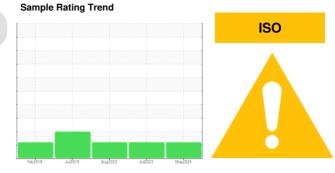


OIL ANALYSIS REPORT

ROOM A LINE 6 (S/N 3209)

Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- GAL)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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.

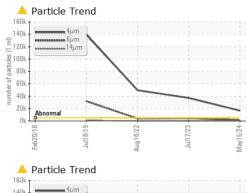
Fluid Condition

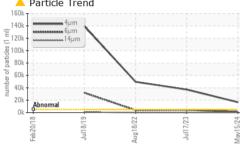
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

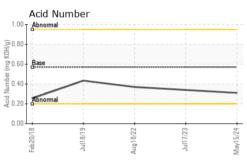
Sample Number Client Info WC0811854 WC081843 WC0696245 Sample Date Client Info 15 May 2024 17 Jul 2023 18 Aug 2022 Machine Age days Client Info 0							
Sample Date	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age days Client Info	Sample Number		Client Info			WC0811843	
Dil Age	Sample Date				-	17 Jul 2023	18 Aug 2022
Dil Changed Client Info N/A ABNORMAL ABNORM	Machine Age						_
ABNORMAL ABNORMAL		days			-		
CONTAMINATION method limit/base current history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >40 4 4 3 Chromium ppm ASTM D5185m >40 4 4 3 Vickel ppm ASTM D5185m >40 1 0 0 Vickel ppm ASTM D5185m >20 <1 0 0 Aluminum ppm ASTM D5185m 1 0 0 0 Aluminum ppm ASTM D5185m >4 1 0 0 Lead ppm ASTM D5185m >4 <1 0 <1 Capper ppm ASTM D5185m >4 <1 0 <1 Antimony ppm ASTM D5185m -1 0 0 <1			Client Info				,
Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >40 4 4 3 Chromium ppm ASTM D5185m >4 -1 0 0 Nickel ppm ASTM D5185m >20 -1 0 0 Silver ppm ASTM D5185m -1 0 0 0 Aluminum ppm ASTM D5185m -1 0 0 0 Aluminum ppm ASTM D5185m >4 1 0 0 Lead ppm ASTM D5185m >4 1 0 0 Lead ppm ASTM D5185m >4 1 0 0 Action ppm ASTM D5185m >4 1 0 0 Action ppm ASTM D5185m -1 0 0 0 <tr< th=""><th>Sample Status</th><th></th><th></th><th></th><th>ABNORMAL</th><th>ABNORMAL</th><th>ABNORMAL</th></tr<>	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >40 4 4 3 Chromium ppm ASTM D5185m >4 -1 0 0 Nickel ppm ASTM D5185m >20 -1 0 0 Silver ppm ASTM D5185m 1 0 0 0 Aluminum ppm ASTM D5185m >4 1 0 0 Aluminum ppm ASTM D5185m >4 1 0 0 Lead ppm ASTM D5185m >4 1 0 0 Copper ppm ASTM D5185m >1 0 <1 0 Fin ppm ASTM D5185m >4 <1 0 <1 Calcium ppm ASTM D5185m >1 0 0 <1 ADDITIVES method limit/base current history1 history2	CONTAMINATION		method	limit/base	current	history1	history2
Post	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
ASTM D5185m >20	Iron	ppm	ASTM D5185m	>40	4	4	3
STIME Description Descr	Chromium	ppm	ASTM D5185m	>4	<1	0	0
Silver	Nickel	ppm	ASTM D5185m	>20	<1	0	0
Aluminum ppm ASTM D5185m >-4 1 0 0 0 Lead ppm ASTM D5185m >-10 <1 <1 0 Copper ppm ASTM D5185m >-60 4 6 5 Tin ppm ASTM D5185m >-4 <1 0 <1 Antimony ppm ASTM D5185m >-4 <1 0 <1 Antimony ppm ASTM D5185m	Titanium	ppm	ASTM D5185m			0	0
Lead ppm ASTM D5185m > 10	Silver	ppm	ASTM D5185m			0	0
Copper ppm ASTM D5185m >60 4 6 5 Fin ppm ASTM D5185m >4 <1	Aluminum	ppm		>4	1		
Tin	Lead	ppm	ASTM D5185m	>10			_
Antimony ppm ASTM D5185m	Copper	ppm	ASTM D5185m	>60	4	6	5
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Barium ppm ASTM D5185m 5 0 0 <1 Barium ppm ASTM D5185m 5 0 2 0 Molybdenum ppm ASTM D5185m 5 1 <1 0 Manganese ppm ASTM D5185m 25 9 2 <1 Manganesium ppm ASTM D5185m 25 9 2 <1 Calcium ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 2500 696 1390 1307 Contactium ppm ASTM D5185m 2500 696 1390 <th< td=""><td>Tin</td><td>ppm</td><td>ASTM D5185m</td><td>>4</td><th><1</th><td>0</td><td><1</td></th<>	Tin	ppm	ASTM D5185m	>4	<1	0	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 <1 Barium ppm ASTM D5185m 5 0 2 0 Molybdenum ppm ASTM D5185m 5 1 <1 0 Manganese ppm ASTM D5185m 25 9 2 <1 Manganesium ppm ASTM D5185m 25 9 2 <1 Calcium ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 <td>Antimony</td> <td>ppm</td> <td></td> <td></td> <th></th> <td></td> <td></td>	Antimony	ppm					
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 <1		ppm					
Soron ppm ASTM D5185m 5 0 0 2 0 0	Cadmium	ppm	ASTM D5185m		<1	0	0
Sarium	ADDITIVES		method	limit/hase	current	history1	history2
Molybdenum ppm ASTM D5185m 5 1 <1 0 Manganese ppm ASTM D5185m 25 9 2 <1 Calcium ppm ASTM D5185m 25 9 2 <1 Calcium ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 300 217 356 354 Zinc ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1 <1 Godium ppm ASTM D5185m >20 2 <1 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >50				IIIIII Dasc	odifont	Thotoly I	
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Magnesium ppm ASTM D5185m 25 9 2 <1 Calcium ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 300 217 356 354 Zinc ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1 <1 Sodium ppm ASTM D5185m >20 1 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 16730 37109 49652 Particles >6μm ASTM D7647 >1300 1322 4443 3885 Particles >21μm ASTM D7647 >40 5			ASTM D5185m	5	0	0	<1
Calcium ppm ASTM D5185m 200 39 65 60 Phosphorus ppm ASTM D5185m 300 217 356 354 Zinc ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >20 2 <1	Barium	ppm	ASTM D5185m ASTM D5185m	5 5	0 0	0 2	<1
Phosphorus ppm ASTM D5185m 300 217 356 354 Zinc ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 5	0 0 1	0 2 <1	<1 0 0
Zinc ppm ASTM D5185m 370 304 480 455 Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5	0 0 1 <1	0 2 <1 0	<1 0 0 0
Sulfur ppm ASTM D5185m 2500 696 1390 1307 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25	0 0 1 <1 9	0 2 <1 0	<1 0 0 0 0 <1
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200	0 0 1 <1 9 39	0 2 <1 0 2 65	<1 0 0 0 0 <1 60
Solition ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	0 0 1 <1 9 39 217	0 2 <1 0 2 65 356	<1 0 0 0 0 <1 60 354
Sodium ppm ASTM D5185m 6 0 <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370	0 0 1 <1 9 39 217	0 2 <1 0 2 65 356 480	<1 0 0 0 0 <1 60 354 455
Potassium ppm ASTM D5185m >20 1 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 16730 37109 49652 Particles >6μm ASTM D7647 >1300 1322 4443 3885 Particles >14μm ASTM D7647 >160 23 75 20 Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 25 200 300 370 2500	0 0 1 <1 9 39 217 304 696	0 2 <1 0 2 65 356 480 1390	<1 0 0 0 0 <1 60 354 455 1307
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 16730 37109 49652 Particles >6μm ASTM D7647 >1300 1322 44443 3885 Particles >14μm ASTM D7647 >160 23 75 20 Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 25 200 300 370 2500 limit/base	0 0 1 <1 9 39 217 304 696	0 2 <1 0 2 65 356 480 1390 history1	<1 0 0 0 0 <1 60 354 455 1307 history2
Particles >4μm ASTM D7647 >5000 16730 37109 49652 Particles >6μm ASTM D7647 >1300 1322 4443 3885 Particles >14μm ASTM D7647 >160 23 75 20 Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base	0 0 1 <1 9 39 217 304 696	0 2 <1 0 2 65 356 480 1390 history1	<1 0 0 0 0 <1 60 354 455 1307 history2
Particles >6μm ASTM D7647 >1300 1322 4443 3885 Particles >14μm ASTM D7647 >160 23 75 20 Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20	0 0 1 <1 9 39 217 304 696 current 2 6	0 2 <1 0 2 65 356 480 1390 history1 <1 0	<1 0 0 0 <1 60 354 455 1307 history2 <1
Particles >14μm ASTM D7647 >160 23 75 20 Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20	0 0 1 <1 9 39 217 304 696 current 2 6	0 2 <1 0 2 65 356 480 1390 history1 <1 0 <1	<1 0 0 0 <1 60 354 455 1307 history2 <1 <1
Particles >21μm ASTM D7647 >40 5 12 3 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20 	0 0 1 <1 9 39 217 304 696 current 2 6 1	0 2 <1 0 2 65 356 480 1390 history1 <1 0 <1	<1 0 0 0 0 <1 60 354 455 1307 history2 <1 <1 0 history2
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	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 	0 0 1 <1 9 39 217 304 696 current 2 6 1 current 16730 1322 23	0 2 <1 0 2 65 356 480 1390 history1 <1 0 <1 history1 △37109 △4443 75	<1 0 0 0 0 <1 60 354 455 1307 history2 <1 <1 0 history2 △ 49652 △ 3885 20
Dil Cleanliness ISO 4406 (c) >19/17/14 ▲ 21/18/12 ▲ 22/19/13 ▲ 23/19/11	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >5000 >1300 >160 >40 >10	0 0 1 <1 9 39 217 304 696 current 2 6 1 current ▲ 16730 ■ 1322 23 5	0 2 <1 0 2 65 356 480 1390 history1 <1 0 <1 history1 ▲ 37109 ▲ 4443 75 12	<1 0 0 0 0 <1 60 354 455 1307 history2 <1 <1 0 history2 ▲ 49652 ▲ 3885 20 3
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >5000 >1300 >160 >40 >10	0 0 1 <1 9 39 217 304 696 current 2 6 1 current ▲ 16730 ■ 1322 23 5 0	0 2 <1 0 2 65 356 480 1390 history1 <1 0 <1 history1 ▲ 37109 ▲ 4443 75 12 0	<1 0 0 0 0 <1 60 354 455 1307 history2 <1 <1 0 history2 49652 3885 20 3 0

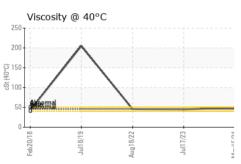


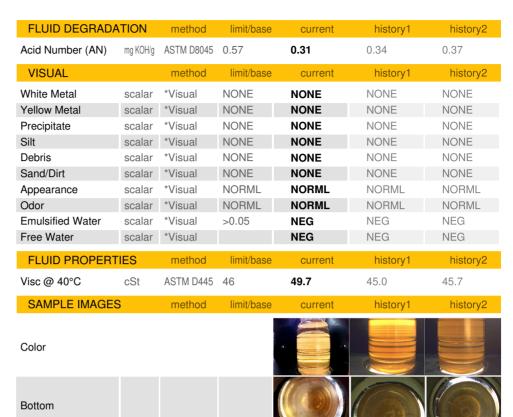
OIL ANALYSIS REPORT

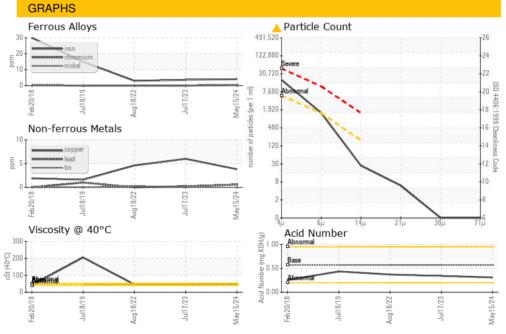
















Certificate 12367

Laboratory Sample No.

Lab Number : 06194614 Unique Number : 11056737 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0811854

Received : 29 May 2024 **Tested** : 30 May 2024

Diagnosed : 30 May 2024 - Wes Davis

Altium Packaging - ANAHEIM - Plant 1304A 1201 E CERRITOS AVE, UNIT 121 ANAHEIM, CA

US 9285 Contact: EVELYN VALLES evelyn.valles@altiumpkg.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

 st - 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) T: (323)542-7140