Oil Diagnostics Report

Oil Diagnostics by EA Technology

Report Date :	13/07/2020	**Sub Name :**	Sub1	**Rating (MVA) :**	0.5
Sample No :	0014650	**Asset ID :**	TxA No1 - Demo	**P.Voltage (kV) :**	33
Client Ref :	L0000	**Asset Type :**	Transformer	**S.Voltage (kV) :**	
Client :	EA Technology	**Asset Cat. :**		**Fluid Vol. :**	765 kg
PO No :		**Manufacturer :**	Manu A	**Cooling :**	
End Client :		**Year of Manu :**	1997	**Fluid Type :**	Mineral
End Client PO :		**Serial No :**	S00001234	**Approved By:**	
Site :	Location A	**Sample Point :**	Bottom		

Retest: 6 Months

Oil Diagnostic Results

		Latest Results	Oil History - Previous 5 Results				
	Sample No :	0014650	0000661	A0000/01/20	A0000/01/19	A0000/01/18	A0000/01/17
	Sample Date :	07/06/2019	01/06/2018	01/06/2017	01/06/2016	01/06/2015	01/06/2014
	Oil Temp (°C) :	19.5	18.2	17.4	18.4	18.3	17.1
IEC 60567	Hydrogen H2 (ppm) :	10.3	12	11	14	9	8
IEC 60567	Methane CH4 (ppm) :	2.1	1	1	1	4	3
IEC 60567	Ethane C2H6 (ppm) :	0.8	1	1	1	1	0
IEC 60567	Ethylene C2H4 (ppm) :	2.4	3	3	2	3	4
IEC 60567	Acetylene C2H2 (ppm) :	19.8	22	19	21	22	18
IEC 60567	Carbon Monoxide CO (ppm) :	42.3	54	35	31	12	13
IEC 60567	Carbon Dioxide CO2 (ppm) :	1056.1	1003	1049	1025	1490	1074
IEC 60567	Nitrogen N2 (ppm) :	55789.6	53987	53125	54987	56178	43698
IEC 60567	Oxygen O2 (ppm) :	24569.7	24569	23154	26986	24589	23658
	Total Gas (ppm) :	81493.1	79652	77398	83068	82308	68476
	TDCG (ppm) :	77.7	93	70	70	51	46
IEC 60814	Moisture (ppm) :	18.1	15	15	17	16	14
	Moisture @20°C (ppm) :						
IEC 60156	IEC Breakdown Voltage (kV) :	59.7	51.7	55.7	49.8	56.1	45.1
IEC 62021	Acidity (mgKOH/g) :	0.017	0.014	0.018	0.013	0.017	0.019
IEC 60666	Inhibitor Content (% DBPC) :						
ASTM D971	IFT (dynes/cm) :						
IEC 60247	Power Factor @25°C (%) :						
IEC 60247	Power Factor @90°C (%) :						
IEC 60247	Resistivity GΩ :						
ASTM D1500	Colour No (ppm) :						
	Sediment :						
	Sludge %w:						
IEC 61198	5-hydroxy-methyl (5 HMF) :						
IEC 61198	2-furfuraldehyde (2 FAL) :	0.19	0.137	0.17	0.15	0.09	0.08
IEC 61198	2-furyl-methyl (2 ACF) :						
IEC 61198	5-methyl-2-furald. (5 MeF) :						
IEC 61198	2-furfuryl (2 FOL) :						
	Estimated DP :	659	699	672	687	749	764
IEC 62535	Corrosive Sulphur :			None Corrosive	None Corrosive	None Corrosive	
IEC 62967	DBDS :						
IEC 60666	Passivator :						
IEC 61619	PCB :						<1

Diagnostic Interpretation Comments

Operational Status (DGA): Slight arcing is indicated. The gas concentration has been stable for a number of years and is not considered problematic at present, resample in 6 months to moniter and trend.

Fluid Condition: Acidity is acceptable and complies with IEC 60422.
Moisture is acceptable and complies with IEC 60422.
Breakdown voltage is acceptable and complies with IEC 60422.

Paper Condition: Paper insulation indicates no significant degradation of the cellulose has occurred. New paper insulation has a degree of polymerisation (DP) of above 1000, as the paper starts to age or degrade the DP reduces. A DP of 250 it is considered to be at end of life (EOL).

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