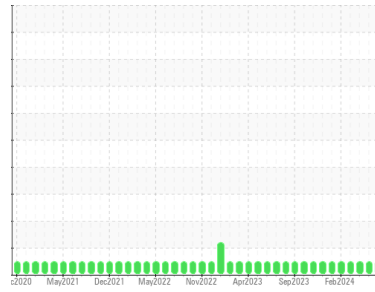




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**HAWE 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			<b>WC0921227</b>	WC0921222	WC0921217
Sample Date	Client Info			<b>03 Jun 2024</b>	01 May 2024	01 Apr 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.05	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	0	2
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	2
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Calcium	ppm	ASTM D5185m		<b>52</b>	55	61
Phosphorus	ppm	ASTM D5185m		<b>324</b>	339	387
Zinc	ppm	ASTM D5185m		<b>450</b>	432	463
Sulfur	ppm	ASTM D5185m		<b>1323</b>	1475	1484

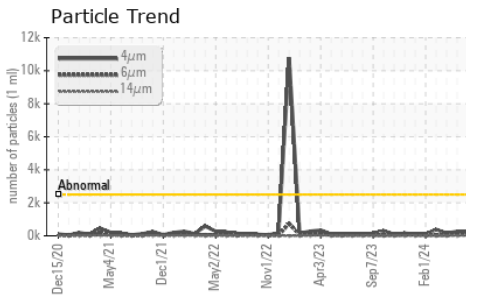
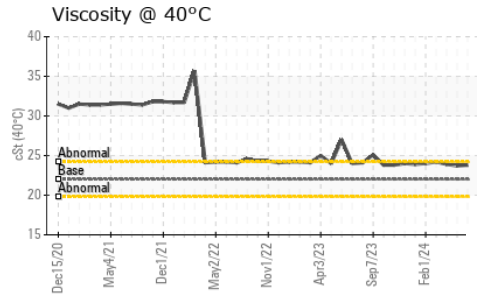
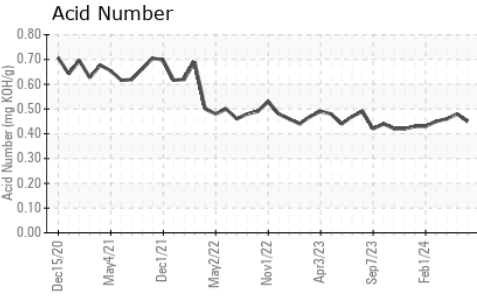
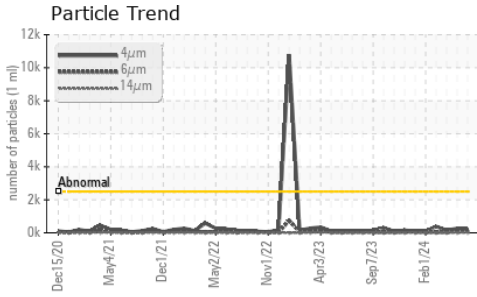
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>1</b>	<1	1
Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	<b>214</b>	270	157
Particles >6µm		ASTM D7647	>640	<b>79</b>	88	46
Particles >14µm		ASTM D7647	>80	<b>12</b>	9	6
Particles >21µm		ASTM D7647	>20	<b>2</b>	2	1
Particles >38µm		ASTM D7647	>4	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<b>15/13/11</b>	15/14/10	14/13/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.45</b>	0.48	0.46



# OIL ANALYSIS REPORT



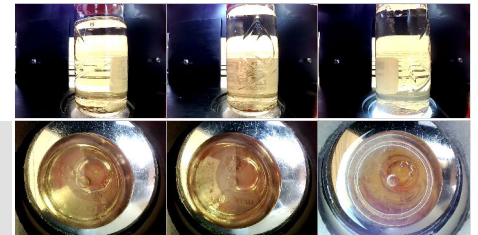
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	22	23.8	23.7

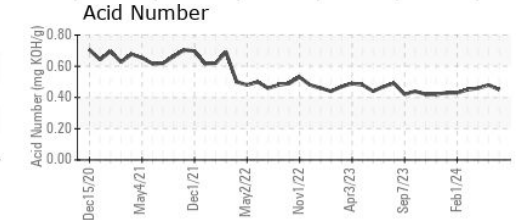
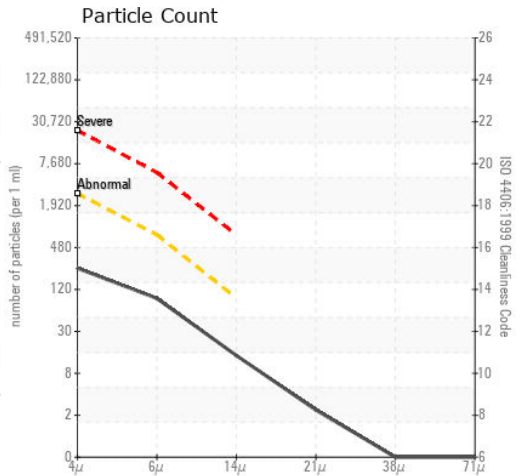
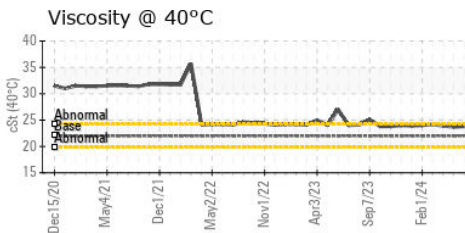
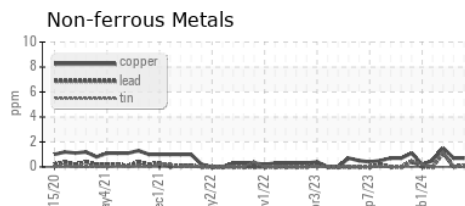
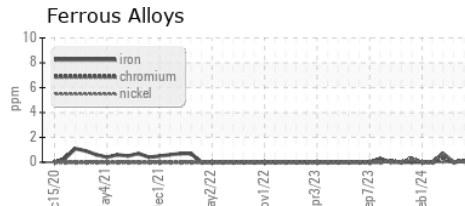
SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

Bottom



## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : WC0921227  
 Lab Number : 06199076  
 Unique Number : 11061199  
 Test Package : IND 2

**HAWE HYDRAULICS - HUNTERSVILLE**  
 13020 JAMESBURG DR SUITE A  
 HUNTERSVILLE, NC  
 US 28078

Contact: MICHAEL SCHMIDT  
 mi.schmidt@hawe.com

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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