



H<sub>2</sub>b

# Transformer Condition Assessment TCA

TM

PERRY MINOR  
TEXAS NEW MEXICO POWER

702 36TH ST N.  
TEXAS CITY, TX 77590

Location : LIQUID CARB  
Bank & Phase : C4488  
Serial Number : 4464402  
Manufacturer :  
Date Mfgd :  
Size (kVA) :  
Rating kV:

Date : 07-19-2006  
Report Number : 200331396  
Fluid volume :  
Fluid type : Mineral Oil  
Preservation :  
Cooling :  
Core & coil wt :  
Impedance :

Sample Date : 3/1/06  
Laboratory No. : 200331396  
Container No. : L2562  
Temperature :

H2	Hydrogen	(ppm) :	126
CH4	Methane	(ppm) :	7
C2H6	Ethane	(ppm) :	5
C2H4	Ethylene	(ppm) :	5
C2H2	Acetylene	(ppm) :	0
CO	Carbon monoxide	(ppm) :	554
CO2	Carbon dioxide	(ppm) :	3790
N2	Nitrogen	(ppm) :	85421
O2	Oxygen	(ppm) :	4286

Total (ppm) : 94194  
TDCG (ppm) : 697  
SHL (%) : 7.14  
ETCG (% in blanket) : 0.70

Particles	5 to 15 um :	7875
Particles	15 to 25 um :	1505
Particles	25 to 50 um :	600
Particles	50 to 100 um :	125
Particles	> 100 um :	15

D1533	Moisture	(ppm) :	13
D1816	Dielectric BV	(kV) :	26
D974	Acid Number	(mg KOH/g) :	0.085
D971	Interfacial Tension	(dynes/cm) :	25.2
D1500	Color Number	:	<2.0
D924	Power Factor	:	.010
D2668	Oxidation Inhibitor	(%) :	<.02

5 HMF	5 hydroxymethyl-2-furaldehyde	(ppm) :	<.010
2 FAL	2 furaldehyde	(ppm) :	.507
2 ACF	2 acetylfuran	(ppm) :	.072
5 MEF	5 methyl-2-furaldehyde	(ppm) :	<.010
2 FOL	2 furfural	(ppm) :	<.010
	Estimated DP	:	498-516

### Transformer Condition Assessment Diagnostic Evaluation

TCA Assessment : 2  
Sampling Interval : Retest in six months. Establish trends and confirm condition  
Operating Procedure : Consider treatment to remove oxidation products.  
Comments : Partial discharge is indicated.  
Field Comments : Fluid oxidation is advancing. Paper is reduced to 50% tensile strength.