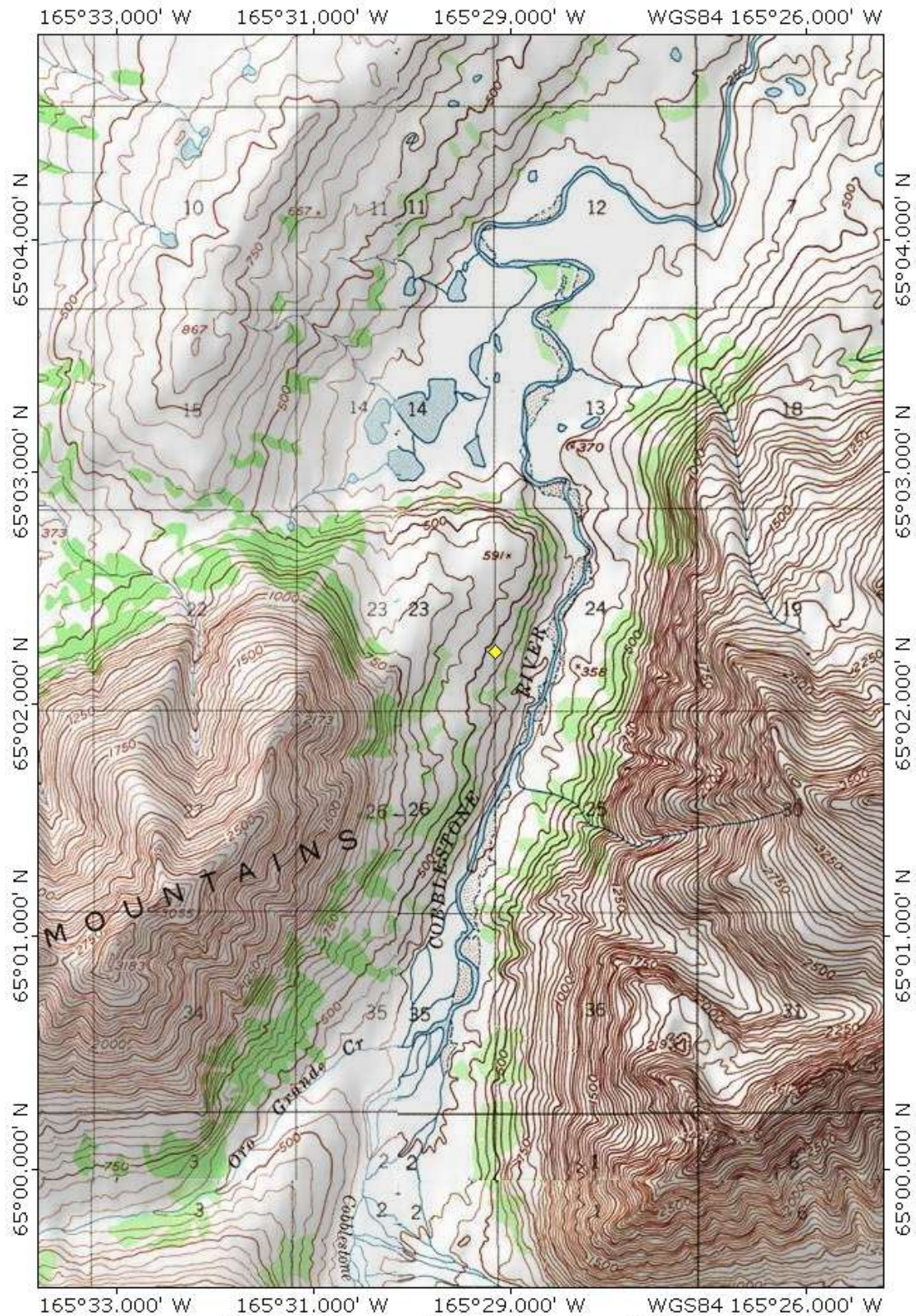


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Dall's sheep on the Seward Peninsula, Alaska.

A recent horn sheath specimen has been recovered in the Kigluaik Mountains, approximately 60 kilometers due north of Nome, Alaska. The specimen was recovered on a lateral moraine bench roughly 50 meters above the Cobblestone River valley floor, at 150 meters elevation (see map). The peaks in the immediate area exceed 800 meters. Rock glaciers and permanent snow fields persist at about 500 meters on north facing slopes in this area. The Sheath was found at the upper limit of alder growth immediately below the wind scoured bench. The bench where the horn sheath was found supports some low vegetation with *Dyras sp.* as significant component on the wind scoured bench. The find was made during a spring brown bear hunt, during May of 2001.

The horn sheath was heavily weathered to 4 millimeters of depth, with splinters curling off the surface. However, when the carbon dating sample was collected it was found the interior of the sheath was well preserved and unaffected by the weathering process (see figure 1). The sheath appeared to be from a 7 or 8 year-old male sheep, about ½ curl.

The horn sheath was radiocarbon dated using AMS-Standard delivery analysis by Beta Analytic Radiocarbon Dating Laboratory. They estimated the age to be 200 years prior to 1950 AD +/- 40 years. In reviewing their results more fully, they found three ranges of dates that most closely matched the Carbon 14 component of the sample. The middle range of dates was found the most likely. The most recent range was from 1920 to 1950. This range of dates is unlikely because it is on the most recent limit of detection and this is a time of aerial transportation and recent communication methods, when no record of Dall's sheep were known to exist. The 1920 to 1950 range of dates was eliminated as a possibility for that reason. The next most recent range of 90% confidence dates is 1725 to 1820, with a 68% confidence range of 1740 to 1810. This range of dates seems more likely given that traditional ecological knowledge does report sheep harvests as late as 1920 on the eastern mountains of the Seward Peninsula. The white, well preserved core of the sheath also indicates sheath could not have lain exposed on the surface where it was found much longer than that. The oldest 90% confidence range of dates was 1640 to 1690. Archeological finds dating thousands of years ago indicate that Dall's sheep have populated the Seward Peninsula over the years. This range of dates is believable as far as the existence of sheep, but the condition of the sheath would indicate it is younger.

We have concluded the sheep lived in the Kigluaik Mountains as recently as 250 years ago based on the condition of the horn sheath and Carbon 14 isotope dating.



Figure 1. The core hole resulting from isotope sampling revealing relatively unweathered horn sheath collagen from the center of the sample.



Figure 2. A view of the horn sheath from above as it was found exposed to the elements on alpine vegetation.