

Estimating Basin-Wide Hydraulic Parameters of a Semi-Arid Mountainous Watershed by Recession-Flow Analysis

Guillermo F. Mendoza^{1,2}, Tammo S. Steenhuis¹, M.Todd Walter^{1*}, J.-Yves Parlange¹

¹ Department of Biological and Environmental Engineering
Cornell University
Ithaca, NY 14853-5701

² currently at: New York City Department of Environmental Protection
Kingston, NY 12401

* Corresponding Author: Ph. (607) 255 2488, Fax. (607) 255 4080, Email. mtw5@cornell.edu

Errata: The following are the correct equations for this paper, published in the *Journal of Hydrology* 279: 57-69 (2003).

$$I^* = 2\alpha\sqrt{t^*} \left[1 - \exp\left(-\frac{1}{t^*}\right) \right] + \frac{5}{4} \operatorname{erfc}\left(\frac{1}{\sqrt{t^*}}\right) - \frac{1}{4} \left[\operatorname{erfc}\left(\frac{1}{\sqrt{t^*}}\right) \right]^{\sqrt{7}} \quad (6)$$

$$Q^* = \frac{\sqrt{7} \exp\left(-\frac{1}{t^*}\right)}{4\pi^{1/2} t^{*3/2}} \left[\frac{5t^* \exp\left(\frac{1}{t^*}\right)}{\sqrt{7}} - \operatorname{erfc}\left(\frac{1}{\sqrt{t^*}}\right)^{(\sqrt{7}-1)} - t^* \exp\left(\frac{1}{t^*}\right) - \frac{5t^*}{\sqrt{7}} + t^* + 2 - \frac{5}{\sqrt{7}} \right] \quad (7)$$