

Insulating Fluid Analysis

Sous-station (TR-4 TRN)

Equipment ID	TR-4	Manufacturer	CARTE	Owner	AFG
Apparatus Type	TRN	Serial No	T0910-003	Location	Sous-station
Fluid Type	OIL	Year Mfg	1990	Designation	
Fluid Cap.	737 US Gal	Model/Type		Description	
Analysis Rules	DXOILTRN	kV Rating	24.9	Preservation	
		MVA Rating	3	Cooling	

Gas Analysis	2008-03-04	ppm/day	2007-05-17	2006-04-12	2005-01-31	2004-02-04	Limits
Sample No	8		7	6	5	4	
Fluid Temp C	50		51	27	40	42	
Hydrogen (H2)	190	-0.09 Abnormal	215	230	200	195	< 100
Methane (CH4)	40	0.00	40		40	30	< 120
Ethane (C2H6)	9	0.01	5		7	6	< 65
Ethylene (C2H4)	<1	0.00	<1			1	< 50
Acetylene (C2H2)	<1	0.00	<1			1	< 35
Carbon Monoxide (CO)	753	-0.09 High	778	787	720	726	< 350
Carbon Dioxide (CO2)	5600	-1.34 High	5990	4640	4400	4370	< 2500
Oxygen (O2)	1290		2060	2780	2660	2350	
Nitrogen (N2)	81500		90800	94000	81200	83800	
TDCG (ppm)	992	-0.16 Abnormal	1038	1017	967	959	< 720
Equivalent TCG (%)	1.06		1.02	1.00	1.05	1.01	
Total Gas (%)	8.940		9.980	10.250	8.920	9.150	
CO2/CO	7.44		7.70	5.90	6.11	6.02	
O2/N2	0.02		0.02	0.03	0.03	0.03	
Water	2		3	3	1		< 35
Water Saturation	1		2	4	1		
Equipment Condition	1		1	1	1	1	

Result		Port or Tank	BOT MAIN	Test Lab	MS
Interval (days)	365	Sampled by	EM	Test Date	2008-03-06
Gas Std	OILTRN IEEE DG	Reason	ROUTINE	Lab Ref No	M772-3

Gas Analysis Remarks

* Continue normal operation.

Fluid Quality	2008-03-04	2007-05-17	2006-04-12	2005-01-31	2004-02-04	Limits
Sample No	7	6	5	4	3	
Fluid Temp C	50	51	27	40	42	
Acid Number	0.005 mg KOH/g	0.003	0.005	0.01	0.005	< .2
Interfacial Tension	28.0 mN/m	26.7	28.6	30.6	30.5	> 24
Diel Str (D877)	50.8 kV	43.4	52.1	49.4	44.8	> 26
PF at 25 C	0.087 %					< .5
Water	0 ppm	0		1		< 35
Water Saturation	0 %	0		1		< 20
Furan	6 ppb					< 5
Inhibitor	% w/w	0.24				> .07
Color	0.5	1.0	0.5	0.5	0.5	< 3
Specific Gravity	0.896	0.893	0.893	0.904	0.890	
Fluid / PCB Cond	1/0	1/0	1/0	1/0	1/0	
Visual	Claire					

Result		Port or Tank	MAIN	Test Lab	MS
Interval (days)	365	Sampled by	EM	Test Date	2008-03-06
Fluid Std	OILTRN TO 69 (IEEE)	Reason	ROUTINE	Lab Ref No	M772-3

Fluid Quality Analysis Remarks

Analyse des furanes faite, niveau de 2-Furaldehyde : 6

* The oil condition is satisfactory for continued use.

Report Date 2008-03-21

Transformer Oil Analyst 3.3