

### **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

## **ACUITY 10896**

#### Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (660 GAL)

### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

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

#### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORM		method	iinii/base	current	Thistory I	TIIStory2
Sample Number		Client Info		WC0811000	WC0810991	WCI2271260
Sample Date		Client Info		16 Apr 2024	16 Apr 2024	17 Jun 2019
Machine Age	hrs	Client Info		49356	49356	49356
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
				-	-	
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<1	2	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>20	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	3	1
Lead	ppm	ASTM D5185m	>20	<1	<1	<1
Copper	ppm	ASTM D5185m	>20	2	<1	<1
Tin	ppm	ASTM D5185m	>20	<1	<1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	<1	0
		in a the a d			Interter und	history 0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 <1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 5 5	current 0 0	history1 0 0	history2 <1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 5 5 5	current 0 0 6	history1 0 0 <1	history2 <1 0 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 5 5 5	current 0 0 6 <1	history1 0 <1 <1	history2 <1 0 0 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 5 5 5 25	current 0 0 6 <1 3	history1 0 0 <1 <1 3	history2 <1 0 0 <1 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base 5 5 5 25 200	current 0 0 6 <1 3 47	history1 0 <1 <1 3 50	history2 <1 0 0 <1 <1 <1 59
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base 5 5 5 25 200 300	current           0           6           <1           3           47           346	history1 0 <1 <1 3 50 346	history2 <1 0 0 <1 <1 59 310
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base 5 5 5 25 200 300 370	current           0           6           <1           3           47           346           427	history1 0 <1 <1 3 50 346 435	history2 <1 0 0 <1 <1 59 310 388
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500	current           0           6           <1           3           47           346           427           1042	history1 0 <1 <1 3 50 346 435 1020	history2 <1 0 0 <1 <1 59 310 388 2799
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 5 5 25 200 300 370 2500	current         0         6         <1         3         47         346         427         1042	history1           0           0           <1           <1           3           50           346           435           1020           history1	history2           <1           0           <1           <1           <1           59           310           388           2799           history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 limit/base >15	current         0         0         6         <1         3         47         346         427         1042         current         <1	history1         0         0         <1         <1         3         50         346         435         1020         history1         <1	history2         <1         0         <1         <1         59         310         388         2799         history2         8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 limit/base >15	current           0           6           <1           3           47           346           427           1042           current           <1	history1         0         0         <1         <1         3         50         346         435         1020         history1         <1         0	history2         <1         0         0         <1         59         310         388         2799         history2         8         <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 limit/base >15 >20	current         0         0         6         <1         3         47         346         427         1042         current         <1         0         2	history1         0         0         <1         <1         3         50         346         435         1020         history1         <1         0         2	<1         0         <1         0         <1         <1         59         310         388         2799         history2         8         <1         <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 limit/base >15 >20	current         0         6         <1         3         47         346         427         1042         current         <1         0         2         current	history1         0         0         <1         3         50         346         435         1020         history1         <1         0         2         history1	history2         <1         0         <1         59         310         388         2799         history2         8         <1         <1         history2         8         <1         <1         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 limit/base >20 limit/base >5000	current         0         0         6         <1         3         47         346         427         1042         current         <1         0         2         current         33480	history1 0 0 <1 <1 3 50 346 435 1020 history1 <1 0 2 history1 ▲14253	history2         <1         0         <1         59         310         388         2799         history2         8         <1         <1         history2         8         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	<pre>limit/base 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</pre>	current         0         0         6         <1         3         47         346         427         1042         current         <1         0         2         current         33480         114	history1         0         0         <1         3         50         346         435         1020         history1         <1         0         2         history1         ▲ 14253         ● 1562	history2         <1         0         <1         <1         59         310         388         2799         history2         8         <1         <1         <1         64945         10068
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base 5 5 25 200 300 370 2500 2500 limit/base >20 limit/base >20 limit/base >5000 >1300	current         0         0         6         <1         3         47         346         427         1042         current         <1         0         2         current         33480         114         6	history1 0 0 <1 <1 3 50 346 435 1020 history1 <1 0 2 history1 ▲ 14253 1562 88	history2         <1         0         <1         59         310         388         2799         history2         8         <1         <1         history2         8         <1         <1         <1         <1         <1         <1         <1         <1         10068         845
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base       5       5       25       200       300       370       2500       limit/base       >20       limit/base       >20       limit/base       >20       15       >20       160       >40	current         0         0         6         <1         3         47         346         427         1042         current         <1         0         2         current         33480         114         6         2	history1         0         0         <1         3         50         346         435         1020         history1         <1         0         2         history1         ▲ 14253         1562         88         20	<1         0         <1         <1         <1         59         310         388         2799         history2         8         <1         <1         history2         8         <1         <1         <1         <1         <10068         845         293
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D7647           ASTM D7647           ASTM D7647           ASTM D7647           ASTM D7647	limit/base 5 5 25 200 300 370 2500 2500 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10	current         0         6         <1         3         47         346         427         1042         current         <1         0         2         current         33480         114         6         2         0	history1 0 0 <1 <1 3 50 346 435 1020 history1 <1 0 2 history1 ▲ 14253 ● 1562 88 20 1	history2         <1         0         <1         59         310         388         2799         history2         8         <1         <1         64945         10068         845         293         38

ISO 4406 (c) >19/17/14 **22/14/10** 

**Oil Cleanliness** 

▲ 23/21/17

21/18/14



A Particle Trend

🔺 Particle Trend

Acid Number

Abnormal

un17/19

lun

pr16/24

nr16/74

70k 60 E 50 of particles 40k 30 - 문 20k 10 Ab 0 Aug16/06

70 60 Î ar of particles (1 m 40k 30k 檀 20k 10 Ab 0

1.00

(B).80 KOH/d) Ê0.60 Ba

# **OIL ANALYSIS REPORT**

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.28	0.28	0.423
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	NONE	NONE	🔺 HEAVY
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	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	45.1	44.8	44.7
SAMPLE IMAGES		method	limit/base	current	history1	history2
			_			

Color



Bottom





MONROE, NC US 28110 Contact: Thomas Andersson thomas.andersson@aptgroup.com T: (704)220-3230 F: (704)292-2906



Test Package : IND 2 Certificate 12367 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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Submitted By: Thomas Andersson

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