Resistance data recorded using various resistance meters, including the Miller 400D Resistance Meter – A comparison study

A. 4-Pin (Wenner) Method

PIN SPACING	**NILSSON 400** ANALOG METER READING (97Hz)	**MILLER 400D** DIGITAL METER READING (82.2Hz)	**BIDDLE DET2/2** DIGITAL METER READING (108Hz)
20 feet	R = 1.65 Ω (ρ = 6,319.5 Ω.cm)	R = 1.66 Ω (ρ = 6,357.8 Ω.cm)	R = 1.68 Ω (ρ = 6,434.4 Ω.cm)
10 feet	R = 4.50 Ω (ρ = 8,617.5 Ω.cm)	R = 4.47 Ω (ρ = 8,560 Ω.cm)	R = 4.51 Ω (ρ = 8,636.6 Ω.cm)
5 feet	R = 8.60 Ω (ρ = 8,234.5 Ω.cm)	R = 8.54 Ω (ρ = 8,177 Ω.cm)	R = 8.58 Ω (ρ = 8,215.3 Ω.cm)

Table 1: Soil resistance data (plus calculated resistivity values) for a number of pin spacing distances. The data were recorded using the 4-pin method in the area of the MCM training pipeline right-of-way (June 25, 2009 in Sebastian, Florida). The soil resistance readings were taken using the various resistance meters within seconds of each other.

B. Soil Box Method

NILSSON 400 ANALOG METER READING (97Hz)	**MILLER 400D** ANALOG METER READING (82.2Hz)	**BIDDLE DET2/2** DIGITAL METER READING (108Hz)
R = 5.10 kΩ (ρ = 5,100 Ω.cm)	R = 5.06 kΩ (ρ = 5,060 Ω.cm)	R = 5.04 kΩ (ρ = 5,040 Ω.cm)

Table 2: Resistance data measured using a soil box. A "Standard" liquid electrolyte having a quoted conductivity value of 200 µS/cm (5,000 Ω.cm) at 25°C was used in an M. C. Miller "soil" box having an A/L multiplier value of 1cm. The electrolyte resistance readings were taken using the various resistance meters within seconds of each other.