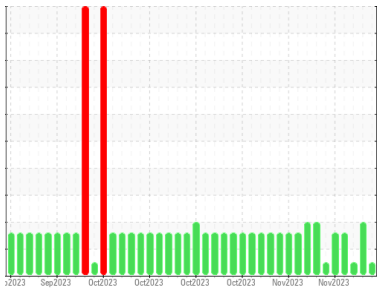
OIL ANALYSIS REPORT

Sample Rating Trend



UNKNOWN

Area
WCLSNC
Machine Id
QC230801HY
Component
Hydraulic System
Fluid
JOHN DEERE HY-GARD HYD/TRANS (--- GAL)

DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0877801**	WC0877800	WC0877799
Sample Date		Client Info		**16 Nov 2023**	15 Nov 2023	14 Nov 2023
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				**---**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>47	**39**	43	58
Iron	ppm	ASTM D5185m	>78	▲ **79**	85	91
Chromium	ppm	ASTM D5185m	>2	**1**	1	1
Nickel	ppm	ASTM D5185m	>3	**2**	2	2
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>5	**1**	3	3
Lead	ppm	ASTM D5185m	>11	**8**	12	9
Copper	ppm	ASTM D5185m	>84	**76**	74	76
Tin	ppm	ASTM D5185m	>4	**2**	4	3
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	6	**101**	97	92
Barium	ppm	ASTM D5185m	0	**8**	<1	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	<1
Manganese	ppm	ASTM D5185m		▲ **20**	22	▲ 22
Magnesium	ppm	ASTM D5185m	145	▲ **20**	27	22
Calcium	ppm	ASTM D5185m	3570	▲ **3122**	3535	3288
Phosphorus	ppm	ASTM D5185m	1290	▲ **1021**	1264	1117
Zinc	ppm	ASTM D5185m	1640	**1290**	1576	1394
Sulfur	ppm	ASTM D5185m		**3442**	3631	3278

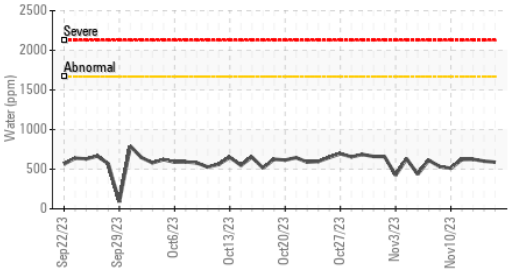
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>11	**9**	10	10
Sodium	ppm	ASTM D5185m	>23	**14**	19	18
Potassium	ppm	ASTM D5185m	>20	**2**	<1	2
Water	%	ASTM D6304	>0.1669	**0.058**	0.060	0.062
ppm Water	ppm	ASTM D6304	>1669	**588.0**	601.7	624.9

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**---**	▲ 199510	---
Particles >6µm		ASTM D7647	>1300	**---**	▲ 124262	---
Particles >14µm		ASTM D7647	>160	**---**	▲ 2146	---
Particles >21µm		ASTM D7647	>40	**---**	▲ 51	---
Particles >38µm		ASTM D7647	>10	**---**	0	---
Particles >71µm		ASTM D7647	>3	**---**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**---**	▲ 25/24/18	---

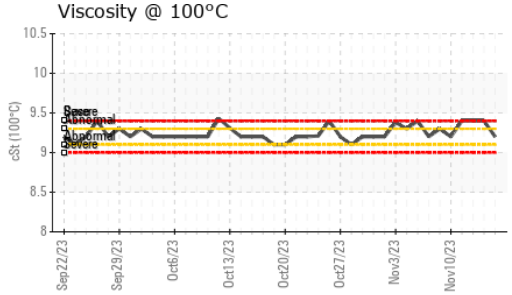
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.8	**0.89**	0.562	0.663

OIL ANALYSIS REPORT

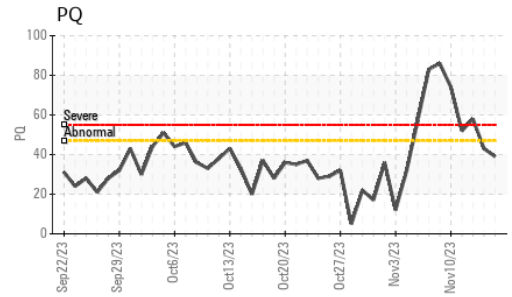
Water (KF)



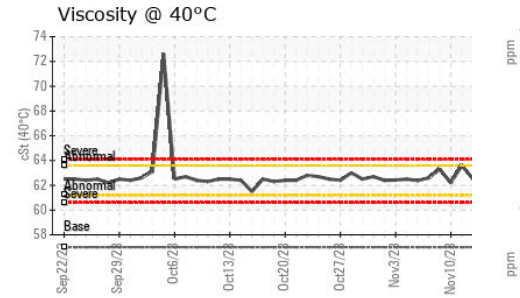
Viscosity @ 100°C



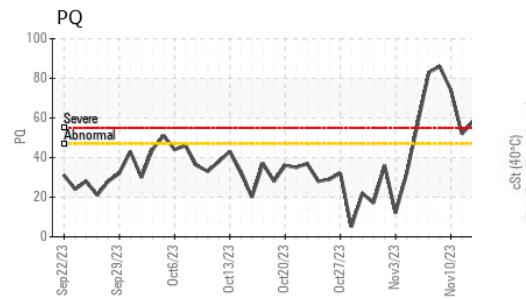
PQ



Viscosity @ 40°C



PQ



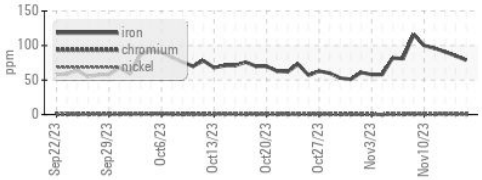
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	MODER	▲ MODER
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
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	>0.1669	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	57.0	**62.7**	62.6	62.5
Visc @ 100°C	cSt	ASTM D445	9.4	**9.2**	9.4	9.4
Viscosity Index (VI)	Scale	ASTM D2270	147	**124**	130	130

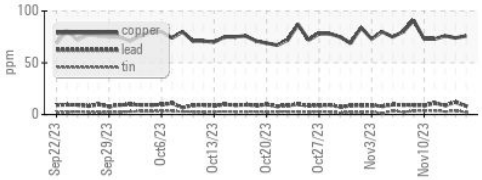
SAMPLE IMAGES						
Color						
Bottom						

GRAPHS

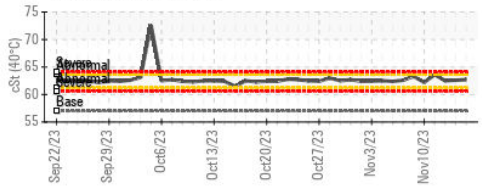
Ferrous Alloys



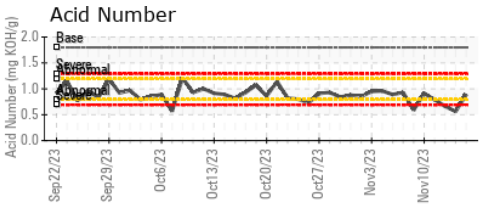
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0877801 **Recieved** : 16 Nov 2023
Lab Number : 06009623 **Diagnosed** : 16 Jan 2024
Unique Number : 10743385 **Diagnostician** : System
Test Package : IND 2 (Additional Tests: KF, KV100, PQ, VI)

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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Contact: WCLS CARY NC

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