

1. GENERAL INFORMATION

Client Name:

Site / Substation:

Country / Climate:

Transformer ID / Name:

2. TRANSFORMER DETAILS

Rating (MVA): Age (Years):

Voltage Level (kV): Cooling Type:

Manufacturer: OLTC:

Year of Manufacture: Oil Type:

3. OPERATING CONDITIONS

Loading Pattern:

Average Load (%): %

Max Load (%): %

Top Oil Temperature (°C): °C

Ambient Temp. Range (°C): to °C

4. MOISTURE & INSULATION STATE

Parameter	Measured Value	Unit	Notes
Moisture in Oil	<input type="text"/>	ppm	
Relative Saturation (RS)	<input type="text"/>	%	
Water Activity (aw)	<input type="text"/>	-	
Estimated Paper Moisture	<input type="text"/>	%	

5. ELECTRICAL PERFORMANCE

Parameter	Measured Value	Unit
Breakdown Voltage (BDV)	<input type="text"/>	kV
Tan δ (at 90°C)	<input type="text"/>	-
Resistivity	<input type="text"/>	TΩ-cm

6. AGING & CHEMISTRY

Parameter	Measured Value	Unit	Notes
Furan (2-FAL)	<input type="text"/>	ppb	
Methanol	<input type="text"/>	ppb	
Acidity (TAN)	<input type="text"/>	mg KOH/g	
Interfacial Tension (IFT)	<input type="text"/>	mN/m	

7. DISSOLVED GAS ANALYSIS (DGA)

Gas	H ₂	CH ₄	C ₂ H ₆	C ₂ H ₄	C ₂ H ₂	CO	CO ₂	Total
Measured Value (ppm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Method / Laboratory	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Sampling Date	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

8. TREND INFORMATION (if available)

Moisture Trend:

DGA Trend:

Oil Test Trend:

Comments:

9. MAINTENANCE & SITE CONDITION

Breather Condition:

Oil Leakage:

Sealing Condition:

Comments:

10. CLIENT OBJECTIVE

Life Extension

Risk Reduction

Condition Monitoring

Prepare for Higher Loading

Reduce Maintenance Cost

Others (specify)

SUBMITTED BY

Name: Designation:

Organization: Email:

Contact No.: Signature:

NOTES

- Please provide latest lab reports along with this sheet.
- All values should be at standard test conditions as per IEC/IEEE standards.

Standards Referenced: IEC 60422 IEEE C57.106™ CIGRÉ TB 761

Domain	Parameter	Unit	Reference Limits		
			GOOD (Low Risk)	AT RISK (Medium Risk)	CRITICAL (High Risk)
MOISTURE & INSULATION STATE	Moisture in Oil	ppm	< 20	20 - 35	> 35
	Relative Saturation (RS)	%	< 30	30 - 60	> 60
	Water Activity (aw)	-	< 0.20	0.20 - 0.40	> 0.40
	Estimated Paper Moisture	%	< 2.5	2.5 - 3.5	> 3.5
ELECTRICAL PERFORMANCE	Breakdown Voltage (BDV)	kV	> 50	30 - 50	< 30
	Tan δ (at 90°C)	-	< 0.010	0.010 - 0.030	> 0.030
	Resistivity (at 90°C)	TΩ-cm	> 1.0	0.2 - 1.0	< 0.2
AGING & CHEMISTRY	Furan (2-FAL)	ppb	< 250	250 - 1000	> 1000
	Methanol	ppb	< 200	200 - 500	> 500
	Acidity (TAN)	mg KOH/g	< 0.05	0.05 - 0.15	> 0.15
	Interfacial Tension (IFT)	mN/m	> 30	20 - 30	< 20
FAULT DIAGNOSTICS (DGA)	Individual Gas (in Oil)				
	H ₂	ppm	< 100	100 - 700	> 700
	CH ₄	ppm	< 120	120 - 400	> 400
	C ₂ H ₆	ppm	< 65	65 - 200	> 200
	C ₂ H ₄	ppm	< 50	50 - 200	> 200
	C ₂ H ₂	ppm	< 5	5 - 35	> 35
	CO	ppm	< 350	350 - 1000	> 1000
	CO ₂	ppm	< 2500	2500 - 10000	> 10000
	Gas Ratios (Key Indicators)				
	CO / CO ₂	-	< 0.1	0.1 - 0.3	> 0.3
CH ₄ / H ₂	-	< 0.1	0.1 - 1.0	> 1.0	
C ₂ H ₂ / C ₂ H ₄	-	< 0.1	0.1 - 0.5	> 0.5	

Notes:

- Limits are general guidance for mineral oil-immersed transformers.
- Final diagnosis should consider trend, temperature, load & operating history.
- Refer full standards for detailed interpretation.

RISK LEGEND

- GOOD (Low Risk) - Normal condition
- AT RISK (Medium Risk) - Monitor / Take Action
- CRITICAL (High Risk) - Immediate Action