



WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

[MAYBERRY ST TERMINAL]

Machine Id
HITACHI ZX345 HCMDD560A00010287

Component
Hydraulic System

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

RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0225309	JR0169047	JR0122017
Sample Date		Client Info		24 Jun 2024	12 Apr 2023	31 Jan 2023
Machine Age	hrs	Client Info		2027	1430	1276
Oil Age	hrs	Client Info		0	1430	0
Filter Age	hrs	Client Info		0	160	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Changed	Not Chngd	Not Chngd
Sample Status				ATTENTION	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185m	>20	7	3	4
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>10	3	0	0
Lead	ppm	ASTM D5185m	>10	0	0	<1
Copper	ppm	ASTM D5185m	>75	2	1	2
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

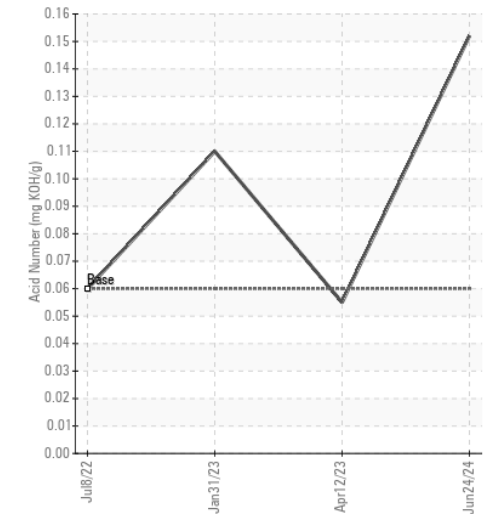
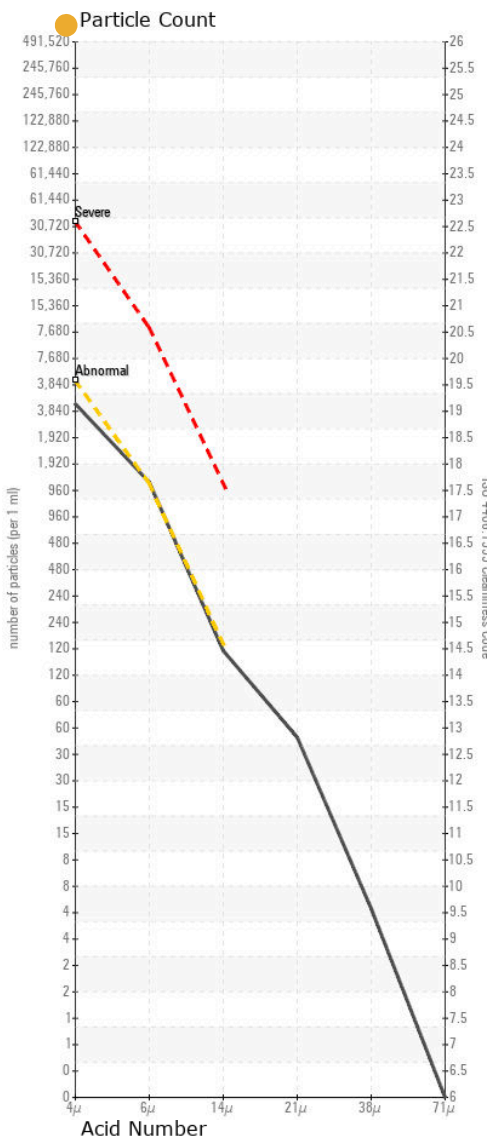
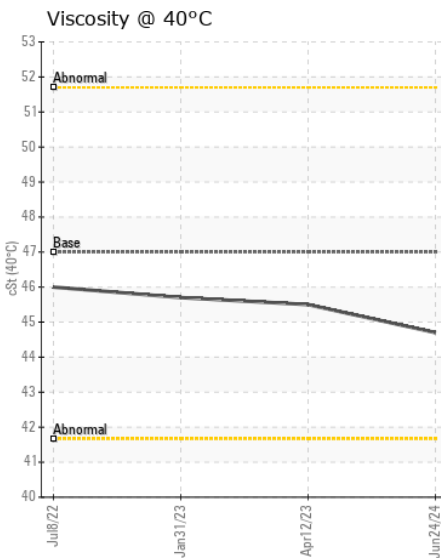
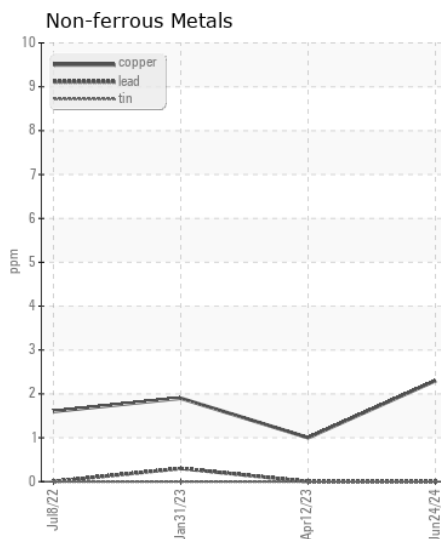
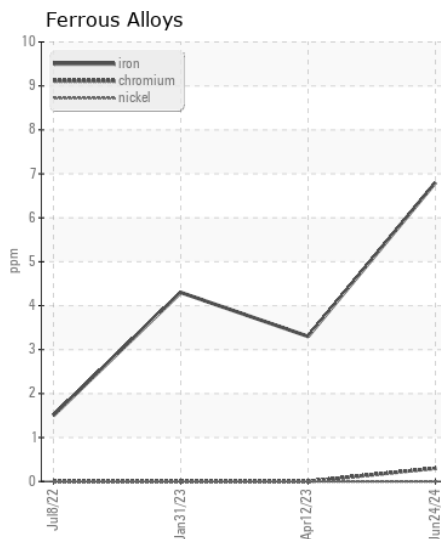
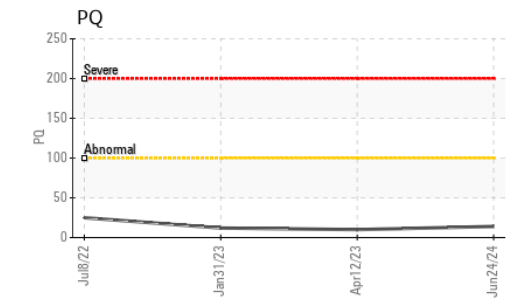
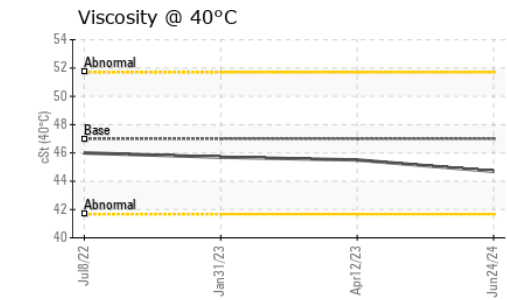
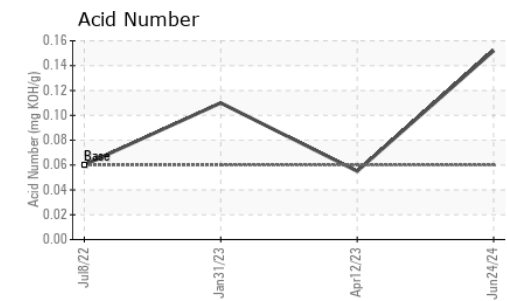
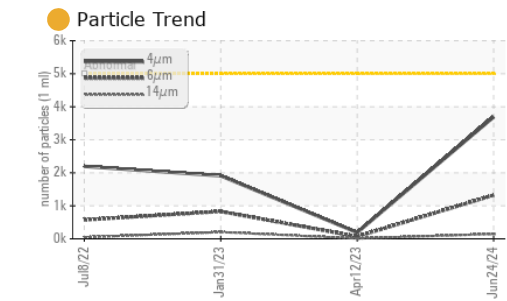
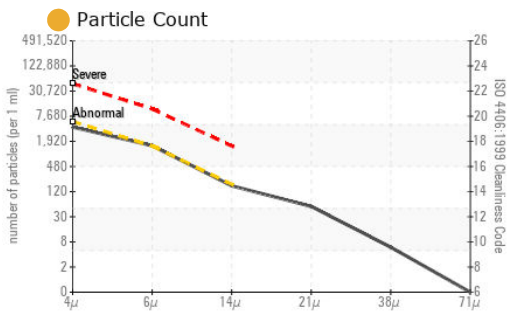
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	2	2	1
Potassium	ppm	ASTM D5185m	>20	2	1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	3690	189	1910
Particles >6µm		ASTM D7647	>1300	1324	70	828
Particles >14µm		ASTM D7647	>160	146	9	204
Particles >21µm		ASTM D7647	>40	47	3	53
Particles >38µm		ASTM D7647	>10	5	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/18/14	15/13/10	18/17/15
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 oils additive package is suitable for further service.

Sodium	ppm	ASTM D5185m		0	1	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		1	0	2
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		1	1	<1
Calcium	ppm	ASTM D5185m		0	<1	4
Phosphorus	ppm	ASTM D5185m		467	551	539
Zinc	ppm	ASTM D5185m		51	29	46
Sulfur	ppm	ASTM D5185m		151	0	186
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.152	0.055	0.11
Visc @ 40°C	cSt	ASTM D445	47	44.7	45.5	45.7



Certificate L2367

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

Sample No. : JR0225309

Lab Number : 06235794

Unique Number : 11124628

Test Package : CONST (Additional Tests: PQ)

Received : 15 Jul 2024

Tested : 16 Jul 2024

Diagnosed : 16 Jul 2024 - Don Baldridge

JRE - MANASSAS PARK

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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)