THE SETTING

There is a mountain round and low that lies by the Polar rim.

Robert Service
Ballad of the Northern Lights

The Putu site is located in the Central Brooks Range of Alaska at latitude 68°35' north, longitude 149°01' west. Located some 27 miles north of the divide and 13 miles south of the most northerly extension of the mountains it is on the boundary between the Central and Eastern Brooks Range and the Foothills physiographic provinces (Pewe, 1975). The site is on part of a large knoll jutting out from the side of a mountain slope which forms the eastern slope of the Sagavanirktok Valley. This knoll is 800 feet above the valley floor and approximately 1,000 feet below the mountain crest (Figures 1 and 2). The site itself is on a small, level bench 100 feet lower and 300 feet south of the knoll top. The subtleties of this particular location are crucial to the analysis of the site. Located on one side of, and high above, the valley floor, the very top of the knoll provides a view of all the valley and most of the plateau bounding the west side of the valley. This knoll top provides an excellent view for spotting game, and would allow a hunter to estimate where game might be in an area of nearly 24 square miles. The view from the Putu site terrace is, however, totally blocked to the north and the rounded shape of the slope restricts vision immediately below. In effect just a bit less than half the available area from the knoll top can be seen from the Putu site. From three seasons experience in hunting with the Nunamiut I consider the location to be an extremely poor choice for a hunting lookout especially when a panoramic view from a much more obvious spot is just a minutes walk uphill. At lunchtime and coffee breaks Danny Hugo would walk to the top of the hill to look for game.

Additional environmental factors, snow, wind, and mosquitoes, need also to be considered. The prevailing winds parallel the long axis of the valley, roughly north-south. With a location in the southern lee of the hill the Putu site area would be covered during the cold months with drift snow, potentially a desired resource for insulation. The location also provides a wind-break not only from the north but quite effectively from the south wind as well. We discovered that when there was too little wind at the site to keep the mosquitoes down, a bit of respite from their assaults or a mosquito free lunch-time nap, could be found on top of the knoll. When there was a south wind strong enough to make note taking difficult at the site, there would be a gale blowing on top of the hill, a gale sufficiently strong to allow walking perpendicular to the slope, one of the few simple Arctic pleasures. The site is an attractive location for a camp in that it provides level ground protected from the wind and possibly an insulating cover of drifted snow. Equally important during the winter on a still day the elevation difference could provide a temperature difference of as much as 30°F with the heavier, colder air blanketing the valley floor.

Another feature of the location important to the interpretation of the site is the small, level bench

at the north edge of the site (Figure 3). This bench is presently three to four feet higher, and as will be seen in the description of the stratigraphy the original height difference may have been as much as five feet when the site was occupied. Our tests on this higher bench produced no signs of occupation, a fact requiring some explanation. The amount of debris from the lower bench comes either from frequent re-use as a hunting station or as a campsite. If the former were true the two benches are equally endowed for the view is the same from both, and both are level and dry with equal wind factors. As a campsite, however, the lower bench has a level area some three times larger which could permit more habitation structures than on the higher bench.

The upper Sagavanirktok valley is in the Eskimoan Biotic province (Dice, 1943) characterized by typical Arctic tundra with lichens, mosses and sedges predominating. A profusion of small flowering plants with brief, sequential periods of flowering give some feeling of the progression of season, as do the time of appearance and disappearance of migrating birds. Small stands of dwarf willow and birch are occasionally met, the only stand presently of any size in the Sagavanirktok valley is at its junction with the Atigun River. Permafrost is everywhere found at varying depths. In some places the permafrost is buried by only a few inches of soil, in others by many feet. In the course of the site excavation no permafrost was found, even during relatively rapid excavation of several small tests.

The large land mammals now living in the area include, in order of relative abundance, caribou, Dall sheep, moose, and grizzly bear. While musk-ox may have been present in historic times there are neither accounts of them nor the osteological evidence. Late Wisconsin fauna almost certainly included bison, mammoth, and horst (Pewe, 1975). Smaller mammals likely to have been used by man, based on present Nunamiut use, include wolf, wolverine, ground squirrel, marmot, Arctic hare, red fox, Arctic fox, and rarely, porcupine. Lemming and vole are useful through raiding their winter food supply, a pleasant reversal in that their bedding materials are frequently stolen from human camps. At present there are too few migratory waterfowl nesting in the area to be of any economic importance. Willow and rock ptarmigan are present year round in numbers sufficient to allay starvation. Among the larger fish are lake trout, grayling, whitefish, and ling cod (*Lota leptura*) all found year round, and the Arctic char found in late fall. The latter do not at present migrate in large numbers.

The following list from 1973 records gives some idea of summer abundance of the larger mammal species. It is a fairly accurate record in that there were very few hours when some of the crew were not up and about, and game were sufficiently rare that a note was made after each sighting.

June 24	1 grizzly bear
29	1 female moose
30	30+ caribou; males, females and calves
July 3	wolves howling
5	wolves howling
18	2 caribou, 3 wolves, 1 fox
22	1 wolf
27	1 wolf
29	1 male caribou
31	3 wolves, 7 pups
August 10	1 wolf

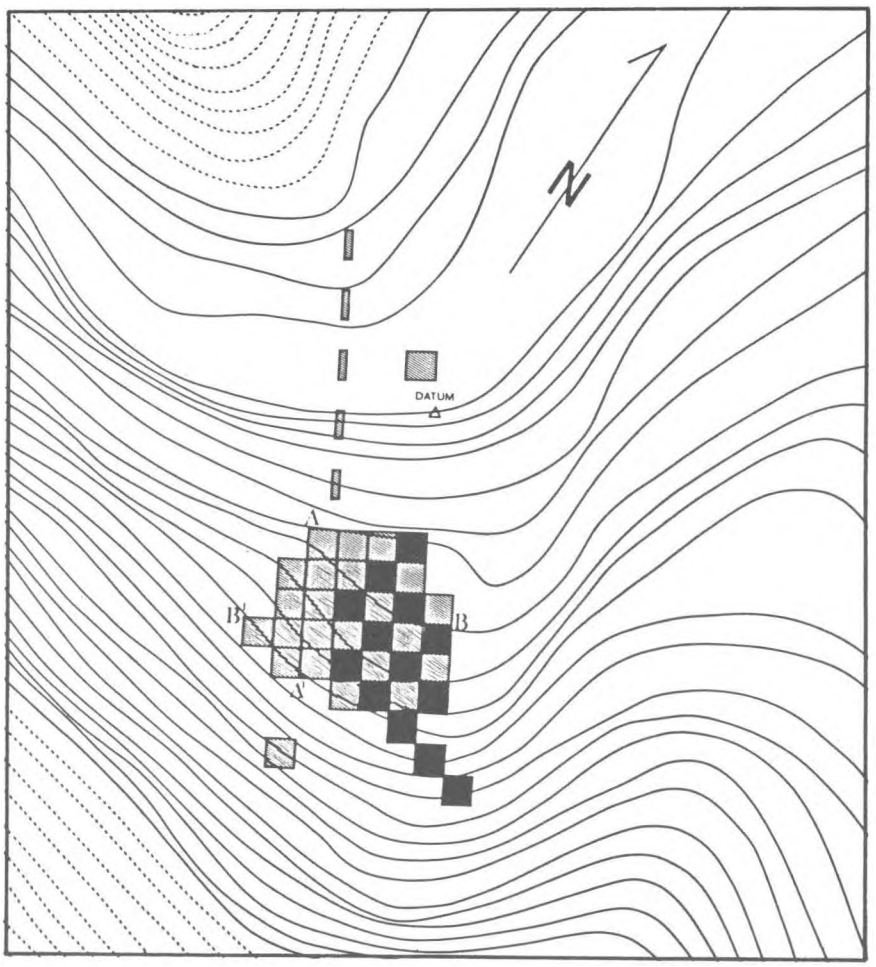

Fig. 3.

Excavation plan. The dark squares were excavated in 1970, the remainder in 1973.

Ground squirrels were an ever present pest in camp and at the site. No food, fabric, paper, or plastic bag was safe from their active collecting.

It is almost certain, however, that present conditions at the site do not accurately reflect conditions in the region some 11,000 years ago. At that earlier time, two large glaciers a few miles south of the site would have provided the main scenic focus from the site and their close proximity should have had a profound effect on all the environment. With the southern part of the Sagavanirktok Valley partially filled with ice, the flow of air would have been different in strength, direction, and temperature. Certainly during the summer growing season a wedge of cold air extending out from the ice would have had an effect on both plant and animal communities. One not insignificant effect would be that a relatively mosquito-free zone would provide an attractive haven for the large mammals, as summer ice pans do today. The ice pans are favored spots to Nunamiut hunters searching for a sleeping caribou. With most, if not all the north-south valley passes through the Brooks Range blocked by ice, migration patterns would not be the same as today.

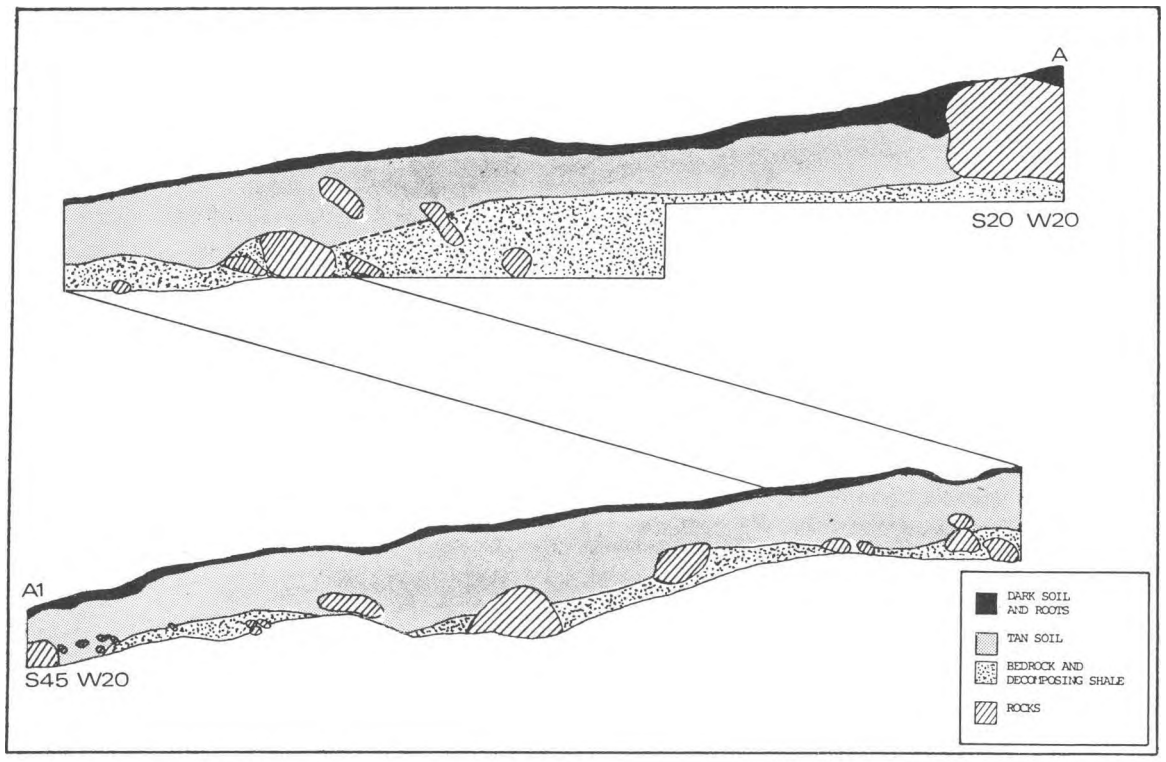

Fig. 4. Profile A-A'.

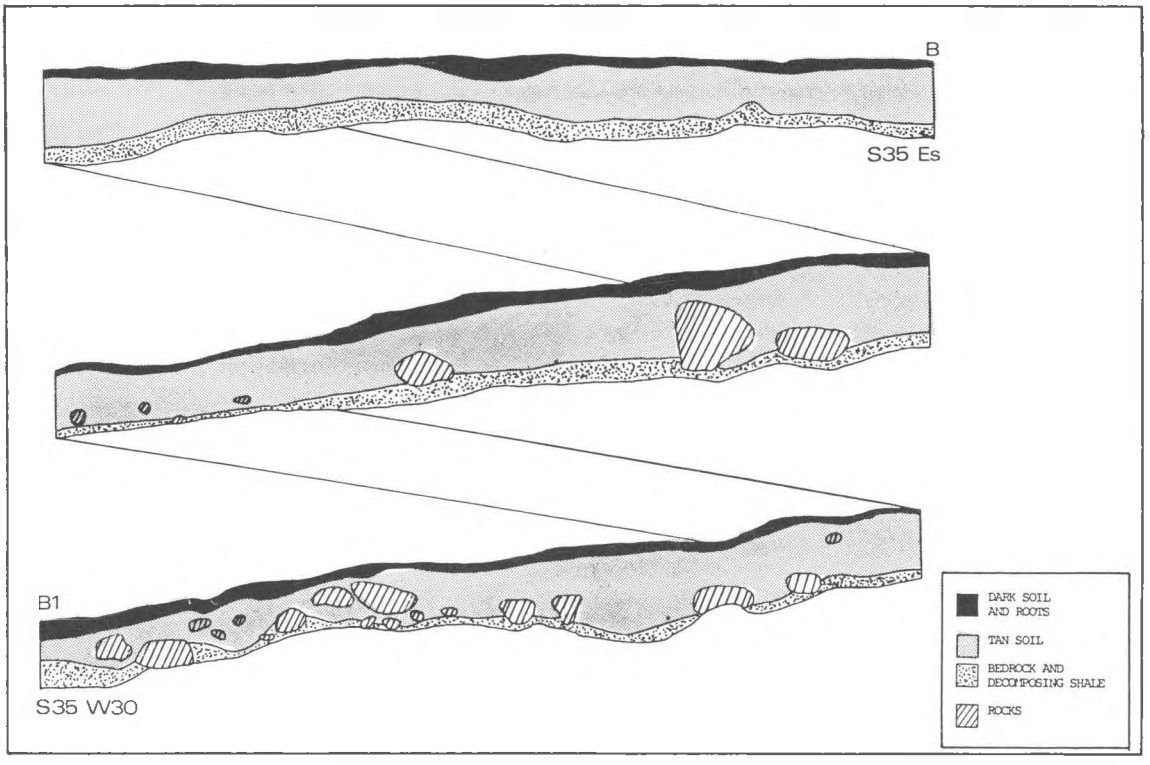

Fig. 5. Profile B-B'.