

May 5, 1923.

Mr. Frank Davis,
Skagit Power Camp,
Via Rockport, Wash.

Dear Mr. Davis:

You probably remember my speaking of a great flood having entirely covered Reflector Bar. I have found many marks of this great flood throughout the valley. I have also determined the approximate year of that great flood which reached a gage height of 20.8 at Reflector Bar. The flood had cleared a sand bar of all trees at The Dalles near Concrete, the trees growing up since then giving the approximate time elapsed since the flood. The flood, according to the age of the trees, occurred about 1856.

At The Dalles I found traces of a still greater flood or floods. These traces mark the maximum flood or floods in the last few thousand years. I am writing you to ask if you would try to obtain evidence of what gage height the maximum flood at Reflector Bar. By comparison of the floods at The Dalles, I would estimate that this flood reached a gage height of approximately 25 feet at Reflector Bar. Anyway, it must have been somewhere between 23 and 28 feet. The only trace of this flood will be flood sand deposited on the ground in some protected cove where there was quiet water or an eddy. It may be that the sand can be found near the left (or south) cable anchorage. The best places, however, are probably the two gulches on the right (or north) side of the Skagit in the canyon just above the gage. The second gorge upstream should be the best. The great difficulty in determining the height of the flood will probably be in distinguishing between flood sand and sand formed from decomposed rock. The sand from decomposed rock has been wind-blown and washed by rain until it covers a large portion of the gulches above recent floods. The distinctive differences between the sand from decomposed rock and the flood sand are as follows:

Sand from decomposed rock

1. Light in weight.
2. Sharp corners, rough and gritty.

Flood sand

1. Heavy.
2. Round and smooth.

In the gulches it will be advisable to go to one side of the mouth of the gulch. This is to avoid as much as possible the decomposed rock

which has washed down the gch. The best place to look, if available, is at an overhanging cliff or cre, protected from the wind. The flood sand possibly can be found underneath the wind-blown sand, if not found in any other way.

In starting a search for the maximum height of flood sand, the best way is to go a few feet above the estimated flood crest and work down to it. The change in material is quite often very marked when using this method. In working upward, however, one is liable to stop before reaching the crest and assume the crest has been reached. If you are able to see the gage from the location where you are searching for flood sand you can place a long pole beside the inclined gage at a foot mark. You can adjust the top of the pole to make it 25-foot elevation or whatever you desire. With a hand level you can then sight at the top of the pole from the flood mark and determine the elevation of the mark. If you can not see the gage you can set a long pole at the water's edge and sight from the flood mark to the top of the pole and also read the gage. With some correction for slope in the water's surface which I can make the elevation of the flood at the gage can be determined.

If you can get this data I would appreciate it at your earliest convenience. This data will be very valuable to the city of Seattle and I imagine they will be willing to pay you for your work. If not, I will pay for it personally, if no other means of payment is available.

Please forward your reply through Mr. Parker.

Very truly yours,

JES/ab