

mould. On reaching the height of two hundred feet perpendicular, a considerable change in the soil was observable; it was stony and gravelly, with a superficial coat of black earth, but immediately under it lies a stratum of fat, tenacious, soapy, red clay, inclining to the color of bright Spanish snuff, homogenous, with scarcely any admixture of sand, no saline, but rather a soft agreeable taste: the timber diminishes, and the rocks increase in size to the summit. The whole height is estimated at three hundred feet above the level of the valley.

They made the following rough estimate of the quantity of water delivered by the springs. There are four principal springs, two of inferior note; one rising out of the gravel, and a number of drippings and drainings, all issuing from the margin, or from under the rock which overhangs the creek. Of the four first mentioned, three deliver nearly equal quantities, but No. 1, the most considerable, delivers about five times as much as one of the other three; the two of inferior note may, together, be equal to one; and all the drippings, and small springs, are probably underrated at double the quantity of one of the three; that is, all together, they will deliver a quantity equal to eleven times the water issuing from the one most commodiously situated for measurement. This spring filled a vessel of eleven quarts in eleven seconds; hence the whole quantity of hot water delivered from the springs at the base of the hill is 165 gallons in a minute, or 3,771 hogsheads in 24 hours, which is equal to a handsome brook, and might work an overshot mill. In cool weather, condensed vapor is seen rising out of the gravel bed of the creek, from springs which cannot be taken into account. During the summer and fall, the creek receives little or no water but what is supplied by the hot springs; at that season it is itself a hot bath, too hot, indeed, near the springs; so that a person may choose the temperature most agreeable to himself, by selecting a natural basin near to, or farther from the principal springs. At three or four miles below the springs the water is tepid and unpleasant to drink.

After making further observations on the Washita, Catahoola and Tenza, the party returned to St. Catherine's Landing on the 31st of January, 1805.

THE END.