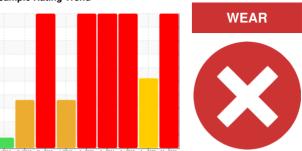


PROBLEM SUMMARY

Sample Rating Trend



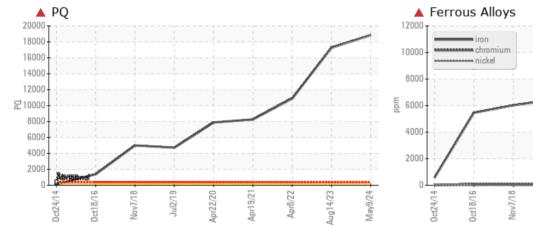
Machine Id

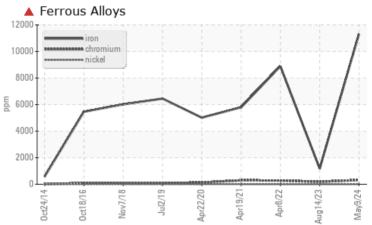
TURBINA 09 - FRONT BEARING (S/N 101311)

Grease

KLUBER KLUBERPLEX BEM 41-141 (--- LTR)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

Purge old grease. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS								
Sample Status				SEVERE	ABNORMAL	SEVERE		
PQ		ASTM D8184	>200	18861	<u>▲</u> 17256	▲ 10883		
Iron	ppm	ASTM D5185m	>250	11320	<u>▲</u> 1176	▲ 8886		
Chromium	ppm	ASTM D5185m	>10	4 317	1 90	279		

Customer Id: EOLOMAN Sample No.: WC0881127 Lab Number: 06194923 Test Package: GRS 1



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

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

RECOMMENDED	RECOMMENDED ACTIONS					
Action	Status	Date	Done By	Description		
Monitor			?	Re-sample to verify the actual oil condition. Purge old grease if still abnormal and monitor the trend of iron level.		
Change Fluid			?	Re-sample to verify the actual oil condition. Purge old grease if still abnormal and monitor the trend of iron level.		
Resample			?	Re-sample to verify the actual oil condition. Purge old grease if still abnormal and monitor the trend of iron level. We recommend an early resample to monitor this condition.		

HISTORICAL DIAGNOSIS

14 Aug 2023 Diag: Doug Bogart

WEAR

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. The iron level is abnormal. Elemental level of silicon (Si) above normal. The condition of the grease is acceptable for the time in service.



WEAR



08 Apr 2022 Diag: Doug Bogart

Recommend drain grease if not already done and flush before refilling with grease. We recommend an early resample to monitor this condition. The iron level is abnormal. The high ferrous density (PQ) index indicates that abnormal wear is occurring. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a light concentration of water present in the grease. The AN level is above the recommended limit. The grease is no longer serviceable as a result of the abnormal and/or severe wear.



WEAR



19 Apr 2021 Diag: Doug Bogart

Recommend drain grease if not already done and flush before refilling with grease. We recommend an early resample to monitor this condition. The iron level is abnormal. The high ferrous density (PQ) index indicates that abnormal wear is occurring. There is no indication of any contamination in the grease. The AN level is acceptable for this fluid. The grease is no longer serviceable as a result of the abnormal and/or severe wear.





GREASE ANALYSIS

J.....

Sample Rating Trend WEAL

Machine Id

TURBINA 09 - FRONT BEARING (S/N 101311)

Grease

Grease

KLUBER KLUBERPLEX BEM 41-141 (--- LTR)

DIAGNOSIS

Recommendation

Purge old grease. We recommend an early resample to monitor this condition.

Wear

An increase in the wear is noted. Bearing and/or bushing wear is indicated.

Grease Condition

The grease is no longer serviceable as a result of the abnormal and/or severe wear.

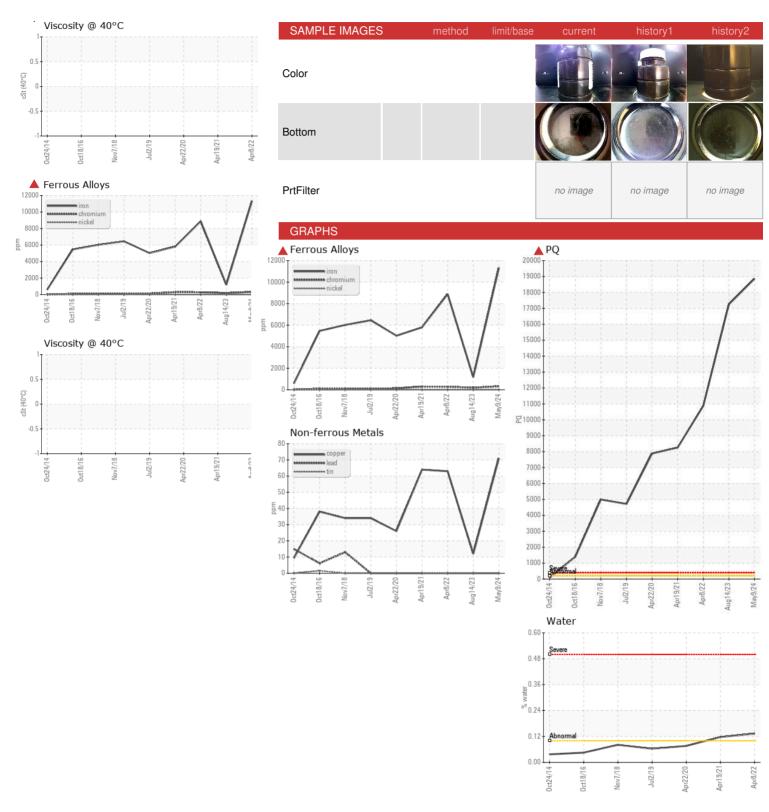
Contaminants

There is no indication of any contamination in the grease.

R)		0ct2014 0ct	2016 100/2010 30/2013	Apr2020 Apr2021 Apr2022 Aug20		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0881127	WC0831525	WC05582737
Sample Date		Client Info		09 May 2024	14 Aug 2023	08 Apr 2022
Machine Age	yrs	Client Info		12	11	6
Grease Age	yrs	Client Info		1	1	0
Grease Serviced		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	ABNORMAL	SEVERE
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>200	18861	<u>▲</u> 17256	1 0883
Iron	ppm	ASTM D5185m	>250	11320	<u>1176</u>	8886
Chromium	ppm	ASTM D5185m	>10	4 317	<u> </u>	279
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
Titanium	ppm	ASTM D5185m		2	<1	2
Vanadium	ppm	ASTM D5185m		2	<1	1
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>75	71	12	63
Tin	ppm	ASTM D5185m	>5	0	0	0
Silver	ppm	ASTM D5185m	>5	0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 222	history1	history2 214
Boron	ppm ppm		limit/base			
Boron Magnesium		ASTM D5185m	limit/base	222	138	214
Boron Magnesium Manganese	ppm	ASTM D5185m ASTM D5185m	limit/base	222 0	138 5	214 2
Boron Magnesium Manganese Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	222 0 76	138 5 14	214 2 57
Boron Magnesium Manganese Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	222 0 76 4992	138 5 14 1898	214 2 57 2431
Boron Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	222 0 76 4992 701	138 5 14 1898 437	214 2 57 2431 468
Boron Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	222 0 76 4992 701	138 5 14 1898 437 193	214 2 57 2431 468 194
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		222 0 76 4992 701 502	138 5 14 1898 437 193	214 2 57 2431 468 194
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		222 0 76 4992 701 502 	138 5 14 1898 437 193 	214 2 57 2431 468 194
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium	ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m		222 0 76 4992 701 502 current 0	138 5 14 1898 437 193 history1	214 2 57 2431 468 194 history2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		222 0 76 4992 701 502 current 0	138 5 14 1898 437 193 history1 1 6	214 2 57 2431 468 194 history2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO Aluminum Barium Calcium Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		222 0 76 4992 701 502 current 0 0 99	138 5 14 1898 437 193 history1 1 6 58	214 2 57 2431 468 194 history2 10 5 138
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium	ppm	ASTM D5185m		222 0 76 4992 701 502 current 0 0 99 37	138 5 14 1898 437 193 history1 1 6 58 96	214 2 57 2431 468 194 history2 10 5 138 24
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium	ppm	ASTM D5185m		222 0 76 4992 701 502 current 0 0 99 37 3507	138 5 14 1898 437 193 history1 1 6 58 96 1588	214 2 57 2431 468 194 history2 10 5 138 24 2264
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur	ppm	ASTM D5185m	limit/base	222 0 76 4992 701 502 current 0 0 99 37 3507 6392	138 5 14 1898 437 193 history1 1 6 58 96 1588 4099	214 2 57 2431 468 194 history2 10 5 138 24 2264 6184
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS	ppm	ASTM D5185m	limit/base	222 0 76 4992 701 502 current 0 0 99 37 3507 6392 current	138 5 14 1898 437 193 history1 1 6 58 96 1588 4099 history1	214 2 57 2431 468 194 history2 10 5 138 24 2264 6184 history2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS	ppm	ASTM D5185m MEthod ASTM D5185m	limit/base	222 0 76 4992 701 502 current 0 0 99 37 3507 6392 current 319	138 5 14 1898 437 193 history1 1 6 58 96 1588 4099 history1 ↑ 702	214 2 57 2431 468 194 history2 10 5 138 24 2264 6184 history2 166
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium	ppm	ASTM D5185m	limit/base limit/base >150	222 0 76 4992 701 502 current 0 0 99 37 3507 6392 current 319 8	138 5 14 1898 437 193 history1 1 6 58 96 1588 4099 history1 ▲ 702 15	214 2 57 2431 468 194 history2 10 5 138 24 2264 6184 history2 166 3
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium GREASE CONDI	ppm	ASTM D5185m Method ASTM D5185m Method	limit/base limit/base >150	222 0 76 4992 701 502 current 0 0 99 37 3507 6392 current 319 8 current	138 5 14 1898 437 193 history1 1 6 58 96 1588 4099 history1 ▲ 702 15 history1	214 2 57 2431 468 194 history2 10 5 138 24 2264 6184 history2 ▲ 166 3 history2



GREASE ANALYSIS







Laboratory

Sample No.

: WC0881127 Lab Number : 06194923 Unique Number : 11057046

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

: 29 May 2024 **Tested** : 13 Jun 2024 Diagnosed : 13 Jun 2024 - Doug Bogart

DEL SEMAFORO DEL CLUB TERRAZA, 1 CUADRA AL SUR

MANAGUA, ZZ NI Contact: Rafael Bermudez

EOLO DE NICARAGUA S.A.

Test Package : GRS 1 (Additional Tests: KV40, SCREEN) 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)

F: Contact/Location: Rafael Bermudez - EOLOMAN

T: