OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Machine Id
JOHN DEERE 10-21
Component
Hydraulic System
Fluid
JOHN DEERE HYDRAU (--- GAL)

DIAGNOSIS

Recommendation
We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
Chromium ppm levels are marginal. All other component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition
Viscosity of sample indicates oil is within SAE 75W80 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0076088**	PC0061425	---
Sample Date		Client Info		**08 May 2024**	13 Jul 2023	---
Machine Age	hrs	Client Info		**4000**	2825	---
Oil Age	hrs	Client Info		**0**	2825	---
Oil Changed		Client Info		**Not Changd**	Not Changd	---
Sample Status				**ABNORMAL**	ABNORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**6**	4	---
Chromium	ppm	ASTM D5185(m)	>10	▲ **10**	7	---
Nickel	ppm	ASTM D5185(m)	>10	**<1**	0	---
Titanium	ppm	ASTM D5185(m)		**0**	0	---
Silver	ppm	ASTM D5185(m)		**<1**	0	---
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Lead	ppm	ASTM D5185(m)	>10	**0**	<1	---
Copper	ppm	ASTM D5185(m)	>75	**2**	1	---
Tin	ppm	ASTM D5185(m)	>10	**0**	0	---
Antimony	ppm	ASTM D5185(m)		**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

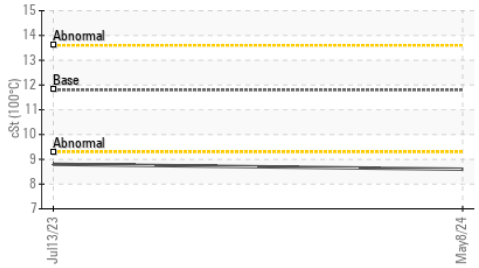
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**6**	8	---
Barium	ppm	ASTM D5185(m)		**0**	0	---
Molybdenum	ppm	ASTM D5185(m)		**0**	<1	---
Manganese	ppm	ASTM D5185(m)		**0**	0	---
Magnesium	ppm	ASTM D5185(m)		**8**	6	---
Calcium	ppm	ASTM D5185(m)	87	**489**	562	---
Phosphorus	ppm	ASTM D5185(m)	727	**674**	734	---
Zinc	ppm	ASTM D5185(m)	900	**845**	863	---
Sulfur	ppm	ASTM D5185(m)	1500	**1670**	1715	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**<1**	2	---
Sodium	ppm	ASTM D5185(m)		**4**	2	---
Potassium	ppm	ASTM D5185(m)	>20	**4**	5	---

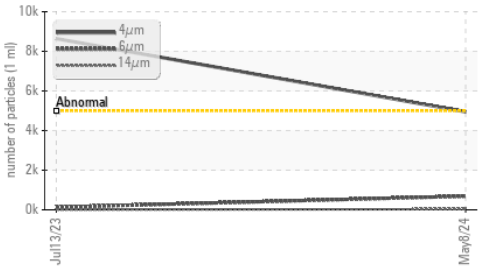
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**4951**	8640	---
Particles >6µm		ASTM D7647	>1300	**689**	132	---
Particles >14µm		ASTM D7647	>160	**32**	12	---
Particles >21µm		ASTM D7647	>40	**13**	6	---
Particles >38µm		ASTM D7647	>10	**5**	0	---
Particles >71µm		ASTM D7647	>3	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**19/17/12**	20/14/11	---

OIL ANALYSIS REPORT

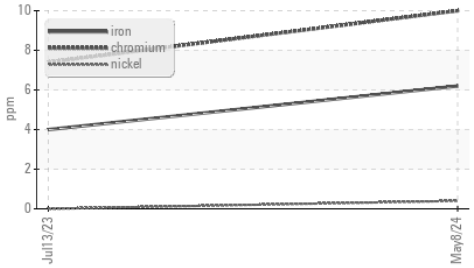
Viscosity @ 100°C



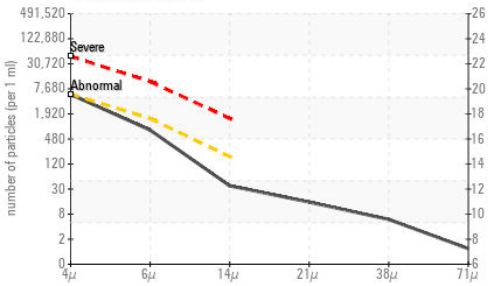
Particle Trend



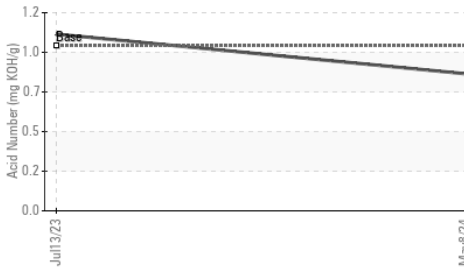
Ferrous Alloys



Particle Count



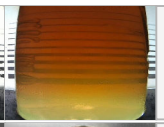
Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.0	**0.83**	1.07	---

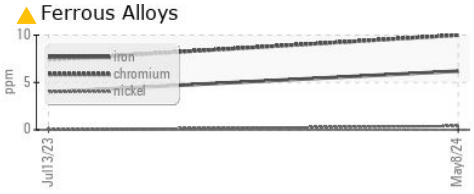
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**VLITE**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	65	▲ **42.5**	▲ 42.3	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.8	▲ **8.6**	▲ 8.8	---
Viscosity Index (VI)	Scale	ASTM D2270*	178	**185**	194	---

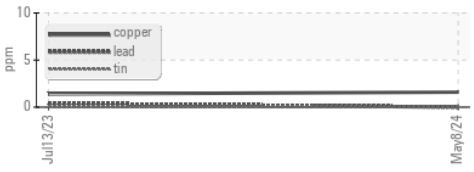
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

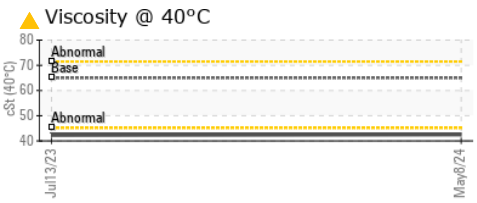
Ferrous Alloys



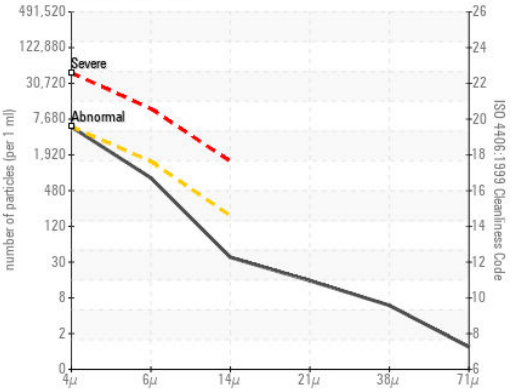
Non-ferrous Metals



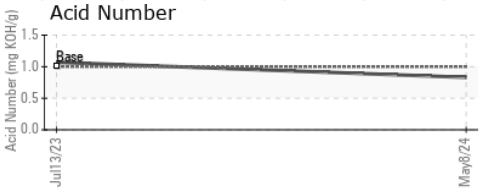
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076088
Lab Number : 02647822
Unique Number : 5813374
Test Package : IND 2 (Additional Tests: Bottom, KV100, VI)

Received : 15 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 2024 - Kevin Marson

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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