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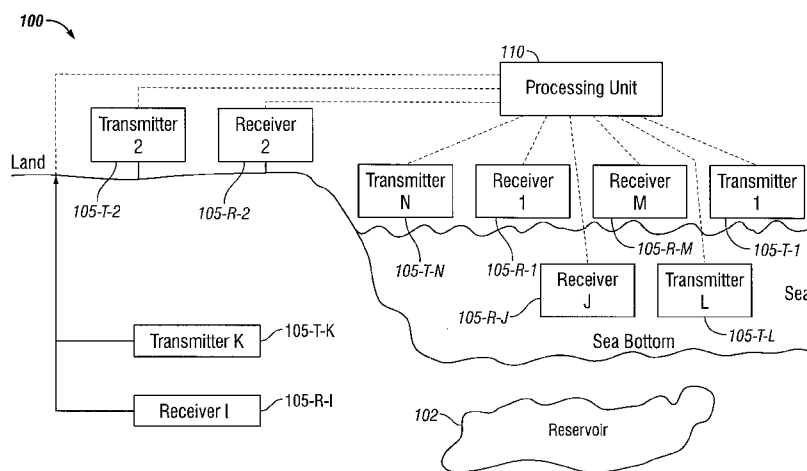


FIG. 1

(57) Abstract: Various embodiments include apparatus and methods to operate with respect to environmental measurements. Apparatus and methods include a processing unit to generate a ratio from signals measured relating to an underground environment and to determine parameters of the underground environment based on the generated ratio.