

Thermal Response Test Equipment Data

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Country: Quebec, Canada

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GENERAL TRT DATA

Type: <i>Heat injection (this unit)</i>	No TRTs: 2	Size, weight: 1.4m H, 2m L, 0.7m W, 250 kg
Aim: <i>Commercial</i>		Pump: <i>Twin in series (22 gpm @ 45' DTH)</i>
Powered by: <i>Electricity / Generator</i>		Heater: <i>4 elements, 13.5 kW total, expendable</i>
Built on/in: <i>Skid.</i>		HP/Cooler: <i>none (on this unit)</i>
<u>Principle outline</u>		Temperature measurements: - 4 immersion thermocouple (+/- 0.5F)
		Flow rate measurements: - Volumetric Flowmeter (0.01 litre/minute)
		Voltage stabilization: <i>Yes + Monitoring all phases</i>
		Supply Power Monitoring: <i>Yes, All phases RMS</i>
		GPS: <i>Yes</i>
		Remote Control of Operation: <i>No</i>
		Remote Data Collection: <i>No</i>
		Logger: <i>Innotech MachIII, 20 I/O</i>
		Flushing/purging unit imbedded, with its own pump and flowmeter

TRT EXPERIENCE

Years of operation: 5

Number of performed measurements: +/- 110

Typical borehole depths: 150 m, 1/14" pipe

Applications: *Closed loop geothermal Heat exchanger (Ground source Heat pump)*

Typical collector type: *1U geothermal grout $K = 0.93 \text{ Btu}/(\text{hr} \cdot \text{ft} \cdot \text{f})$*

Typical fluid type: *Water / 25% antifreeze, mostly Prop. Glycol*

Typical groundwater temperature: *8-12C*

Geographical area: *Eastern Canada (Ontario, Quebec, New Brunswick, Nova Scotia)*

Analysis Method: *Line source / Deconvolution method*