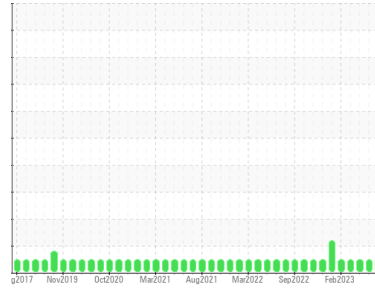




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
HAW TEST BRANCH PSL/PSV TEST STAND (S/N AV714/1)
 Component
Hydraulic System
 Fluid
TOTAL AZOLLA ZS 22 (300 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All 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

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	WC0791104	WC0700580	WC0700575
Sample Date	Client Info	01 Jun 2023	02 May 2023	03 Apr 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>20	0	0
Chromium	ppm	ASTM D5185m	>20	0	0
Nickel	ppm	ASTM D5185m	>20	0	0
Titanium	ppm	ASTM D5185m		0	0
Silver	ppm	ASTM D5185m		0	0
Aluminum	ppm	ASTM D5185m	>20	0	6
Lead	ppm	ASTM D5185m	>20	0	0
Copper	ppm	ASTM D5185m	>20	0	<1
Tin	ppm	ASTM D5185m	>20	0	0
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	0
Barium	ppm	ASTM D5185m		0	0
Molybdenum	ppm	ASTM D5185m		0	0
Manganese	ppm	ASTM D5185m		<1	0
Magnesium	ppm	ASTM D5185m		0	14
Calcium	ppm	ASTM D5185m		57	0
Phosphorus	ppm	ASTM D5185m		358	5
Zinc	ppm	ASTM D5185m		486	2
Sulfur	ppm	ASTM D5185m		1660	0

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	<1	0
Sodium	ppm	ASTM D5185m		<1	6
Potassium	ppm	ASTM D5185m	>20	<1	25

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>2500	82	98	347
Particles >6µm	ASTM D7647	>640	41	46	113
Particles >14µm	ASTM D7647	>80	9	9	27
Particles >21µm	ASTM D7647	>20	3	3	8
Particles >38µm	ASTM D7647	>4	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	14/13/10	14/13/10	16/14/12

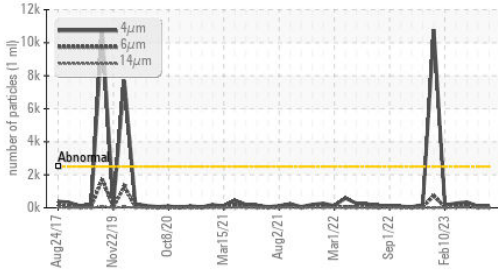
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045		0.44	0.48

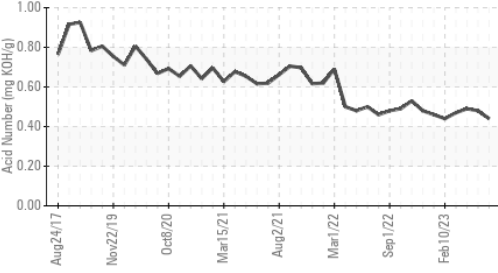


OIL ANALYSIS REPORT

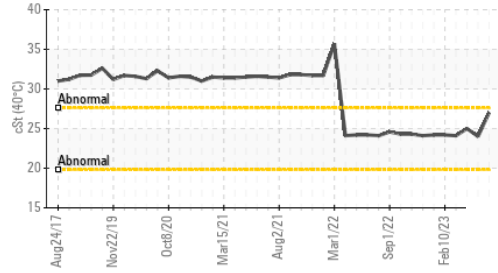
Particle Trend



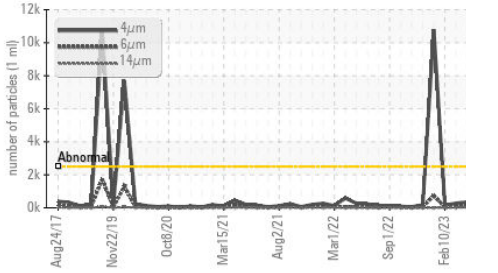
Acid Number



Viscosity @ 40°C



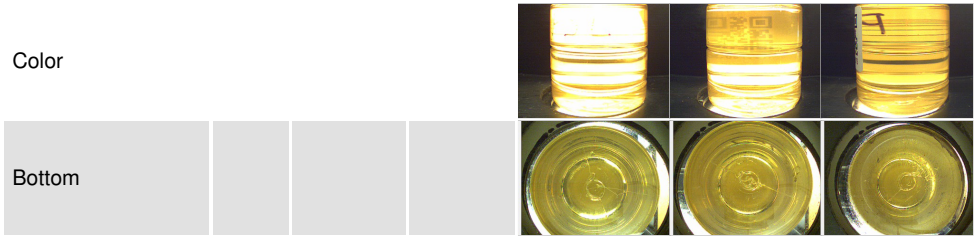
Particle Trend



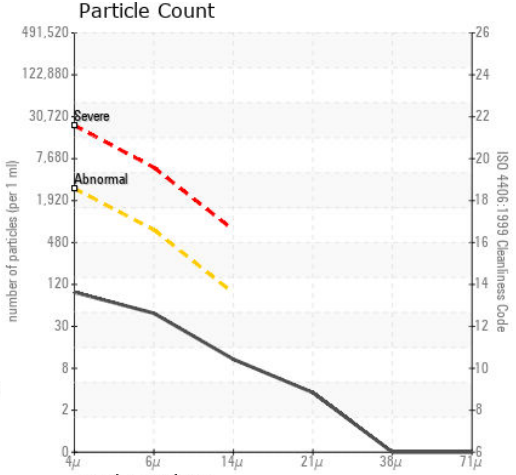
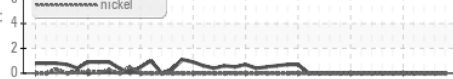
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	27.0	24.0	25.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0791104
 Lab Number : 05869381
 Unique Number : 10509165
 Test Package : IND 2

HAWE HYDRAULICS - HUNTERSVILLE
 13020 JAMESBURG DR SUITE A
 HUNTERSVILLE, NC
 US 28078
 Contact: MICHAEL SCHMIDT
 mi.schmidt@hawe.com
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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)