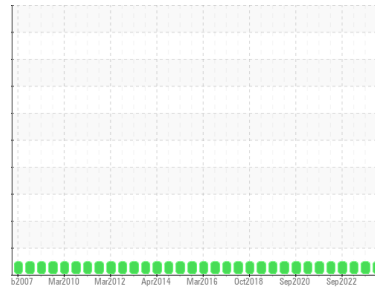




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**Kingsbridge SP-13584**  
 Machine  
**T14 (S/N 21763)**  
 Component  
**Hydraulic System**  
 Fluid  
**TEXACO RANDO WM 32 (180 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### 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 condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC</b>	WC0783089	WC0783071
Sample Date	Client Info		<b>14 Mar 2024</b>	18 Jul 2023	11 Apr 2023
Machine Age	yrs	Client Info	<b>0</b>	0	0
Oil Age	yrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>50	<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	1
Chromium	ppm	ASTM D5185(m)	>15	<b>2</b>	2
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>0</b>	0
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Copper	ppm	ASTM D5185(m)	>15	<b>4</b>	5
Tin	ppm	ASTM D5185(m)	>20	<b>0</b>	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Calcium	ppm	ASTM D5185(m)		<b>46</b>	47
Phosphorus	ppm	ASTM D5185(m)		<b>357</b>	388
Zinc	ppm	ASTM D5185(m)		<b>436</b>	445
Sulfur	ppm	ASTM D5185(m)		<b>1175</b>	1304
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>10	<b>0</b>	<1
Sodium	ppm	ASTM D5185(m)	>10	<b>0</b>	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1
Water	%	ASTM D6304*	>0.03	<b>0.003</b>	0.004
ppm Water	ppm	ASTM D6304*	>300	<b>29</b>	49.1

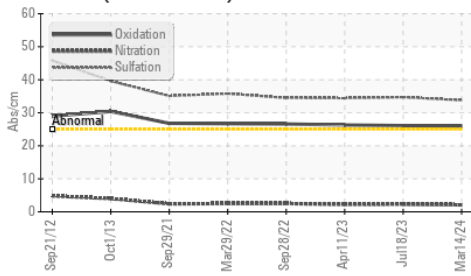
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		<b>0</b>	0
Nitration	Abs/cm	ASTM D7624*		<b>2.1</b>	2.3
Sulfation	Abs/.1mm	ASTM D7415*		<b>33.8</b>	34.7

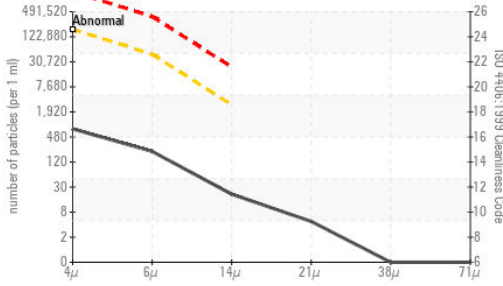


# OIL ANALYSIS REPORT

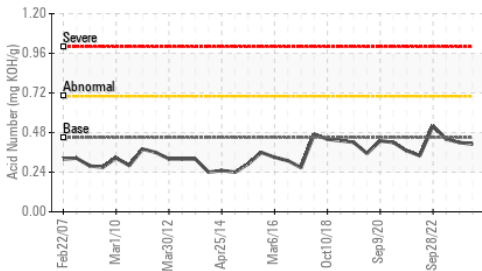
### FT-IR (Direct Trend)



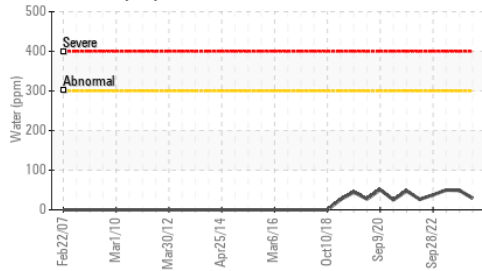
### Particle Count



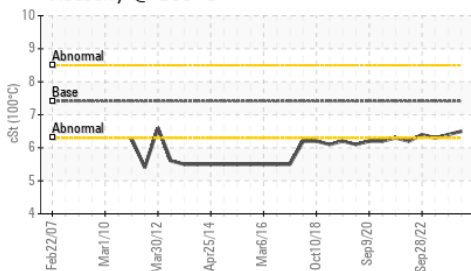
### Acid Number



### Water (KF)



### Viscosity @ 100°C



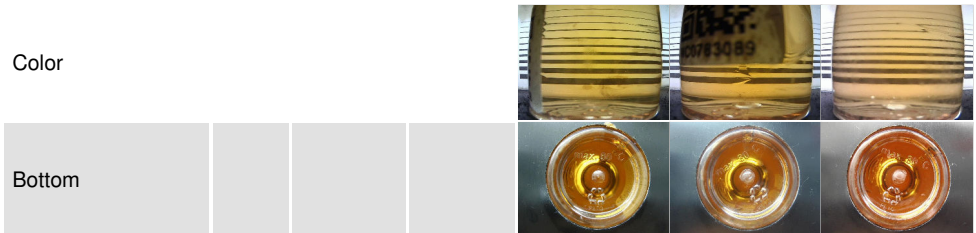
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>160000	<b>660</b>	122	493
Particles >6µm	ASTM D7647	>40000	<b>190</b>	42	156
Particles >14µm	ASTM D7647	>2500	<b>18</b>	6	10
Particles >21µm	ASTM D7647	>640	<b>4</b>	2	2
Particles >38µm	ASTM D7647	>160	<b>0</b>	0	0
Particles >71µm	ASTM D7647	>40	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>24/22/18	<b>17/15/11</b>	14/13/10	16/14/10

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	<b>25.9</b>	26.1	26.3
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.41</b>	0.42	0.44

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	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	<b>31.1</b>	30.4
Visc @ 100°C	cSt	ASTM D7279(m)	7.41	<b>6.5</b>	6.4
Viscosity Index (VI)	Scale	ASTM D2270*	211	<b>169</b>	169

### SAMPLE IMAGES



Color

Bottom



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC  
**Lab Number** : 02628848  
**Unique Number** : 5761980  
**Test Package** : IND 2 ( Additional Tests: FT-IR, KF, KV100, PQ, VI )

**Vestas American Wind Technology Inc.**  
 1417 NW Everett Street  
 Portland, OR  
 US 97209  
 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.