



GREASE ANALYSIS

Sample Rating Trend

WEAR PARTICLES



Area
MILL

Machine Id
450.1005E Press Bottom Infeed Drum Bearing EAST

Component
Grease

Fluid
KLUBER KLUBERLUB PHB 71-461 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Analytical Ferrography: Results show minor amounts of red oxide (rust) presence. If the red oxide might be external from nearby rusting components, consider checking for possible seal issues that can be repaired. Consider also checking that red oxide is not forming in the housing from possible head-space that isn't protected by a grease coating, as well as check that the grease storage, handling tools, and zerk aren't surrounded by or coated with rusting surfaces. There are low amounts of ferrous sliding wear, but the particles almost all have surface markings indicating they are old and have been in the system for an extended period, possibly from a previous wear issue. The only other materials present are typical amounts of ferrous rubbing wear and external contamination.

Wear

Wear particle analysis indicates that the ferrous red oxides particles are noted. All other component wear rates are normal. The analytical ferrographic results are normal indicating no abnormal wear in the system.

Grease Condition

Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the grease is acceptable for the time in service.

Contaminants

There is no indication of any contamination in the grease.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC05653050	---	---
Sample Date	Client Info	19 Sep 2022	---	---
Machine Age	hrs	Client Info	0	---
Grease Age	hrs	Client Info	0	---
Grease Serviced	Client Info	N/A	---	---
Sample Status		ATTENTION	---	---

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184	>200	86	---	---
Iron	ppm	ASTM D5185m	>250	195	---
Chromium	ppm	ASTM D5185m	>10	2	---
Nickel	ppm	ASTM D5185m	>5	<1	---
Cadmium	ppm	ASTM D5185m		0	---
Titanium	ppm	ASTM D5185m		<1	---
Vanadium	ppm	ASTM D5185m		0	---
Lead	ppm	ASTM D5185m	>25	2	---
Copper	ppm	ASTM D5185m	>75	41	---
Tin	ppm	ASTM D5185m	>5	<1	---
Silver	ppm	ASTM D5185m	>5	4	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	650	120	---
Magnesium	ppm	ASTM D5185m		2	---
Manganese	ppm	ASTM D5185m		1	---
Molybdenum	ppm	ASTM D5185m		4	---
Phosphorus	ppm	ASTM D5185m	860	763	---
Zinc	ppm	ASTM D5185m	1030	912	---

THICKENER/SOAP

method	limit/base	current	history1	history2	
Aluminum	ppm	ASTM D5185m		2	---
Barium	ppm	ASTM D5185m		<1	---
Calcium	ppm	ASTM D5185m	30	173	---
Sodium	ppm	ASTM D5185m		11	---
Lithium	ppm	ASTM D5185m		<1	---
Sulfur	ppm	ASTM D5185m	11650	3551	---

CONTAMINANTS

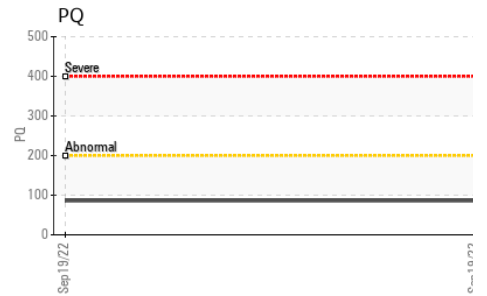
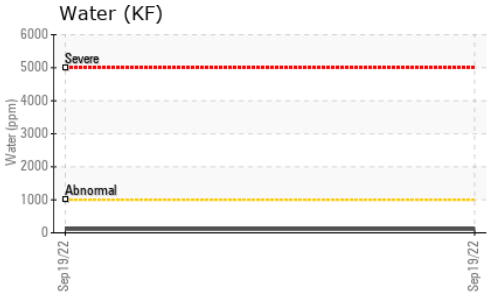
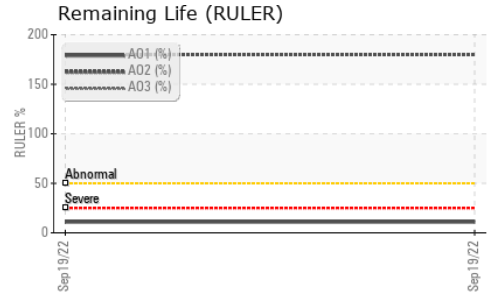
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>150	5	---
Potassium	ppm	ASTM D5185m		<1	---
Water	%	ASTM D6304	>0.1	0.011	---
ppm Water	ppm	ASTM D6304	>1000	112.6	---

GREASE CONDITION

method	limit/base	current	history1	history2
Grease Color	*Visual	Green	---	---
Texture	*In-house	Long fiber	---	---
NLGI Consistency	NLGI Scale *SKF Method	1	---	---
Anti-Oxidant 1	% ASTM D6971	<25%	11	---
Anti-Oxidant 2	% ASTM D6971	<25%	180	---

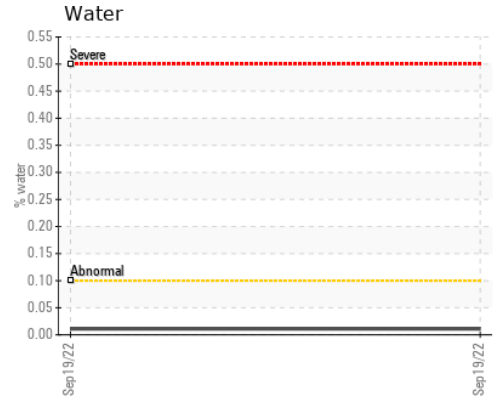
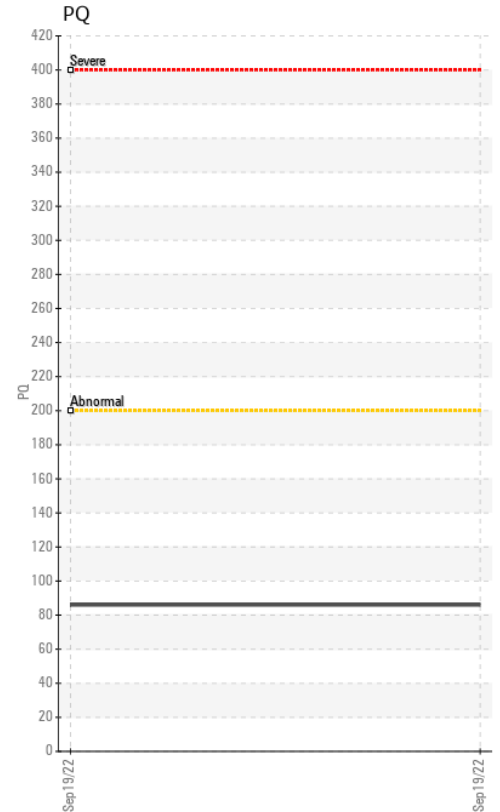
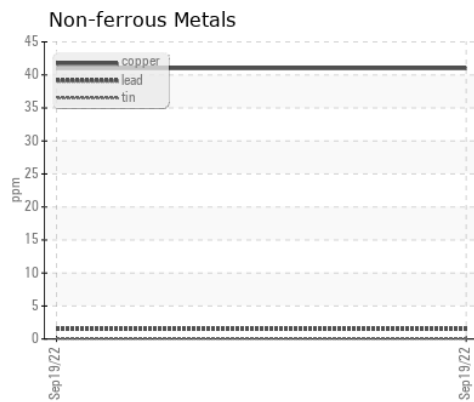
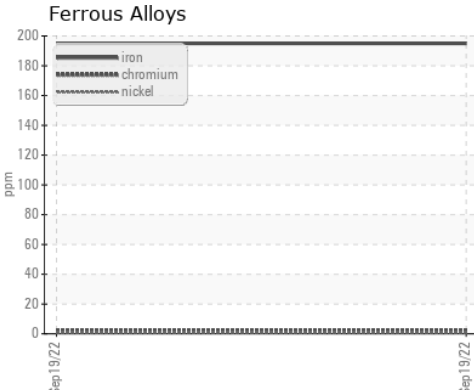


GREASE ANALYSIS



SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS



Certificate L2367

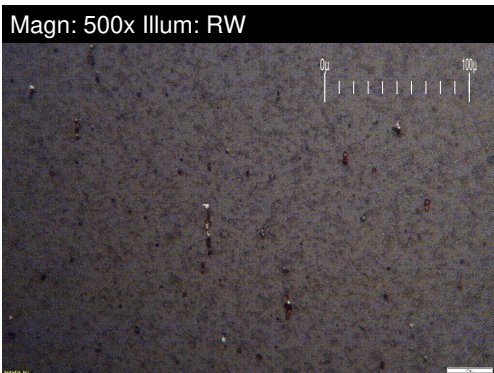
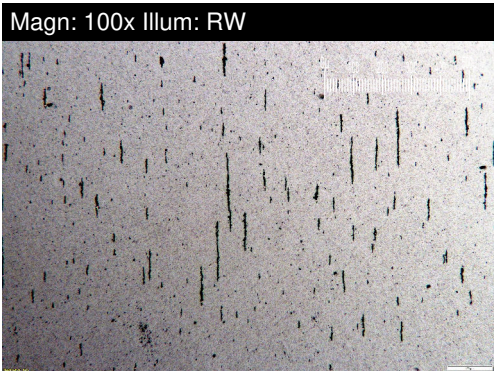
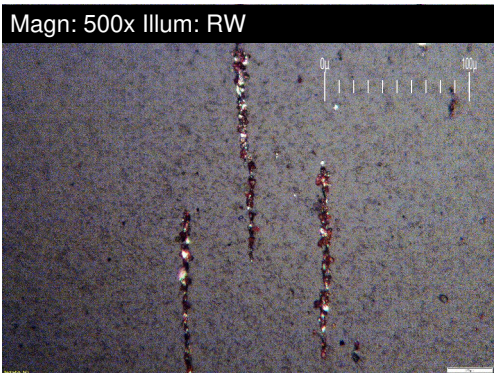
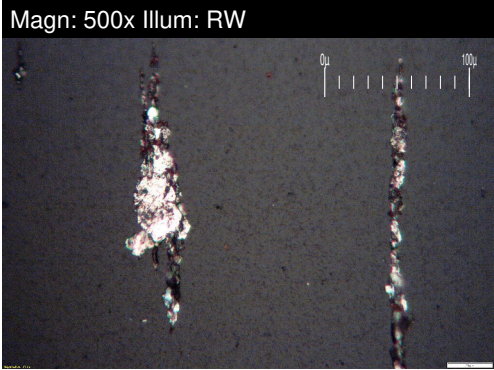
Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC05653050 **Received** : 28 Sep 2022
Lab Number : 05653050 **Tested** : 06 Oct 2022
Unique Number : 10152602 **Diagnosed** : 06 Oct 2022 - Aaron Black
Test Package : GRS 3 (Additional Tests: SCREEN)

ARAUCO-Carolina Particleboard-BENNETTSVILLE
 582 WILLIAMETTE ROAD HWY 912
 BENNETTSVILLE, SC
 US 29512
 Contact: JEFF SCOTT
 jeff.scott@arauco.com
 T: (843)454-9635
 F:

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)

FERROGRAPHY REPORT

Area
MILL
 Machine Id.
450.1005E Press Bottom Infeed Drum Bearing EAST
 Component
Grease
 Fluid
KLUBER KLUBERLUB PHB 71-461 (--- GAL)



FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	*ASTM D7684		3		
Ferrous Sliding	Scale 0-10	*ASTM D7684		3		
Ferrous Cutting	Scale 0-10	*ASTM D7684				
Ferrous Rolling	Scale 0-10	*ASTM D7684				
Ferrous Break-in	Scale 0-10	*ASTM D7684				
Ferrous Spheres	Scale 0-10	*ASTM D7684				
Ferrous Black Oxides	Scale 0-10	*ASTM D7684				
Ferrous Red Oxides	Scale 0-10	*ASTM D7684		4		
Ferrous Corrosive	Scale 0-10	*ASTM D7684				
Ferrous Other	Scale 0-10	*ASTM D7684				
Nonferrous Rubbing	Scale 0-10	*ASTM D7684				
Nonferrous Sliding	Scale 0-10	*ASTM D7684				
Nonferrous Cutting	Scale 0-10	*ASTM D7684				
Nonferrous Rolling	Scale 0-10	*ASTM D7684				
Nonferrous Other	Scale 0-10	*ASTM D7684				
Carbonaceous Material	Scale 0-10	*ASTM D7684				
Lubricant Degradation	Scale 0-10	*ASTM D7684				
Sand/Dirt	Scale 0-10	ASTM D7684				
Fibres	Scale 0-10	*ASTM D7684				
Spheres	Scale 0-10	*ASTM D7684				
Other	Scale 0-10	*ASTM D7684		3		

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