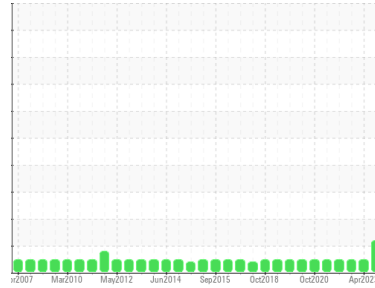




PROBLEM SUMMARY

Sample Rating Trend



VISUAL METAL



Area
Kingsbridge SP-13584
 Machine Id
T5 (S/N 21767)
 Component
Hydraulic System
 Fluid
TEXACO RANDO WM 32 (180 LTR)

COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

We advise that you check for visible metal particles in the oil. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	NORMAL
White Metal	scalar	Visual*	NONE	▲ VLITE	NONE	NONE
PrtFilter					no image	no image

Customer Id: VESTAS
 Sample No.: WC0783143
 Lab Number: 02576793
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1
 (289)291-4641 x4641
Bill.Quesnel@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.

HISTORICAL DIAGNOSIS

12 Apr 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



12 Apr 2022 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



14 Oct 2021 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



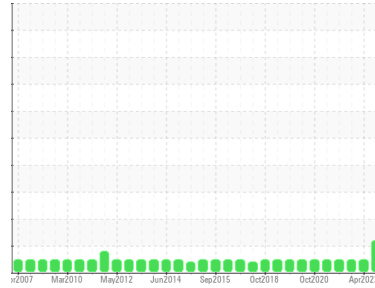


OIL ANALYSIS REPORT

Sample Rating Trend

VISUAL METAL

Area
Kingsbridge SP-13584
 Machine Id
T5 (S/N 21767)
 Component
Hydraulic System
 Fluid
TEXACO RANDO WM 32 (180 LTR)



DIAGNOSIS

Recommendation

We advise that you check for visible metal particles in the oil. We recommend an early resample to monitor this condition.

Wear

Light concentration of visible metal present. Cylinder wear is indicated.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0783143	WC0783065	WC0632599
Sample Date	Client Info		09 Aug 2023	12 Apr 2023	12 Apr 2022
Machine Age	yrs	Client Info	0	0	0
Oil Age	yrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>50	0	0	0
Iron	ppm	ASTM D5185(m)	>10	2	2
Chromium	ppm	ASTM D5185(m)	>15	1	1
Nickel	ppm	ASTM D5185(m)	>10	0	<1
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		0	0
Aluminum	ppm	ASTM D5185(m)	>10	0	<1
Lead	ppm	ASTM D5185(m)	>20	<1	<1
Copper	ppm	ASTM D5185(m)	>15	5	5
Tin	ppm	ASTM D5185(m)	>20	0	<1
Antimony	ppm	ASTM D5185(m)		0	0
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	<1
Barium	ppm	ASTM D5185(m)		0	0
Molybdenum	ppm	ASTM D5185(m)		0	0
Manganese	ppm	ASTM D5185(m)		0	0
Magnesium	ppm	ASTM D5185(m)		<1	<1
Calcium	ppm	ASTM D5185(m)		65	68
Phosphorus	ppm	ASTM D5185(m)		369	377
Zinc	ppm	ASTM D5185(m)		424	420
Sulfur	ppm	ASTM D5185(m)		1425	1506
Lithium	ppm	ASTM D5185(m)		<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>10	<1	<1
Sodium	ppm	ASTM D5185(m)	>10	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1
Water	%	ASTM D6304*	>0.03	0.006	0.006
ppm Water	ppm	ASTM D6304*	>300	63.8	62.7

INFRA-RED

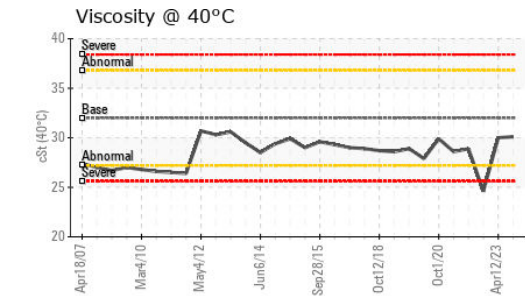
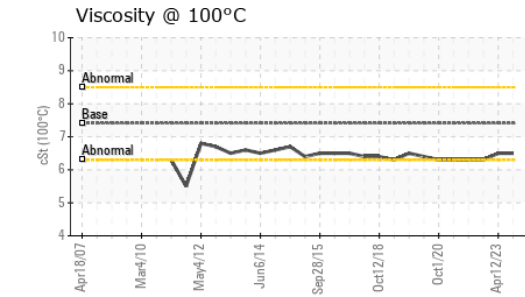
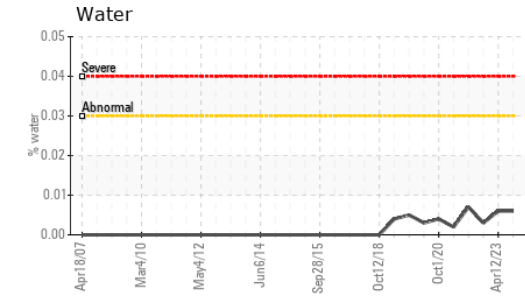
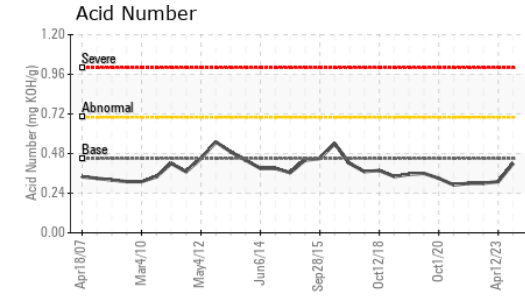
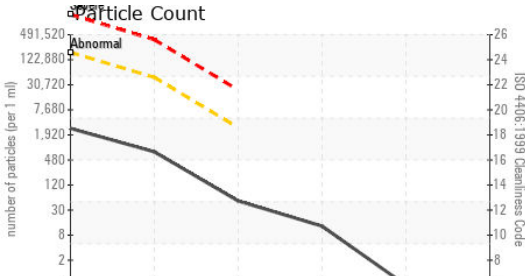
	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0	0
Nitration	Abs/cm	ASTM D7624*		3.0	2.9
Sulfation	Abs/.1mm	ASTM D7415*		44.9	44.6

Particle Filter (Magn: 100 x)





OIL ANALYSIS REPORT



Laboratory Sample No.: WC0783143
Lab Number: 02576793
Unique Number: 5629853
Test Package: IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, FT-IR, KF, KV100, PQ, PrtFilter, TAN)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Vestas American Wind Technology Inc.
 Received : 18 Aug 2023
 Diagnosed : 23 Aug 2023
 Diagnostician : Bill Quesnel
 Contact: Nicole Philippi
 NiPhi@vestas.com
 T: (503)327-7683
 F: (503)327-0247

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>160000	2408	795	527
Particles >6µm	ASTM D7647	>40000	662	205	125
Particles >14µm	ASTM D7647	>2500	44	7	10
Particles >21µm	ASTM D7647	>640	11	2	3
Particles >38µm	ASTM D7647	>160	0	0	0
Particles >71µm	ASTM D7647	>40	0	0	0
Oil Cleanliness	ISO 4406 (c)	>24/22/18	18/17/13	17/15/10	16/14/10

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	37.6	37.7	25.4
Acid Number (AN)	mg KOH/g	ASTM D974*	0.42	0.31	0.30

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.03	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32	30.1	30.0
Visc @ 100°C	cSt	ASTM D7279(m)	7.41	6.5	6.5
Viscosity Index (VI)	Scale	ASTM D2270*	211	178	179

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter					