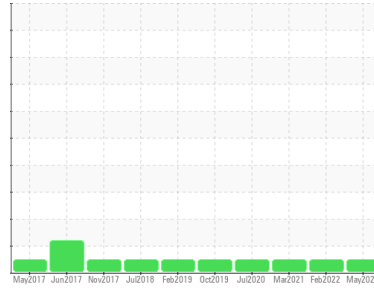




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**14**  
Machine Id  
**HANSEN WTG-1402 (S/N EH806A-003-LM0037)**  
Component  
**Hydraulic System**  
Fluid  
**SHELL TELLUS 32 (300 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### 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>WC0804538</b>   | WC05504456  | WC0547214   |
| Sample Date   | Client Info |             | <b>25 May 2023</b> | 07 Feb 2022 | 03 Mar 2021 |
| Machine Age   | mths        | Client Info | <b>0</b>           | 0           | 120         |
| Oil Age       | mths        | Client Info | <b>0</b>           | 5           | 0           |
| Oil Changed   | Client Info |             | <b>Not Changed</b> | Not Changd  | Not Changed |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR METALS

|          | method     | limit/base      | current      | history1 | history2 |
|----------|------------|-----------------|--------------|----------|----------|
| PQ       | ASTM D8184 |                 | <b>16</b>    | 16       | ---      |
| Iron     | ppm        | ASTM D5185m >20 | <b>4</b>     | 1        | 2        |
| Chromium | ppm        | ASTM D5185m >20 | <b>2</b>     | 2        | 1        |
| Nickel   | ppm        | ASTM D5185m >20 | <b>0</b>     | 0        | 0        |
| Titanium | ppm        | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Silver   | ppm        | ASTM D5185m     | <b>0</b>     | <1       | 0        |
| Aluminum | ppm        | ASTM D5185m >20 | <b>&lt;1</b> | 0        | 0        |
| Lead     | ppm        | ASTM D5185m >20 | <b>0</b>     | 0        | <1       |
| Copper   | ppm        | ASTM D5185m >20 | <b>1</b>     | 2        | 2        |
| Tin      | ppm        | ASTM D5185m >20 | <b>&lt;1</b> | 0        | 0        |
| Antimony | ppm        | ASTM D5185m     | <b>---</b>   | ---      | 0        |
| Vanadium | ppm        | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Cadmium  | ppm        | ASTM D5185m     | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Barium     | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m 11   | <b>15</b>    | 6        | 4        |
| Calcium    | ppm    | ASTM D5185m 35   | <b>20</b>    | 24       | 22       |
| Phosphorus | ppm    | ASTM D5185m 259  | <b>277</b>   | 298      | 267      |
| Zinc       | ppm    | ASTM D5185m 277  | <b>293</b>   | 296      | 290      |
| Sulfur     | ppm    | ASTM D5185m 1865 | <b>2775</b>  | 2423     | 2308     |

## CONTAMINANTS

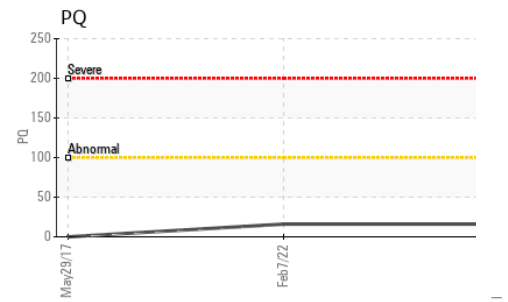
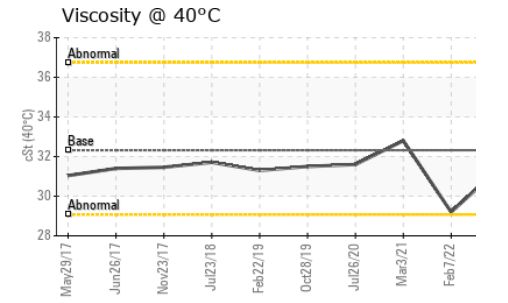
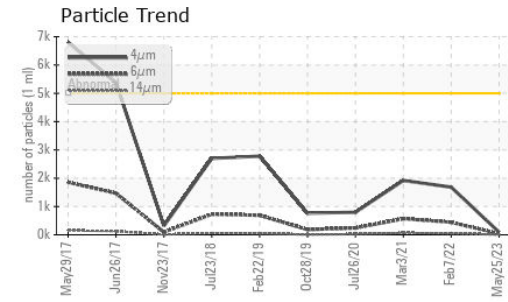
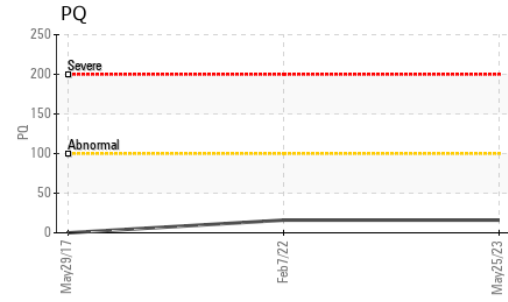
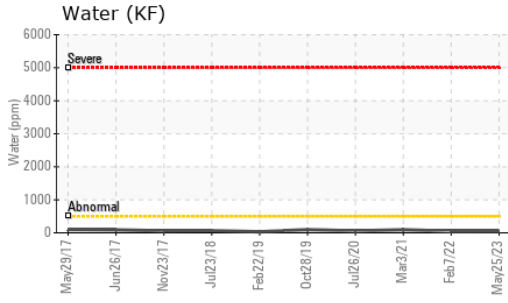
|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>0</b>     | 0        | <1       |
| Sodium    | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>0</b>     | 0        | 0        |
| Water     | %      | ASTM D6304 >0.05 | <b>0.005</b> | 0.004    | 0.009    |
| ppm Water | ppm    | ASTM D6304 >500  | <b>50.8</b>  | 47.1     | 94.3     |

## FLUID CLEANLINESS

|                 | method       | limit/base | current         | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>93</b>       | 1684     | 1921     |
| Particles >6µm  | ASTM D7647   | >1300      | <b>35</b>       | 443      | 569      |
| Particles >14µm | ASTM D7647   | >160       | <b>6</b>        | 47       | 67       |
| Particles >21µm | ASTM D7647   | >40        | <b>3</b>        | 10       | 17       |
| Particles >38µm | ASTM D7647   | >10        | <b>1</b>        | 1        | 0        |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>        | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>14/12/10</b> | 18/16/13 | 18/16/13 |



# OIL ANALYSIS REPORT

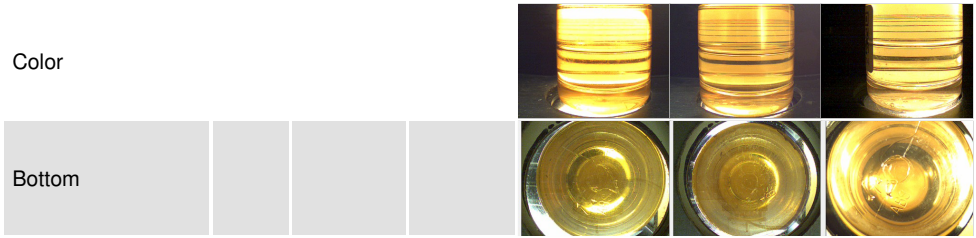


| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 0.32       | <b>0.26</b> | 0.29     | 0.289    |

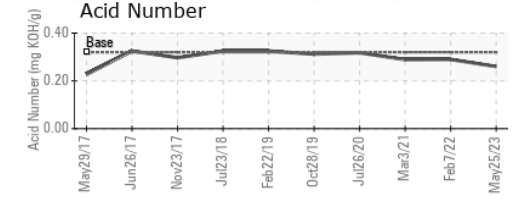
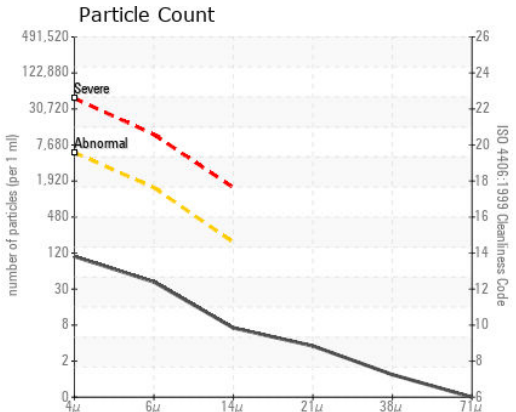
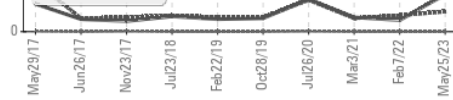
| VISUAL           |        | method  | limit/base | current      | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Precipitate      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Silt             | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Debris           | scalar | *Visual | NONE       | <b>LIGHT</b> | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Appearance       | scalar | *Visual | NORML      | <b>NORML</b> | NORML    | NORML    |
| Odor             | scalar | *Visual | NORML      | <b>NORML</b> | NORML    | NORML    |
| Emulsified Water | scalar | *Visual | >0.05      | <b>NEG</b>   | NEG      | NEG      |
| Free Water       | scalar | *Visual |            | <b>NEG</b>   | NEG      | NEG      |

| FLUID PROPERTIES |     | method    | limit/base | current     | history1 | history2 |
|------------------|-----|-----------|------------|-------------|----------|----------|
| Visc @ 40°C      | cSt | ASTM D445 | 32.32      | <b>31.4</b> | 29.2     | 32.8     |

| SAMPLE IMAGES |  | method | limit/base | current | history1 | history2 |
|---------------|--|--------|------------|---------|----------|----------|
|---------------|--|--------|------------|---------|----------|----------|



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0804538 **Received** : 26 May 2023  
**Lab Number** : 05857890 **Diagnosed** : 30 May 2023  
**Unique Number** : 10492355 **Diagnostician** : Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: KF, PQ )

**ENERGIA EOLICA**  
 STA ANA KM25 CARRETERA AL SUR, A 1KM DEL CRUCE  
 FRANCISCO MORAZAN, ZZ  
 HN  
 Contact: SANTOS DEL CID  
 sdelcid@dennci.com

Certificate L2367  
 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)

T: x:  
 F: x: