

## ANALISIS FURAN PADA TRANSFORMATOR DENGAN METODE KROMATOGRAFI CAIRAN KINERJA TINGGI

|  |   |                  |  |
|--|---|------------------|--|
| Klien/Proyek                                       | : Graha Cempaka Mas/Apartemnt   | Tegangan         | : 20000 Va   |
| Pabrikan/Tahun                                     | : Trafindo/1994   | Kapasitas Minyak | : 1100 L   |
| Nomor Seri   | : 123456789   | Catatan          | : _____  |
| Rated Power  | : 2000 kva  |                  |  |
| <b>Parameter</b>                                   | <b>Hasil Uji</b><br><b>(Nilai Konsetrasi Dalam Parts Billion [ppb])</b> |                  |  |
|  | <b>1</b>  | <b>-</b>         | <b>BATAS TRANSFORMER 2FAL</b><br><b>STANDARD FIST-3-31:2003</b>  |
|  | Tanggal Sampling 6/6/2023   | -                |  |
|  | Tanggal Terima 6/6/2023   | -                |  |
|  | Tanggal Pengujian 6/6/2023  | -                |  |
| <b>5HMF</b><br><b>(5-hydromethyl-2-furakhydel)</b> | <b>0</b>  | <b>0</b>         | <b>0-292 pbd Normal Aging Rate</b><br><b>0-292 pbd Normal Aging Rate</b><br><b>0-292 pbd Normal Aging Rate</b><br><b>0-292 pbd Normal Aging Rate</b><br><b>0-292 pbd Normal Aging Rate</b> |
| <b>5HMF</b><br><b>(5-hydromethyl-2-furakhydel)</b> | <b>1</b>  | <b>1</b>         |  |
| <b>5HMF</b><br><b>(5-hydromethyl-2-furakhydel)</b> | <b>1</b>  | <b>1</b>         |  |
| <b>5HMF</b><br><b>(5-hydromethyl-2-furakhydel)</b> | <b>1</b>  | <b>1</b>         |  |
| <b>5HMF</b><br><b>(5-hydromethyl-2-furakhydel)</b> | <b>1</b>  | <b>1</b>         |  |
| <b>Total 2FAL</b>                                  | <b>0/5* = 0.0</b>   | <b>-</b>         | <b>5* Faktor Koreksi</b>   |
| <b>Total Furan</b>                                 | <b>1</b>  | <b>-</b>         | <b>-</b>   |
| <b>Estimate DP</b>                                 | <b>1</b>  | <b>-</b>         | <b>-</b>   |

- Berdasarkan hasil uji sample tersebut maka trafo mengalami Normal Aging Rate
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Tangerang, 16 juni 2023

Diuji Oleh :

Resita Nur Ambya  
Analisis Laboratorium

Diperiksa

Oleh :

Disetujui Oleh :

Ahmad Kharis Ahmad Sujarwo  
KaBag In      Manager In House Service  
House

## TEST RESULT OF OIL ANALYSIS

**Customer : Edo Laksana Widodo**

**Project : Hotel/Apartment**

**No. Documen :**

**Tgl/Rev. Form :**

**Tgl/Rev. Isi Dok :**

**Halaman :**

### DATA TEKNIS TRANSFORMATOR

**Merk** : Brush **Tegangan** : 138000 / 3450 V **Tahun** : 1999 **Catatan** :  
**Kapasistas** : 5000 Kva **Tag No.** : 50-EE-2112A **Vector** : Dyn-Group 1  
**No Seri** : 7171771 **Temp. Oil** : -5\* **Jumlah** : 2156  
**Oil** L

### HASIL PENGUJIAN OIL ANALYSIS

| STANDAR QUALITY OF OIL ANALYSIS         |            |            | 1          | 2    | 3    | BATASAN NILAI PENGUNJIAN |      |      |           |
|---|------------|------------|------------|------|------|--------------------------|------|------|-----------|
|   |            |            | 1          | 1    | 1    |                          |      |      |           |
|   |            |            | 1          | 1    | 1    |                          |      |      |           |
|   |            |            | 1          | 1    | 1    |                          |      |      |           |
|   |            |            | 1          | 1    | 1    |                          |      |      |           |
|   |            |            | 1          | 1    | 1    |                          |      |      |           |
|   |            |            | 08/08/2023 | -    | -    | Poor                     | Pair | Good | Condition |
| Color / Appereance                      | ASTM Color | ASTM D1500 | 5          | -    | -    | >3.5                     | -    | 3.5  | Poor      |
| Breakdown Voltage (Dielectric Strength) | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Interfacial Tension                     | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Total Acid Number (TAN)                 | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Water Content                           | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Oil Quality Index (OQIN)                | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Sediment & Sludge                       | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Density                                 | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Corrosive Sulfur                        | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |
| Flash Point                             | TEST       | TEST       | TEST       | TEST | TEST | TEST                     | TEST | TEST | TEST      |

### Kesimpulan :

**Berasarkan IEC 60422:2013, Sample Minyak Trafo berada pada kondisi Poor**

### Rekomendasi :

**Lakukan Purifikasi Oli atau pergantian Oli**

**Tangerang, 09 August 2023**

**Di uji Oleh,**

**Di Periksa Oleh,**

**Di Setujui Oleh,**

**Farhan Aditya**  
**(Analisis Laboratorium)**

**Ahmad Kharis**  
**(kaBag. In House Service)**

**Ahmad Sujarwo**  
**(Manager In House Service)**

