

Gearbox + Main Shaft

Hansen: EH804 AN21-BN-101.02

For: Vestas V80



Nº: 588

| | |
|--|-----------------------|
| Unidades / Pieces: | 2 |
| Fabricante / Manufacture: | Hansen |
| Modelo / Model: | EH804AN21-BN-101.02 |
| Ratio / i : | 101.02 |
| Frecuencia / Frequency: | 50 Hz |
| Potencia / Power: | 2.000 Kw |
| Para aerogenerador / For Wind Turbine: | Vestas V80 |
| Estado / Condition: | Usada / Used |
| Aceite / Oil | 280 l. |
| Peso / Weight : | 14.500 kg. + 11.800Kg |
| Año / Year: | 2006 |
| Estado: / Condition: | Usado / Used |
| Localización: / Location: | España / Spain |
| Disponible / Available: | inmediata / immediate |

Precio / Price: 62.480.-€ por unidad / incluido carga - Per Unit /including loading



TEST REPORT



CONTACT PERSON

Fabien TISSIER

TURBINE INFORMATION

COMPONENT INFORMATION

Country: FRANCE
Windfarm: LOUVILLE 1 & 3
Local Turbine ID: WTG05
Turbine Model: V80 2MW
Service Contract No: SC015635
Unit ID: 24361

Type: Gearbox
Model: EH804AN21-BN
Serial Number: LM0113

LAST SAMPLE ANALYSIS

The oil is fit for further use. There are no symptoms of contamination or abnormal wear.



Normal

RESULTS

| | | | | | | | |
|--|--|----------------|--------------|---------------------|--------------|----------------------------|------------|
| Sample number: | | TAN (mgr | 1514966 | 1454074 | 1389258 | FTIR Spectrum | |
| Sample: | | 1589939 | KOH/gr) 0.37 | 0.52 | 0.5 | | |
| | | 0.78 | 324.9 | 327.3 | 315.4 | | |
| Viscosity 40°C (mm2/s) | | 332.2 | | | | | |
| Magnesium [Mg] (mg/kg) | | | | Boron [B] (mg/kg) 5 | 10 | | |
| 4 | | | 0 | 0 | 0 | | |
| 0 | | | 19 | 19 | 20 | | |
| Calcium [Ca] (mg/kg) | | | | | 20 | | |
| Oxidation (A/cm) | | | | | <1 | 2.1 | 1.3 |
| Molybdenum [Mo] (mg/kg) | | | | 0 | | | 5.2 |
| Viscosity 100°C (mm2/s) | | 23.37 | 23.61 | 23.69 | 24.75 | Bottle cup | |
| Visc. Index (Adim) | | 90 | 91 | 95 | 96 | | |
| Barium [Ba] (mg/kg) | | 0 | 0 | 0 | 0 | | |
| Sulfur [S] (mg/kg) | | 1883 | 11925 | 12205 | 12452 | Silicon [Si] (mg/kg) 2 2 1 | |
| Zinc [Zn] (mg/kg) | | 9 | 8 | 4 | 11 | 1 | |
| Contamination | | | | | | | |
| Water content (mg/kg) | | 156 | 54 | 64 | 78 | | |
| Chloride [Cl] (mg/kg) | | 1 | 2 | 0 | 3 | | |
| Appearance (Adim) | | Dark transp. | Dark transp. | Dark transp. | Dark transp. | | |
| Water-Gas | | N.D. | N.D. | N.D. | | | |
| Particles | | Particles | Deposits | N.D. | | | |
| IR Index (%) | | 88.72 | 99.31 | 99.9 | 99.86 | | |
| Phosphorus [P] (mg/kg) | | 210 | 197 | 227 | 169 | | |
| Sodium [Na] (mg/kg) | | 3 | 5 | 3 | 6 | | |
| ISO 4406/2017 (Adim) | | 19/17/13 | NA | 20/17/13 | 18/16/12 | | |
| Part > 4 microns (100ml) | | 285114 | | 528083 | 208414 | | |
| Part > 6 microns (100ml) | | 91308 | | 123312 | 51504 | | |
| Part > 14 microns (100ml) | | 5944 | | 4908 | 3165 | | |
| Wear Metals | | | | | | | |
| Aluminum [Al] (mg/kg) | | 0 | 0 | 0 | 1 | | |
| Chromium [Cr] (mg/kg) | | 0 | 0 | 0 | 1 | | |
| Copper [Cu] (mg/kg) | | 1 | 1 | 1 | 2 | | |
| Iron [Fe] (mg/kg) | | 13 | 13 | 7 | 52 | Performed by: Joana Gil | |
| Nickel [Ni] (mg/kg) | | 0 | 0 | 0 | 1 | 10/11/2020 | |
| Lead [Pb] (mg/kg) | | 0 | 0 | 1 | 0 | | |
| Tin [Sn] (mg/kg) | | 0 | 0 | 0 | 0 | | |
| Status: Normal | | Caution | Alarm | ✓ | ⚠ | ✓ | ⚠ |
| Tests done from 29/01/2020 to 15/12/2020 | | | | | | | |

TEST REPORT

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|--|-----------------------|
| | CONTACT PERSON |
| | Fabien TISSIER |

| TURBINE INFORMATION | | COMPONENT INFORMATION | |
|-----------------------------|----------------|-----------------------|--------------|
| Country: | FRANCE | Type: | Gearbox |
| Windfarm: | LOUVILLE 1 & 3 | Model: | EH804AN21-BN |
| Local Turbine ID: | WTG05 | Serial Number: | 06/02 |
| Turbine Model: | V80 2MW | | |
| Service Contract No: | SC015635 | | |
| Unit ID: | 24361 | | |

LAST SAMPLE ANALYSIS

The oil is fit for further use. There are no symptoms of contamination or abnormal wear.



Normal

RESULTS

Sample number: 1589939 1514966 1454074 1389258

| Oil type: ^[2] | TEXACO MEROPA 320 | TEXACO MEROPA 320 | TEXACO MEROPA 320 | TEXACO MEROPA 320 |
|-------------------------------|-------------------|-------------------|-------------------|-------------------|
| Machine serv.: ^[2] | 125858 H | 120768 H | 113226 H | |
| Date sampled: ^[2] | 29/10/2020 | 31/03/2020 | 24/09/2019 | 12/03/2019 |
| First Report date: | 10/11/2020 | 21/04/2020 | 15/10/2019 | 01/04/2019 |

Wear Metals

| PQ Index (Adim) | 45 | 3 | 2 | 12 |
|-----------------|----|---|---|----|
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Performed by: Joana Gil

10/11/2020

Status: Normal Caution Alarm
 Tests done from 29/01/2020 to 15/12/2020



Test report

| | |
|--|--|
| | CUSTOMER |
| | LOUVILLE 1 & 3 Fabien TISSIER FRANCE |

The test standards correspond to the sample 1589939. For the methods used in the previous samples see the corresponding report.

Oil condition

Appearance (Adim)

IR Index (%)

Oxidation (A/cm)

Test methods

(PE-TA.096)

(PE-TA.071)

| | |
|-------------------------|--|
| TAN (mgr KOH/gr) | (DIN 51453-2004-10) |
| Viscosity 100°C (mm2/s) | (PE-TA.043_5.1 colorimétrico basado en ASTM D974-14e2) |
| Viscosity 40°C (mm2/s) | (ASTM D7279-18e1) |
| Visc. Index (Adim) | (ASTM D7279-18e1) |
| Boron [B] (mg/kg) | |
| Barium [Ba] (mg/kg) | (ASTM D2270-10(2016)) |
| Calcium [Ca] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Magnesium [Mg] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Molybdenum [Mo] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Phosphorus [P] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Sulfur [S] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Zinc [Zn] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Contamination | (PE-TA.007 basado en ASTM D5185-18) |
| Water content (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Potassium [K] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Sodium [Na] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Silicon [Si] (mg/kg) | |
| ISO 4406/2017 (Adim) | (PE-TA.147) |
| Wear Metals | (PE-TA.007 basado en ASTM D5185-18) |
| Aluminum [Al] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Chromium [Cr] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Copper [Cu] (mg/kg) | (ASTM D7647-10 (2018)) |
| Iron [Fe] (mg/kg) | |
| Nickel [Ni] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Lead [Pb] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| Tin [Sn] (mg/kg) | (PE-TA.007 basado en ASTM D5185-18) |
| PQ Index (Adim) | (PE-TA.007 basado en ASTM D5185-18) |
| | (PE-TA.007 basado en ASTM D5185-18) |
| | (PE-TA.007 basado en ASTM D5185-18) |
| | (PE-TA.007 basado en ASTM D5185-18) |
| | (PE-TA.007 basado en ASTM D5185-18) |
| | (PE-TA.024 basado en ASTM D8184-18) |

TEST REPORT



CONTACT PERSON

Fabien TISSIER

TURBINE INFORMATION

COMPONENT INFORMATION

Country: FRANCE
 Windfarm: LOUVILLE 1 & 3
 Local Turbine ID: WTG05
 Turbine Model: V80 2MW
 Service Contract No: SC015635
 Unit ID: 24361

Type: Gearbox
 Model: EH804AN21-BN
 Serial Number: LM0113

LAST SAMPLE ANALYSIS

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Normal

RESULTS

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|---|----------------|----------------------|--------------|--------------|---|
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| Viscosity 40°C (mm2/s) | 332.2 | 324.9 | 327.3 | 315.4 | |
| Magnesium [Mg] (mg/kg) | 4 | 0 | 0 | 0 | Boron [B] (mg/kg) 5 10 11 |
| Calcium [Ca] (mg/kg) | 0 | 19 | 19 | 20 | 20 20 |
| Oxidation (A/cm) | | | | <1 | 2.1 1.3 5.2 |
| Molybdenum [Mo] (mg/kg) | | | 30 | | |
| Viscosity 100°C (mm2/s) | 23.37 | 23.61 | 23.69 | 24.75 |  |
| Visc. Index (Adim) | 90 | 91 | 95 | 96 | |
| Barium [Ba] (mg/kg) | 0 | 0 | 0 | 0 | |
| Sulfur [S] (mg/kg) | 1883 | 1925 | 2205 | 2452 | |
| Zinc [Zn] (mg/kg) | 9 | 8 | 4 | 11 | |
| Contamination | | | | | Silicon [Si] (mg/kg) 2 2 1 |
| Water content (mg/kg) | 156 | 54 | 64 | 78 | |
| Appearance (Adim) | Dark transp. | Dark transp. | Dark transp. | Dark transp. | |
| Water-Gas | N.D. | N.D. | N.D. | | |
| Particles | Particles | Deposits | N.D. | | |
| IR Index (%) | 88.72 | 99.31 | 99.9 | 99.86 | |
| Phosphorus [P] (mg/kg) | 210 | 197 | 227 | 169 | |
| Sodium [Na] (mg/kg) | 3 | 5 | 3 | 6 | |
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| Part > 14 microns (100ml) | 5944 | | 4908 | 3165 | |
| Wear Metals | | | | | |
| Aluminum [Al] (mg/kg) | 0 | 0 | 0 | 1 | |
| Chromium [Cr] (mg/kg) | 0 | 0 | 0 | 1 | |
| Copper [Cu] (mg/kg) | 1 | 1 | 1 | 2 | |
| Iron [Fe] (mg/kg) | 13 | 13 | 7 | 52 | |
| Nickel [Ni] (mg/kg) | 0 | 0 | 0 | 1 | |
| Lead [Pb] (mg/kg) | 0 | 0 | 1 | 0 | |
| Tin [Sn] (mg/kg) | 0 | 0 | 0 | 0 | |

Performed by: Joana Gil

10/11/2020

Status: Normal ✔ ⚠ ⚠
 Tests done from 29/01/2020 to 15/12/2020

TEST REPORT

CONTACT PERSON**Fabien TISSIER****TURBINE INFORMATION****COMPONENT INFORMATION**

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Turbine Model: V80 2MW
Service Contract No: SC015635
Unit ID: 24361

Type: Gearbox
Model: EH804AN21-BN
Serial Number: 06/02

LAST SAMPLE ANALYSIS

The oil is fit for further use. There are no symptoms of contamination or abnormal wear.



Normal

RESULTS

Molybdenum [Mo] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Phosphorus [P] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Sulfur [S] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Zinc [Zn] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Contamination

Water content (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Potassium [K] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Sodium [Na] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Silicon [Si] (mg/kg)

ISO 4406/2017 (Adim)

(PE-TA.147)

Wear Metals

Aluminum [Al] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Chromium [Cr] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Copper [Cu] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Iron [Fe] (mg/kg)

(ASTM D7647-10 (2018))

Nickel [Ni] (mg/kg)

Lead [Pb] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

Tin [Sn] (mg/kg)

(PE-TA.007 basado en ASTM D5185-18)

PQ Index (Adim)

(PE-TA.007 basado en ASTM D5185-18)

(PE-TA.007 basado en ASTM D5185-18)

(PE-TA.007 basado en ASTM D5185-18)

(PE-TA.007 basado en ASTM D5185-18)

(PE-TA.007 basado en ASTM D5185-18)

(PE-TA.024 basado en ASTM D8184-18)