

OIL ANALYSIS REPORT



TOSHIBA A-04 (S/N 703108) Component

Hydraulic System

AW HYDRAULIC OIL ISO 46 (124 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



SAMPLE INFORMA	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0883579	WC0768413	WC0631243
Sample Date		Client Info		17 Jan 2024	23 Jan 2023	05 Dec 2021
Machine Age	yrs	Client Info		0	0	0
	yrs	Client Info		0	0	0
Oil Changed	-	Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron I	ppm	ASTM D5185m	>20	4	5	4
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	0	<1
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>20	9	8	8
Tin I	ppm	ASTM D5185m	>20	<1	0	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
_	ppm	ASTM D5185m	5	0	0	<1
Boron	ppm ppm			0 0		
Boron F Barium F		ASTM D5185m	5	0 0	0	<1
Boron p Barium p Molybdenum p	ppm	ASTM D5185m ASTM D5185m	5 5	0	0	<1 0
Boron p Barium p Molybdenum p Manganese p	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 5	0 0	0 1 <1	<1 0 <1
Boron p Barium p Molybdenum p Manganese p Magnesium p	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5	0 0 <1	0 1 <1 0	<1 0 <1 <1 2 58
Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25	0 0 <1 13 59 467	0 1 <1 0 3 54 424	<1 0 <1 <1 2
Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200	0 0 <1 13 59	0 1 <1 0 3 54	<1 0 <1 <1 2 58
Boron parine par	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300	0 0 <1 13 59 467	0 1 <1 0 3 54 424	<1 0 <1 <1 2 58 432
Boron parine par	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370	0 0 <1 13 59 467 578	0 1 <1 0 3 54 424 563	<1 0 <1 2 58 432 591
Boron F Barium F Molybdenum F Magnese F Magnesium F Calcium F Calcium F Phosphorus F Zinc F Sulfur F	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500	0 0 <1 13 59 467 578 1469	0 1 <1 0 3 54 424 563 1447	<1 0 <1 2 58 432 591 1476
Boron particular providentities of the second	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500	0 0 <1 13 59 467 578 1469 current	0 1 <1 0 3 54 424 563 1447 history1	<1 0 <1 2 58 432 591 1476 history2
Boron particular provident	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500	0 0 <1 13 59 467 578 1469 current 1	0 1 <1 0 3 54 424 563 1447 history1 <1	<1 0 <1 <1 2 58 432 591 1476 history2 1
Boron particular provident	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500 Iimit/base >15	0 0 <1 13 59 467 578 1469 current 1 <1	0 1 <1 0 3 54 424 563 1447 history1 <1 0	<1 0 <1 2 58 432 591 1476 history2 1 0
Boron particular for the second secon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 200 300 370 2500 limit/base >15 >20	0 0 <1 13 59 467 578 1469 <u>current</u> 1 <1 <1 0	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1	<1 0 <1 2 58 432 591 1476 history2 1 0 0
Boron particles >4µm particles parti	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370 2500 2500 limit/base >20 limit/base	0 0 <1 13 59 467 578 1469 current 1 <1 0 current	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1 history1	<1 0 <1 2 58 432 591 1476 history2 1 0 0 0
Boron particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370 2500 Iimit/base >15 >20 Iimit/base >2500	0 0 <1 13 59 467 578 1469 <u>current</u> 1 <1 <1 0 <u>current</u>	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1 history1 501	<1 0 <1 2 58 432 591 1476 history2 1 0 0 0 history2 22707
Boron particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 200 300 370 2500 bimit/base >15 >20 bimit/base >2500 >2500 >320	0 0 <1 13 59 467 578 1469 <u>current</u> 1 <1 0 <u>current</u> 0 <u>current</u> ×1 0 ×1 ×1 ×1 ×1 ×1 ×1 ×1 ×1 ×1 ×1	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1 0 <1 history1 501 134	<1 0 <1 2 58 432 591 1476 history2 1 0 0 0 history2 2 2707 ▲ 22707
Boron particles >21µm Particle	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 200 300 370 2500 2500 2500 >15 20 1imit/base >2500 >320 >320 >80	0 0 <1 13 59 467 578 1469 current 1 <1 <1 0 current 0 5674 ▲ 5674 28	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1 0 <1 history1 501 134 12	<1 0 <1 2 58 432 591 1476 history2 1 0 0 0 history2 1 22707 ▲ 22707
Boron particular production productin production production production production production produc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 Iimit/base >20 Iimit/base >2500 >320 >320 >80 >20	0 0 <1 13 59 467 578 1469 <u>current</u> 1 <1 0 <u>current</u> 8 5674 ▲ 735 28 8	0 1 <1 0 3 54 424 563 1447 history1 <1 0 <1 0 <1 history1 501 134 12 4	<1 0 <1 2 58 432 591 1476 history2 1 0 0 history2 22707 ▲ 22707 ▲ 1734 29 5

ISO 4406 (c) >18/15/13 A 20/17/12

Oil Cleanliness

▲ 22/18/12

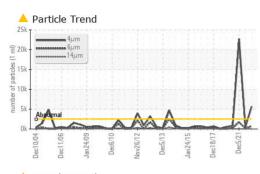
16/14/11

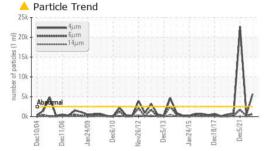


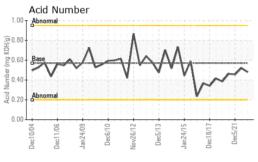
OIL ANALYSIS REPORT

Color

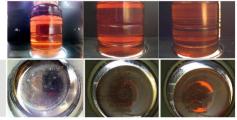
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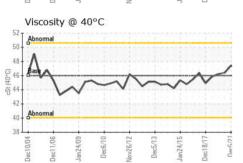






FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.48	0.52	0.455
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	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	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	48.3	47.1	47.4
SAMPLE IMAGES	6	method	limit/base	current	history1	history2





GRAPHS Ferrous Alloys Particle Count 30 491,52 20 122,880 30,72 -20 Dec10/04 Dec11/06 ec18/1 4406:1999 Cle an24. Der 1,92 18 Non-ferrous Metals 480 16 100 120 14 30 12 8 Dec10/04 lan24/09 lec5/13 Jec6/ Decl Viscosity @ 40°C Acid Number KOH/g) 55 -1 00 Abnor Abno ()-50 ()-0+) ()-0+) er (ma Ba 0.50 药 40. Abno Abnormal Acid Nu 35 0.00 Dec5/21. Dec5/21. Jan24/09 Dec5/13 Jan24/15 Dec6/10 w26/12 Dec11/06 Jan24/09 Nov26/12 Dec5/13 an24/15 Dec10/04 Dec11/06 Dec6/10 Dec18/17 Dec10/04 Dec18/17 **NIAGARA PLASTICS - CAPLUGS** Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0883579 Recieved : 18 Jan 2024

: 21 Jan 2024

Diagnostician : Don Baldridge



Unique Number : 10835662 Certificate 12367 Test Package : IND 2

Lab Number

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.

: 06064280

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Diagnosed