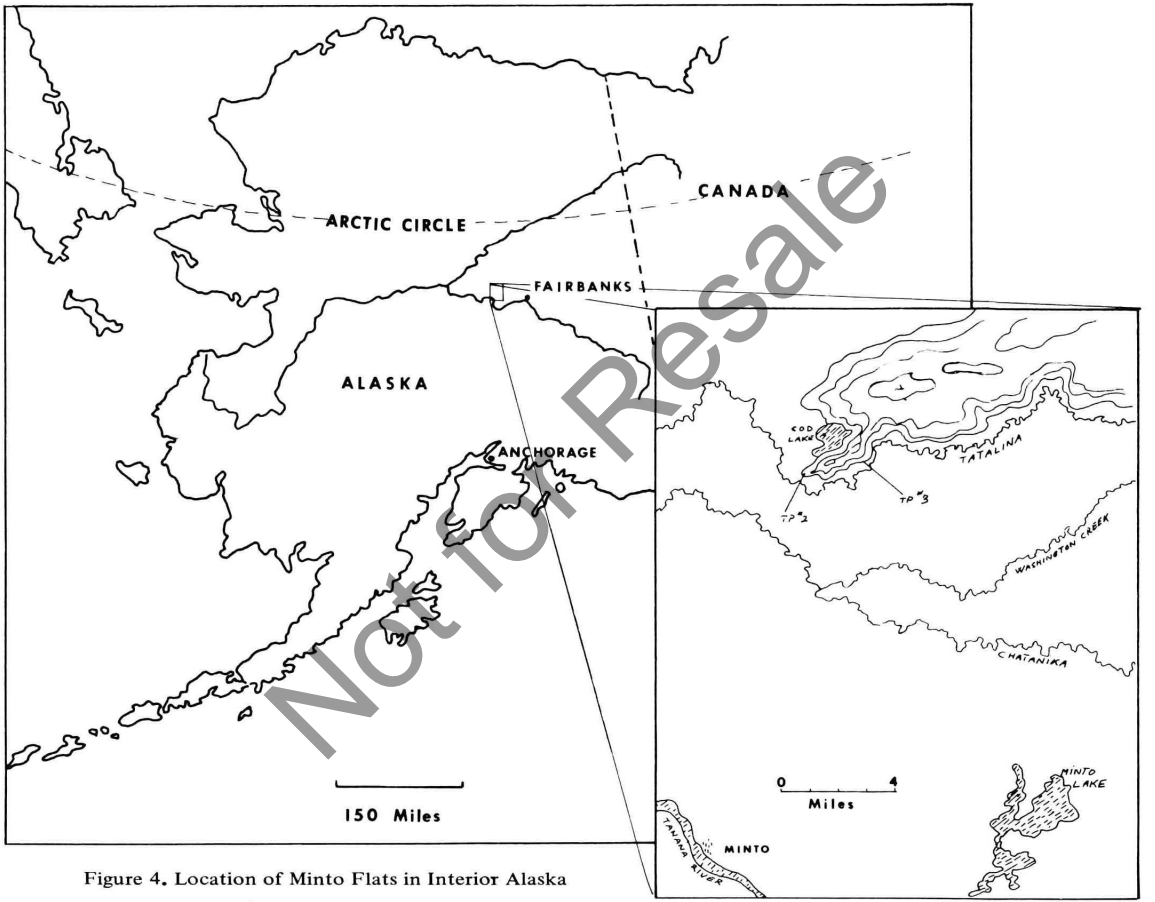


Figure 4. Location of Minto Flats in Interior Alaska

ARCHAEOLOGICAL SURVEY OF C. O. D. LAKE AREA, MINTO FLATS

By

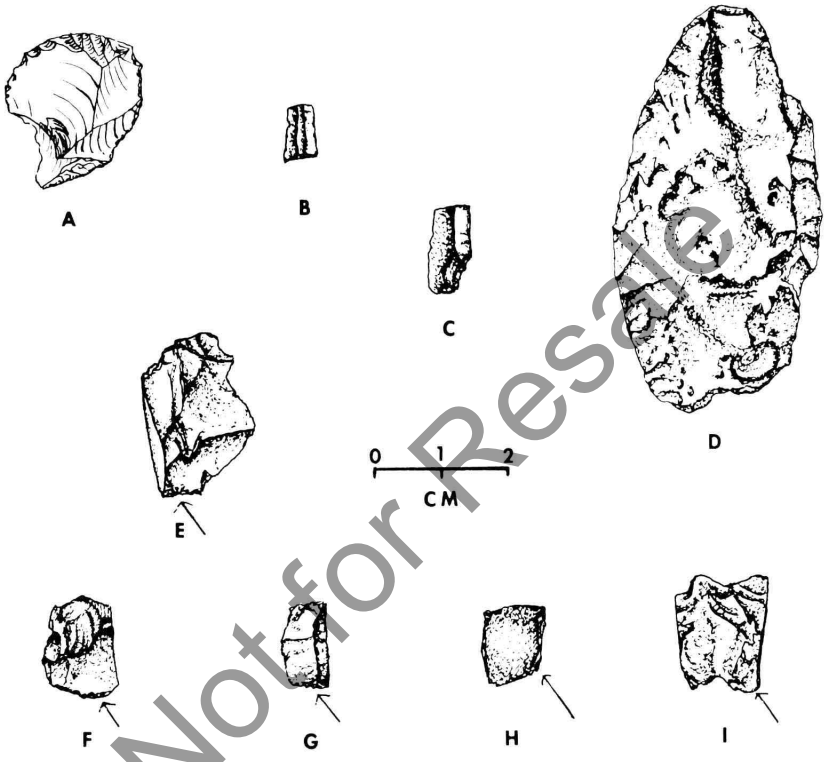
Peter Schledermann and Wallace Olson

During the month of August 1968, an archaeological survey was conducted by the authors in the C.O.D. Lake area. The location was chosen for its variable ecological setting and pertinent information obtained during an ethnographic study of the village of Minto, Alaska (Olson: 1968). Upon inquiry concerning old hunting sites, several of the elderly residents referred to caves and campsites near "Lookout".

The area referred to as the "C.O.D. Complex" includes the southwest trending ridges, lakes, streams and rivers extending halfway out into the northern section of the Minto Flats (Figure 1). Much of the bedrock formation in this area consists of limestone belonging to the Tolovana Limestone Formation located on the southeast facing slopes. At varying distances from the base of the hills, on the southern and eastern side, the Tatalina River meanders eastward; north of the C.O.D. Complex, the Tolovana River presents a similarly swampy landscape underlain by permafrost. Entrenched between the hills at the western end of the "complex" lies the rather large and shallow C.O.D. Lake. The hills increase in elevation from west to east, culminating in a large, dominant ridge with an altitude of 1394 feet. This hill is known as Big C.O.D.

Ecological and Geographical Background

The Minto Flats, surrounding the C.O.D. Hill on three sides, are characterized by innumerable lakes and streams together with rivers in all stages of geomorphic cycle. The summer temperatures range as high as 80° -90° F, with a winter minimum as low as -70° F. The yearly average temperature is about 25° F, and cool weather prevails



A. Obsidian scraper
B. Blade fragment, chert
C. Blade fragment, retouched, chert
D. Basalt scraper
E. Burin, chalcedony
F. Flake, chert
G. Flake, chert
H. Flake, chert
I. Flake, chert

Figure 5. Objects found in the test pits. Illustrations by Mary Pat Wyatt.

through most of the year. The area lies within the Hudsonian ecological zone and has an average annual precipitation of ten to fifteen inches per year. Vegetation in the flats consists of swampland, grasses, sedges and willow brush, separated by elevated areas, some of which are old sand dunes. On the higher ground are stands of paper birch, quaking aspen, alder and some white and black spruce. The C.O.D. Hills are covered by several large stands of spruce and birch, alternating with areas of recent burns now covered by densely situated stands of birch and aspen. The range of species and their abundance in a region is determined by a variety of factors such as climate, flora, physiography, isolation and many other interrelated factors, not the least of which is man himself. There is no stable condition in time but rather a constantly changing combination of animals, shifting from an abundance of one species to another. Only thirty years ago there were caribou feeding in these hills, today there are none. The flats now support a large moose population although the older villagers maintain that these animals only arrived in the valley recently.

In order to survive on a hunting and gathering level man had to be highly adaptable to the varying abundance or scarcity of his prey and highly mobile in order to follow the changing faunal conditions. He would also, for very practical reasons, select an area most favorable in its variable ecology and providing a variety of potential food resources. The C.O.D. Complex offers such variety. The streams and lakes support a variety of fish such as salmon, sheefish, pike, grayling and Arctic char. Migratory waterfowl are important on a seasonal basis, together with the year-round residents such as ptarmigan, spruce hens and willow grouse. There is no lack of bear nearby, possibly because of the great number of caves and both the black and grizzly species are present. In addition there are wolves, wolverines, land otters, lynx, marten, mink, muskrats, weasels and beavers.

Mammalian Paleoecology Of Interior Alaska

Considering the recent finds at Healy Lake, Alaska, dated at 11,090 ± 170 B.P. (Cook:1969) it is quite likely that man has lived in the interior of Alaska for fifteen thousand years, if not longer. The climatic conditions, along with the faunal

TEST PIT NUMBER 2

	SOIL	DESCRIPTION
2"	REDDISH–BROWN 7.5 YR 4/4 (brown)	One piece of bone - 25 wasteflakes
4"		8 wasteflakes (one obsidian) - one burin
6"		143 wasteflakes (one reddish brown obsid. flake)
8"	GREYISH–BROWN 2.5 Y 5/4 (light olive brown)	
10"		

TEST PIT NUMBER 3

	SOIL	DESCRIPTION
2"	REDDISH–BROWN 5 YR 4/4	Small pieces of bone, one obsidian flake - charcoal
4"		Limestone Pebble - Bone - 4 chert flakes - one obsidian scraper - charcoal
6"		Bone - 13 chert flakes - 6 obsidian flakes - charcoal
8"		Bone - 6 chert flakes - one blade fragment 3 obsidian flakes, one basalt scraper, charcoal
10"		Bone - 5 chert flakes - Limestone pebble - charcoal
12"		Bone - 10 chert flakes - one blade fragment 3 basalt flakes - charcoal
14"	GREYISH–BROWN 10 YR 5/4 (yellowish brown)	
16"		
18"		
20"	LIMESTONE RUBBLE	
22"		

Table 3 — a, b

variations over this period, would have an important bearing on the life patterns and tool assemblages to be found in the area. Guthrie has made some noteworthy observations regarding four fossil assemblages of large mammals from Pleistocene sediments near Fairbanks (Guthrie 1968:346-363). Bison, horse and mammoth were the most common animals in these four faunas and it was noted that they were all grazers pointing to the probability of a grassland environment in the interior during the Wisconsin glaciation. Among other fossil remains were caribou, musk ox, bears, lions and wolf. Dependence on caribou could therefore be a very old trait in the New World as it was in the Old World. It should be mentioned that although moose was one of the least common ungulates in the assemblage, they were present, so that the characterization of them as new-comers by the present day natives of Minto is rather relative. The onset of the second major advance of the Wisconsin glacial period brought with it a lowering of temperatures, although the interior remained practically ice-free because of insufficient precipitation. This lowering of summer temperatures is estimated to have depressed the tree line as much as 400 meters (Repenning; 1964). Such a lowering of the tree line in the Yukon-Tanana Uplands would practically eliminate the forested areas in this region.

Geology, Past and Present

The Yukon-Tanana upland region is composed of many geological formations. There has been extensive metamorphism and igneous activity together with folding and faulting, and in a few instances, there are signs of glaciation (Prindle 1913:22). Crystalline schists, mostly of sedimentary origin, make up the largest portion of the region and date back to pre-Ordovician times. Igneous rocks, both intrusive and extrusive, are widespread and granitic rocks are found, both the metamorphosed and unmetamorphosed. The entire region presents a geologic time span extending from the Precambrian to the Quaternary.

At the present time Dr. Florence Weber, aided by field notes by Bond Taylor, is preparing a geologic map of the area. Dr. Weber assisted the authors in preparing a brief

summary of the formations. One of the most interesting features of the region is the Tolovana Limestone Formation. This is a limestone band approximately 90 miles long and from 2 to 5 miles wide, running through the hills in a southwest to northeast direction. The formation dates back to the middle Devonian (or Silurian) period. It is a part of a much larger belt of "Silurian" carbonate rock formations extending from Cape Krusenstern eastward along the southern edge of the Brooks Range and into northwestern Canada (Church 1961:56). In the limestone outcroppings along the southern slope of the western end of C.O.D. hill, the authors found many caves of varying sizes. It was in these caves, and on the neighboring hills, that the Minto people hunted bear. Because most of the caves were occupied by bears at the time, the caves themselves were not investigated.

The major geological formations in the C.O.D. hills are composed of quartzite, igneous intrusive gabbro, greenschist (mainly phyllite) cut by a fault line and continuing with volcanics and finally the Tolovana Limestone. Dr. Weber does not feel that there have been any major geologic changes in the area in the past fifteen thousand years other than the stream channels and the addition of alluvial deposits. It appears that at one time the Tanana River extended a slough from the Nenana Hill northward, past the westernmost tip of C.O.D., thence turning west and joining the Tolovana River flowing southward, and emptying into the main channel of the Tanana River.

Associated Information

The fieldwork was limited to exploratory excavations and a general survey of the region. On several occasions the authors noticed thin spruce poles propped against a larger spruce, creating a concial framework. The Athabascans of the interior at the present time continue to use a similar structure for an overnight campsite. There were also stretches of fence-like structures with thin spruce poles placed (or fallen) in a position reminding one of caribou fences. Tradition in Minto holds that this region has been, and continues to be, a principal hunting area. The southern ridge of the western end of the hill is known as "Lookout" and contemporary Minto

hunters climb the hill to survey the flats for game animals. All of these factors point to the site as a natural observation point and has been used for this purpose for many years.

There have been several forest fires in the area, but some large spruce are still standing. The Bureau of Land Management has cut some survey lines across the hill and one of the largest trees they had felled was approximately 165 years old when cut.

Results of The Archaeological Survey

The authors were mainly concerned with selecting a good vantage point for the test pits, since there was little doubt as to the significance of these hills to a hunter watching for game. At the same time it was important to find an area which was level enough to have retained a fair depth of soil in order to gain some stratigraphic information. The first test pit was mainly designed to establish the depth of soil along the ridges, which proved to have a fairly distinct separation between the upper reddish-brown and the lower greyish-brown soil. The second test pit was dug at the westernmost edge of the hills, on a point rising only about twenty-five feet above the surrounding flats. The table (3 a,b) shows the test pits in relation to soil depth and stratigraphy together with a description of the material found within each two inch level. The material can be located at the University Museum, University of Alaska, under accession number 68-64 (1 to 350). The soil color indicated is based on the Munsell soil color charts. It should be noted that the highest concentration is located between the four and six inch level in both test pits. Test pit number two did not yield any charcoal and only one piece of bone, whereas test pit number three yielded pieces of bone and charcoal throughout.

Trowelling down in two inch levels in a two-by-two foot test pit, we soon encountered a profusion of small chert wasteflakes. In the two-to-four inch level we located a burin of the Campus site type. There were no other distinctive implements among the 176 wasteflakes, although there may be one exception. The soil depth varied from ten to twelve inches and the upper reddish-brown horizon showed fairly sharp transition to greyish-brown at about a depth of eight

inches. The third area we selected for testing was located on a fairly level "bench" near the top of "Lookout". A two by two foot test pit yielded the same profusion of small wasteflakes together with small broken bones and limestone pebbles. A small obsidian scraper was located in the two to four inch level and a cruder basalt scraper plus a broken blade fragment showing very fine retouch were found in the six to eight inch level. Another blade fragment was located in the ten to twelve inch level. The burin (E in Figure 5) was found to have definite signs of wear as indicated by the arrow, however, while studying the wasteflakes under a microscope (figure 5, F,G,H,I) similar wear was noticed on four other pieces. These four fragments have only one other thing in common, i.e., a burin-like facet, yet they are not true burins.

Pieces of charcoal were located throughout the test pit in no specific concentration. The reddish-brown soil was very hard which, together with the charcoal, may be fair evidence of numerous campfires. At a slightly higher elevation a few hundred yards away from the test pit we located a large number of wasteflakes directly on the exposed bedrock surface.

The limited time in the field produced enough material to establish the fact that a people of the Northwest Microblade Tradition inhabited the area from time to time. The survey did not produce a real stratigraphic site although we feel that such a site can be located in the area. The three test pits were located in places similar in situation to the Campus site and the material found, judged by the burin typology, indicates the possibility of a similar time period. The Campus site has yielded an obsidian date of 8400 BP. (Hosley, 1968) and until recently we would have assigned the finds from the C.O.D. Hills to a similar date. The correlation of this material with that from the Campus site is probably valid, however, there is a question concerning the accuracy of the obsidian dating of the Campus site. A stratigraphic cultural sequence at Healy Lake has been established and the radiocarbon dates there strongly suggest an age of the Campus type material in the early part of the Christian era., (Cook, 1968). Dr. Hadleigh West has shown a close correlation between some of the characteristic artifacts from the Campus site and his Denali

Complex, specifically the Donnelly Ridge site. He has two radiocarbon dates from the latter site, both ranging between A.D. 100 and A.D. 200, (West, 1967: 372). Dr. West felt that the dates refer to a late tundra fire and therefore would not be of any value in relation to the artifact dating. It is now, however, difficult to ignore the possibility that these dates, including those from Healy Lake, may show that the Northwest Microblade Tradition has persisted far longer in the interior than has so far been assumed. Test pit number three on "Lookout" produced enough evidence of fires to ensure an adequate sample of charcoal for dating and hopefully it will be possible to go back in the near future and obtain enough charcoal for dating and possibly throw some more light on the question of the range of the Northwest Microblade Tradition in the interior.

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