

Serial#: 9422201-01	Mfr: FAYETTEVILLE	Control#: 7144885
Location: HOUSTON	kV: 34.5	Order#: 565903
Equipment: TRANSFORMER	kVA: 4000	Account: 67
Compartment: MAIN(BOTTOM)	Year Mf'd:	Received: 07/02/2018
Breathing: SEAL	Syringe ID: 54070064	Reported: 07/03/2018
Bank: Phase: 3	Bottle ID: 0143	
Fluid: SIL USGal: 693	Sampled By: NATHAN LEECH	

Lab Control Number:		7144885	6698131	5339178	5058831
Date Sampled:		06/29/2018	09/04/2014	04/25/2006	06/27/2003
Order Number:		565903	452884	160585	108338
Oil Temp:		20			
Dissolved Gas Analysis (DGA)	Hydrogen (H2) (µL/L):	39	9	4	42
ASTM	Methane (CH4) (µL/L):	2	2	2	10
D-3612 ¹	Ethane (C2H6) (µL/L):	<1	<1	2	3
	Ethylene (C2H4) (µL/L):	<1	<1	1	1
	Acetylene (C2H2) (µL/L):	<1	<1	<1	<1
	Carbon Monoxide (CO) (µL/L):	35	24	14	239
	Carbon Dioxide (CO2) (µL/L):	3473	1857	2494	5891
	Nitrogen (N2) (µL/L):	113303	103862	67477	93516
	Oxygen (O2) (µL/L):	51083	45015	28915	43604
	Total Dissolved Gas (TDG) (µL/L):	167935	150769	98909	143306
	Total Dissolved Combustible Gas (TDCG) (µL/L):	76	35	23	295
	Equivalent TCG (%):	0.0662	0.0261	0.0212	0.2114
DGA	DGA Keys Gas / Interpretive Method:	Hydrogen within limits (200 µL/L).			
Diagnostics	PER IEEE C57.146-2005	No indications of electrical arcing (H2 200 µL/L C2H2 1 µL/L).			
	(most recent sample)	Carbon Monoxide within limits (3000 µL/L).			
		Carbon Monoxide and Carbon Dioxide within limits (33000 µL/L).			
	DGA TDCG Rate Interpretive Method:	IEEE Guidelines not applicable for this fluid type.			
	PER IEEE C57.146-2005				
	(two most recent sample)				
	DGA Cellulose (Paper) Insulation:	CO2/CO Ratio not applicable for this fluid type.			
	WDS DGA Condition Code:	WDS DGA Condition Code & Recommended Action for Transformers with Mineral Oil only.			
	WDS Recommended Action:				
Comment:					
General Oil Quality (GOQ)					
ASTM D-1533 ¹	Moisture in Oil (mg/kg):	128	93	15	
ASTM D-974 ¹	Acid Number (mg KOH/g):	0.004	0.008	0.003	
ASTM D-2129 ¹	Color Number (Pt-Co):	OFF-HUE60	OFF-HUE40		
ASTM D-1524 ¹	Visual Exam. (Relative):	PASS	PASS	PASS	
		CLR&BRIGHT	CLR&BRIGHT	CLR&BRIGHT	
ASTM D-1524 ¹	Sediment Exam. (Relative):	ND	TRACE	ND	
ASTM D-877 ¹	Dielectric Breakdown (kV):	47	42	46	
ASTM D-1298	Density @15°C (g/mL):		0.9653	0.969	
ASTM D-4052 ¹	Density @15°C (g/mL):	0.9632			
GOQ Diagnostics	Moisture in Oil:	Exceeds limit for in-service oil (100 mg/kg max).			
PER IEEE C57.111-1989	Acid Number:	Acceptable for in-service oil (0.2 mg KOH/g max).			
(most recent sample)	Color Number and Visual:	Diagnostic not applicable. Visual acceptable for in-service oil (CLR&BRIGHT).			
	Dielectric Breakdown ASTM D-877:	Acceptable for in-service oil (25 kV min).			
Comment:					
PCB	Concentration (mg/kg):	< 1.0 mg/kg	< 1.0 PPM		
EPA Method 8082 ^{1, 4}	PCB Type (Arocolor):	N	N		

Notations: 1. Analysis is ISO/IEC 17025:2005 accredited, L-A-B Accredited Certificate Number L2303.04 2. This test is conducted by a subcontracted laboratory. 3. Subcontracted laboratory has received ISO Standard 17025 accreditation for this test. 4. TEST RESULTS MEET NELAP REQUIREMENTS, TCEQ CERTIFICATE NO. T104704442-18-9 5. This test is conducted by Weidmann Laboratory other than Primary Lab. 6. Weidmann Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: WEIDMANN Electrical Technology accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, µg/g, µg/mL, µL/L = ppm, µg/L = ppb, mN/m = dynes/cm, mm²/s = cSt

Accreditation applies to current analysis only. The analyses, opinions or interpretations contained in this report are based upon material and information supplied by the client. WEIDMANN Electrical Technology does not imply that the contents of the sample received by this laboratory are the same as all such material in the environment from which the sample was taken. Our test results relate only to the sample or samples tested. Any interpretations or opinions expressed represent the best judgment of WEIDMANN Electrical Technology. WEIDMANN Electrical Technology assumes no responsibility and makes no warranty or representation, expressed or implied as to the condition, productivity or proper operation of any equipment or other property for which this report may be used or relied upon for any reason whatsoever. This test report shall not be reproduced except in full, without written approval of the laboratory.

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Reporting Limit:	1	1		
Comment:				

End of Test Report

Authorized By: 

ORLANDO GONZALEZ
CHEMIST

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