

## **GREASE ANALYSIS**

Sample Rating Trend

**WEAR** 

Machine Id

# TURBINA 13 - FRONT BEARING (S/N 101311)

Grease

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

### DIAGNOSIS

#### A Recommendation

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

#### 📥 Wear

All component wear rates appear stable.

#### **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	Oct2016 May202	1 Mar2022 Aug2023	May2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC06194926	WC0419929	WC05582752
Sample Date		Client Info		09 May 2024	15 Aug 2023	29 Mar 2022
Machine Age	mths	Client Info		36	48	6
Grease Age	mths	Client Info		6	6	0
Grease Serviced		Client Info		N/A	N/A	N/A
Sample Status				MARGINAL	ABNORMAL	MARGINAL
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	<b>4438</b>	<b>A</b> 2735	<b>1</b> 912
Iron	ppm	ASTM D5185m	>250	<u> </u>	<u> </u>	<u> </u>
Chromium	ppm	ASTM D5185m	>10	<u> </u>	<b>1</b>	<b>6</b> 7
Nickel	ppm	ASTM D5185m	>5	0	0	0
Cadmium	ppm	ASTM D5185m		<1	<1	<1
Titanium	ppm	ASTM D5185m		2	2	2
Vanadium	ppm	ASTM D5185m		2	2	1
Lead	ppm	ASTM D5185m	>25	<1	<1	<1
Copper	ppm	ASTM D5185m	>75	57	58	41
Tin	ppm	ASTM D5185m	>5	0	0	0
Silver	ppm	ASTM D5185m	>5	0	<1	<1
ADDITIVES		method	limit/base		1.	histow.0
ABBIIIVEO		method	iimit/base	current	history1	history2
	ppm	ASTM D5185m	IIIII/Dase	186	192	164
Boron	ppm ppm		IIIII/base			
Boron Magnesium		ASTM D5185m	IIIII/Dase	186	192	164
Boron Magnesium Manganese	ppm	ASTM D5185m ASTM D5185m		186 0	192 0	164 0
Boron Magnesium Manganese Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17	192 0 14	164 0 10
Boron Magnesium Manganese Molybdenum Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17 5160	192 0 14 5289	164 0 10 4516
Boron Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17 5160 1130	192 0 14 5289 1105	164 0 10 4516 938
Boron Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	186 0 17 5160 1130	192 0 14 5289 1105 182	164 0 10 4516 938 85
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17 5160 1130 290 	192 0 14 5289 1105 182	164 0 10 4516 938 85 
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17 5160 1130 290  current	192 0 14 5289 1105 182  history1	164 0 10 4516 938 85  history2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO Aluminum Barium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		186 0 17 5160 1130 290  current 0	192 0 14 5289 1105 182  history1 0	164 0 10 4516 938 85  history2 13
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m		186 0 17 5160 1130 290  current 0 24	192 0 14 5289 1105 182  history1 0 25	164 0 10 4516 938 85  history2 13 26
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium	ppm ppm 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		186 0 17 5160 1130 290  current 0 24 15	192 0 14 5289 1105 182  history1 0 25 13	164 0 10 4516 938 85  history2 13 26 13
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium	ppm ppm 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		186 0 17 5160 1130 290  current 0 24 15 22	192 0 14 5289 1105 182  history1 0 25 13 18	164 0 10 4516 938 85  history2 13 26 13 13 14
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium	ppm ppm 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		186 0 17 5160 1130 290  current 0 24 15 22 3480	192 0 14 5289 1105 182  history1 0 25 13 18 3660	164 0 10 4516 938 85  history2 13 26 13 26 13 14 2768
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351	192 0 14 5289 1105 182  history1 0 25 13 18 3660 5700	164 0 10 4516 938 85  history2 13 26 13 13 14 2768 4764
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351 current	192 0 14 5289 1105 182  history1 0 25 13 18 3660 5700 history1	164 0 10 4516 938 85  history2 13 26 13 14 2768 4764 history2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351 current 161	192 0 14 5289 1105 182  history1 0 25 13 25 13 18 3660 5700 history1 ▲ 477	164 0 10 4516 938 85  history2 13 26 13 26 13 14 2768 4764 4764 history2 77
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOM Aluminum Barium Calcium Calcium Sodium Lithium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >150 limit/base	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351 current 161 5	192 0 14 5289 1105 182  history1 0 25 13 18 3660 5700 history1 ▲ 477 2	164 0 10 4516 938 85  history2 13 26 13 14 266 13 14 2768 4764 4764 history2 777 2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium GREASE CONDI Grease Color	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base limit/base >150	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351 current 161 5 5 current Brown	192 0 14 5289 1105 182  history1 0 25 13 18 3660 5700 bistory1 ▲ 477 2 history1	164 0 10 4516 938 85  history2 13 26 13 14 2768 4764 4764 history2 77 2
Boron Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOM Aluminum Barium Calcium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base limit/base >150 limit/base	186 0 17 5160 1130 290  current 0 24 15 22 3480 5351 current 161 5 5 current	192 0 14 5289 1105 182  history1 0 25 13 18 3660 5700 history1 ▲ 477 2 history1	164 0 10 4516 938 85  history2 13 26 13 13 26 13 14 2768 4764 4764 history2 77 2 777 2 history2



0.5

5000 400

300

200

1000

0

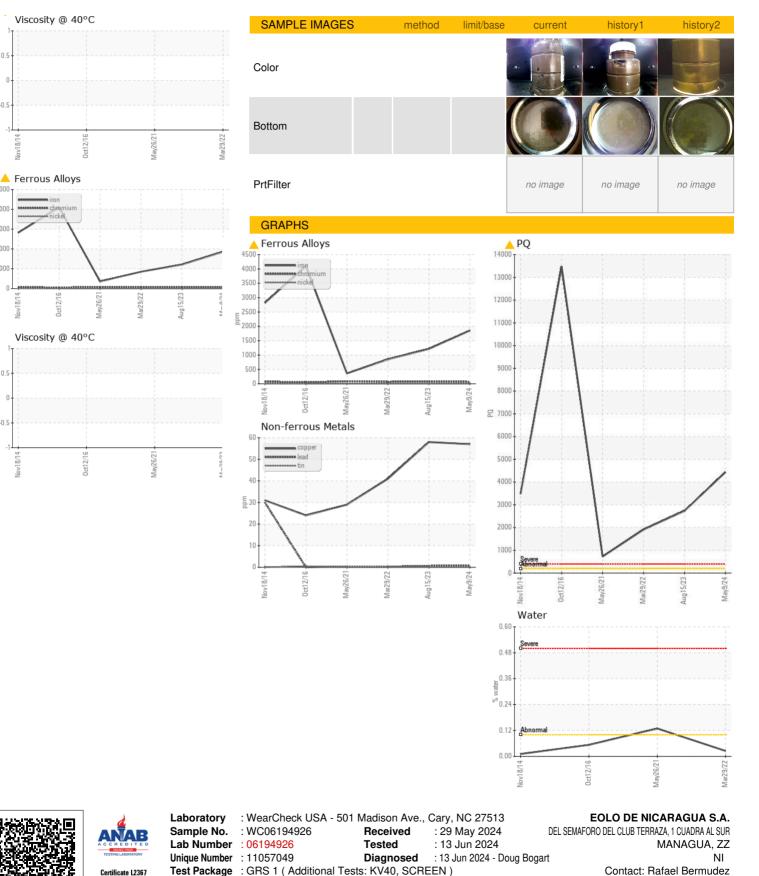
-0 5

cSt (40°C)

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cSt (40°C) -0.5

## **GREASE ANALYSIS**



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)

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