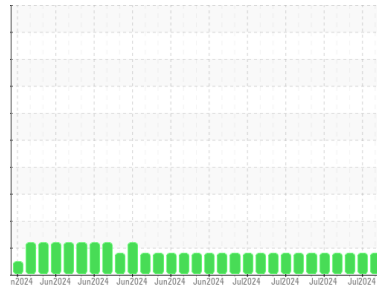




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
QC240601HY

Component
Hydraulic System

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

Fluid Condition

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		WC0961086	WC0961085	WC0961082
Sample Date	Client Info		16 Jul 2024	15 Jul 2024	12 Jul 2024
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			MARGINAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>47	23	23	13	
Iron	ppm	ASTM D5185m	>78	24	25	22
Chromium	ppm	ASTM D5185m	>2	0	<1	0
Nickel	ppm	ASTM D5185m	>3	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>5	2	2	1
Lead	ppm	ASTM D5185m	>11	0	<1	0
Copper	ppm	ASTM D5185m	>84	12	13	12
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	6	0	2	<1
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	0	0	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	145	87	88	77
Calcium	ppm	ASTM D5185m	3570	3273	3285	3223
Phosphorus	ppm	ASTM D5185m	1290	1031	1042	959
Zinc	ppm	ASTM D5185m	1640	1154	1232	1073
Sulfur	ppm	ASTM D5185m		3892	3413	3619

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>11	15	14	13
Sodium	ppm	ASTM D5185m	>23	9	6	10
Potassium	ppm	ASTM D5185m	>20	0	3	1
Water	%	ASTM D6304	>0.1669	0.053	0.071	0.068
ppm Water	ppm	ASTM D6304	>1669	538	719	688

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 6674	▲ 7776	▲ 8177
Particles >6µm	ASTM D7647	>1300	389	279	422
Particles >14µm	ASTM D7647	>160	20	11	12
Particles >21µm	ASTM D7647	>40	7	5	5
Particles >38µm	ASTM D7647	>10	2	1	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 20/16/11	▲ 20/15/11	▲ 20/16/11

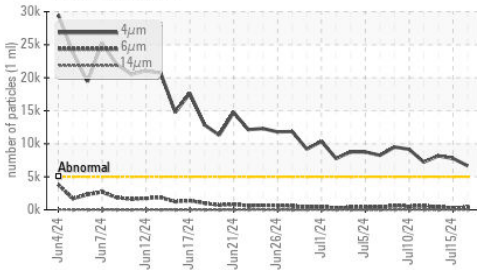
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	1.8	1.23	1.25	1.13

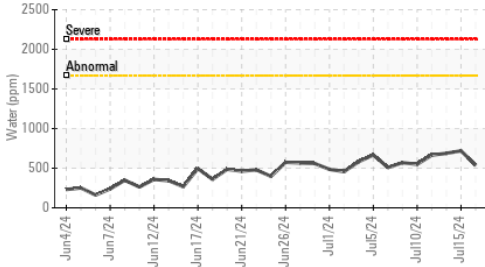


OIL ANALYSIS REPORT

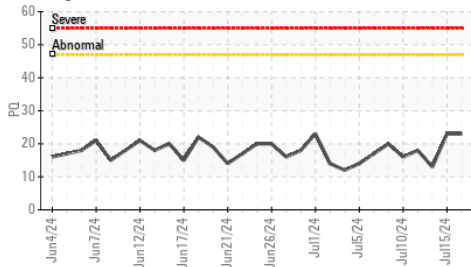
Particle Trend



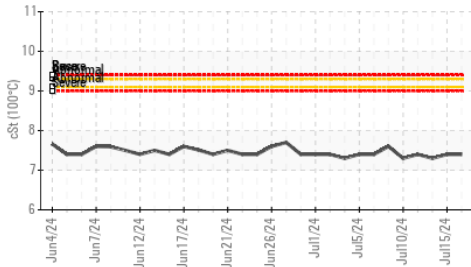
Water (KF)



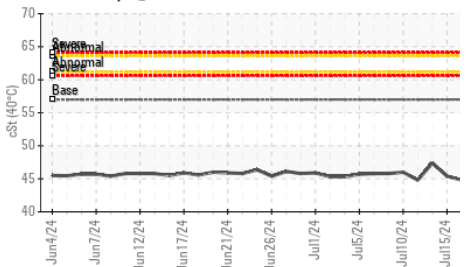
PQ



Viscosity @ 100°C



Viscosity @ 40°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1669	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

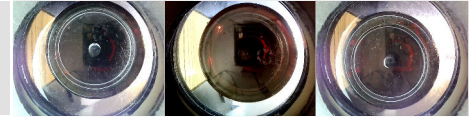
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	57.0	44.8	45.4
Visc @ 100°C	cSt	ASTM D445	9.4	7.4	7.3
Viscosity Index (VI)	Scale	ASTM D2270	147	129	126

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

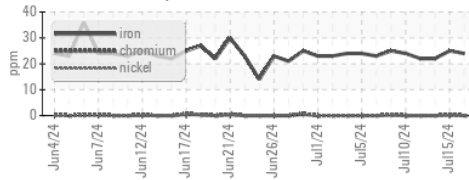


Bottom

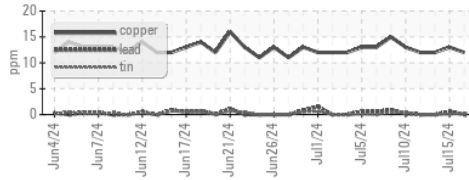


GRAPHS

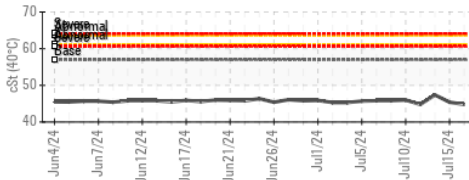
Ferrous Alloys



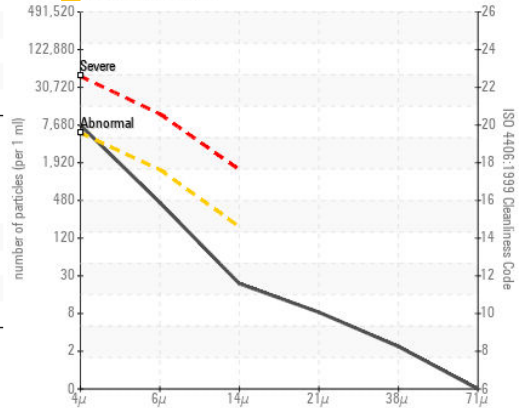
Non-ferrous Metals



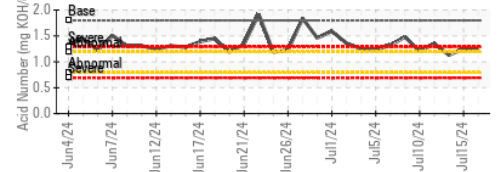
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0961086

Lab Number : 06237785

Unique Number : 11126619

Test Package : IND 2 (Additional Tests: KF, KV100, PQ, VI)

Received : 16 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 19 Jul 2024 - Jonathan Hester

WEARCHECK LUBRICATION SERVICES QA ACCOUNT

501 Madison Ave

Cary, NC

US 27513

Contact: WCLS CARY NC

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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