

about a gallon per minute is discharged. Around it there is a thick deposit of iron rust, and a few yards distant a small pond, the bottom of which was also coated with a ferruginous deposit. The rocks in the vicinity of the spring were of the trachytic and slightly cellular lava, which is speckled with grains of feldspar. The hunters said that the spring was in all respects similar to that on the Bear creek, which empties into the Youta Lake, known in the Rocky Mountains as the Soda Spring. Mr. Dana found some difficulty in accounting for this emission of carbonic acid, as no limestone was found or known to exist in the neighbourhood; yet he is inclined to believe, that it may be owing to the decomposition of sulphuret of iron. For further information upon this subject, I would refer to his Geological Report.

On this night they had a severe storm from the westward, and occasionally heard the crash produced by the falling of large pines.

The character of the country had now changed, and afforded a new and more extended botanical field, as well as new geological features. The general tendency of the ridges is north and south, but the whole may be classed as a series of valleys and hills thrown in all positions. The hills are, for the greater part, covered with soil, when it can find any place of deposit; and all are richly clothed with vegetation. The principal timber consists of pines and oaks; and there are many smaller plants, of which the flowers must be abundant in the proper season. As it was, our botanists reaped something of a harvest; for information respecting which, the Botanical Report is referred to.

They continued to follow Destruction river until the 9th, when it was joined by a stream from the northward and eastward, which was taken to be the northeast branch of Pitt river: it was larger than the stream they had been following for the last few days, and is supposed by some to take its rise in Pitt Lake; but this I very much doubt, as it lies on the other side of the Cascade or Californian Range, and the two united form the Sacramento.

Though I have dignified these two streams with the name of river, it must not be supposed that they are really such, in our acceptation of the word. The party are generally of the opinion that they should be called creeks.

They encamped late in the evening near a small rivulet, to the westward of the Sacramento. They had much difficulty with their horses, which had now become tired out. For this reason it became