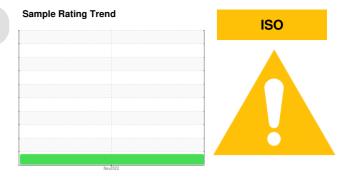


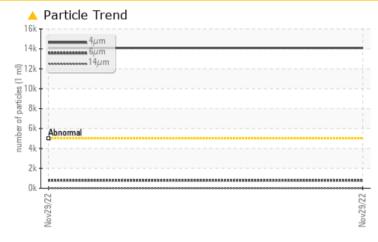
PROBLEM SUMMARY



PALFINGER 100712896 Component

Hydraulic System AW HYDRAULIC OIL ISO 22 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS									
Sample Status			ABNORMAL						
Particles >4µm	ASTM D7647	>5000	<u> </u>						
Oil Cleanliness	ISO 4406 (c)	>19/17/14	21/17/10						

Customer Id: PALJACNJ Sample No.: WC0695622 Lab Number: 05721952 Test Package: CONST



To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend

ISO

PALFINGER 100712896

Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 22 (--- GAL)

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. 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 NumberClient InfoWC0695622Sample DateClient Info29 Nov 2022Machine AgehrsClient Info0Oil AgehrsClient InfoN/AOil ChangedClient InfoN/ASample StatusImageClient InfoN/AWEAR METALSmethodimblesscurrentChromiumppmASTM 051658NickelppmASTM 051658SilverppmASTM 051658CopperppmASTM 051659CopperppmASTM 051659ADDITVESmethod	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machtine Age hrss Client Info 0 Oil Age irrs Client Info N/A Sample Status C imit/base current history1 WEAR METALS method imit/base current history1 WEAR METALS method imit/base current history1 Nickel ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Silver ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m 5 1 Barlum ppm ASTM D5185m 5 1	Sample Number		Client Info		WC0695622		
Oil Age hrs Client Info N/A Sample Status I Image N/A WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >20 4 Ohromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 ASTM D5185m >1 0 AstM D5185m 5 0	Sample Date		Client Info		29 Nov 2022		
Oil Changed Client Info N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >20 4 Nickel ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Silver ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Magnesium ppm ASTM D5185m 20 67	Machine Age	hrs	Client Info		0		
Sample Status method Imit/base current history1 history2 Iron ppm ASTM D5185m<>20 4 Chromium ppm ASTM D5185m<>10 <1	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 4 Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Silver ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 5 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 <1	Oil Changed		Client Info		N/A		
Iron ppm ASTM D5185m >20 4 Chromium ppm ASTM D5185m >10 <1	Sample Status				ABNORMAL		
Chromium ppm ASTM D5185m >10 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >10 0 Titanium ppm ASTM D5185m 0 Silver ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Yanadium ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Magnesium ppm ASTM D5185m 5 <1	Iron	ppm	ASTM D5185m	>20	4		
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Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Vanadium ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Maganese ppm ASTM D5185m 5 <1	Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >75 1 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Malydenum ppm ASTM D5185m 5 <1	Silver	ppm	ASTM D5185m		0		
Copper ppm ASTM D5185m >75 1 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 <1	Aluminum	ppm	ASTM D5185m	>10	0		
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Barium ppm ASTM D5185m 5 <1 Molybdenum ppm ASTM D5185m 5 <1 Magnese ppm ASTM D5185m 25 3 Magnesium ppm ASTM D5185m 250 3411 Calcium ppm ASTM D5185m 300 3411 Suifur ppm ASTM D5185m 250 1249 Suifur ppm ASTM D5185m >20 <1 Sodium ppm ASTM D5185m >20	Lead	ppm	ASTM D5185m	>10	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Barium ppm ASTM D5185m 5 <1 Molybdenum ppm ASTM D5185m 5 <1 Manganese ppm ASTM D5185m 25 3 Magnesium ppm ASTM D5185m 200 67 Calcium ppm ASTM D5185m 200 67 Vinur ppm ASTM D5185m 200 67 Calcium ppm ASTM D5185m 200 341 Sulfur ppm ASTM D5185m 200 <1	Copper	ppm	ASTM D5185m	>75	1		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Barium ppm ASTM D5185m 5 <1 Molybdenum ppm ASTM D5185m 5 <1 Magnesium ppm ASTM D5185m 25 3 Calcium ppm ASTM D5185m 25 3 Magnesium ppm ASTM D5185m 250 3 Calcium ppm ASTM D5185m 200 67 Sulfur ppm ASTM D5185m 200 341 Sulfur ppm ASTM D5185m 200 1249 Sodium ppm ASTM D5185m >20 0 <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>10</td> <th>0</th> <td></td> <td></td>	Tin	ppm	ASTM D5185m	>10	0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 Barium ppm ASTM D5185m 5 <1	Vanadium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 5 0 Barium ppm ASTM D5185m 5 <1	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 5 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 <1 Manganese ppm ASTM D5185m 25 3 Magnesium ppm ASTM D5185m 200 67 Calcium ppm ASTM D5185m 200 67 Phosphorus ppm ASTM D5185m 300 341 Sulfur ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 2500 1249 Sulfur ppm ASTM D5185m >20 <1	Boron	ppm	ASTM D5185m	5	0		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 25 3 Calcium ppm ASTM D5185m 200 67 Phosphorus ppm ASTM D5185m 300 341 Zinc ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 2500 1249 Sulfur ppm ASTM D5185m 2500 1249 Solicon ppm ASTM D5185m 20 <1	Barium	ppm	ASTM D5185m	5	<1		
Magnesium ppm ASTM D5185m 25 3 Calcium ppm ASTM D5185m 200 67 Phosphorus ppm ASTM D5185m 300 341 Zinc ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 2500 1249 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	5	<1		
Calcium ppm ASTM D5185m 200 67 Phosphorus ppm ASTM D5185m 300 341 Zinc ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 2500 1249 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 300 341 Zinc ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 370 442 Sulfur ppm ASTM D5185m 2500 1249 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	25	3		
ZincppmASTM D5185m370442SulfurppmASTM D5185m25001249CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Calcium	ppm	ASTM D5185m	200	67		
SulfurppmASTM D5185m25001249CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m	300	341		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Zinc	ppm	ASTM D5185m	370	442		
Silicon ppm ASTM D5185m >20 <1	Sulfur	ppm	ASTM D5185m	2500	1249		
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 14091 Particles >6µm ASTM D7647 >1300 790 Particles >6µm ASTM D7647 >160 10 Particles >14µm ASTM D7647 >160 10 Particles >21µm ASTM D7647 >40 2 Particles >38µm ASTM D7647 >10 1 Particles >71µm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>20	<1		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 14091 Particles >6µm ASTM D7647 >1300 790 Particles >6µm ASTM D7647 >160 10 Particles >14µm ASTM D7647 >160 10 Particles >21µm ASTM D7647 >40 2 Particles >38µm ASTM D7647 >10 1 Particles >71µm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		<1		
Particles >4μm ASTM D7647 >5000 ▲ 14091 Particles >6μm ASTM D7647 >1300 790 Particles >14μm ASTM D7647 >160 10 Particles >14μm ASTM D7647 >40 2 Particles >21μm ASTM D7647 >40 2 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	0		
Particles >6μm ASTM D7647 >1300 790 Particles >14μm ASTM D7647 >160 10 Particles >14μm ASTM D7647 >160 10 Particles >21μm ASTM D7647 >40 2 Particles >38μm ASTM D7647 >10 1 Particles >38μm ASTM D7647 >3 1 Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >160 10 Particles >21μm ASTM D7647 >40 2 Particles >38μm ASTM D7647 >10 1 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>5000	<u> </u>		
Particles >21μm ASTM D7647 >40 2 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	790		
Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>160	10		
Particles >71μm ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >19/17/14 ▲ 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>40	2		
Oil Cleanliness ISO 4406 (c) >19/17/14 ▲ 21/17/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>10	1		
FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>3	1		
	Oil Cleanliness		ISO 4406 (c)	>19/17/14	A 21/17/10		
Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.28	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.28		



0.00

28

ç 24 \$3 22

> 18 Nov29/22

Abnorma 2

Abnorma 20

Viscosity @ 40°C

OIL ANALYSIS REPORT

scalar

scalar

scalar

scalar

scalar

scalar

method

*Visual

*Visual

*Visua

*Visual

*Visual

*Visual

scalar *Visual

limit/base

NONE

NONE

NONE

NONE

NONE

NONE

NORML

current

NONE

NONE

NONE

NONE

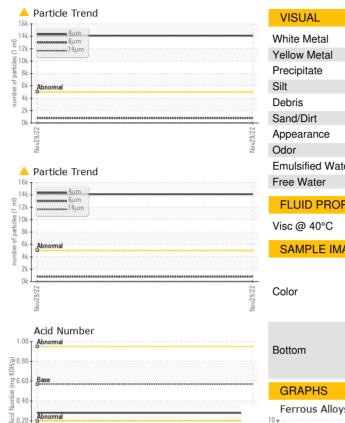
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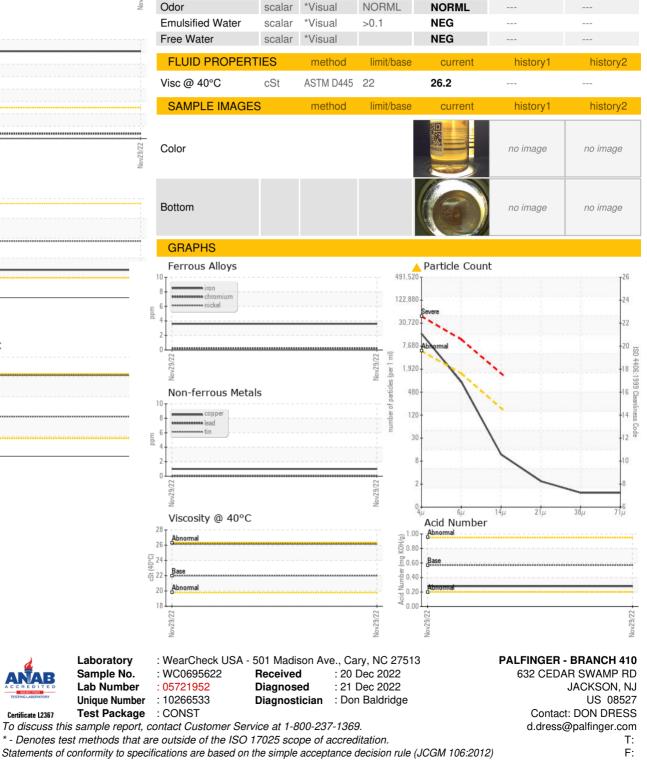
NONE

NORML

history1

history2





Certificate L2367

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