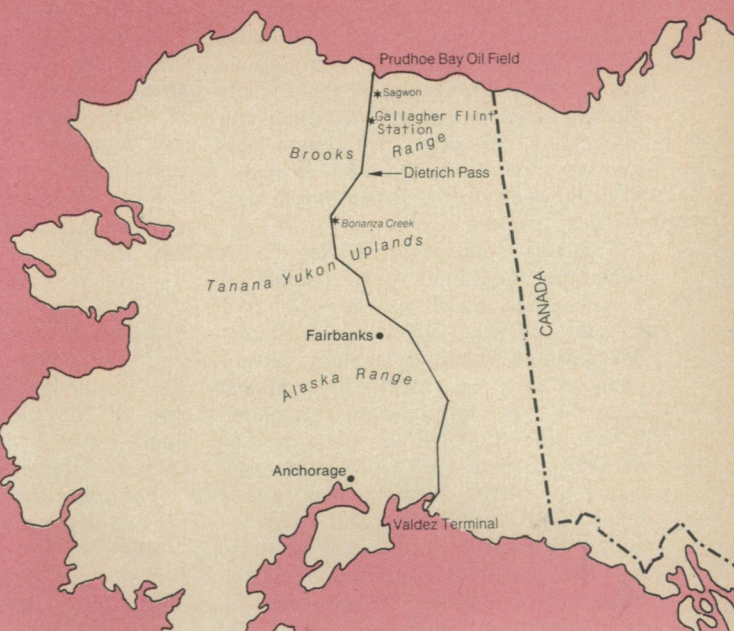


Archaeology along the pipeline

Archaeological surveys and digs in conjunction with the pending trans-Alaska pipeline are helping to trace transitions in early Alaskan cultures



E. Cherry Doyle

by Robert J. Trotter

A trans-Alaska pipeline supplied America at least 13,000 years ago. Nomadic hunter-fisher populations followed their food supply from Siberia to Alaska via a land bridge that is now the Bering Strait. These Paleolithic tribes then came south along a corridor that may once again supply America. The proposed trans-Alaska pipeline would pump hot oil from the vast reserves discovered at Prudhoe Bay on the North Slope in 1968 south to Valdez, an ice-free port on the Gulf of Alaska.

The pipeline, however, seems to be as slow in coming as were the original nomads. The Alyeska Pipeline Service Company (ALPS) was formed by a group of oil companies to design, construct, operate and maintain the pipeline. From the start they have had problems. Geography and climate posed an engineering problem of the first degree (SN: 2/14/70, p. 177). International politics became involved when Canada decided to build its own pipeline (SN: 5/2/70, p. 442). Legal problems arose over environmental and land rights. And ecological considerations have brought the whole project to a virtual standstill (SN: 3/20/71, p. 196).

One group has had no complaints. Alaskan archaeologists, with the aid of the Bureau of Land Management, are having a field day. In 1969 BLM published a 50-page book of stipulations to be imposed on ALPS (SN: 10/25/69, p. 377). Section L, concerning antiquities and historical sites, required ALPS to hire an archaeologist to provide surveillance and inspection of the pipeline for anything of archaeological value. All archaeological, paleontological or historical sites are to be investigated and protective measures taken. The An-

tiquities Act gives the archaeologist authority to suspend operations or to re-route sections of the pipeline or its adjoining roads where necessary to excavate or preserve sites.

ALPS contracted with the University of Alaska to do the archaeological work. The Arctic Institute of North America and the BLM also supplied archaeological and anthropological consultants. The university began by conducting a search for all published and unpublished references to relevant archaeological material. Then, in the past three summer seasons, the entire length of the proposed pipeline was examined.

The excavation crews (archaeologists and graduate students) worked with



Cook: Impressed by the cooperation.

pipeline crews from the main ALPS camps. John P. Cook, chairman of the department of anthropology at the University of Alaska and the project's principal investigator, says he was impressed by the cooperation between ALPS and the archaeological crews, which enabled the crews to conduct the survey almost entirely on foot. They were dropped off by ALPS helicopters at one point along the pipeline in the morning and picked up in the evening for transport back to the main camp. Without this transportation it would have taken years to adequately explore the 800-mile route. Even with them some areas were impossible to cover on foot (the pipeline crosses three mountain ranges). These areas were surveyed from low-flying helicopters. In fact, had it not been for the preparation work being done on the proposed pipeline, archaeologists would probably not have had an opportunity to explore and survey this part of Alaska for generations to come.

A final analysis of the material is not complete, but a preliminary report lists 189 sites that were tested or excavated. About 90 of them would have been adversely affected by pipeline construction activities, says Cook, and all would probably have been disturbed, either by construction or by curious construction crews. Looting and destruction of valuable archaeological sites is not uncommon on construction jobs.

More than 8,500 catalogue entries have been made—some from sites as much as 13,000 years old. But, says Cook in his preliminary summary, "very few definitive conclusions can be stated; actually, more problems have been posed than questions answered." In



Photos: Cook/Univ. of Alaska

Pipeline activities were rerouted to protect Gallagher Flint Station findings.

general, he feels the sites found and the material recovered have or will contribute to knowledge of Alaskan regional variations and cultural transitions between Indians and Eskimos through archaeological time.

Some tentative conclusions, however, can be drawn. First, there are two notable gaps in distribution of the sites. One occurs between Sagwon and the Gallagher Flint Station—a distance of some 60 miles. The other straddles the continental divide and extends southward down the Dietrich Pass to Cathedral Mountain; only one site was found in this stretch of 110 miles. It may be that the prehistoric peoples did not utilize these regions to any great extent for the simple reason that each stretch represents, essentially, a single biome: in the first case, tundra; in the second, alpine. The cultures probably



Stone fireplaces at Gallagher site.

were able to exploit transition areas, or ecotones, between the biomes with much greater effectiveness. There are a number of sites at the coastal sea-land ecotone, a large number in the northern foothills of the Brooks Range and an equally large number in the hill and river area of the Yukon-Tanana Upland and its northwest extension, the Ray Mountains. This very general hypothesis, says Cook, seems to hold true in light of the present archaeological picture even though there are a few instances to the contrary.

The kinds of sites found reflect, almost without exception, a nomadic seasonal hunting pattern. Only two seem to have been used for more permanent occupation. The majority were of short duration and representative of small hunting groups—either lookout stations or flaking and quarry sites. This is made evident by the relatively small inventory of artifacts from any one site, the location of the sites on promontories and the general lack of anything that can be safely regarded as women's tools in most of these sites. The male-oriented pattern does not hold true for the tent ring or more permanent sites where such things as thimbles were found.

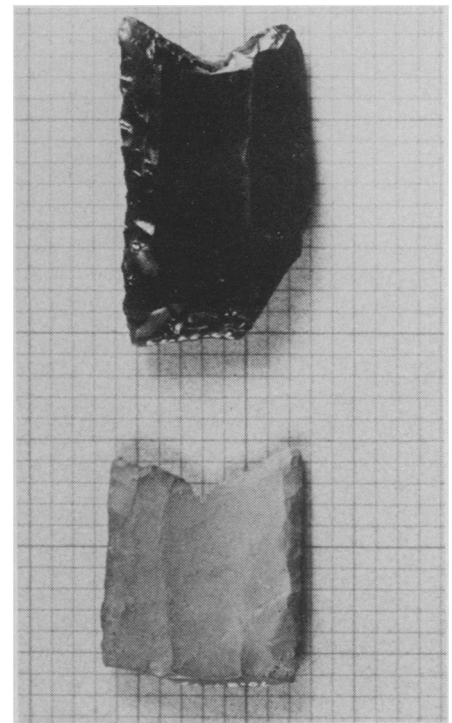
The presence of bird and fish bones at some of the camps attests to some subsistence activities other than caribou, moose or sheep hunting. And changing cultural boundaries between Eskimo and Athapaskan Indian peoples can be seen in the distribution of some of the artifact types. Apparent Athapaskan related objects were found not only in the interior, where they would be expected from the present native distribution, but also well north of the continental divide. If these artifacts do

indeed document Athapaskan occupation then the Indians must have utilized a much larger area than at present—at the expense of the Eskimo groups. This would have been about 500 years ago if the present findings are any indication. On the other hand, admits Cook, it may simply reflect either trading parties from the interior or an Athapaskan influence on the Eskimo population.

Conversely there is evidence of early Eskimo habitation as far south as Bonanza Creek, about 4,000 years ago. But what seems to be shifting cultural boundaries may well be evidence of the evolution of tool types. This concept of evolution of technology is well documented at the Gallagher Flint Station, where a variety of tool types were found.

Beyond the archaeological evidence recovered, Cook feels that the project sets an important precedent in archaeology. In the past, many potentially valuable sites have been bulldozed and vandalized by Federal, state and commercial construction and exploitation activities. The Alaskan experience may have changed this. ALPS spent a total of \$227,000 on the archaeological literature search, the surveys and the excavations. A BLM spokesman terms the cooperation between science and big business remarkable.

"If a commercial organization such as ALPS can show concern, cooperation and communication to effect a project of this magnitude," Cook says, "it will be difficult for others, especially the military and government operations, to ignore the Antiquities Act." □



Fluted points, 8 to 11,000 years old.