



PORT COQUITLAM  
PRINCE GEORGE

**WISMER & RAWLINGS ELECTRIC LTD.**  
WISMER & RAWLINGS ELECTRIC  
118 - 1647 BROADWAY STREET

PORT COQUITLAM, BC V3C 6P9 CA  
ATTN: JIM LOEHR  
PO #: 504720-4835

Location:  
Serial #:  
Bank/Ph: MAIN/s  
Tank: TRANSFORMER  
Breathing: SEAL  
Fluid: MIN Gallons: 470

Mfr: UNITED POWER  
KV: 25  
KVA: 2500  
Imp.(% Z): 6.2  
Container: M032  
Project ID:

Account: 6066  
Order #: 219468  
Control #: 5629338  
Received: 12/24/2008  
Reported: 01/05/2009  
Customer ID: MAIN

Dissolved Gas Analysis	ASTM D-3612	Lab Control Number:	5629338	5323783	5299350	135849
	Report Units: PPM	Date Sampled:	12/10/2008	03/01/2006	10/23/2005	11/18/2002
		Order Number:	219468	157501	152657	56419
		Oil Temp.(C):	40	20		26
		Hydrogen (H2):	243	292	407	339
		Methane (CH4):	230	241	314	193
		Ethane (C2H6):	128	148	173	75
		Ethylene (C2H4):	15	15	18	5
		Acetylene (C2H2):	0	0	0	0
		Carbon Monoxide (CO):	527	517	585	328
		Carbon Dioxide (CO2):	6410	5884	6989	3906
		Nitrogen (N2):	67698	72496	75667	72523
		Oxygen (O2):	10005	12627	14243	12337
		Total Dissolved Gas:	85256	92220	98396	89705
	Total Dissolved Combustible Gas:	1143	1213	1497	940	
	Equivalent TCG Percent:	1.1563	1.167	1.4194	1.0855	
Oil Screen	D-1533B	Moisture In Oil (ppm):	5	5	2	3
	D-971	Interfacial Tension (dynes/cm):	31.2	31.1	32.0	32
	D-974	Acid Number (mg KOH/g):	0.017	0.016	0.016	0.019
	D-1500	Color Number (Relative):	L2.0	L2.0	L2.0	L2.0
	D-1524	Visual Exam. (Relative):	CLR&SPRK	CLR&SPRK	CLR&SPRK	CLR&SPRK
	D-1524	Sediment Exam. (Relative):	ND	ND	TRACE	TRACE
	D-877	Dielectric Breakdown (kV):	52	42	47	52
	D-1816	Dielectric Breakdown 1 mm (kV mm-C):				
	D-1816	Dielectric Breakdown 2 mm (kV mm-C):				
	D-924	Power Factor @ 25C (%):				
	D-924	Power Factor @ 100C (%):				
	D-1298	Specific Gravity (Relative):				
	WDS	Passivator (ppm):				
D-2668	Oxidation Inhibitor (wt. %):					
Diagnostics	DGA Key Gas / Interpretive Method:		Hydrogen: Condition 2 Indications of partial discharge activity (100 ppm). Acetylene within condition 1 limits (2 ppm). Ethylene within condition 1 limits (50 ppm). Carbon Monoxide: Condition 2 Indications of overheated cellulose insulation (350 ppm). Overall equipment condition code: 2.			
	IEEE (C57.104) (Most recent sample)					
	DGA Rogers Ratio Method:		No unique Rogers Ratios diagnostic case met. Refer to DGA Key Gas for diagnosis.			
	DGA Cellulose (Paper) Insulation:		CO2/CO >= 7: Indication of normal cellulose decomposition.			
	DGA IEEE/ANSI (C57.104-1991): (Two most recent samples)		B-Retest Quarterly. 2-Examine individual gases and determine load dependence.			
	Moisture In Oil:		Acceptable for in-service oil (35 ppm max).			
	Interfacial Tension:		Acceptable for in-service oil (25 dynes/cm min).			
	Acid Number:		Acceptable for in-service oil (0.2 mg KOH/g max).			
	Color Number and Visual:		Color Number diagnostic not applicable. Visual diagnostic not applicable.			
	Dielectric Breakdown D-877:		Acceptable for in-service oil (26 kV min).			
Dielectric Breakdown D-1816:						
Power Factor @ 25C:						
Power Factor @ 100C:						
Oxidation Inhibitor:						

The analyses, opinions or interpretations contained in this report are based upon material and information supplied by the client. Weidmann Diagnostic Solutions does not imply that the contents of the sample received by this laboratory are the same as all such material. 118-1647 Broadway Street, Port Coquitlam, BC V3C 6P9. Attention: (604) 944-4141 or Fax: (604) 944-4129. Weidmann Diagnostic Solutions 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.