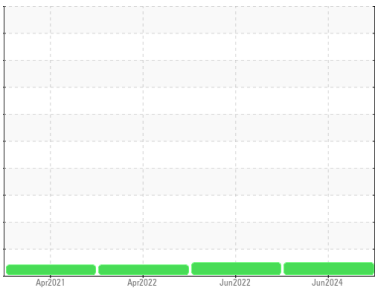
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
E-156
Component
Hydraulic System
Fluid
JOHN DEERE ZINC-FREE HYDRAULIC OIL 46 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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		**WC0900335**	WC0663508	WC0663488
Sample Date		Client Info		**19 Jun 2024**	13 Jun 2022	22 Apr 2022
Machine Age	hrs	Client Info		**8547**	5667	5353
Oil Age	hrs	Client Info		**2003**	1232	2323
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	ABNORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**15**	16	15
Chromium	ppm	ASTM D5185m	>10	**3**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	1	2
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**10**	4	4
Lead	ppm	ASTM D5185m	>10	**0**	<1	<1
Copper	ppm	ASTM D5185m	>75	**4**	7	8
Tin	ppm	ASTM D5185m	>10	**0**	0	<1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

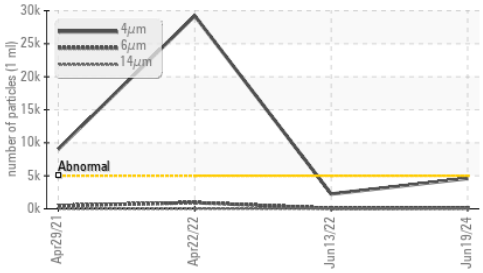
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**1**	3	4
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	1	1
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**17**	9	8
Calcium	ppm	ASTM D5185m		**1685**	1129	1237
Phosphorus	ppm	ASTM D5185m		**731**	664	721
Zinc	ppm	ASTM D5185m		**713**	552	526
Sulfur	ppm	ASTM D5185m		**2624**	1765	1566

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**14**	6	5
Sodium	ppm	ASTM D5185m		**4**	0	2
Potassium	ppm	ASTM D5185m	>20	**2**	2	0

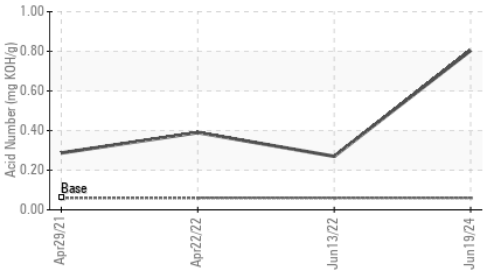
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**4604**	2242	▲ 29228
Particles >6µm		ASTM D7647	>1300	**154**	76	939
Particles >14µm		ASTM D7647	>160	**8**	9	17
Particles >21µm		ASTM D7647	>40	**2**	3	2
Particles >38µm		ASTM D7647	>10	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**19/14/10**	18/13/10	▲ 22/17/11

OIL ANALYSIS REPORT

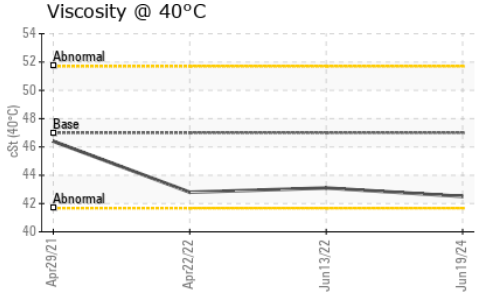
Particle Trend



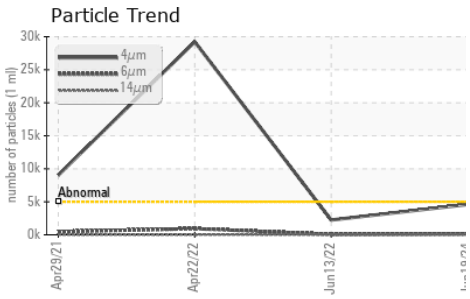
Acid Number



Viscosity @ 40°C



Particle Trend

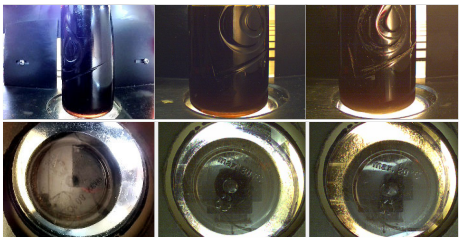


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	**0.804**	0.27	0.39

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	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

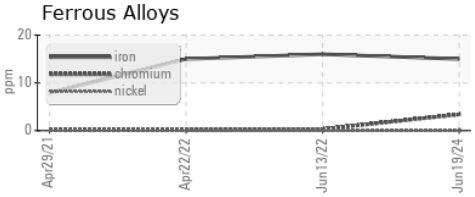
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47	**42.5**	43.1	42.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

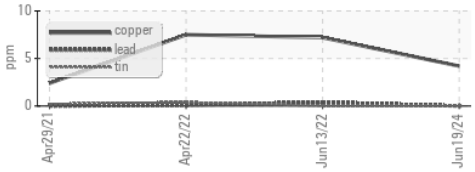


GRAPHS

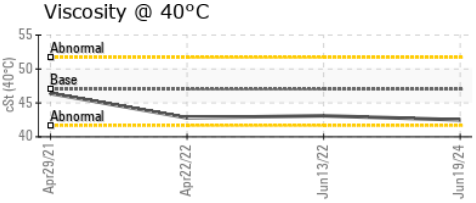
Ferrous Alloys



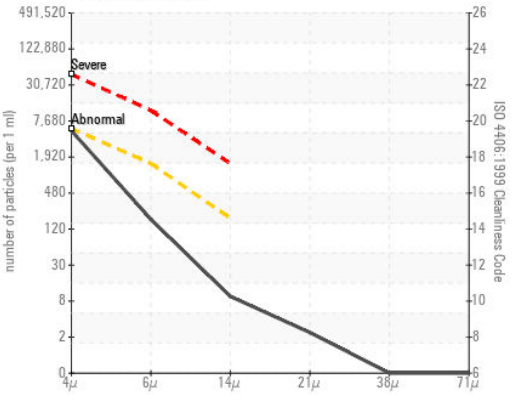
Non-ferrous Metals



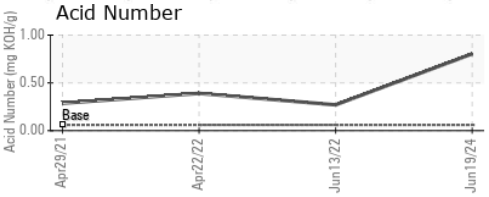
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0900335
Lab Number : 06219614
Unique Number : 11097811
Test Package : CONST

Received : 25 Jun 2024
Tested : 26 Jun 2024
Diagnosed : 26 Jun 2024 - Don Baldridge

Certificate L2367

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)

DUKE LAZZARA
4201 FAYETTEVILLE RD
RALEIGH, NC
US 27603
Contact: BRANDON BYRUM
b.byrum@dukelazzara.com
T:
F: