

general width is about 200 yards; the shoals are more frequent, and the rocky points at the mouths of the gullies more troublesome to pass. Great quantities of stone lie in the river and on its bank, and seem to have fallen down as the rain washed away the clay and sand in which they were imbedded. The water is bordered by high rugged bluffs, composed of irregular but horizontal strata of yellow and brown or black clay, brown and yellowish-white sand, soft yellowish-white sandstone, and hard dark brown freestone; also, large round kidney-formed irregular separate masses of a hard black ironstone, imbedded in the clay and sand; some coal or carbonated wood also makes its appearance in the cliffs, as do its usual attendants, the pumice-stone and burnt earth. The salts and quartz are less abundant, and, generally speaking, the country is, if possible, more rugged and barren than that we passed yesterday; the only growth of the hills being a few pine, spruce, and dwarf cedar, interspersed with an occasional contrast, once in the course of some miles, of several acres of level ground, which supply a scanty subsistence for a few little cottonwoods.

Soon after setting out we passed a small untimbered island on the south; at about seven miles we reached a considerable bend which the river makes toward the south-east, and in the evening, after making  $12\frac{1}{2}$  miles, camped on the south near two dead cottonwoods, the only timber for fuel which we could discover in the neighborhood.

*May 28th.* The weather was dark and cloudy; the air smoky, and there fell a few drops of rain. At ten o'clock (*p.* 232) we had again a slight sprinkling of rain, attended with distant thunder, which is the first we have heard since leaving the Mandans. We employed the towline generally, with the addition of the pole at the ripples and rocky points, which we find more numerous and troublesome than those we passed yesterday. The water is very rapid round these points,<sup>17</sup> and we are sometimes obliged to steer

<sup>17</sup> One of these points is that now called Dauphin rapids, about 14 miles above Lone Pine rapids.