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Archaeological Reconnaissance in the Central Arctic Management Area 1981

by Howard L. Smith

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OPEN FILE REPORTS

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Howard L. Smith is an archeologist with the Northwest Resource Area of the Bureau of Land Management's Fairbanks District.

Introduction and Background

Archaeological inventory was conducted by the Fairbanks District of the Bureau of Land Management at several locations on the North Slope of the Brooks Range during the summer of 1981. Inventory was performed as part of a study mandated by the Alaska National Interest Lands Conservation Act for the Central Arctic Mangement Area, which is that region north of 68° and between the Arctic Wildlife Range on the east and the National Petroleum Reserve on the west. Section 1001 of the Act calls for a "...systematic interdisciplinary approach to assess potential oil and gas resources, including evaluation of alternative transportation routes; review wilderness characteristics; and study the wildlife resources of these lands."

Although not specifically mentioned by the Act, it was clear that consideration of cultural resources could benefit the mandated studies. In much of the area, transportation corridors will create potential for serious impacts on archaeological sites, and a full evaluation of possible corridors should include treatment of cultural resources. Experience with the Alyeska oil pipeline demonstrated that conflicts result expecially from the mining of gravel, because sources for such material in the foothills north of Brooks Range are often glacial features that are prime locations for hunting camps and lookout sites. Also, to the extent that the subsistence issue is involved in wildlife studies, archaeology could provide information useful in defining traditional and customary uses and areas of such use. Finally, because the final product of the CAMA study was intended to be an Environmental Statement or general land-use planning document, there is a need to address the full range of resource values, including prehistoric and historic sites.

Time, personnel and funding available for field work in 1981 were not sufficient to support the extensive survey necessary to provide significant new base data for Environmental Statement or planning document purposes. Consequently, work was organized in an attempt to accomplish three more limited objectives:

1. To familiarize personnel with the climate, terrain and type of sites in the area. This would allow planning for future work with a better grasp of logistics and costs, and would also facilitate more appropriate research designs for future work.

2. To assess the nature and extent of problems involved in management of Traditional Land-Use Inventory Sites designated by the North Slope Borough. Reported locations of these sites are vague, boundaries are not defined, and the presence or absence of physical remains is often unknown. This lack of information makes it difficult to develop reasonable management decisions regarding these sites. A portion of the field work was conducted to assess the extent to which archaeology could help fill

this data gap, and to provide a basis for developing future approaches to gathering necessary information.

3. To conduct cursory appraisal of the cultural resources along the route of a right-of-way granted to the Arctic Slope Regional Corporation by ANILCA. Although the Act does not reserve a specific right-of-way, it does not reserve a specific right-of-way, it does specify a tier of townships running east-west at a latitude just north of Galbraith Lake. Because the Act stipulates assessment of transportation corridors and because this area may well be the location of relatively early impacts, it seemed advisable to concentrate efforts along the potential corridor.

Previous Work

In order to accomplish the stated objectives, it was first necessary to examine the available information on archaeological sites within the Central Arctic Management Area. A report was prepared describing past archaeological work including recommendations for future inventory efforts (Smith 1981). Where locational data were adequate, sites were plotted on 1:250,000 scale maps. A brief summary of this report is included here to provide the proper context for the inventory work that was conducted.

Archaelogical research began in CAMA in the late forties and early fifties (Solecki 1950a; 1951; Solecki and Hackman 1951). Much of this work consisted of reports from geological field crews, and materials reported were largely of recent origin. Among these earliest reports, however, was a significant find of Denbigh-like remains from Natvakruak Lake (Solecki and Hackman 1951).

Research continued in the fifties with survey by William N. Irving in the Endicott Mountains and along the Colville River (1951; 1952; 1953a; 1953b). Irving's various publications report additional Denbigh-like material from the Anaktuvuk River as well as recent remains and material of indeterminate age (1951; 1952). Sites reported from along the Colville were late prehistoric or historic.

Beginning in 1956, John M. Campbell conducted several years of work in the Anaktuvuk Pass area, developing a cultural sequence for the region and identifiying a number of new archaeological complexes (Campbell 1959; 1961a; 1961b; 1962; 1963; 1968). Campbell's sequence for Brooks Range prehistory covers a period of about 7,000 years (Porter 1964) and is interpreted by him as representing successive occupations of the area by groups from different cultural traditions rather than as a developmental sequence (Campbell 1962;54). Campbell's is the most comprehensive scheme generated from the CAMA region, but there are a number of problems associated with it. Several of the named complexes were defined from

shallow unstratified sites that were interpreted as containing more than one cultural component. Complexes occuring together at these sites were distinguished primarily on the basis of typological and distributional factors, raising questions about their validity. Nevertheless, much of Campbell's work has been substantiated by later research, and it is clear that his efforts demonstrated the existence in and near CAMA of the following generally accepted complexes: Tuktu, Denbigh, Norton, Ipiutak, Kavik, and Nunamiut.

The next major field effort within CAMA was that of Herbert L. Alexander in the sixties. He conducted survey and excavation in the vicinity of Anaktuvuk Pass, Chandler Lake, and Galbraith Lake, locating over 75 sites in the Galbraith area, including material similar to Denbigh and Tuktu (Alexander 1967; 1968). Among the sites he discovered was the large stratified Atigun site, which he believed contained early as well as late materials. Later excavation by Ian R. Wilson (1978) indicates that the site is entirely late prehistoric and represents an Athapaskan occupation on the north side of the Brooks Range.

Edwin S. Hall, Jr. conducted extensive survey throughout much of the Brooks Range in 1967, in a fashion that he feels was sufficient to locate all late prehistoric lake shore sites. Within CAMA he discovered sites along the Killik River, at Itkillik Lake, and at the Nakaktuk Lakes (Hall 1975).

Between 1969 and 1975 much archaeological work was carried out within CAMA as a result of construction of the trans-Alaska oil pipeline. David Derry (1971) excavated a late historic settlement at Prudhoe Bay, using ethnographic data to explain archaeological materials. Glenn Bacon (1971) located and tested about 25 sites in the Toolik Lake area, revealing a record of habitation by late prehistoric/historic Nanamiut as well as some remains that are similar to those from the Gallagher Flint Station. Herbert Alexander (1974) excavated the Putu site along the Sagavanirktok River, recovering materials he believes are related to early horizons known form the continental United States. E. James Dixon (1971) excavated the Galagher Flint Station near the Sagavanirktok River, obtaining a radiocarbon date from one occupation in excess of 10,000 years (1972:269). James Corbin (1971) excavated at the historic Eskimo village of Aniganigurak near the western end of the Atigun canyon. Michael Kunz (1971; 1977) excavated the Mosquito Lake site in the same area as Aniganigurak, recovering Denbigh-like materials and some evidence of later occupation. Kunz also surveyed and tested around Itkillik Lake, reporting on 57 sites assigned to various archaeological complexes including Denbigh, Ipiutak, Kavik and Tuktu (Kunz 1976).

Since completion of the oil pipeline, two projects of note have been carried out in the CAMA area. The North Slope Borough has shown considerable interest in traditional land use by local residents, and has compiled a series of atlases of Traditional Land Use Inventory Sites

for several areas, including the Anaktuvuk Pass region and the Nuiqsut/ Tasikpak area (North Slope Borough 1976; 1977). Among these TLUI sites are several at which material remains such as sod houses or grave sites are reported, as well as traditional hunting or fishing locations which may contain material remains of past activity. In addition to the TLUI sites, the Borough has sponsored several more detailed studies of land use patterns around the villages, including Anaktuvuk Pass (Spearman 1979) and Nuiqsut (Hoffman et al. n.d.).

The University of Alaska has conducted considerable survey along the route of the proposed natural gas pipeline, which follows the general course of the oil pipeline through CAMA, but results of work north of the Brooks Range are not yet available.

This brief review of past archaeological work in CAMA should make one thing clear. Despite significant amounts of work on the North Slope, relatively little has been completed within CAMA itself, where only the area around Anaktuvuk Pass and the corridor containing the oil and gas pipeline rights-of-way have received intensive efforts. While much of the recent research that has been done on the North Slope outside of CAMA should be applicable in a general fashion, the area remains largely unknown archaeologically. Consequently, survey in almost any area could add to our understanding of the prehistoric resources of the region. It should further be obvious that the very limited amount of work conducted in 1981 is not going to produce such data for an area containing nearly 4.5 million acres of Bureau-administered land.

Description of Survey

Prior to the beginning of field work, two days were spent flying over much of the area in a fixed-wing aircraft in order to select locations for on-the-ground inventory. Areas selected included portions of the Chandler, Siksikpuk, and Anaktuvuk River drainages in and near the proposed ASRC transportation corridor, and a transect of this corridor in the area west of Galbraith Lake. Survey transects following river drainages were oriented essentially north-south, while that along the transportation corridor was east-west.

The Chandler River was selected for survey because of the presence along much of its length of locations having a high potential for site occurrence and because of the large lake near the headwaters. A series of one or two prominent terraces follow the course of the Chandler through the southern foothills, providing well-drained areas that afford a good view of the surrounding countryside. Such locations are often the site of hunting camps or lookout sites. Large lakes have been shown to be loci of considerable prehistoric activity in much of the Brooks Range, and it was assumed that the presence of such a water body near the headwaters

of the Chandler River increased the probability of site occurrence on the river itself.

The Anaktuvuk River was selected for inventory because of the cultural resources known to occur in the vicinity of Anaktuvuk Pass and because several TLUI sites are located in the Anaktuvuk drainage. Like the Chandler River, there are also numerous locations that provide good camping and hunting spots along most of the valley, where raised glacial features are quite common.

The Siksikpuk drainage was surveyed because archaeological sites are known from Natvakruak Lake at the headwaters of one of the tributaries to the Siksikpuk, because terraces providing good hunting and camping spots are present, because two TLUI sites are located within the drainage, and because the Siksikpuk presents a somewhate different topographic situation than either of the other rivers. While the Anaktuvuk and Chandler in the areas surveyed are essentially a single major stream, the Siksikpuk drainage consists of five or six approximately equal streams in a dendritic pattern.

The east-west transect of the transportation corridor was surveyed because of the potential for impacts and to provide data that was not tied directly to a stream drainage.

Two different survey methods were employed. Inventory on the Chandler River was conducted on foot with only limited helicopter support. Six days were spent backpacking a ca.15 mile stretch of the river valley, restricted to only one side of the stream at a time because water levels were so high as to prevent safe crossing of the river. Survey began on the right (east) side of the river, where about five miles were walked. Then personnel were ferried by helicopter about two miles downstream, avoiding a low swampy area containing few promising site locations, and an eight mile section of the valley on the left (west) side was then covered.

Inventory for other transects was conducted primarily from the air, flying at low levels in the helicopter and landing to inspect locations having a high probability of site occurrence. Four days were spent in this phase of the survey. Figure 1 shows the areas surveyed, indicating as precisely as possible those locations where on-the-ground inspection was performed.

Test pits were not excavated, as ground surface was generally quite visible, and with the exception of a single isolated find, no cultural materials were collected.

Results of Survey

Nine sites were discovered as a result of the survey described above. One additional site, discovered in 1980 during preconstruction survey of an oil well in the area, is also included because it has not previously been reported. With two exceptions, these sites can be placed into one of two types: tent ring sites and lithic scatters. The two exceptions are sites that contained both tent rings and lithic remains; of the remaining eight, six are lithic scatters and two are tent ring sites.

Three sites were located along the Chandler River, one on the Siksikpuk, two in the Anaktuvuk valley, and four within the townships containing the ASRC transporations corridor between the Kanayut and Itkillik Rivers. Figure 2 shows the locations of sites; detailed descriptions of individual sites are contained in an appendix.

Four sites were located on terrances along margins of river valleys, five on isolated ridges, kames, or hills, and one on top of the steep bluffs at the edge of a river valley. Seven sites were located at or near stream confluences.

None of the discovered sites were particularly extensive, and with only one possible exception, no diagnostic artifacts were observed at any of the sites. Consequently, except where historic materials such as metal pans or tin cans were found, it is not possible to assign age or cultural affiliation to the sites.

Eight TLUI sites were investigated. Two of the eight were inspected on foot, the remaining six only from the air. Cultural remains reported to be present at three of the sites were not found, although materials other than those reported were found at two locations. In one case, a fairly extensive tent ring site (XCL-019) was discovered adjacent to a designated TLUI site, and in the other, three chert flakes were found.

Conclusions

Although work accomplished in 1981 was not intended to obtain a representative sample of the whole of CAMA, a few tentative conclusions seem justified. Any attempt to generalize to the entire area on the basis of this work must, however, be viewed with skepticism for two reasons. First, the amount of work accomplished was so miniscule with respect to an area the size of CAMA that it cannot in any way be construed as representing the entire area. Second, because an intuitive model was used to select locations for on-the-ground inspection, there is no way to determine if results are representative. Even a small sample, if gathered in a statistically acceptable fashion, could be evaluated to determine the probability that it represented the entire area, but

because the CAMA survey involved looking only in those areas assumed to have a high likelihood of site occurrence, it is not possible to make such an evaluation. Results of this survey are reliable predictors of the whole of CAMA only to the extent that assumptions about what constitutes a high probability location are valid, and these assumptions cannot be tested without doing nonintuitive inventory. It would be possible to make reliable generalizations to the entirety of CAMA only if a statistically valid sampling scheme had been used in such a fashion that on-the-ground survey was done in all areas, not just those that were felt to have high probability of site occurrence.

An example of the shortcomings of intuitive survey can be derived from the Alyeska oil pipeline archaeology project. Initial survey along the route of the piepline was conducted in a manner similar to the 1981 CAMA survey, with inspection of only those locations felt to have high probability of site occurrence. Later in the life of the project when specific impacts such as gravel sources were identified, archaeologists were required to conduct site-specific clearances in many locations that had previously been overlooked. This second phase of survey resulted in the discovery of numerous significant archaeological sites that had not been found as a result of the earlier intuitive inventory (Gal, personal communication).

Despite these serious reservations, results of the 1981 CAMA survey do seem to support some inpressionistic conclusions.

1. Conflicts between archaeological sites and gravel sources remain a definite possibility along the route of the ASRC transportation corridor. Nine of the ten sites discussed here were located on topographic features that seem to have some potential as material sources. Four were situated on stream terraces, which may have only limited utility as material sources, but four were discovered on isolated glacial features clearly having potential for such use, and one was discovered as a result of clearance work for a proposed material source.

2. TLUI sites appear to be good indicators of the present. Both of the sites that were inspected on the ground contained at least some material remains, and at one of these locations a fairly extensive site was discovered. It is worth emphasizing that this site (XCL-019) was so situated with respect to the TLUI sites that attempts to avoid impacts to the TLUI site by relocating actions away from it might very well have resulted in impacts to the archaeological site. The lesson to be learned is that, in the absence of specific data to the contrary, we can only treat the entire area around a designated TLUI site as having high potential for cultural resources.

3. Results of this inventory may indicate that site density within the southern foothills area of CAMA is not as high as had been originally anticipated. Based on known cultural resources in the foothills area,

it was assumed that large numbers of sites would be found along the route of the proposed ASRC transportation corridor. While factors outlined above make any generalization extremely tentative, it nevertheless is true that no such concentration of sites was encountered, and that numerous locations which appeared to have high potential for site occurrence were inspected without finding anything.

Recommendations

1. Adequate evaluation of TLUI sites requires the participation of a cultural anthropologist and knowledgeable local individuals. Specific locations of TLUI sites and the nature of local concern can only be provided by residents of the area, and evaluation of the cultural significance of sites can best be provided by a cultural anthropologist. TLUI sites should also be inspected by an archaeologist to determine what, it any, material remains are present.

2. Backpacking as a means of travel for reconnaissance inventory has limited utility. If the goal of survey is to maximize the number of sites discovered, other means of travel are more efficient. Once it became clear that the expected high density of sites did not occur along the Chandler River, it would have been useful to have been able to move field personnel to another location. However, because of little or no contact with base camp or the helicopter, it was not possible to alter the initial strategy.

Of course, in a situation where an area must be completely surveyed, regardless of site density, backpacking may well prove to be the most efficient use of time and money.

3. Recommendations concerning appropriate approaches to inventory contained in Smith (1981) are still valid. A comprehensive Class I inventory, including known cultural resources from the North Slope outside of CAMA, is the necessary first step. In the absence of significant amounts of funding and manpower, additional on-the-ground inventory is not likely to add significantly to what can already be provided for ES or planning document purposes. Archaeological clearances prior to specific surface-disturbing activities continue to be required and should be carried out as early as possible.

Site Descriptions

Site Number: XCL-012

Location: T. 11 S., R. 2 W., Sec. 4.

Map Reference: Chandler Lake 1:250,000

Description: The site is a surface lithic scatter located on a gravel and cobble terrace ca. 250 meters east of the Chandler River and immediately to the north of a small dry stream channel. The terrace on which the site is located is situated at the mouth of a draw that cust the bluffs on the east side of the river valley. The site is located about 25 meters back from the edge of the terrace and near the northernmost extension of the terrace.

The site consists of a scatter of white, tan and grey cert flakes distributed over an area of six by eight meters. No complete or fragmentary tools were observed.

Vegetation at the site includes *Dryas*, knik-knik, cranberry, crowberry, dwarf birch and lichens.

Site Number: XCL-013

Location: T. 10 S., R. 2 W., Sec. 16

Map Reference: Chandler Lake 1:250,000

Description: The site is a small lithic scatter consisting of only four or five flakes of white, gray and banded gray chert located on two distinct outcrops atop a small hill about 400 meters west of the Chandler River. Site location offers an unobstructed 360° view of the surrounding area. The outcrops on which debitage was observed are about 40 meters apart. Three five gallon cans and a small pile of willow branches are located on the eastern side of the hill.

Vegetation on the site includes *Dryas*, knik-knik and lichens.

Site Number: XCL-014

Location: T. 9 S., R. 2 W., Sec. 28

Map Reference: Chandler Lake 1:250,000

Description: The site is a tent ring site located on the left bank of the Chandler River just below a prominent hill that has been cut by the river. The stream makes a sharp turn to the east at this point and the site is located on the north side of the river, on the lower of two terraces. Site lies about three meters above the level of the river.

The site consists of a single rectangular tent ring measuring 2.3 by 2.9 meters with other possibly significant rock alignments in the area. One rusted tin can was located about 50 meters to the west of the tent ring.

Vegetation at the site includes knik-knik, dwarf Birch, crowberry, cranberry and lichens.

Site Number: XCL-015

Location: T. 10 S., R. 7 E., Sec. 35

Map Reference: Chandler Lake 1:250,000

Description: The site is a small lithic scatter located on a glacial feature along the left bank of Cobblestone Creek. The site is situated near the northern end of a sinuous ridge, just south of the point at which an unnamed stream drains into Cobblestone Creek. The site lies about 45 meters above and 100 meters away from Cobblestone Creek.

The site consists of a single large amorphous core and 15-20 flakes of gray and blue chert scattered over an area of about three square meters. A medial fragment of a large nondiagnostic biface was collected from the ridge top about 320 meters south of the core and flake scatter.

Vegetation on the site includes *Dryas*, knik-knik, occasional dwarf birch and scattered lichens.

Site Number: XCL-016

Location: T. 10 S., R. 7 E., Sec. 35

Map Reference: Chandler Lake 1:250,000

Description: Site is a surface lithic scatter extending for a distance of about 45 meters along the top of an isolated ridge north of that on which XCL-015 is located. This ridge may be a continuation of the glacial feature on which XCL-015 lies, but if so, the ridge has been bisected by a small creek so that the two sites are now located on separate elevated points with the creek running between them.

The site consists of several small scatters of blue, gray and black chert, with the densest concentration of materials near the northern and lower end of the ridge. The site is located approximately 30 meters above and about 250 meters away from Cobblestone Creek. No complete or fragmentary artifacts were observed.

Vegetation on the site includes dwarf birch, lichens, Dryas and occasional knik-knik and willows.

Site Number: XCL-017

Location: T. 10 S., R. 5 E., Sec. 11

Map Reference: Chandler Lake 1:250,000

Description: This site is a lithic scatter located just to the west of the Kanayut River, on a small isolated kame that rises about six meters above the surrounding tundra. This kame is situated just to the south of Table Top and about 200 meters south of a small creek tributary to the Kanayut River.

The site consists of a small scatter of gray chert flakes and one biface fragment possibly suggestive of Choris-Norton-Ipiutak affiliations. The site covers an area of only about 1.5 by 1.0 meters.

Vegetation on the site includes willow, knik-knik, lichens and grasses.

Site Number: XCL-018

Location: T. 11 S., R. 1 W., Sec. 11

Map Reference: Chandler Lake 1:250,000

Description: This site is a tent ring site located atop the high bluffs at the confluence of the Siksikpuk River and Confusion Creek. A single oval tent ring is located about 100 meters south of the bluffs, along the western edge overlooking the Siksikpuk. This tent ring measures 4.2 by 3.5 meters and is constructed of 22 separate stones. There appears to be a small alcove of some sort in the center of the eastern side of the ring.

Several suggestive rock alignments occur in an area about 70 meters north of the tent ring where flakes of blue, gray and black chert were also observed. Two crude chert bifaces, a bone awl, a piece of hollow cut bone, and a 30-35 cm. diameter metal pan were also located in this

area. Several small pieces of wood that may show evidence of having been cut were scattered about the area. The presence of historic materials and lithics together may indicate a multi-component site, although none of the observed artifacts are diagnostic.

The site is located about 140 meters away from and 60 meters above the Siksikpuk River.

Vegetation on the site includes Dryas, knik-knik, dwarf birch, willow, saxifrage, lichens, and grasses.

Site Number: XCL-019

Location: T. 8 S., R. 4 E., Secs. 26 and 27

Map Reference: Chandler Lake 1:250,000

Description: This is a tent ring site located on the terrace along the right (east) side of the Anaktuvuk River valley just south of the confluence with the Kanayut River.

The site consists of four tent rings, situated along the edge of the terrace overlooking the Anaktuvuk floodplain. The four rings are spread over a distance of about 400 meters, with the northernmost ring located on the northern tip of the terrace. A distinct vehicle track runs along the terrace, passing close to the tent rings.

Tent Ring #2 is the northernmost of the four rings, has been seriously disturbed, and is distinguishable only as a half-circle measuring about 3.2 meters in length.

Tent Ring #1 is located about 100 meters south of #2 and has also been disturbed. It appears to have originally measured about 4.2 by 3.1 meters. Numerous willow sticks are scattered about the area of this ring.

Tent Rings #3 and #4 are located about 275 meters south of #1 and about six meters from the edge of the terrace. The two rings are separated by about six meters. Tent Ring #3 is the most southerly, and is almost square, measuring 3.2 by 3.4 meters. Tent Ring #4 measures 3.9 by 2.9 meters. No other sign of cultural remains was noted.

Vegetation on the site includes Dryas, knik-knik, blueberries, and dwarf birch.

Site Number: XCL-020

Location: T. 10 S., R. 3 E., Sec. 24

Map Reference: Chandler Lake 1:250,000

Description: This is a tent ring site located on the west side of the Anaktuvuk River valley near the confluence with Anayaknaurak Creek. The site lies near the tip of a point along a terrace at a level about nine meters above the river and about 275 meters west of it.

The site consists of two or three large (2 1/2 to 3 meter) stone rings and one smaller (1 to 1 1/2 meter) ring. A few flakes of gray and black chert were observed in the vicinity of the rings. There are also numerous stones not immediately associated with the various rings that are scattered about the terrace.

Vegetation on the site includes *Dryas*, sacifrage, grasses and lichens.

Site Number: XCL-021

Location: T. 10 S., R. 9 E., Sec 30

Map Reference: Chandler Lake 1:250,000

Description: The site is a small lithic scatter located on a hogback ridge atop a high plateau about four miles east of May Creek. The site consists of a scatter of 46 flakes of gray, blue and white chert distributed over an area of six by nine meters. The major concentration of materials was restricted to an area of about one meter square near the southwestern corner of the site. The site lies at an elevation of approximately 3,450 feet, and commands a good view of the small valley to the west. No diagnostic artifacts were recovered, although four flakes show clear evidence of edge retouch.

Soil at the site is shallow, consisting of only two to five centimeters of organic material overlying a typical arctic brown subsoil intermixed with decomposing bedrock.

Vegetation on the site include *Dryas*, lichens and scattered grasses.

XCL-021 was completely collected, and the site area has since been destroyed in the process of mining materials for construction of an oil well drill pad.

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