

## **GREASE ANALYSIS**

Sample Rating Trend

**WEAR** 



## **TURBINA 14 - FRONT BEARING (S/N 101296)** Component

Grease

Fluid KLUBER KLUBERPLEX BEM 41-141 (--- LT

### DIAGNOSIS

### Recommendation

Re-sample to verify the actual oil condition. Purge old grease if still abnormal and monitor the trend of iron level. No corrective action is recommended at this time.

## 🔺 Wear

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

#### **Grease Condition**

The condition of the grease is acceptable for the time in service.

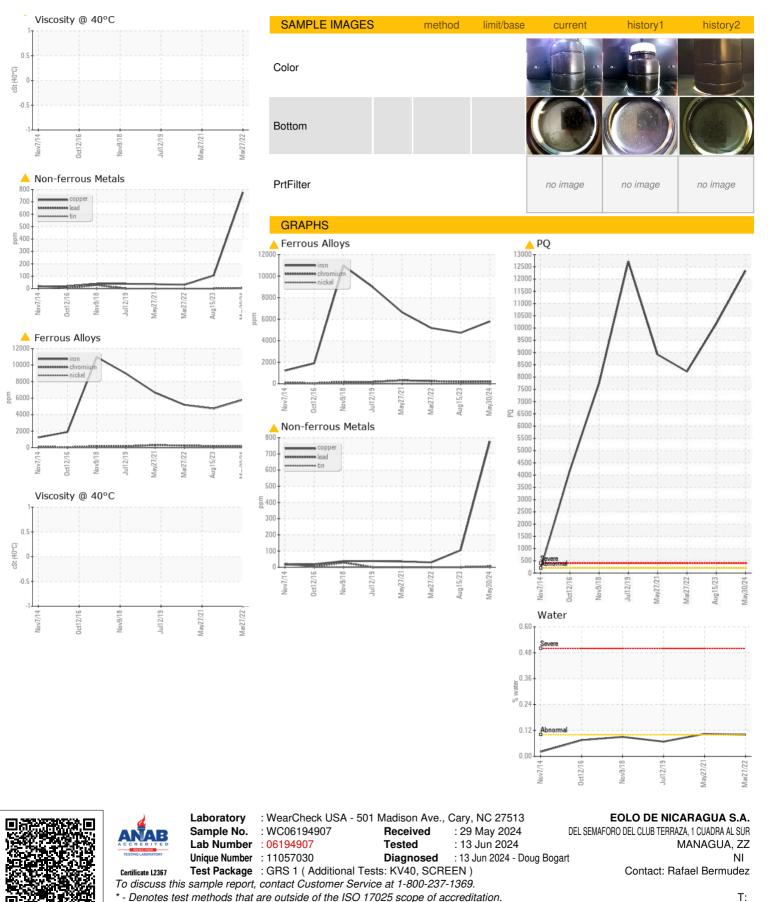
#### Contaminants

There is no indication of any contamination in the grease.

R)		Nov2014 0	lct2016 Nov2018 Jul201	19 May2021 Mar2022 Aug2023	May2024	
	ATION					
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC06194907	WC0419931	WC05582735
Sample Date		Client Info		30 May 2024	15 Aug 2023	27 Mar 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				ABNORMAL	ABNORMAL	MARGINAL
CONTAMINATION	J	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	<b>12339</b>	<b>1</b> 0174	▲ 8224
ron	ppm	ASTM D5185m	>250	<u> </u>	<b>4</b> 734	<u> </u>
Chromium	ppm	ASTM D5185m	>10	<u> </u>	<b>1</b> 85	<b>4</b> 247
Nickel	ppm	ASTM D5185m	>5	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
Fitanium	ppm	ASTM D5185m		2	1	2
/anadium	ppm	ASTM D5185m		2	1	<1
ead	ppm	ASTM D5185m	>25	5	0	0
Copper	ppm	ASTM D5185m	>75	<u> </u>	105	30
īn	ppm	ASTM D5185m	>5	0	0	0
Silver	ppm	ASTM D5185m	>5	0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		199	183	192
	ppm ppm	ASTM D5185m ASTM D5185m		199 0	183 1	192 1
Magnesium						
Magnesium Manganese	ppm	ASTM D5185m		0	1	1
Magnesium Manganese Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		0 87	1 34	1 35
Magnesium Manganese Molybdenum Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 87 3586	1 34 2736	1 35 2275
Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 87 3586 645	1 34 2736 476	1 35 2275 407
Aagnesium Aanganese Aolybdenum Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906	1 34 2736 476 225	1 35 2275 407 125
Aagnesium Aanganese Aolybdenum Phosphorus Zinc Antimony THICKENER/SOA	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906 	1 34 2736 476 225	1 35 2275 407 125 
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA	ppm ppm ppm ppm ppm ppm ppm P	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	0 87 3586 645 906  current	1 34 2736 476 225  history1	1 35 2275 407 125  history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium	ppm ppm ppm ppm ppm ppm ppm P	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0	1 34 2736 476 225  history1 0	1 35 2275 407 125  history2 8
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0 2	1 34 2736 476 225  history1 0 3	1 35 2275 407 125  history2 8 4
Aluminum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0 2 105	1 34 2736 476 225  history1 0 3 92	1 35 2275 407 125  history2 8 4 130
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0 2 105 30	1 34 2736 476 225  history1 0 3 92 16	1 35 2275 407 125  history2 8 4 130 17
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0 2 105 30 2807	1 34 2736 476 225  history1 0 3 92 16 2509	1 35 2275 407 125  history2 8 4 130 17 2046
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS	ppm	ASTM D5185m ASTM D5185m		0 87 3586 645 906  current 0 2 105 30 2807 5804	1 34 2736 476 225  history1 0 3 92 16 2509 5423	1 35 2275 407 125  history2 8 4 130 17 2046 5567
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium Lithium Sodium Lithium Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  Current 0 2 105 30 2807 5804 current	1 34 2736 476 225  history1 0 3 92 16 2509 5423 history1	1 35 2275 407 125  history2 8 4 130 17 2046 5567 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium Lithium Sodium Lithium Solfur CONTAMINANTS Silicon	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	limit/base	0 87 3586 645 906  current 0 2 105 30 2807 5804 current 330	1 34 2736 476 225  history1 0 3 92 16 2509 5423 history1 ▲ 560	1 35 2275 407 125  history2 8 4 130 17 2046 5567 history2 107
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium Lithium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium GREASE CONDIT	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	limit/base >150	0 87 3586 645 906  Current 0 2 105 30 2807 5804 current 330 7	1 34 2736 476 225  history1 0 3 92 16 2509 5423 history1 ▲ 560 <1	1 35 2275 407 125  history2 8 4 130 17 2046 5567 history2 107 3
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	limit/base >150 limit/base	0 87 3586 645 906  current 0 2 105 30 2807 5804 current 330 7 current	1 34 2736 476 225  history1 0 3 92 16 2509 5423 16 2509 5423 bistory1	1 35 2275 407 125  history2 8 4 130 17 2046 5567 history2 107 3



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\* - 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)

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