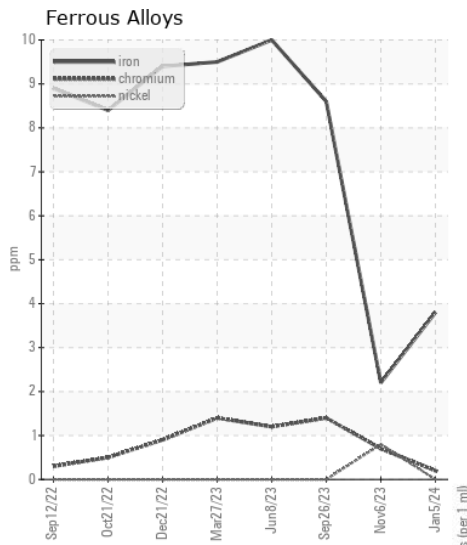
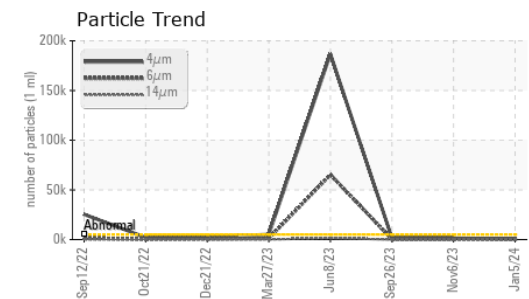
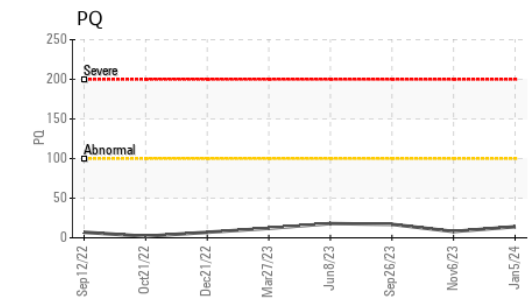
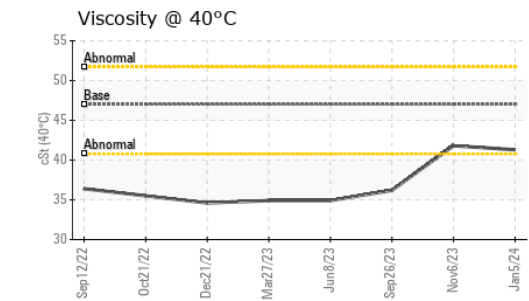
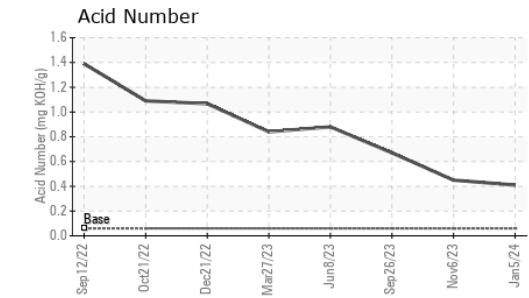
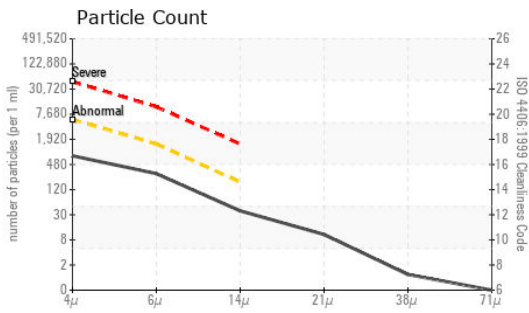
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<1	<1	2
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	681	1405	1609
Particles >6µm		ASTM D7647	>1300	255	413	390
Particles >14µm		ASTM D7647	>160	33	38	35
Particles >21µm		ASTM D7647	>40	9	12	13
Particles >38µm		ASTM D7647	>10	1	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/15/12	18/16/12	18/16/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	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	3	5
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		0	2	2
Calcium	ppm	ASTM D5185m		381	407	909
Phosphorus	ppm	ASTM D5185m		483	496	453
Zinc	ppm	ASTM D5185m		188	196	463
Sulfur	ppm	ASTM D5185m		1407	1733	3559
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.41	0.45	0.67
Visc @ 40°C	cSt	ASTM D445	47	41.3	41.8	36.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0199344 **Received** : 09 Jan 2024
Lab Number : 06055863 **Diagnosed** : 10 Jan 2024
Unique Number : 10821812 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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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