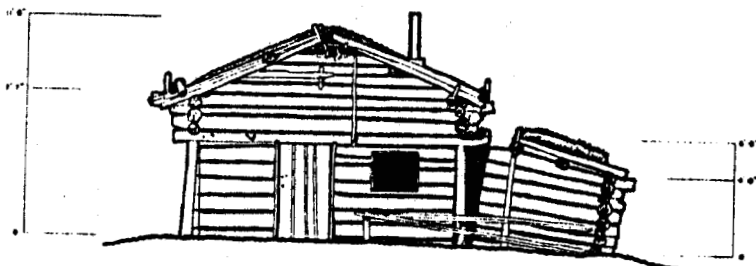


CULTURAL RESOURCE SURVEY & INVENTORY OF THE NORTH FORK

KOYUKUK, MIDDLE FORK KOYUKUK, GLACIER, AND



SOUTH ELEVATION



WEST ELEVATION

UPPER ITKILLIK RIVER

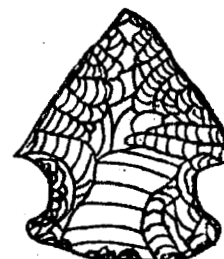


DRAINAGES VOLUME I

COMPILED BY MICHAEL L. KUNZ

NATIONAL PARK SERVICE

Gates of the Arctic National Park and Preserve



Department of the Interior
National Park Service
Gates of the Arctic National Park and Preserve

NORTH FORK KOYUKUK
MIDDLE FORK KOYUKUK
GLACIER
AND
UPPER ITKILLIK RIVER DRAINAGES

REPORT OF PHASE II OF A CULTURAL
RESOURCES SURVEY AND INVENTORY IN
GATES OF THE ARCTIC NATIONAL PARK AND PRESERVE
DRAFT
VOLUME I
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This is not a final report. This document is a draft report of a portion of the data from which a final report will be generated at the conclusion of the project. Therefore, this report has not been reviewed for conformity with National Park Service scientific report format or editorial standards.

December 1985

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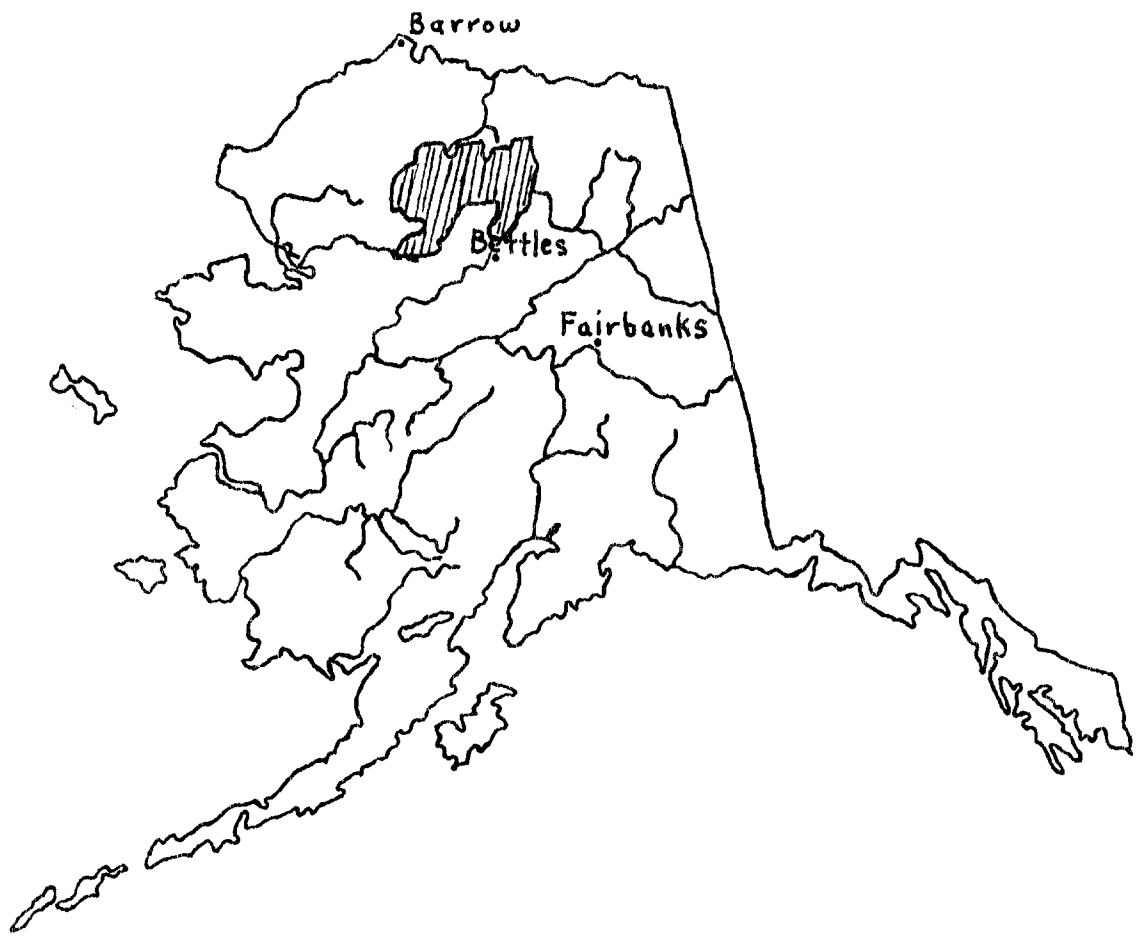
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The authors also wish to thank the residents of Wiseman, Nolan, Coldfoot and the tributary streams of the Middle Fork Koyukuk River for the information and support they provided.

FOREWORD/FOREWARNED

This document is a draft copy of the final report of Phase II of a five phase cultural resources inventory which is being conducted within Gates of the Arctic National Park and Preserve.

If you are so inclined, you may send us any comments you might have concerning the report's content, substance, structure, format, and research methodology. Keep in mind that the report is, in the truest sense of the word, a draft document and is fraught with an adequate supply of typographical errors, awkward sentence structure, etc.

As is often the case, there is always a question of continued funding on a long term project. Time and budget probably will not allow a rewrite of this document. Of greatest importance is the data itself and its dissemination. Therefore, please accept this data in its present form.

No restriction is placed on quotation from this report. If you can use the data in this document feel free to do so. Be aware, however, that no statement of method, purpose or treatment in this report reflects specific policies of the National Park Service. The research design for this project is specific to Gates of the Arctic National Park and Preserve and was developed solely by project personnel.

PREFACE

Phase II of a five phase Cultural Resources Inventory within Gates of the Arctic National Park and Preserve was carried out during the summer of 1984. This project supports General Management Planning mandated by the Alaska National Interest Lands Conservation Act (PL-96-487) and complies with requirements of Executive Order 11593 and the National Historic Preservation Act.

Archeological work was carried out by a team of 4 to 5 National Park Service archeologists and a North Slope Borough ethnohistorian/archeologist during the months of June, July, and August. Archeologists on the crew included:

Pat Anderson	-	University of Washington
Mike Kurz	-	Gates of the Arctic National Park and Preserve
Pete Phippen	-	University of Alaska, Fairbanks
Rick Reanier	-	University of Washington
Mark Standley	-	University of Alaska, Fairbanks
Grant Spearman	-	Anaktuvuk Pass/North Slope Borough

The fieldwork was carried out in the drainages of the North Fork of the Koyukuk and Itkillik Rivers.

Historical work was carried out by a team of 5 to 7 National Park Service and Bureau of Land Management historians between June 25 and August 18. Historians and historical architects included:

Bill Brown	-	National Park Service, ARO
Russ Sackett	-	Gates of the Arctic National Park and Preserve
Kim Hoagland	-	National Park Service, WASO
Jim Creech	-	Georgia Institute of Technology
Mark Schara	-	University of Virginia
Susan Will	-	Bureau of Land Management, Fairbanks

Historical fieldwork was conducted along the mid-portion of the Glacier River and in the Wiseman-Nolan-Coldfoot area.

The purpose of this fieldwork was to locate, identify, define, enumerate, and document historic and prehistoric cultural sites within the described area.

The archeological work was accomplished through a reconnaissance level, pedestrian, surface survey. This type of survey is non-destructive in the sense that no formal excavation of sites is undertaken. All sites were marked with a site tag and assigned State of Alaska Heritage Resource Survey numbers.

Historical work centered on known, extant, site complexes although some survey work was undertaken. Photographic and structural documentation was carried out at selected, representative structures.

The History Team documented 36 historic sites and structures or structural complexes, 25 within the park; 11 outside of the park. In aggregate, these sites constitute a representative sampling of cabins, mines and mining technology, hunting camps, and trapper shelters to illustrate the historic themes of Gates of the Arctic National Park and Preserve and its bordering region.

This Historic American Buildings Survey Team provided detailed drawings and photos of 13 outstanding structures and complexes, 3 within the park in the Glacier River drainage, and 10 in the Middle fork area bordering the park, particularly in Wiseman. A special joint site-and-structure documentation at Linda Creek, an east-limit tributary of the Middle Fork accomplished full documentation of a typical Arctic-region drift mining operation at the climax of the historic period.

The Archeological Team located, recorded, documented, and gathered data from 106 prehistoric sites in the drainage of the North Fork Koyukuk River, between the mouth of Bombardment Creek and the mouth of the Glacier River and 74 prehistoric sites in the valley of the Itkillik River between the Oolah Pass and the mouth of the Itikmalak River. These sites appear to cover a range of time from ca. 10,000 years ago to 50 years ago.

The success of the 1984 field season was greatly enhanced by cooperative agreements between the National Park Service, and the Bureau of Land Management, and the North Slope Borough. BLM provided the services of an historian/archeologist for the period of one month to assist the NPS history/HABS teams in their work in the Wiseman-Coldfoot-Nolan area. The North Slope Borough provided the services of an ethnohistorian/archeologist for a period of 2 1/2 months to assist the archeological team during their fieldwork. Several VIPs with local and regional expertise also aided the project fieldwork.

RESEARCH DESIGN

For

PHASE II

Basic Inventory and Evaluation of Cultural Resources

In

Gates of the Arctic National Park and Preserve

Statement of Justification and Project Necessity:

Gates of the Arctic National Park and Preserve was established on December 2, 1980, by the passage of the Alaska National Interest Lands Conservation Act (ANILCA), PL 96-487.

Section 1301 of the act requires the preparation of General Management Plans for all Conservation Units created by the Act by December 2, 1985. This project will provide some of the basic data concerning cultural resources for that management plan.

This inventory is also required in order to initiate compliance with Executive Order 11593 and with provisions of the National Historic Preservation Act, as codified in NPS-28.

One of the management objectives in the Statement for Management for Gates of the Arctic National Park and Preserve is to "...development and implement a Cultural Resources Management Plan which assures the identification, study, and preservation of all known historic and prehistoric sites and structures". This project is a necessary step in achieving that objective.

Project Orientation - Constraints and Objectives:

Prehistoric

For the purposes of investigation, as outlined in the Task Directive, the park has been divided into specific geographic sections. The area contained in these sections and the order or sequence of their examination is based primarily upon logistics concerns and an orderly progression of the project toward completion. However, this is not meant to imply that the work to be undertaken is not scientifically structured or problem oriented. A number of regional/areal problems can and will be addressed by this fieldwork as follows:

1. Within this geographic section were there preferences by prehistoric peoples for site location based on geomorphology?
2. Is seasonal occupation reflected in site location? This may be difficult to determine through data obtained by a reconnaissance level survey.
3. Are there varying levels of population density through time in the area? Reconnaissance level survey data could be used to determine this only on a general level through artifact typology and/or cultural affiliation; however, useful insights may be gained.
4. The geographic section of the park to be investigated, in part, traverses an area of common exploitation by both Indians and Eskimos (Gubser, 1965; A. Clark, 1974; Hall, 1974; Kunz, 1976; and others). Use of the area by, or at least distinction between, Eskimo and Indian sites may be possible from data collected through this fieldwork; again this information would be applicable only on a general level. Travel routes between the two cultural areas may also be elucidated by this fieldwork.
5. Basic information concerning area site density and population distribution will be obtained.
6. Is past regional subsistence potential, through time, indicated by site density? This may be determined on a general level by the types (function) of sites located in specific ecological zones.

The region to be examined is a remote wilderness area containing two Wild Rivers; the North Fork of the Koyukuk and the Tinayguk. The designation of these rivers as "Wild" has precipitated an increase in area recreational use and therefore a possible increased impact on area cultural resources. Additionally, the region will be impacted due to increased access potential from the Dalton Highway (North Slope Haul Road).

Obviously, the entire 3000 square miles of this section of the park cannot be examined given reasonable time and budget limitations. Therefore, the primary locales to be examined within this section of the park will be those where past experience in the region has shown archeological sites are most likely to occur. In other words, large low-lying wet areas or exceedingly steep or rugged terrain, will not be of primary interest to this survey. Areas possessing the proper "investigation criteria" will be determined through the use of topographic maps and aerial photographs as well as pre-fieldwork aerial reconnaissance and information from previous archeological, anthropological, historical, and exploration activities in the general region. However, as time allows, geomorphic features which do not usually have more than low archeological potential will be examined. In this way most land forms in the area will receive some investigation.

Because this survey is based on sound investigative procedures the boundaries of the park will not be considered absolute. This is, in part, due to the fact that past cultural events occurred prior to the establishment of and without concern for modern-day land ownership boundaries. An overview of past human activities within the park cannot be obtained without investigating lands adjacent to the park boundaries. This is especially true of historic period activities as the focus of much of this type of activity is centered in the area abutting the park's eastern boundary. In addition, if particular geomorphic features, such as ridge lines of river valleys, are being examined and these features transcend park boundaries, where practical, those portions of the features lying outside the boundaries will also be examined.

Historic

It is highly unlikely that any major historic sites will be found other than those that are already known to exist. HABS level documentation will follow the same general investigative procedures as the prehistoric fieldwork; actual on-the-ground survey. This survey will operate in areas within and ancillary to the major historic complexes and will attempt to locate and record unknown and/or isolated historic sites. Discovery of heretofore unknown historic sites will add new information to the existing data base for the region and may help to clarify the function of and/or use aspects of these sites which are satellites of the more densely populated localities.

Area of Investigation

The area to be investigated is located in the eastern one quarter of the park. The primary prehistoric reconnaissance area generally lies between and includes the North Fork of the Koyukuk and Itkillik Rivers on the east and the Tinayguk and Anaktuvuk Rivers on the west. The study area also includes a portion of the Middle Fork of the Koyukuk River, Clear River, Glacier River, Hammond River, North Fork of the Chandalar River, Allen River, Ernie Creek, Kuyukutuvuk Creek, Ernie Pass, Delay Pass, Oolah Pass, and Itkillik Lake.

Primary historic reconnaissance areas lie within the Glacier River, Wiseman, Nolan, Coldfoot, and Chandalar mining districts. These areas include the Hammond River, the Middle Fork of the Koyukuk River and virtually all of its tributary streams from the Dietrich Pipeline Camp south to the Cathedral Mountain area, as well as Big Lake, Twin Lakes, Chandalar Lake, Wild Lake, and the North Fork of the Chandalar River.

The majority of the area to be examined lies south of the Continental Divide. The basic regional geomorphology for this area is comprised of hills and mountains to elevations of 7500 feet which, for the most part, are separated into distinct units by creek and river drainages. River and creek valleys are relatively constricted in the northern portion of the area but become broader and contain numerous small lakes and ponds in the south. Ground cover below 2500 feet of elevation is predominately spruce (some birch and poplar) forest with typical attendant plant communities.

Those areas which lie north of the Continental Divide support no forest vegetation, ground cover being typified by alpine tundra, wet tundra, and wet sedge meadow communities. The majority of the study area has been glaciated in the recent past and stagnant ice glacial features, such as kames, kame terraces, moraines, eskers, and kettle lakes are common.

Methodology

Prehistoric

A reconnaissance level survey is "....a sample oriented field inventory designed to locate and record, from surface and exposed profile indications, all cultural resource sites within a portion of a defined area in a manner which will allow an objective estimate of the nature and distribution of cultural resources in the entire defined area" (BLM, 1978).

This reconnaissance level survey will implement logistic methods (pedestrian, raft, and fixed and rotor wing aircraft) proven to be efficient in primitive and remote areas of Alaska and will be carried out by qualified (NPS standards) archeological personnel. A team of four to six archeologists will spend approximately thirteen weeks in the field during the course of this survey.

As is always the case, time and budget constraints may place some limitations on specific aspects of this project, but will not affect the basic research design or operational plan.

The primary objective of this survey is to locate and record as many prehistoric sites as possible in the study area. Therefore, judgemental sampling will be the strategy employed to locate archeological sites.

Archeological sites will be sought in locations where past work in similar physiographic locales have shown the majority of sites to occur. Area archeological expertise and judgment are the backbone of this type of sampling strategy. Sampling of this type will not examine the entire spectrum of land forms in the study area equally. Much more time will be spent surveying in areas of high archeological potential than in areas of low archeological potential. This means that the sites which occur in areas of low archeological potential are, statistically, less likely to be found.

Given this sampling bias (recognizing the bias and taking it into consideration) the information obtained from the survey will be useful from a general management and planning point of view. A general pattern of site density and distribution in the more easily traversed and ecologically attractive portions of the study area will be generated. These areas are of primary concern in terms of management and planning for the park as they are the locations most likely to be impacted through recreational use. Additionally, the surveyed areas should generate sufficient data to make some reasonable assumptions concerning prehistoric inhabitants of the region.

Due to the fact that much of the study area is forested and supports relatively dense ground cover, much of the actual surveying will be of an opportunistic nature. In other words, areas which are free or relatively free of vegetative cover will receive the majority of attention. Fortunately, areas of this type, located on a wide range of geomorphological features, are not uncommon as they exist for a variety of environmental reasons.

Investigation of several geomorphological/ecological zones will be the basis for stratification of the sampling universe. Zones of this type often contain criteria of varying levels of importance in relation to the number and type of site occurrences. Criteria of this type would include land forms such as terraces, glacial (stagnant ice) features, drainage confluences, knolls, ridges, and hills. More general criteria would include local drainage conditions, elevation, exposure, view would have appeared similarly inviting to people during the last eight or nine millennia. Sites such as Onion Portage, Mosquito Lake, and the Gallagher Flint Station tend to support this assumption (Anderson, 1968; Kunz, 1977; Dixon, 1971).

A site for the purposes of this survey, will be considered any location of past human activity which is represented by the remains of their material culture (Davis et al, 1981). Essentially this means that the location of a single flake, cairn, or tent peg can and will be considered a site and undergo the same documentation procedures as would a larger more complex manifestation.

Additionally, criteria had to be set up to determine the boundaries of a site, i.e. where a given site begins and ends. A arbitrary distance of 100 meters was chosen. In other words, if 100 meters or more of culturally sterile ground separated two surface lithic scatters, then they were considered separate sites. Less than 100 meters separation and the lithic scatters were considered localities of the same site. The rule can be obviated if lithic scatters are less than 100 meters apart but are separated by an abrupt change in the topography such as a creek, river, gully, or glacial feature. Such a decision is judgemental on the part of the investigator.

The methodology for the actual survey work will vary with the local conditions. For example, in forested areas or areas of dense ground cover, on the ground survey methods will vary from those used in less vegetated or barren locations. Each crew member will carry air photos and maps applicable to the area being worked so they can easily locate themselves and any sites they find. In open areas where vision is not hampered, orientation is not a problem, and pedestrian travel unimpeded more latitude (wandering) in the survey work will be possible and as a result more ground will be covered. No specific method for locating sites will be employed (such as walking fixed-interval transects, etc.). The survey methods employed will vary with the terrain and the archeologists best judgment of the situation.

The survey, by definition, is a surface survey, however, some subsurface testing will be carried out. Subsurface testing in the form of small (approximately 15cm²) test pits will be used, as the situation warrants, to determine site limits or to determine, in likely locations, if a site is present. Where warranted, small test excavations will be a judiciously employed methodological tool and will be kept to a minimum.

Artifacts, unless excavated, will not be collected. Formal artifacts when encountered on surface will be photographed or drawn, measured, described in the field notes, and otherwise recorded. Artifacts will be located on site either by means of triangulation from a baseline extended in a cardinal direction from a datum point, or by direction in degrees and distance from a datum point. The datum point will be designated by a ten inch spike driven into the ground on the site. A metal identification tag bearing the site number, date of discovery, land ownership status, and other information will be affixed to the spike. The site numbers will be obtained from the State of Alaska's Heritage Resource Survey. All sites will be located on USGS topographic maps (largest scale available) and 1:65,000 false color infrared aerial photographs. Formal cataloging of excavated artifacts and preparation of a final report will be undertaken immediately upon returning from the field.

A preliminary or general overview report dealing with the field season's activities and accomplishments, including a general review of the gathered data will be completed by September 30, 1984. The final report for Phase II will be completed by April 1, 1985. The final report will contain: maps and photographs of the areas surveyed showing site locations; individual site reports of a descriptive and analytical nature; artifact photographs, drawings, and descriptions; and discussion of the sampling strategy if it differs to a great degree from that outlined in the research design; an assessment and discussion of the degree to which the research problems or aims were addressed/answered by the field work; and general recommendations for the management of the identified cultural resources.

At the end of each site report is a very brief statement of site significance. This statement is made for the benefit of the land manager so that judgments concerning the necessity of mitigative action regarding an impacted archeological site can be made. This statement of significance should not be considered acceptable for use in submitting nominations for the National Register of Historic Places as in no case has sufficient site data necessary for nomination been obtained.

Historic

Two teams of historians will be fielded during the Phase II (summer 1984) fieldwork period.

Team #1 will be a HABS team, comprised of a historian and two historical architects, which will be engaged in HABS level documentation of major historic complexes and sites in the Glacier River and Wiseman-Nolan-Coldfoot areas. The operations of this team may be extended to the east

of the Dalton Highway (North Slope Haul Road) if such action is deemed appropriate. The work of this team will be centered in the above described area as it contains the greatest concentration of historic structural remains in the park and preserve.

Team #2 will be comprised of the project historian, a historical architect, and a Bureau of Land Management archeologist/historian (proposed). This team will operate in the same general area as team #1 but will be engaged in less than HABS level documentation of encountered historic structures and will be operating further afield from the core areas. Team #2 will also be engaged on on-the-ground survey in an effort to locate previously unknown historic structures. Site data collected by team #2 will be recorded in a standardized format to facilitate meeting criteria for the Historic Resource Study, the List of Classified Structures, and National Register nominations. The HABS team participation will obviate the need for return visits to the principal sites.

Prior to the onset of the Phase II fieldwork, the project historian will perform research and data collection (November, 1983 through February, 1984) in key repositories in Alaska, Washington D.C., Denver, Menlo Park, and Seattle to assemble background data concerning historic time period events/activities in the study area. This archival research will also address the needs of the archeological (prehistoric) component of the project as specified by the project archeologist. As a result of this research, by late March, 1984, a preliminary, thematic narrative for the general GAAR region and a preliminary Phase II study area historic sites guide will be available which will aid in a more concise definition of fieldwork objectives for the summer of 1984.

The fieldwork division of labor between the two historical research teams, as concerns known sites, will be defined functionally and geographically (site specific) in advance of the actual fieldwork using the previously mentioned historic sites guide.

History team #2 will be on-call to visit any additional, significant historic sites discovered by the archeological team in their area of operations. Minor historic remains located by the archeological team will be recorded by the archeologists according to a standardized historic sites recordation format. Similarly, the archeological capabilities of the history team will be used to record any minor archeological sites they may encounter and alert the archeological team to any significant archeological sites discovered during the historical team's field activities. Periodic communication and intersection between the two historical teams will assure coverage of any other discovery sites of historical value.

A preliminary schedule of field operations is attached to this document. This schedule is subject to major sequential (not substantive) changes prior to fieldwork initiation due to final formulation of other GAAR field programs yet to be developed.

The result of the historical team's fieldwork and archival research will be a definitive study area report including narrative, site recordations (including selective HABS level documentation), and Emergency Stabilization Reports and other treatment recommendations as appropriate. List of Classified Structures determinations and site specific reports will be prepared as a part of this report to provide immediate management and planning data for GAAR.

All Phase II study area data will, during Phase III of the overall inventory, be incorporated in the final Historic Resources Study, to be completed after the 1985 field season. The final study (report [s]) will meet all Historic Resources Study criteria as set forth in NPS-28 (pp. 3-17, 18 and appendix E).

DRAFT

INTRODUCTION

The Study Area

Physiography

The study area includes approximately the eastern one quarter of Gates of the Arctic National Park and Preserve. More specifically, the area surveyed lies between 151°10' and 150°15' west longitude and 67°20' and 68°30' north latitude. All of this area lies north of the Arctic Circle. The Itkillik drainage lies north of the Continental Divide while the Koyukuk drainages lie on the southern side.

The Itkillik River heads in the Endicott Mountains on the western slopes of the 5000 foot Oolah Pass and flows 220 miles northwest joining the Colville River 25 miles southwest of Harrison Bay, Beaufort Sea. After flowing 12 miles west through the narrow Ulutagiak Valley the Itkillik enters the broad Oolah Valley which trends northeast for 25 miles before opening onto the rolling northern foothills of the Brooks Range. On the east and west as far north as Itkillik Lake, the river is bounded by mountain peaks, some of which exceed 7500 feet and contain cirque glaciers. The river enters the Oolah Valley at an altitude of 3000 feet and has descended 800 feet over a distance of 35 miles by the time it departs the study area.

The North Fork Koyukuk River heads on northern slope of 6905 foot Als Mountain and flows south 90 miles where it joins the Middle Fork Koyukuk River. The river enters the study area at an altitude of 2000 feet bounded by peaks in excess of 6500 feet and flows south 42 miles to its confluence with the Glacier River where it departs the study area at an altitude of 1000 feet.

The Middle Fork Koyukuk heads at the junction of the Dietrich and Bettles Rivers at an altitude of 1400 feet and flows southwest 62 miles where it joins the North Fork Koyukuk at an altitude of 800 feet, to form the Koyukuk River. The mountains bordering the Middle Fork are more subdued than those to the west, the peaks ranging between 3000 and 4500 feet.

Climate

The study area is divided by the crest of the Brooks Range, which is also the line of division of two major climatic zones, Interior Basin or Continental on the south, and Arctic on the north. As such the study area may be said to be in a transition zone. In general, the study area endures long bitterly cold winters where temperatures may reach -70° F and short, brilliant summers where temperatures may reach 90° F. Winds can be variably strong depending upon terrain and precipitation is generally light averaging about 15 inches annually, most of which falls as rain during the summer.

Geology: Bedrock

The Brooks Range is the northernmost extension of the Rocky Mountains. Lithologically it consists of a complex series of east-west trending belts of metamorphic, sedimentary, and igneous rocks. The sedimentary rocks of Paleozoic and Mesozoic age are folded, faulted, and locally metamorphosed. Limestone, graywacke, chert, shale, and schist are common rock types. Dark intrusive rocks of the Jurassic-Cretaceous period as well as other intrusive bodies of granite and diorite exist in the range (Black, 1969). Most of these lithologies are found in or near the survey area, and contribute to the complex substrate that has conditioned the present physiography and surficial geology.

Geology: Glacial

The surficial geology of the survey area is dominated by glacial deposits of Pleistocene age. Hamilton (1982) has recently revised the chronology and nomenclature of the glacial record of the South-central Brooks Range based on detailed stratigraphic work supported by radiocarbon dates. The oldest mappable glacial drift in the region is that of the Kobuk Glaciation, named by Fernald (1964; Hamilton and Porter, 1975), its distribution and age are poorly known. Drift limits of the Kobuk Glaciation extend well beyond the southern edge of the survey area (Hamilton, 1982, written communication, 1984), and are not yet mapped in detail in this vicinity. The Kobuk Drift typically consists of older and younger subunits thought to be respectively correlative with the Sagavanirktok and Anaktuvuk glaciations of the northern side of the Brooks Range (Hamilton and Porter, 1975), the older of which (Anaktuvuk) is now thought to possibly be early pleistocene in age (Hamilton and Hopkins, 1982).

The Itkillik glaciation (Hamilton, 1982) formed extensive piedmont lobes in the survey area which were fed by ice streams flowing down the major stream valleys including the North and Middle Fork of the Koyukuk and the Itkillik. The age of the Itkillik glaciation is beyond the range of conventional radiocarbon dating (>50,000 years), but is believed to correlate with early Wisconsin glaciation (Hamilton and Hopkins, 1982).

The Walker Lake glaciation (Hamilton, 1982) is best represented in the survey area by morainal topography in the vicinity of Delay Pass and Squaw Rapids in the North Fork Koyukuk Valley. These glaciers also formed piedmont lobes that splayed out onto the lowlands at the valley mouths, but were much less extensive than those of the Itkillik glaciation, stopping just at the range front. The Walker Lake glaciation is now well dated in the South-central Brooks Range (Hamilton, 1982). A period of rapid alluviation in an outwash train traceable to the outer Walker Lake moraine at Walker Lake indicates a time of maximum ice advance between perhaps 24,500 and 22,500 years ago (Hamilton 1982: fig. 3). Subsequent downcutting was followed by construction of a lower outwash train associated with the inner Walker Lake moraine. This moraine is not

directly dated, but dated deposits downriver indicate alluviation continued until sometime after 17,700 years ago (Hamilton, 1982, Schweger, 1976). A basal radiocarbon date from Ruppert Lake, a kettle lake at the contact between the inner and outer Walker Lake moraines, indicates the area was ice-free by 13,200 years ago (Brubaker et al, 1983: Table 2). Thus the Walker Lake glaciation spans a period between about 24,500 and 17,500 years ago, during which there were at least two ice advances. Holocene glaciation has been confined to high altitude cirques that support modern glaciers in the northern portion of the study area.

These three major Pleistocene glaciations have left extensive drift sheets in the survey area, and have formed numerous topographic features that have archeological resources associated with them. These features are generally well-drained and their topography offers unique vantage points from which to survey the surrounding terrain. Archeological sites are also associated with well-drained alluvial terraces and with ancient beach deposits surrounding many of the glacially formed lakes.

DRAFT
SOILS

The soils of the survey area have not been mapped in any detail, only reconnaissance level information is available (Rieger et al. 1979). Due to the young age of most of the surfaces in the study area, and the cold climate and low precipitation, most of the soils are poorly developed and belong to the Inceptisol order. An important division between these soils is their internal drainage. Ice-rich permafrost is common in the area and poorly drained hydromorphic soils occur where drainage is impeded by the permafrost table. Soils typical of these conditions are Histic Pergelic Cryaquepts and Pergelic Cryaquepts on rolling upland areas with sedge tussock and dwarf heath vegetation. In very poorly drained muskegs, organic soils such as Pergelic Cryofibrists are found. Well-drained soils are found on glacial morine systems, especially those of the most recent glaciations, and on ridge tops, south facing slopes, and other similar features. Typical well-drained soils of the region are typic Cryochrepts or Dystric Cryochrepts, some displaying an albic (A2) horizon indicative of podzolization. Where podzolization had been sufficiently intense, for example, in well-drained spruce forests, typic Cryorthods may be found. However, recent soil genesis studies at Walker Lake have shown that bleached albic horizons typical of podzolization came from under lichen and dwarf heath cover in the absence of spruce trees (Ugolini et al., 1981). Where well-drained soils are either young or unstable, Entisols such as Pergelic Cryorthents, may be found.

VEGETATION

The southern portion of the survey area is near the northern limit of the boreal forest. Treeline lies at an altitude of about 2000 feet and latitudinally at about 68° north. In the southern portion of the study area white spruce (*Picea glauca*) dominates the forest on well-drained sites on mountain slopes and along river terraces, accompanied by white birch (*Betula papyrifera*) and aspen (*Populus tremuloides*).

Black spruce (*P. mariana*) dominates the poorly drained areas at low altitudes, together with white birch and aspen (Brubaker et al. 1983). Understory plants common to both white and black spruce forests include resin birch shrubs (*B. glandulosa*), ericaceous species such as blueberry (*Vaccinium uliginosum*), Labrador tea (*Ledum decumbens* ssp *groenlandicum*) and (*L. decumbens* ssp. *palustre*), crowberry (*Empetrum nigrum*), mountain-cranberry (*V. vitis-idaea*), as well as lichens (*Cladonia* sp. and *Cetraria* sp.) Alder (*Alnus crispa*) and willow (*Salix* sp) are common along stream courses and in draws above treeline. (Brubaker et al. 1983).

In addition to the forest understory plants, the alpine tundra above tree-line and north of 68° latitude is characterized by grasses, sedges (*Carex* sp), *Cassiope tetragona*, *Artemesia arctica*, *Leuseleuri procumbens*, *Spirea beauverdiana*, and *Anemone parviflora*. Lowland shrub tussock tundra consists of cottongrass (*Eriophorum vaginatum*) and sedge (*Carex* sp) tussocks with shrubs of resin birch, labrador tea, and other ericaceous plants, (Brubaker et al., 1983).

Recently, a detailed study of pollen cores from lakes in the Upper Kobuk and Alatna River Valleys has provided a detailed late Pleistocene and early Holocene vegetation history applicable to the southern portion of the survey area (Brubaker et al., 1983). Three pollen zones, the Herb zone, *Betula* zone, and *Alnus* zone, have been identified that characterize the vegetation changes. The Herb zone at Ruppert Lake, a small kettle lake on the terminal moraine complex at Walker Lake, is found in the lowest portion of the core and ends at about 12,500 years ago. This zone shows high pollen percentages for sedges, grasses, willows, *Artemisia*, and several other herbaceous taxa (Brubaker et al., 1983). No exact modern analogues of this pollen zone are known. Brubaker et al. (1983) interpret this zone to represent large meadows or tussock tundra in the low lying areas near Ruppert Lake at this time. Other cores from higher lakes indicate *Artemisia* species were important components of mountain slope vegetation.

The *Betula* zone at Ruppert Lake lasts from about 12,500 to 7000 years ago. It is dominated by dwarf birch pollen. *Populus balsamifera* pollen shows a marked peak between 10,000 and 11,000 years ago. The authors interpret this as a response to warmer climate that allowed expansion of local cottonwood populations, probably on alluvial terraces. Explanations for the decrease in *Populus* pollen at 10,000 years ago include regional development of organic soils unfavorable to *Populus* and stabilization of flood plains in the Kobuk drainage. There is a brief peak in *Picea* pollen between 8,500 and 8,000 years ago, most of which is white spruce pollen. This may either indicate scattered spruce trees present in the *Alnus* zone lasts from about 7000 years ago until the present. It is characterized by a sharp rise in alder pollen that remains high until the present. Presumably this marks the establishment of *Alnus* shrubs in the Upper Kobuk Valley. Increases in white and black spruce pollen and birch pollen assigned to white birch between 6000 and 5000 years ago marks the establishment of the modern boreal forest in the survey area. Since this time treeline has moved slowly to its latitudinal limit in the Alatna River Valley (Brubaker et al., 1983) and to its modern altitudinal limit at Walker Lake (Reanier and Ugolini, 1983).

Based upon an extensive study of existing Beringian pollen records, and mapping of pollen percentages through time, Anderson (1982) concluded that spruce expanded westward into the Kotzebue drainage between 7000 and 5000 years ago, and reached its modern limit on the Kobuk River in late Holocene time (5000-1000 years ago). In contrast, alder evidently expanded eastward from the Kotzebue drainage (Anderson, 1982) reaching the eastern margin of the survey area by 7000 years ago (Brubaker et al., 1983). These contrasting Holocene vegetation changes have important implications for interpretation of the archeological record, but more detailed data is needed before variations within the survey area can be detected.

FAUNA

A wide variety of fauna exists in the survey area ranging from frogs to grizzly bears. There is little reason to describe each species, therefore, the fauna will be presented as a list.

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MAMMALS

black bear	<i>Ursus americanus</i>
grizzly bear	<i>Ursus arctos</i>
coyote	<i>Canis latrans</i>
wolf	<i>Canis lupus</i>
red fox	<i>Vulpes vulpes</i>
marten	<i>Martes americana</i>
short-tailed weasel	<i>Mustela erminea</i>
least weasel	<i>Mustela nivalis</i>
mink	<i>Mustela vison</i>
wolverine	<i>Gulo gulo</i>
river otter	<i>Lutra canadensis</i>
lynx	<i>Felis lynx</i>
moose	<i>Alces alces</i>
barren ground caribou	<i>Rangifer tarandus</i>
Dall sheep	<i>Ovis dallic</i>
snowshoe hare	<i>Lepus americanus</i>
hoary marmot	<i>Marmota caligata</i>
Arctic ground squirrel	<i>Spermophilus parrii</i>
red squirrel	<i>Tamiasciurus hudsonicus</i>
northern flying squirrel	<i>Glaucomys sabrinus</i>
muskrat	<i>Ondatra zibethicus</i>
beaver	<i>Castor canadensis</i>
red backed vole	<i>Clethrionomus rutilus</i>
meadow mouse	<i>Microtus species</i>
brown lemming	<i>Lemmus sibiricus</i>
northern bog lemming	<i>Synaptomys borealis</i>
porcupine	<i>Erethizon dorsatum</i>
masked shrew	<i>Sorex cinereus</i>
Arctic shrew	<i>Sorex arcticus</i>
little brown bat	<i>Myotis lucifugus</i>

BIRDS

Arctic loon
red-throated loon
whistling swan
Canada Goose
white fronted goose
snow goose
mallard
pintail
green-winged teal
northern shoveler
American wigeon
greater scaup
lesser scaup
bufflehead

oldsquaw
harlequin duck
white-winged scoter
surf scoter
common merganser
red-breasted merganser

rough-legged hawk
golden eagle
bald eagle
marsh hawk
osprey
gryfalcon
peregrine falcon
merlin
American kestrel
spruce grouse
ruffed grouse
willow ptarmigan
rock ptarmigan
sandhill crane
semipalmated plover
whimbrel
upland sandpiper
lesser yellowlegs
spotted sandpiper
northern phalarope
red phalarope
common snipe
long-billed dowitcher
semipalmated sandpiper
long-toed stint
baird's sandpiper
pectoral sandpiper
glaucous gull
mew gull
Arctic tern

Gavia arctica
Gavia stellata
Olor columbianus
Branta canadensis
Anser albifrons
Chen caerulescens
Anas platyrhynchos
Anas acuta
Anas crecca
Anas clypeata
Anas americana
Aythya marila
Aythya affinis
Bucephala albeola

Clangula hyemalis
Historionyx histronicus
Melanitta deglandi
Melanitta perspicillata
Mergus merganser
Mergus serrator

Buteo lagopus
Aquila chrysaetos
Haliaeetus leucocephalus
Circus cyaneus
Pandion haliaetus
Falco rusticolus
Falco peregrinus
Falco columbarius
Falco sparverius
Canachites canadensis
Bonasa umbellus
Lagopus lagopus
Lagopus mutus
Grus canadensis
Pluvialis dominica
Numenius phaeopus
Bartramia longicuda
Tringa flavipes
Actitis macularia
Phalaropus lobatus
Phalaropus fulicarius
Gallinago gallinago
Limnodromus scolopaceus
Calidris pusilla
Calidris subminuta
Calidris bairdii
Calidris melanotos
Larus hyperboreus
Larus canus
Sterna paradisaea

great horned owl
 hawk owl
 short-eared owl
 boreal owl
 belted kingfisher
 common flicker
 hair woodpecker
 downy woodpecker
 alder flycatcher
 horned lark
 bank swallow
 cliff swallow
 gray jay
 common raven
 black-capped chickadee
 boreal chickadee
 American robin
 varied thrush
 hermit thrush
 gray-cheeked thrush
 wheatear
 Arctic warbler
 yellow wagtail
 water pipit
 Bohemian waxwing
 northern shrike
 yellow warbler
 yellow-rumped warbler
 northern waterthrush
 wilson's warbler
 rusty blackbird
 pine grosbeak
 gray-crowned rosy finch
 hoary redpoll
 common redpoll
 savana sparrow
 dark-eyed junco
 tree sparrow
 white-crowned sparrow
 golden-crowned sparrow
 fox sparrow
 Lincoln's sparrow
 lapland longspur
 snow bunting

Bubo virginianus
 Surnia ulula
 Asio flammeus
 Aegolius funereus
 Megascops alcyon
 Colaptes auratus
 Picooides villosus
 Picoides pubescens
 Empidonax alnorum
 Eremophila alpestris
 Riparia riparia
 Petrochelidon pyrrhonota
 Perisoreus canadensis
 Corvus corax
 Parus atricapillus
 Parus hudsonicus
 Turdus migratorius
 Loxoreus naevius
 Catharus guttatus
 Catharus minimus
 Oenanthe oenanthe
 Phylloscopus borealis
 Motacilla flava
 Anthus spinoletta
 Bonbycilla garrulus
 Lanius excubitor
 Dendroica petechia
 Dendroica striata
 Seiurus noveboracensis
 Wilsonia pusilla
 Euphagus carolinus
 Pinicola enecleator
 Leucosticte tephrocotis
 Carduelis hornemanni
 Carduelis flammea
 Passerculus sandwichensis
 Junco hyemalis
 Spizella arborea
 Zonotrichia leucophrys
 Zonotrichia atricapilla
 Passerella iliaca
 Melospiza lincolni
 Calcarius lapponicus
 Plectrophenax nivalis

FISH

chum salmon	Oncorhynchus kisutch
sheefish	Stenodus leucichthys
humpback whitefish	Coregonus pidschian
broad whitefish	Coregonus nasus
least cisco	Coregonus sardinella
round whitefish	Prosopium cylindraceum
Arctic grayling	Thymallus arcticus
Arctic char	Salvelinus alpinus
lake trout	Salvelinus namaycush
northern pike	Esox lucius
Alaska blackfish	Dallia pectoralis
longnosed sucker	Catostomus catostomus
burbot	Lota lata

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Previous Archeological, Anthropological, Historical, and Exploration Work Conducted in the Phase II Study Area

Archeology

Past archeological work in the area has been slight and limited to very specific areas. The earliest work was done by Ralph Solecki in 1949 in association with U.S. Government oil exploration activities on Alaska's North Slope (Solecki, 1950). Solecki located a modern Nunamiut campsite comprised of twenty to thirty house remains on the east shore of Itkillik Lake.

During the late 1950's and through the 1960's John Campbell studied the area between Itkillik Lake and Chandler Lake concentrating in the Anaktuvuk Pass area. Through his work, Campbell created a data base which still serves as a generalized "yardstick" for regional prehistoric study. Campbell's work indicated that human occupation on the north-central Brooks Range extended back to a least 8000 years ago and that both Eskimos and Indians had inhabited the area (Campbell 1962).

In 1966 and 1967 Herbert Alexander conducted an archeological reconnaissance in the Atigun River Valley which lies only a few miles to the east of the park's northeastern boundary. Alexander located more than sixty archeological sites, the great majority of which were Eskimo and were represented by 4000-2000 year old occupations. He also located a large Kavik (Indian) site near the confluence of the Galbraith Lake outlet and the Atigun River (Alexander, 1967, 1968). Subsequent work at this site (Atigun Site) by Alexander in 1972 and Ian Wilson in 1974 established the site's age at 300 years before present (Wilson, 1978).

Between 1970 and 1976 Michael Kunz conducted archeological reconnaissance in the Itkillik Lake area. This sporadic work was culminated by a two month reconnaissance survey in 1976 which led to the discovery of over fifty archeological sites. The sites ranged from recent Nunamiut Eskimo camps to sites containing Akmak-like blade cores which may be as old as 10,000 B.P. The Bateman Site, located during the reconnaissance, on the western shore of Itkillik Lake, is one of the few deeply buried and stratified sites in the region. A carbon 14 date from this Ipiutak (Eskimo) site indicates occupation about 1250 years ago (Kunz, 1976).

From 1969 through 1976 archeologists from the University of Alaska, Fairbanks conducted reconnaissance survey, and excavation of archeological sites along the route of the Trans-Alaska Pipeline. That portion of the Pipeline Corridor which borders the eastern boundary of the park contained over 100 archeological and historic sites (Cook, 1970, 1971, 1977). Several of these sites were quite large and their excavation contributed important data necessary to the basic unraveling of area prehistory. The Mosquito Lake Site near Galbraith Lake is primarily a Denbigh Flint Complex (Eskimo) manifestation which shows recurrent use between 3800 and 1500 years ago (Kunz, 1977). Two of the oldest dated sites in Alaska, the Gallagher Flint Station (Dixon, 1971) and the Putu Site (Alexander, 1973) lie only a few miles north and east of the park boundary. This work along the Pipeline Corridor indicated the great majority of the archeological sites which lie north of the 67° latitude are Eskimo, while those which lie south of 67° River are primarily Indian.

Archeologists from the University of Alaska again worked in the Pipeline Corridor 1980 and 1981 conducting an archeological survey for the Northwest Alaskan Pipeline Company along the proposed route of the Alaska Natural Gas Transportation System. This work added additional information to an already extensive cultural resources data base for the Pipeline Corridor (Aigner and Gannon, 1980, 1981).

Between 1978 and 1983 Michael Kunz conducted a number of short-term, impromptu archeological surveys along the North Fork of the Chandalar River above Chandalar Lake. A number of historic sites were located as a result of this work, but few prehistoric sites have been found (Kunz, field notes).

To the west and south of the study area archeological work has been less intense than to the north and east. In the late 1930's and early 1940's J.L. Giddings conducted archeological and ethnohistorical work along the upper Kobuk River. This was the first anthropological work done in the area and was responsible for the discovery of the Onion Portage site, probably the most important western Arctic archeological site yet discovered (Giddings, 1952). The significance of the Onion Portage site was later determined by the work of Douglas Anderson in the early 1960's (Anderson, 1978). The excavation of the Onion Portage site revealed sequential occupation by different cultural groups at a single location over a period of approximately 10,000 years.

More extensive work was done in this area during Phase I of Gates of the Arctic National Park and Preserve's Cultural Resources Inventory carried out during the summer of 1983. National Park Service archeologists located over 250 prehistoric and historic sites during the course of their field work. The majority of the archeological sites located during this survey appear to be Indian rather than Eskimo and are probably short-term hunting camps. Several sites at Selby Lake may have been long-term habitation sites, possibly over-wintering locales. Carbon-14 dates from one of these sites indicates use of the locality over a period of time from 3000 to 1500 years ago (Kunz, 1983).

As can be seen from this summary, in terms of the size of the area involved, only limited archeological investigation has been undertaken. In terms of it's geographic size the Phase II study area is basically unknown archeologically.

Exploration/Ethnohistory/Cultural Anthropology

The earliest recorded information dealing with the native peoples of the general region is found in the journals of John Cantwell and Henry Allen. In 1885 Cantwell made a complete ascent of the Kobuk River from Kotzebue Sound to Walker Lake; a journey of government exploration. Cantwell notes the location of a native fishing village at the mouth of the Selby River. No villages were located further up the Kobuk than this. Cantwell and Stoney were probably the first and last white men to see this type of a traditional, seasonally oriented native village prior to the on-set of strong non-native cultural influences (Cantwell, 1889).

In 1885 G. Stoney made an overland winter trip up the Kobuk River from Fort Cosmos to the Alatna River, then north to Chandler Lake and back to Fort Cosmos. However, Stoney's journal became lost prior to the publication of the account of his explorations and the published document was written from memory fourteen years after the fact. As a result the information contained in the report is somewhat questionable (Stoney, 1899).

In 1885 Henry Allen conducted an exploration of the upper Koyukuk River. Allen traveled up the river about as far as the confluence of the John River. Allen's journal contains numerous notes regarding the aboriginal inhabitants of interior northern Alaska while these people were still living a life style basically uninfluenced by the modern technology of the day (Allen, 1887). The explorations of Stoney, Cantwell, and Allen occurred in areas to the south and west of the Phase II study area.

F. C. Schrader of the USGS was the first white man to conduct a reconnaissance within the Phase II study area. In 1899 Schrader conducted field work along the north Fork of the Chandalar River, Bettles River, Dietrich River, and the Middle Fork of the Koyukuk River. While Schrader was basically concerned with the mineral potential of the region he did make numerous notations in his journals concerning the habitat and native peoples of the areas through which he traveled (Schrader, 1900).

In 1901 W. C. Mendenhall conducted a USGS geologic reconnaissance from the mouth of the Alatna River to Kotzebue via the Alatna Portage and the Kobuk River. The Kobuk River portion of his trip paralleled in reverse Cantwell's route of 1885. It is interesting to note the changes which had occurred in the life style of the natives along the river in sixteen years which had elapsed between the two reconnaissances (Mendenhall, 1902).

At the same time that Mendenhall was engaged in his field work F. C. Schrader was engaged in a similar reconnaissance ascending the John River through the Brooks Range and descending the Anaktuvuk and Colville Rivers to the Arctic coast. Schrader encountered numerous native groups along his route and made many notations in his journals regarding these encounters (Schrader, 1904).

In 1911, P. S. Smith, a USGS geologist, conducted a geologic reconnaissance of the Alatna and Noatak Rivers. In the published account of the expedition Smith states that they encountered none of the native villages on the upper Noatak that McLenegan reports existed in 1885 (Smith, 1913).

It was not until the late 1930's that formal anthropological work was carried out within what is now Gates of the Arctic National Park and Preserve. The earliest work was done by J. L. Giddings along the Kobuk and Noatak Rivers. Giddings' work resulted in the publication of several articles and monographs which dealt primarily with the Kobuk or Woodland Eskimo (Giddings, 1952, 1961).

During the 1960's, A. Clark carried out six years of anthropological field work along the Koyukuk River primarily in the area of Alatna, Allakaket, and Evansville. While this area lies just to the south of the Phase II study area, the people exploiting it are the same. As a result, the data generated by Clark's work is generally applicable to the southern portion of the Phase II study area (A. Clark, 1974).

In the northern portion of the Phase II study area anthropological/ethnohistorical work has been carried on since the early 1950's in the Anaktuvuk Pass area by numerous investigators such as R. Spencer, H. Larsen, H. Ingstad, N. Gubser, L. Binford, E. Burch, and G. Spearman to name some. Most of this work has dealt with human occupation and exploitation of the upper John and Anaktuvuk River drainages. As a result, a large body of data is available. This data is applicable in more than a general sense to the entire northern portion of the Phase II study area (Spencer, 1959; Larsen, 1956; Ingstad, 1954; Gubser, 1965; Binford, 1978, 1980; Burch, 1975, 1976, 1980; Spearman, 1982).

History

There has not been a great deal of formal historical work undertaken in the Phase II study area. There have been some Alaskan mining histories written that have dealt with the Phase II study area in a general sense but little work has been done using the region as a focal point. The earliest work which can be considered to be of an historical nature was that done by Robert Marshall in the late 1920's. Marshall's book,

Arctic Village, which deals specifically with the village of Wiseman, traces the history of the white man's arrival in the drainage of the Middle Fork of the Koyukuk River up to 1930 (Marshall, 1933). The only other comprehensive historical work that has been done in the area is the data compiled by Susan Will, Bureau of Land Management archeologist, in two reports dealing with the villages of Wiseman and Coldfoot. These two reports trace the development of Coldfoot and Wiseman and give some insights into the economic and social structures of these communities as well as a description of the physical conditions of the extant buildings (Will, 1983, nd).

Aboriginal Use of the Phase II Study Area

Three aboriginal cultural groups, to a greater or lesser degree, occupied and exploited the Phase II study area. All of these groups were marginal in terms of survivability. In other words their existence was pretty much hand-to-mouth most of the time. In this regard A. Clark states, "... there were few times through the year when a sufficiently large surplus could be accumulated that the food quest was not paramount. Their lives were not those of settled village people, and as the seasons changed, so did their places of habitation, as well as their methods and types of hunting and fishing" (A. Clark, 1974).

Of the three groups which utilized the Phase II study area the Nunamiut Eskimo are paramount as the majority of this area lies within what is historically considered to be their territory. The Koyukuk Indians were the primary users of the southernmost portion of the area, while the Kobuk Eskimos were probably only peripheral users along the southwestern edge.

A fair amount of data has been collected through the work of modern-day anthropologists and from the accounts of the early explorers regarding the annual cyclical movements of the natives of this area at or about the time of white contact. How far back in time such annual cycles of movement can be applied is, however, debatable. The following is a general outline of the annual movements of the Koyukuk Indians and the Nunamiut Eskimos who were the primary users of the area.

From June through August, the Koyukuk Indians lived on the major rivers at the confluence of streams or sloughs. This can be somewhat substantiated by the accounts of Stoney, Cantwell, Mendenhall, and others during explorations along the Kobuk, Koyukuk, and Alatna Rivers between 1884 and 1901. During this season the men left camp, off and on, for periods of a few days to hunt birds and other game. Additionally, berries, meat, and fish were collected and dried for winter use. As fall began, the people moved into the hill country, fishing the lakes and building semi-subterranean houses for winter use, and hunting caribou, sheep, bear, and small game. About March the Indians left their winter dwellings and moved to spring muskrat camps nearer the main rivers. Just before break-up, the families moved to their spring fish-camps on the creeks between the lakes and rivers. By June they were back at their summer camps (A. Clark, 1974).

The Nunamiut Eskimo, at least in late prehistoric times, maintained no permanent base of operations, generally moving with the caribou. In April and May, and in August and September, the Nunamiut hunted the major passes of the Brooks Range. From October to January they broke into smaller groups and hunted the caribou remaining in the mountains near the treeline (south side of the range). February and March, as well as June and July, were often periods of near famine. At these times, they hunted small game, fished, and gathered berries (Campbell, 1962).

Movement other than the annual treks from camp to camp also occurred; travel for the purposes of trading or visiting being most common. Movement from camp to camp was on a relatively small scale and varied somewhat from family group to family group. Because of its small scale and diversity, this type of travel route is difficult to trace and even more difficult to recognize in an archeological context. Trade routes, on the other hand, were major travel routes (travel for visiting often followed these routes also) used successively by larger groups and should, therefore, be more easily traced and recognized in an archeological context. Reasonable data regarding trade routes in the Phase II study area is available (A. Clark, 1974; Burch, 1975, 1976; Spearman, 1982, 1983; Cantwell, 1889; Stoney, 1899; Mendenhall, 1902; Schrader, 1900, 1904). While this data reflects travel in late prehistoric and early historic times, it is probably generally valid for earlier time periods (at least until about 4000 years ago) as travel routes from area to area within a region are largely determined by the geomorphology.

Known or suspected travel routes in the Phase II study area are as follows:

Routes through the Brooks Range, north to south/south to north.

1. Anaktuvuk River/Ernie Pass/Ernie Creek/North Fork of the Koyukuk River.
2. Itkillik River/North Fork of the Koyukuk River.
3. Itkillik River/Oolah Pass/Kuyuktuvuk Creek/Dietrich River/Middle Fork of the Koyukuk River.
4. Itkillik River/Oolah Pass/Koyuktuvuk Creek/Dietrich River/North Fork of the Chandalar River/Chandalar Lake.

Routes on the south side of the Brooks Range between drainages.

1. Middle Fork of the Koyukuk River/Dietrich River/Bettles River/Big Lake/South Fork of the Koyukuk River/Twin Lakes/Woodland Echo Pass-Creek/North Fork of the Chandalar River/Chandalar Lake.
2. North Fork of the Koyukuk River/Glacier River/Glacier Pass/Wiseman Creek/Middle Fork of the Koyukuk River.

The preceding identified routes will be investigated at varying levels of

intensity during the Phase II field season. The level of investigation will be dependent upon time and logistical considerations.

The preceding several pages dealing with previous cultural investigations and activities in the Phase II study area has been compiled as the result of a less than exhaustive search of the readily available literature. Considerable additional information is available in numerous archival repositories in Alaska and the lower 48 states. Additional, in depth, archival research was conducted by the project historian at selected repositories during the months of December, January, and February. This research will result in the generation of an in depth report dealing with the culture history of Phase II study area.

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THE SITES

This portion of the report consists of the site descriptions, and is organized in terms of the areas surveyed: North Fork Koyukuk River north to south, and Itkillik River south to north. A short introduction, accompanied by site location maps, precedes each group of site descriptions.

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MAP AREA #1

NORTH FORK KOYUKUK VALLEY: ERNIE CREEK TO KACHWONA CREEK

Camp #1 and #2 June 5-15

The archeological field crew and gear arrived in Bettles from Fairbanks via commercial air carrier and an O.A.S. Turbine Goose on June 2, 1985. The next two days were spent in Bettles getting the field gear and supplies organized and ready for the field.

On June 5, our helicopter began making the first of five 150 mile round trips required to get our personnel and gear into our initial camp location at the confluence of the North Fork Koyukuk River and Ernie Creek. This operation required nine hours of flying time and two days to complete.

Archeological survey work began on June 7 and continued out of Camp #1 until June 11 when Camp #1 was struck and all gear and supplies were loaded aboard an Avon Pro and Redshank raft for transportation to the Camp #2 location.

Camp #2 was located on Kachwona Creek, 9 river miles south of Camp #1. Due to high water and a load in excess of 2500 lbs. the large raft was virtually uncontrollable and had to abort the journey about 1/4 mile above Pyramid Creek. The smaller raft completed the trip and arrived at Camp #2 on June 12, after overnighting near Pyramid Creek with the crew of the large raft.

The crew of the large raft remained in the Pyramid Creek vicinity surveying the area until moved by helicopter on June 15. The crew of the small raft worked out of the Camp #2 location from June 13-15.

A total of eight days were spent conducting archeological survey over roughly 12 square miles in the North Fork Koyukuk Valley between Ernie Creek and Kachwona Creek. During this time 32 prehistoric sites were located as well as several historic sites.

The majority of the prehistoric sites appeared to be small, sporadically used hunting and camping locations. The major clustering of sites occurred in the Ernie Creek/North Fork Koyukuk confluence area. The topography at the junction of these two streams is well suited for hunting lookouts and is a natural travel route for animals, especially caribou. Sheep appear extremely plentiful in the area. The location of some of the sites and the faunal remains found in them, suggest sheep hunting was commonly practiced in prehistoric times. Moose are also present as are a variety of fur bearers.

Several large, strategically located sites in the confluence area appear to have been used repeatedly over the last four or five millennia as hunting stations.

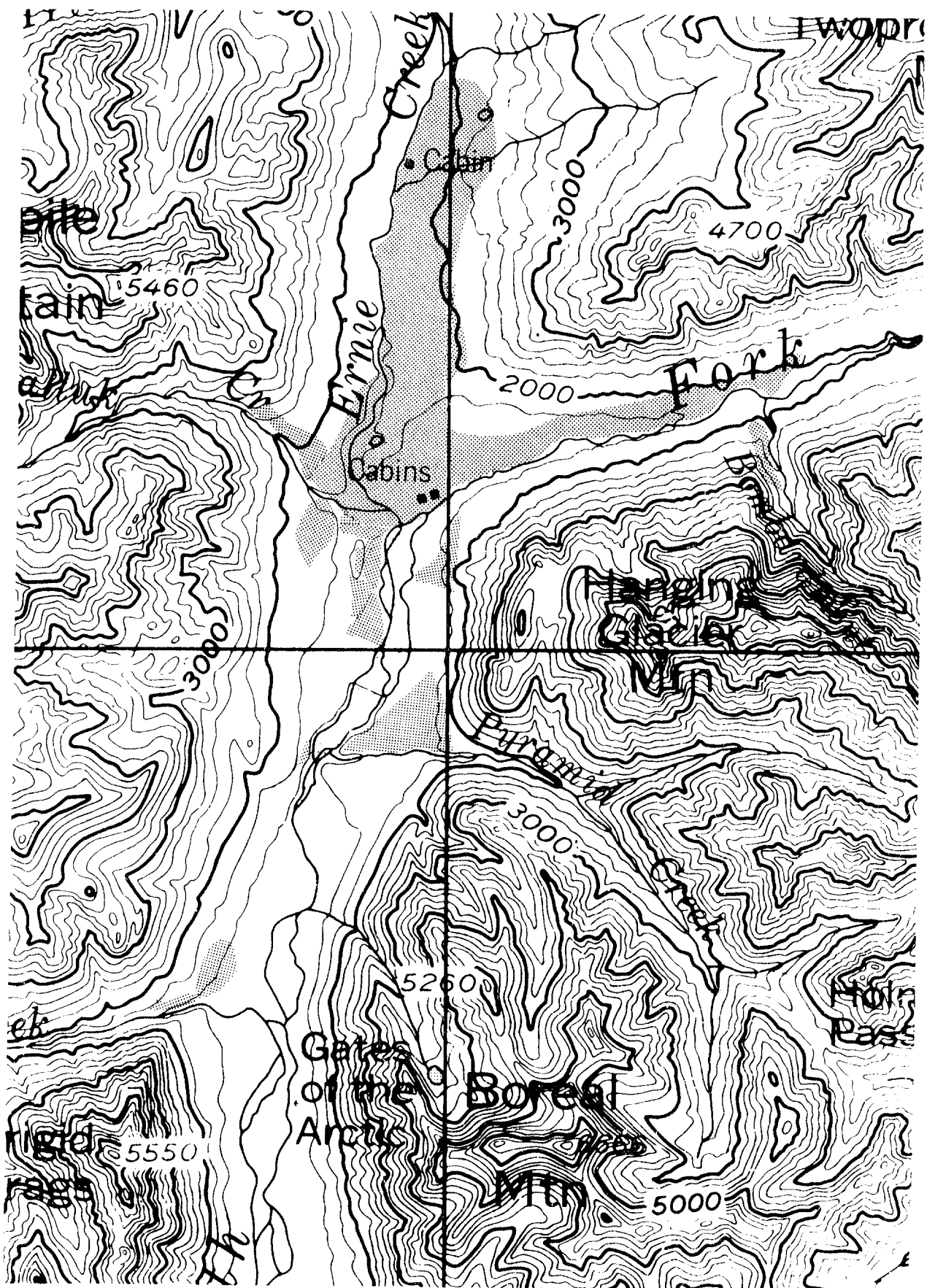
Another smaller clustering of sites occurs near the mouth of Kachwona Creek. As in the Ernie Creek confluence area these sites appear to be hunting oriented but also seem to have a base camp/butchering station aspect. The presence of formal hearths and meat and hide working tools, as well as a wide variety of lithic material and large site area strongly suggest a camp of some degree of permanence where a variety of activities were performed.

By and large, the stone tools found at the sites in this area are not specifically diagnostic but definitely appear stylistically more Eskimo than Indian. This assumption is based on the fact that most of the projectile points are relatively small in size and finely made; a recognized trait of cultures of the Eskimo Continuum.

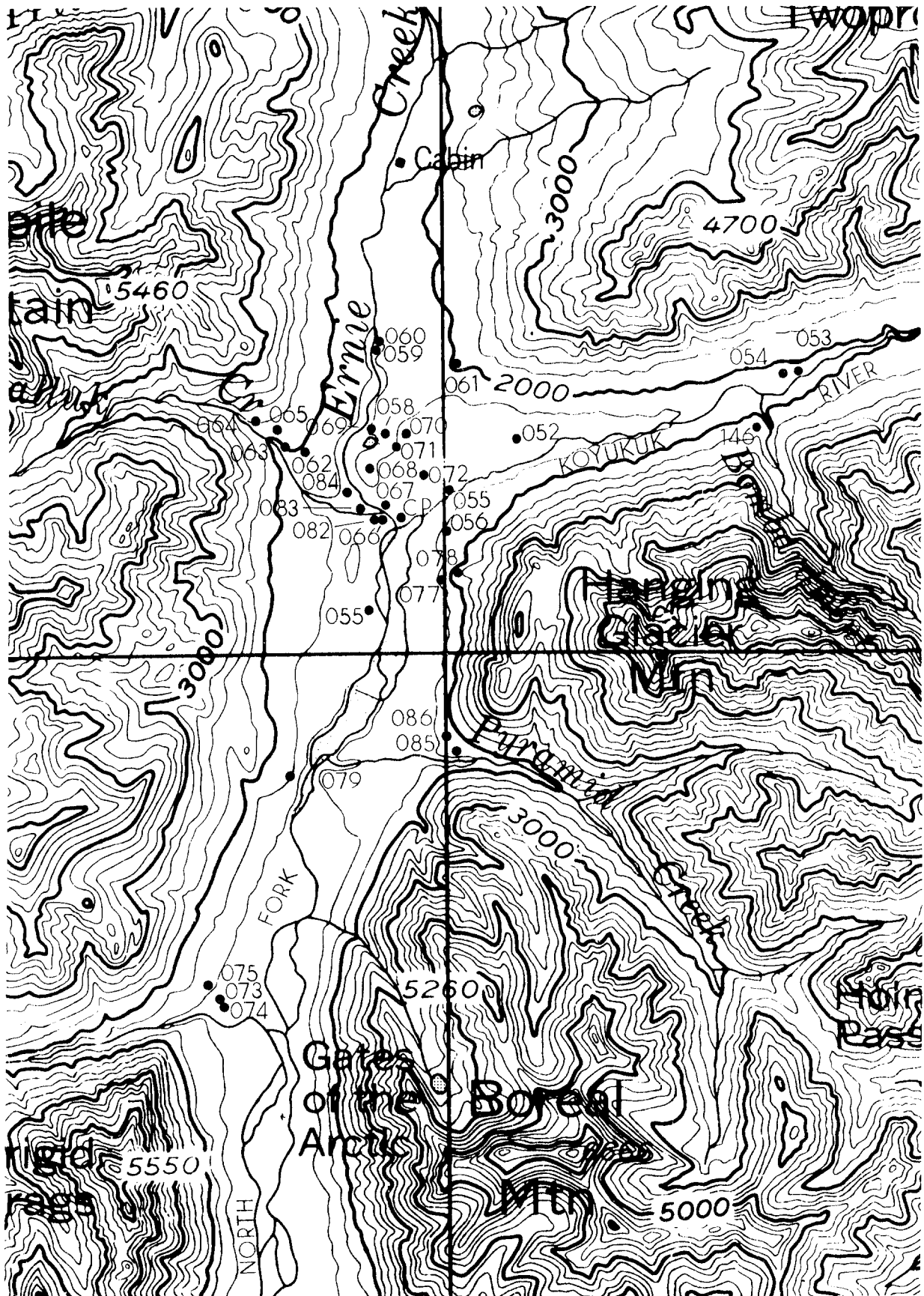
Radio active carbon dates, obsidian hydration dates, as well as artifact morphology indicate that the map #1 survey area has been utilized by prehistoric people for at least the last 6000 years and probably several millennia before that. Modern hunter's artifacts such as C-ration cans, metal tent stakes, and cartridge cases are occasionally found on prehistoric sites indicating that a good hunting or camping location several thousand years ago is still a good spot today.

In addition to prehistoric sites several historic and recent sites were also located. The majority of the historic sites appear to center around Ernie Johnson, his contemporaries, and their activities in the area. Much of this historic activity is documented by Robert Marshall (1933).

Several recent sites were also located. The majority of these were overnight camps of recreational users; people floating the river. Several older sites representing the activities of hunting guides and trappers were also located.



Shaded Area = Surveyed Area
 - 26 -



WIS-052

Site Elevation: 1700 ft	NW1/4, NE1/4 Section 30 T36N, R14W	Probable Site Type: Overlook
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on the northern bank of the North Fork Koyukuk River approximately 2 kilometers upriver from the mouth of Ernie Creek. The site is situated on a 10-12 meters high terrace which overlooks the braided river channel. This location provides a view of 1.5 kilometers up river and 1 kilometer down river. The river currently occupies the southern edge of the river bed. An island separates the site from the active river channel and is located 100 meters southwest of the site. A small lake is located approximately 50 meters north of this site.

The vegetation consists primarily of lichens, small spruce, and dwarf birch trees. The slope is eroding slightly where not anchored by vegetation. This erosional process has led in part to the exposure of the cultural material found on the sloping surface. There is no evidence of recent wildfire activity in the area of this site.

The site was discovered by surface observation. Three black chert flakes were observed 2 meters below the terrace edge. Surface reconnaissance along this terrace edge produced two more black chert waste flakes at 20 meters north of datum and 40 meters north of datum.

Three test pits were excavated on the terrace above the surface flakes. Test #1 above the three flakes produced one black chert flake, which like the others showed no use-wear or retouch. This flake was found 7 cm. below surface in the A1 and A2 horizons. The other two test pits proved sterile.

Based upon the lack of diagnostic cultural material, this site has low significance. It appears the site possibly functioned as a hunting station given its advantageous view over this stretch of the river. No cultural affiliation is discernable from the cultural material found.

At present the site does not appear to be threatened by any adverse impacts.

WIS-057

Site Elevation: 1720 ft	NE1/4, SW1/4 Section 36 T36N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a small, but prominent, glacially scoured bedrock hill 2 kilometers south of the confluence of Ernie Creek and the North Fork Koyukuk River. The hill lies 100 meters west of the river and roughly 20 meters above river level. A small unnamed creek joins the river about 20 meters north of the site.

While not located on the most elevated topographic feature in the local area, the site offers a good view up and down the river for a distance of 1.5 kilometers. Views to the east and west encompass the mountains that form the valley walls. Sheep grazing on the side of Hanging Glacier Mountain, located slightly more than a kilometer to the east across the river, are easily visible from the site.

About 50% of the surface of the site is covered by a thin vegetation mat consisting of low herbaceous plants, moss, and scattered clumps of grass. Spruce trees are thinly scattered over the site area and range in size from seedlings to trees 10 meters in height and 20 cm. in diameter. A few clumps of dwarf birch and some alder are also present. Areas devoid of vegetation consist of exposed mineral soil, frost spalled bedrock and glacially transported pebbles, cobbles, and small boulders. Frost action at the site has been extensive and the unvegetated areas have been thoroughly churned. Some minor sidehill erosion is taking place as a result of the frost action. No evidence of past wildfire activity was observed.

This site was located as the result of surface observation. No test pits were excavated. Cultural material consisting of one dozen small to moderate sized black chert flakes and one red chert flake were observed on and in the surface scattered over an area 3 meters². Additionally, a shallowly, side notched, black chert projectile point was located three meters from site datum on a bearing of 16° mag.

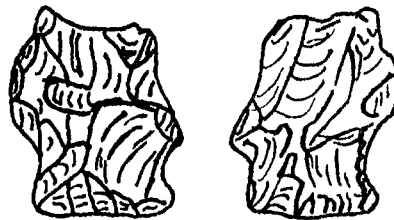
The upper one third of the projectile point is missing and several flake scars along the break may indicate an attempt at resharpening. However, the flake scars may also be the result of use or may simply be fortuitous. The artifact is asymetrically notched. The notches and the base exhibit moderate grinding and one surface shows evidence of an attempt at basal thinning.

The site appears to have served as a lookout/flaking station. The two types of lithic material observed at the site may indicate more than a single occupational event took place. The surface area of the site is too uneven and small for it to have been a campsite. A flat area at the rivers edge some 60 meters to the east would have served as an excellent camping locale. However, surface examination of this robustly vegetated area disclosed no cultural material. No subsurface examination was undertaken.

Little else can be said concerning the site. No diagnostic artifacts were encountered and therefore, no cultural or temporal associations can be drawn. The single formal artifact found at the site does, however, have a more or less non-Eskimo flavor about it.

Natural impacts threatening the site appear to be minor in nature and should engender no cause for concern. Site significance, based upon the level of investigation and the sites small size, is low except as the site is related to others in the local area as part of the general land use pattern.

Projectile Point Fragment



WIS-057 Artifact - Actual Size

WIS-062

Site Elevation: 1650 ft	SW1/4, NE1/4 Section 26 T36N, R15W	Probable Site Type: Lookout/Flaking Station
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site lies atop a prominent kame, 200 meters north of Shushalluk Creek and about 1 kilometer west of Ernie Creek. A perfect 360° view of the North Fork Koyukuk both north and south including the mouth of Ernie Creek is available from the site. The view to the north of the Ernie Creek Valley is obscured by a low ridge. Sparse dwarf birch, Dryas, Salix sp., Vaccinium uliginosum, mosses, and lichens cover the site surface 90%. Minor disturbance by sik sik burrows is evident.

The site was discovered during surface inspection. Six black chert waste flakes were observed at about 13 meters northwest of the highest point of the knoll. No test pits were excavated.

The site appears to have been used as lookout/flaking station. The flake scatter represents a single flaking event of minor significance. No impact at present except that attributable to sik sik burrows.

WIS-063

Site Elevation:	SW1/4, NE1/4	Probable Site Type:
1800 ft	Section 26	Flaking Station
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on an inconspicuous frost boil about 100 meters north of Shushalluk Creek. The view is good of Shushalluk Creek and the upland immediately to the south. The view north is obscured by a ridge. Vegetation at the site consists of Salix sp., Empetrum nigrum, and Cladonia lichens. The frost boil is surrounded by tussock-birch tundra. There is less than 10% vegetation cover on the frost boil itself.

Four black chert flakes were found on the surface of the frost boil. No artifacts diagnostic of any cultural period were found. No test pits were excavated at this site.

This site appears to be merely the location where a piece of black chert was preliminarily flaked to determine its quality. There are occasional pieces of black chert in the glacial till in this area. These were no doubt examined to see if the material was suitable for tool manufacture. The view from this site is good of Shushalluk Creek and to the east, but a much better view is available from a low knoll only a few meters to the north of this site. It probably was not a lookout.

No impacts of any kind endanger this site except the frost activity of the boil.

WIS-064

Site Elevation:	NE1/4, NE1/4	Probable Site Type:
2100 ft	Section 26	Lookout/Temporary Camp
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
330 years B.P.		Affiliation: Eskimo

The site is located on a kame on the north side of Shushalluk Creek just as the creek leaves it's canyon. This kame is the final upstream feature to have spruce trees growing on it. The site commands a fine view to the east and southeast, but the view to the north is obscured by a ridge. This kame top is vegetated by Arctostaphylos, Betula glandulosa, Cladonia sp., Empetrum nigrum. The spruce trees are lower on the kame and consist of clones surrounding the location of a dead pioneer tree. The east side of the kame, near the top, suffers from some erosion.

No surface material of any kind was found at this site. However, because of the prominent nature of the locale, a test pit was excavated at the very top of the kame. The test pit encountered a hearth containing fire-cracked rock, a large amount of charcoal, and bone fragments, probably

sheep or caribou. Both charcoal and bone were sampled. A single lithic cracked rock, a large amount of charcoal, and bone fragments, probably artifact of black chert was recovered from within the hearth; what appears to be the tip of a sideblade. The site thus seems related to Eskimo use of the area. The soil within the hearth had the pinkish color of burned earth, but none of the bone appeared burned.

Radiocarbon analysis of charcoal from the hearth yielded a date of 330 ± 60 years B.P. (Beta-11083). This relatively recent date is consistent with the good state of preservation of the faunal material recovered from the hearth.

The site gives evidence of subsistence, and probable Eskimo use of the region. The site may have served as a lookout/temporary camp of some kind, although the knolls further downslope provide better views. The view from the site is somewhat obscured by trees. Possibly the site was selected because a source of wood was available.

No adverse impacts were observed at the site.

DRAFT

Site Elevation:
2000 ft

NE1/4, NE1/4
Section 26
T36N, R15W

Probable Site Type:
Flaking Station

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

The site is situated in an open, sparsely vegetated area, that rises slightly above the surrounding terrain. Active frost heaving is presently occurring in an open area which is about 20 meters² in size. The site lies about 120 meters north of Shushalluk Creek, and 150 meters east of WIS-064. The area has less than a 50% vegetation cover of Arctostaphylos, Salix sp., Dryas octopetala, Betula glandulosa, and is surrounded by shrubs and sedge-tussock tundra.

The site consists of a thin scatter of black chert flakes distributed across the 20 meter² area. One of the flakes that is located on the eastern edge of the area, has a slight retouch on one edge. The site tag was placed in the approximate center of the open area.

The site appears to be a flaking station, but the small amount of material (15 flakes) may suggest that the site was an area for preliminary testing of chert nodules that had been found locally. The view from the site is good to the southeast and east, but much better views are available downslope, suggesting that the site was not used as a lookout.

No impacts other than natural frost activity were observed and the site does not appear to be threatened by any additional adverse impacts.

WIS-067

Site Elevation: 1650 ft.	NE1/4, NW1/4 Section 25 T36N, R15W	Probable Site Type: Lookout/Camp
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Eskimo

This site is located low on the southeastern end of a north-south trending ridge 650 meters west-northwest of the confluence of the North Fork Koyukuk River and Ernie Creek. The ridge is broad at its southern extent where Ernie Creek is actively cutting and exposing a variably thick till which overlays schist bedrock.

The site offers an excellent 180° view. To the northeast, Two Prong Mountain is visible at a distance of 8 kilometers. Toward the southwest, Frigid Crags is visible at a distance of 13 kilometers. The intervening terrain can be easily monitored from the site location. The view to the west and northwest is limited to less than 100 meters by higher ridge elevations.

In general the area terrain is moderately well to poorly drained with outcrops and ridgetops being for the most part, well drained. The vegetation is arctic (shrub) tundra with scattered spruce present in the more well drained areas. Dwarf birch, alder and willow are also present in the site area; dwarf birch being the dominant form. Cottongrass tussocks are common in the poorly drained areas, and mosses, lichen, grasses, and various flowering alpine plants occur on outcrops or exposed gravel areas.

The site consists of at least two and possibly three localities which were recognized during surface inspection of the area. Locality "A", is located on the rising southeastern end of the ridge. Locality "B", lies 75 meters east of locality "A" on a slightly lower bench or terrace edge which has been formed by an overflow or outwash channel of the river. Locality "C", which is probably not contemporaneous with the other two localities, is located 100 meters to the south-southeast of locality "A" on a poorly drained flat area to the north of the Ernie and Shushalluk Creek confluence.

Locality "A", where the majority of lithic waste was observed, consists of a flake scatter 5 meters in diameter and is composed of 25 black and 10 gray chert flakes. Fifteen meters to the west and 5 meters higher in elevation near the edge of the ridge, 3 black chert flakes were observed within a few meters of each other. None of the flakes exceeded 3 cm² and appear to represent some phase of secondary or tertiary finish work on an unknown tool or tools.

Locality "B" lies on the edge of a north-south trending terrace above a seldom active channel of the river. This location allows a good view to the east, the Ernie Creek/North Fork confluence area, as well as to the north-northeast and the prominent ridge where WIS-068 is located. WIS-071 is visible 1 kilometer to the north.

Locality "B" consists of 20 black chert flakes, averaging in maximum diameter 2 cm² and occurring in a linear distribution roughly 5 meter north-south by 1 meter east-west. The size of the flakes suggest an origin associated with the final stages of tool manufacture. No subsurface testing was necessary at either locality due to the sparse vegetation and no formal tools or diagnostic artifacts were observed.

Subsurface testing was limited to the third locality of the site which appears to be of a quite different character than either locality "A" or "B". A possible hearth feature was observed on a slightly raised gravel area at the edge of the bank where Shushalluk and Ernie Creeks join. Fifteen to twenty fire cracked rocks were observed partially imbedded in the tundra mat. The rocks appear quite oxidized and angular unlike other rocks elsewhere in the vicinity. A 20 cm² test pit was excavated to a depth of 10 cm. and yielded no cultural evidence beyond a small amount of diffuse charcoal. A second 20 cm² test pit excavated 1 meter to the west of the possible hearth feature and yielded no charcoal or cultural material. This feature appears to be a hearth, however, the absence of flaking detritus suggests that it is not associated with the other two localities.

Localities "A" and "B" may or may not be associated. The lithic materials and the character of the debris suggests similar activities, but with a lack of diagnostic artifacts no temporal or cultural assessment is possible. Based entirely upon its location with respect to modern ethnic boundaries the site most likely represents an Eskimo campsite or hunting lookout.

A recent campfire, no older than 10 ten, is located 25 meters southwest of locality "A" in a stand of medium sized spruce. No trash or debris other than a small pile of fire wood was observed.

Little more can be said about this site. Site significance, based upon the level of investigation and the site's character, appears low except as the site is related to other sites in the local area and as part of the general prehistoric land use pattern.

The only impacts observed were the modern campfire at locality "A" and possible erosion at locality "C" by cutbank wasting. At present the site does not appear to be threatened by any adverse impacts.

WIS-068

Site Elevation:
1850 ft

NE1/4, NW1/4
Section 25
T36N, R15W

Probable Site Type:
Hunting Camp

Site Age:
3500 yrs.

Fairbanks Meridian

Probable Cultural
Affiliation: Eskimo

This site is located on the southern half of a 1 kilometer long, broadly rounded, north-south trending ridge lying 200-450 meters northwest of the Ernie Creek/Shushalluk Creek confluence. This well-drained ridge

comprises the high ground which causes Ernie Creek to bend to the southeast before joining the North Fork Koyukuk River, at a point 1 kilometer east-southeast of the site. A small, circular, kettle lake, 150 meters in diameter, is located in the center of a natural basin, 150 meters northwest of the northern end of the site ridge.

The vegetation across the site consists of patchy low growing dwarf birch accompanied by low herbaceous and flowering alpine plants. Spruce are present adjacent to the southern end of the ridge where Ernie Creek is actively eroding the ridge's creek-side slope exposing a mantle of till over schist bedrock. The cliff, which has formed on the north side of the creek is precipitous, and measures approximately 35 meters in height. To either side of the ridge more poorly drained, tussock tundra accompanied by scattered alder, willow and dwarf birch occurs.

The view is excellent from the main site areas or localities of which there are four. The best view is afforded from the more elevated central and northern locality on the ridge top. A 360° view allows the monitoring of Ernie Creek to the north, the North Fork Koyukuk to the east-northeast and south down the North Fork Valley. All directions offer a view of at least 2 kilometers.

The localities have been designated by directional location relative to the high central portion of the ridge which displays the majority of surface cultural materials.

The southern locality, occurs at the extreme southern end of the ridge overlooking Ernie Creek and the precipitous cliff and consists of a surface scatter of nine black and gray chert flakes and one possible biface fragment. This cultural material covers an area of 6 x 2 meters.

The central locality, which is broken into two sub-localities, south-central and north-central, occupies the broad high portion of the ridge. The south central locality consists of various small flakes of several shades of gray, black, blue and green chert. Three discrete areas of flake scatters exist roughly 20 meters apart in a triangular pattern.

The north-central locality, the main locality at the site and the datum location, consists of over 200 flakes of black, gray, green, blue and white chert. Additional cultural material consists of a biface fragment of green/gray chert, 18 meters from datum on a bearing of 142° mag., what appears to be the basal portion of a black chert Denbigh burin 11 meters from datum on a bearing of 267° mag., the medial portions of three gray chert microblades, two of which show ventral or dorsal retouch all three lie 8-9 meters from datum on a bearing of 300° mag., a few utilized flakes and a possible sideblade fragment of gray chert 14.5 meters from datum on a bearing of 268° mag. What appears to be a purposful arrangement of some fractured schist slabs, possibly a remnant of some structural feature such as a tent ring or a wind break was observed partially imbedded in the vegetation mat. This feature lies between 3-8 meters from datum on a bearing of 170° mag.

The northern locality, which lies beyond a low saddle in the ridge 65-100 meters north of datum consists of 20-30 flakes of black and grey chert. Additional cultural material includes the basal portion of a black chert projectile point 80 meters from datum on a bearing of 6° mag. and a biface fragment of gray chert 100 meters from datum on a bearing of 2° mag.

No subsurface testing was deemed necessary as the nature of the exposed ground on the ridgetop allowed reasonable documentation of artifact distributions. The extent and nature of the visible cultural deposits was sufficiently recorded for the purpose of this survey. This does not, however, preclude the possibility of the presence of substantial amounts of subsurface cultural materials which could expand the data base for this, seemingly extensive site.

While none of the formal artifacts are of themselves diagnostic, due to their fragmentary nature, their overall flavor is that of the early cultures of the Eskimo Continuum (Kunz, 1976). The possible burin base, the microblade fragments, the projectile point base and the possible side blade fragment all suggest association with the Denbigh Flint Complex. Taken by themselves the projectile point and sideblade also appear similar to types associated with the Norton and Ipiutak cultures. If such is the case this site could fall into a time span ranging between 3500-1300 years ago.

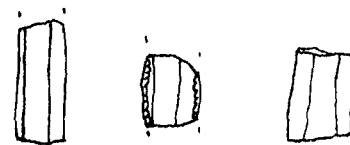
One interesting aspect of the site relating to artifact distribution is the discrete clustering of materials at particular locations about the ridge. If these clusters of cultural materials were to represent a group of hunters stationed at strategic lookout points, virtually all of the easily accessible areas surrounding the site would have been monitored. Indeed, the artifactual materials reflect a homogeneity of lithic material type and production technique which could well be associated with a single group of hunters.

Reasonably, this and most other sites in the immediate vicinity represent Eskimo hunting activities. These sites are probably related to caribou and/or sheep procurement.

Further research at this location may be profitable as only a portion of one day was given to recording this rather extensive site. The significance of this site may be high based upon it's size, good location, and potential for subsurface cultural material. The nature of impacts upon the cultural materials are only those expected in an arctic environment.



Black Chert Burin Fragment

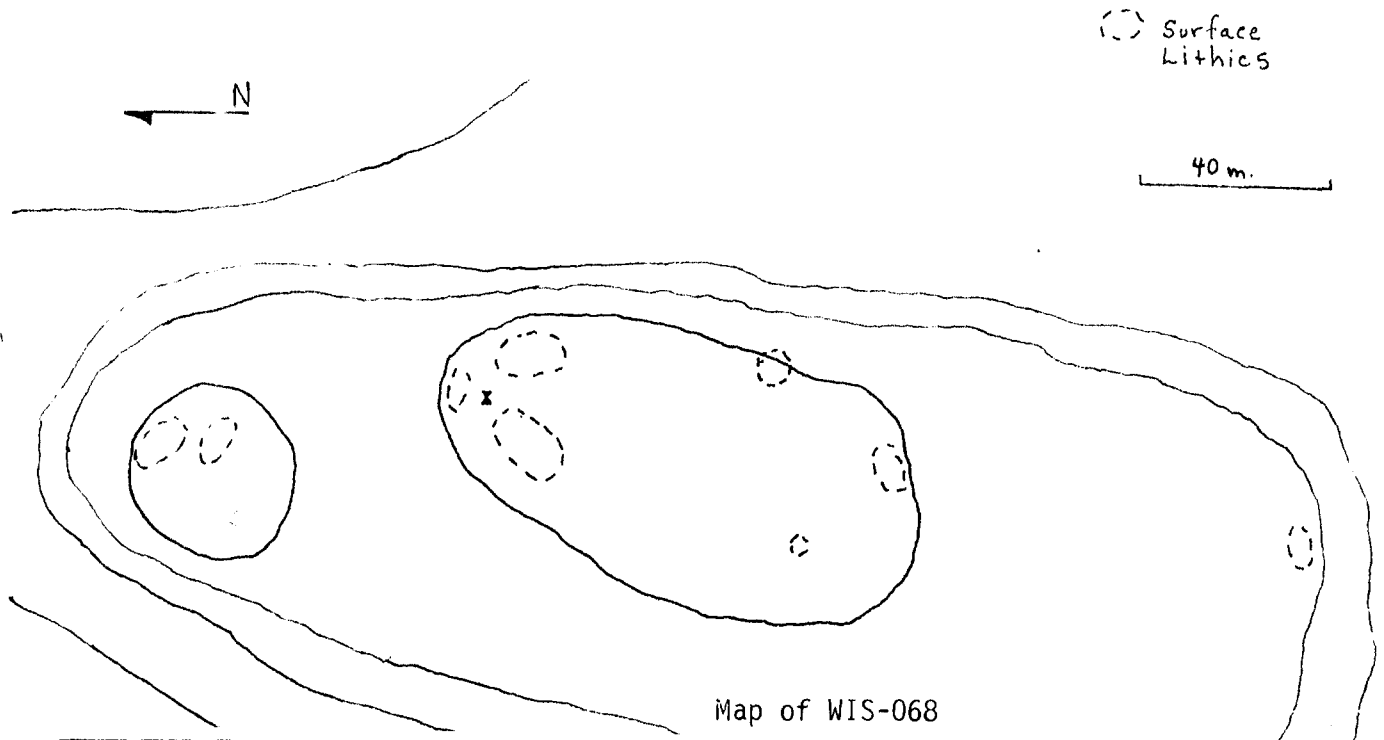


Microblade Fragments



Black Chert Projectile Point Base

WIS-068 Artifacts - Actual Size



Map of WIS-068

WIS-053

Site Elevation:
1900 ft

NW1/4, NE1/4
Section 22
T36N, R14W

Probable Site Type:
Overlook

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

The site is located approximately 200 meters upstream of the mouth of Bombardment Creek on the north bank of the North Fork Koyukuk River. The site is situated on a 15 meter high knoll roughly 40 meters north of the present river channel, and provides view potential for several hundred meters up and downstream from the knoll. WIS-054 is located on a knoll nearly 150 meters west of WIS-053.

The vegetation consists primarily of caribou lichen, small spruce trees, and woody plants. The surface of the knoll crest is predominantly unvegetated due to frost and wind action. Game trampling is also an agent of natural impact at this site. No evidence of other impacts such as wildfire is clearly discernable.

The site was found through surface reconnaissance of the unvegetated area. A single grey chert and 15-20 black chert waste flakes were found in the

frost heaved area about 10 meters apart. The black chert flakes were all of the same material (1-2 cm. in size) and occurred in a cluster no larger than 3 meters in diameter. The grey chert flake was 1 x 2 cm. in size and like the black chert flakes showed no sign of retouch or use-wear. No subsurface tests were conducted.

Based upon the location and lithic material it appears that this site represents a hunting lookout at which chert was worked. It is not possible to ascribe the two cherts present to single or separate events. The site appears in no danger of impact at existing levels of human and natural use.

WIS-054

Site Elevation: 1900 ft	SW 1/4, NW 1/4 Section 22 T36N, R14W Fairbanks Meridian	Probable Site Type: Overlook Probable Cultural Affiliation: Unknown
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The site is located approximately 50 meters upstream from the mouth of Bombardment Creek on the North Fork Koyukuk River. Situated nearly 50 meters north of the river, the site occupies a 12-15 meter high knoll which provides a view several hundred meters up and downstream when not restricted by spruce trees. WIS-053 is located roughly 150 meters east of this site.

Vegetation at the site consists of caribou lichen, spruce trees, and dwarf birch. The crest of the knoll is partially unvegetated due to frost action. Some game movement is apparent on this 15-20 meter wide knoll top, but there is no sign of recent wildfire activity.

The site was discovered by surface reconnaissance in the unvegetated area on the knoll top. Three black chert waste flakes were found on the southeastern section of the knoll. Occurring in an area approximately 2 meters in diameter, two of the flakes were medium-sized (3-4 cm.) and the third was small (1-2 cm.). None of the flakes showed evidence of purposeful retouch or use-wear. No subsurface testing was conducted.

Based upon the lithic material and the site's location, it appears that the site represents a hunting spot with associated lithic detritus. It seems very likely that the site represents a single event. There may be a relationship between this site and WIS-053 based on proximity and lithic material present at both locations. Neither site, however, contains temporally or culturally diagnostic material. The site appears to be in minimum danger of impact at existing levels of use.

WIS-058

Site Elevation:	SE1/4, SW1/4	Probable Site Type:
1800 ft	Section 24	Lookout/Flaking Station
	T26N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on a low rise, the surface of which is made up of gravelly undulations, which are linear in orientation and may be the result of frost action or solifluction. The site offers an excellent view to the south including about a 7 kilometer stretch of the North Fork Koyukuk, the lower Ernie Creek Valley, and a small pond. To the north the view is obstructed by gently rising higher terrain. To the east a small portion of the North Fork is visible as well as a small pond; a cow and calf moose were observed at the edge of this pond. To the west the rising tundra and valley walls of Ernie Creek are visible. About 75% of the surface of the site area is vegetated by a tundra/moss mat and scattered clumps of grass. Dwarf birch grows densely in the less well drained areas. Pebbles, cobbles, and spalls of shale are present in the exposed mineral soil areas. The site area is very open in aspect.

Cultural material observed on surface at the site consisted of a single blade-like flake of gray-brown banded chert. No other cultural material was observed. The site tag was placed at the flake location. No test pits were excavated.

This site is probably associated with a much larger site located 1/2 kilometer to the south. It is probable that if a person looked long and hard enough any similar feature in the local area, and there are several, a few flakes could be found on each.

Little else can be said about this site. Site significance and research potential are very low. At present the site does not appear to be threatened by any adverse impacts.

WIS-059

Site Elevation:	NW1/4, NE1/4	Probable Site Type:
1800 ft	Section 24	Lookout/Flaking Station
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on a somewhat sinuous creek-edge bluff whose narrow crest is less than 3 meters wide. The site lies slightly more than 1 kilometer north-northwest of WIS-058. Bluff elevation is approximately 50 meters above the Ernie Creek flood plain. The bluff lies less than 60 meters east of the active channel of Ernie Creek.

The site offers an excellent view in all directions especially to the north up the Ernie Creek Valley to a point at least 8 kilometers distant. The view to the east and west is limited only by the valley walls. The view to the south extends for slightly more than 2 kilometers where the large site WIS-068 blocks the view. The entire western face of the bluff is extremely steep culminating in bedrock outcrops half way down the fall line. The entire west face is exposed glacial till and mineral soil; a reddish sandy silt. The crest and the east slope of the bluff is vegetated by a very robust growth of moss, scattered clumps of grass, and thigh high dwarf birch.

Cultural material at the site consisted of three small black chert flakes found about midway along the length of the bluff, eroding out of the mineral soil exposure just below the vegetation mat. Two 20 cm² test pits were excavated, to a depth of 8 cm. on either side of the flake location. Neither test pit produced any additional cultural material. It appears that most of the site has already eroded away down the face of the bluff.

The bluff is about 30 meters in length and no other cultural material was found which suggests the location was little used and the site did not amount to much prior to the erosional activity.

The site was probably a lookout/flaking station. The level of significance is low. Little else can be said about the site. Natural erosion is active at the site.

WIS-060

Site Elevation: 1800 ft	NW1/4, NE1/4 Section 34 T36N, R15W	Probable Site Type: Lookout
Site Age: Approx. 2100 years B.P.	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on a small isolated kame roughly 110 meters to the north-northeast of WIS-059.

The kame overlooks Ernie Creek and is about 40 meters above creek level. The view from the site is excellent to the north up the Ernie Creek Valley but is limited to the east and west by the valley walls. To the south the view extends about 2 kilometers at which point higher terrain allows only the valley walls to be seen. The surface of the site is about 75% vegetated by moss and a variety of low herbaceous plants. A robust growth of dwarf birch is also present. The unvegetated areas display mineral soil, pebbles, and cobbles which comprise the glacial till. Due to its glacial origin the site is well drained. The unvegetated areas appear to be the result of frost heaving, ground squirrels burrowing and subsequent grizzly bear excavation. Some very minor erosion is occurring at the site.

Cultural material at the site consists of a large blue chert flake and a fragment of an obsidian blade knife found on/in the surface approximately 1 meter apart. The obsidian knife exhibits purposeful retouch along both margins on the dorsal surface. One margin is retouched more heavily than the other, possibly indicating that the tool was backed. Two 15 cm² test pits were excavated adjacent to the tool location in an effort to obtain a subsurface obsidian sample. The test pits were excavated to a depth of 7 cm. through sandy silt and glacial till. Both test pits proved to be sterile. The obsidian tool was collected for the purpose of obsidian hydration analysis.

Hydration analysis of this artifact yielded a hydration rind thickness of 1.7 u. When this measurement is applied to the hydration rate of 1.44 u²/1000 years an age of approximately 2100 years B.P. is derived. If the site represents an Eskimo occupation it could have been occupied by Denbigh, Norton, or Ipiutak people.

Little else can be said about the site. The obsidian tool is typical of Eskimo flake/blade knives but is not diagnostic; therefore no definite cultural or temporal associations can be made. The small size of the knife suggests that the site functioned as a lookout. Site significance is low, as is research potential. At present the site does not appear to be threatened by any serious impacts.

WIS-069

Site Elevation:	SE1/4, SW1/4	Probable Site Type:
1750 ft	Section 24	Unknown
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on a low, west sloping bench 150 meters north of a small kettle lake. The lake is 150 meters in diameter, and 80 meters east of the south flowing Ernie Creek. The creek is deeply entrenched here and is some 60-70 meters below the site elevation. The terrain rises to the east and north of the site forming broad ridges which trend north-south. WIS-068 is located roughly 600 meters to the south beyond the kettle lake which is frequented by small numbers of waterfowl.

The bench the site lies on is 25 meters long and 15 meters wide. The western edge of the bench drops off sharply toward Ernie Creek. The vegetation along the western edge of the bench consists of scattered medium sized spruce and small poplar, while dwarf birch and willow occur in discrete areas to the east and north accompanied by blueberry, bearberry and low herbaceous plants. Exposed mineral soil and small gravels characterize much of the surface of the site. The unvegetated areas occur partially as a result of ground squirrel activity. Poorly drained tussock-tundra terrain is present to the south and north.

The view from the site is best to the west and south but is not extensive in any direction.

The site was discovered during surface inspection and consists of a clustering of more than 100 dark gray to black chert flakes within a 2 meter² area of exposed mineral soil and gravel. These flakes are of variable size, none being larger than 4-5 cm² and most in the 2-3 cm² range. A few isolated black chert flakes were observed outside this area and a black chert flake knife or retouched flake was present slightly east of the cluster. The site appears to cover a 4 x 8 meter area, and the flakes most likely represent a single flaking event. Most of the flakes appear to be bifacial retouch flakes, quite thin in relation to their diameters.

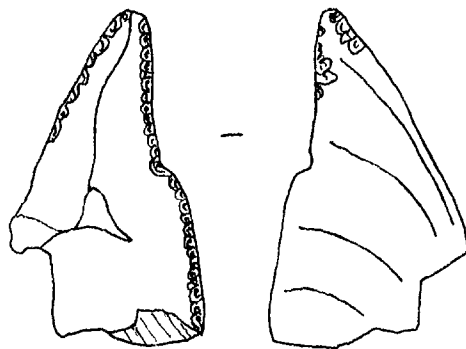
The flake knife or retouched flake is worked along the edges unifacially except at the tip which is bifacially retouched.

The site function is hard to assess other than a flaking station or possibly a minor processing locale. The site's relationship to other nearby sites can be argued by the similarity in lithic materials. The lack of true diagnostic artifacts precludes a true cultural or temporal assessment.

DRAFT

Site significance, based upon the level of investigation and the site's character, appears low except as the site is related to other sites in the local area and as part of the general prehistoric land use pattern.

At present the site does not appear to be threatened by any adverse impacts.



Black Chert Retouched Flake

WIS-069 Artifact - Actual Size

WIS-070

Site Elevation:
1800 ft

NW1/4, NE1/4
Section 25
T36N, R15W

Probable Site Type:
Lookout

Site Age:
3500-1300 B.P.

Fairbanks Meridian

Probable Cultural
Affiliation: Eskimo

This site is located on the east facing, upper 1/3 of a broad north-south trending ridge 2 kilometers north of the North Fork Koyukuk/Ernie Creek confluence. The site overlooks the broad North Fork Valley where it turns from west to south before joining with Ernie Creek. The site occupies a discrete, well-drained, bench perched at a subtle break-in-slope along the ridge. The ridge is composed of sand and gravel, as evidenced by backdirt from a bear excavation near the eastern edge of the bench, and may be a remnant lateral moraine.

Spruce alder, and dwarf birch are scattered over the southern and eastern portions of the bench. Various grasses, berries and herbaceous plants cover much of the surface giving the site area a park-like complexion.

Below the site, spruce and paper birch are thickly distributed over the well drained kettle and kame topography.

The view is excellent toward the uplands to the northwest and the lower terrain to the south. However, the best view is to the east toward the lowlands adjacent to the North Fork.

The site was discovered during surface inspection along a game trail that runs across the middle of the bench. Three flakes of dark gray and one of patinated gray chert were located on the flat portion of the site in a 5 meter linear distribution. The basal portion of a black chert projectile point was located in the backdirt of a squirrel burrow beneath a large spruce near the western edge of the bench. This fragment is somewhat similar to one found at WIS-068 (northern locality) 1 kilometer to the southwest. However, the WIS-070 specimen exhibits moderate basal edge grinding which was not exhibited by the projectile point base from WIS-068.

No subsurface testing was done here as the squirrel and grizzly bear excavations have effectively demonstrated that the site contains subsurface cultural materials. However, the amount and distribution of these materials remains unknown. There were no signs of recent human use of this location and no evidence of wildfire activity.

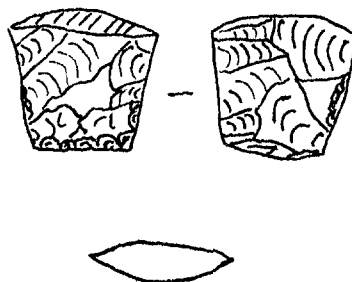
Similarities in lithic material and projectile point morphology suggest this site is probably related to other sites in the vicinity (067, 068, 069, 058, 071, 072, etc.) and therefore can tentatively be assigned to the Eskimo cultural group. Based solely on projectile point morphology, the site age could range from 3500 years ago, a manifestation of the Denbigh Flint Complex, to as recently as 1300 years ago representing the Ipiutak culture.

This site, like many others in the local area, probably served as a lookout or very short term camp associated with the hunting of sheep or caribou.

Natural impacts threatening the site appear to be limited to the burrowing of resident ground squirrels and their subsequent excavation by slaving grizzly bears. Such activity is probably already responsible for major reworking of the site and should, therefore, engender no great cause for concern.

Site significance, based upon the level of investigation and the apparent size of the site, is low except in the local sense as the site functions in its relationship with other sites in the general prehistoric land use pattern.

At present the site does not appear to be threatened by any serious impacts.



Black Chert Point Base

WIS-070 Artifact - Actual Size

WIS-071

Site Elevation: 1850 ft	NW1/4, NE1/4 Section 25 T36N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Eskimo

This site is located on a south facing lobe of a large, broadly rounded, north-south trending ridge 1.5 kilometers north-northwest of the North Fork Koyukuk/Ernie Creek confluence. WIS-068 is located 150-200 meters west-southwest and WIS-070 is located 250-300 meters to the northeast. The terrain in the site vicinity drops off gradually to the south, somewhat more steeply to the east, and very gently to the the west. The ridge appears as a discrete, well drained rise surrounded by undifferentiated rolling, glacial terrain.

Vegetation at the site is typical of the general region with dwarf birch, blueberry, lichen, grasses and low woody and herbaceous plants well represented. Gravel and mineral soil are exposed on the highest portion of the site as the result of frost action and wind erosion. Patches of

exposed gravel and mineral soil occur sporadically downslope to the south and west. The view from the site is good both to the east, up the North Fork, and west, across the Ernie Creek Valley, but is not extensive in other directions.

During surface inspection numerous flakes of gray, dark gray, black, brown, white, blue, and green chert were observed scattered over the exposed gravel and mineral soil in a 10 x 5 meter area. Three flakes which exhibited use retouch were part of this scatter.

Forty meters to the west, on a slightly lower unvegetated area, a biface fragment of gray chert was observed. Also at this location an alignment of fractured bedrock was observed. This configuration may or may not be a cultural feature, but its similarity to what is considered a cultural feature at WIS-068 makes the probability appear high.

Due to the exposed nature of much of the site area, no subsurface testing was initiated. There is a good possibility that a fair amount of subsurface cultural material may be present.

The proximity to and similar character of WIS-071 relative to the more extensive WIS-068 suggests those sites are related either culturally, temporally or both. But since no diagnostic artifacts were observed, further speculation is inappropriate.

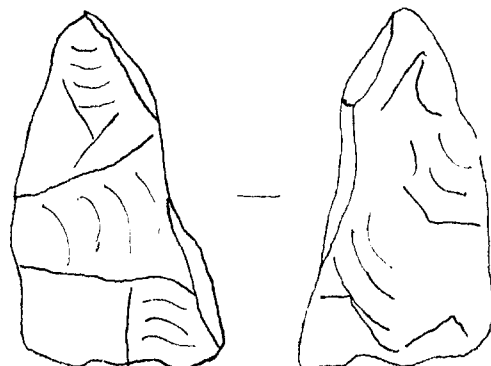
The variety of lithic material at this site may indicate more than one occupational event or at the least a single occupational event by a hunting party larger than one or two persons.

No impacts were observed here, other than some minor frost action which is probably responsible for the unvegetated areas of the site.

Because no diagnostic artifacts or dateable material was recovered from the site, no temporal or cultural assignments can be made. However, given the site's location and the similarity of lithic material shared with other nearby sites a logical assumption is that the site represents a manifestation of one of the Eskimo Continuum cultures.

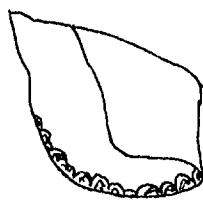
Site significance, based upon the level of investigation and the sites apparent size, is low except as the site is related to others in the local area as part of the general prehistoric land use pattern.

At present the site does not appear to be threatened by any adverse impacts.

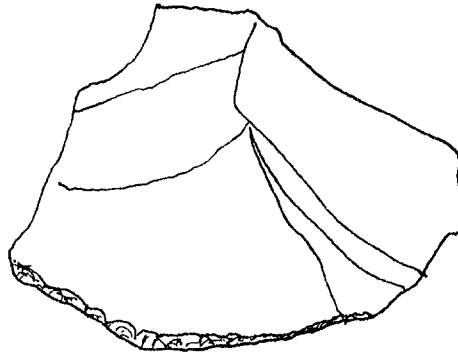


Black Chert Point Base

WIS-071 Artifact - Actual Size



Utilized Flakes



WIS-071 Artifacts - Actual Size

Site Elevation: 2000 ft Site Age: Unknown	WIS-061 NW1/4, NW1/4 Section 20 T36N, R14W Fairbanks Meridian	Probable Site Type: Lookout/Flaking Station Probable Cultural Affiliation: Unknown
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This site is located on a low, slightly sinuous esker, the axis of which runs parallel to the Ernie Creek Valley. The length of the esker is roughly 40 meters. The site lies about 130 meters above the valley floor. The view from the site is excellent. To the south the North Fork Koyukuk River can be seen as far as Boreal Mountain and Frigid Crags some 13 kilometers distant. To the north the Ernie Creek Valley can be viewed for a similar distance. The view to the east and west is limited only by the valley walls.

About 80% of the site area is vegetated. Vegetation consists of low herbaceous plants, moss and lichen and scattered clumps of grass as well as a robust growth of dwarf birch. The crest of the esker is the only portion which is not well vegetated. Scattered about are small areas of exposed mineral soil/glacial till. The unvegetated areas appear to be the result of frost action, ground squirrel burrowing and grizzly bear excavation. No erosional activity is apparent.

Along most of its length the esker is covered by a very sparse scattering of small chert flakes of various colors. One small fragment of a biface was observed. No test pits were excavated.

The site probably functioned as a lookout/flaking station. No diagnostic artifacts were observed as a result no cultural or temporal assessment can be made.

Site significance appears to be low - except in terms of the site's relation to other similar sites in the North Fork Koyukuk/Ernie Creek confluence area. The site is not being threatened by any natural impacts.

WIS-066

Site Elevation: 1700 ft	NW1/4, SW1/4 Section 25 T36N, R15W	Probable Site Type: Lookout/Flaking Station
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site lies atop the first knoll on the bluff forming the west side of the Ernie Creek Valley about 100 meters upstream from its confluence with Shushalluk Creek. This bedrock knoll provides an excellent view of Ernie Creek down to its confluence with the North Fork Koyukuk River, and an excellent view to the north. The view to the southeast is obscured by spruce trees. The site location has about 90% vegetation cover consisting principally of Vaccinium uliginosum and vitis-idaea, Cladonia sp., and grasses. The bluff face is actively eroding.

The site consists of nine black chert flakes lying within a 1 meter² area. The material was found on the surface and no test pits were excavated due to the shallowness of the soil. The flakes were found on the surface of the mineral soil in an area devoid of vegetation.

The site is probably a lookout/flaking station and has one of the most picturesque views of any site in this area. The lack of diagnostic artifacts precludes any temporal or cultural assessment of the site.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

WIS-072

Site Elevation: 1700 ft	NW1/4, SE1/4 Section 25 T36N, R15W	Probable Site Type: Unknown
Site Age: Est. 3500-1300 years	Fairbanks Meridian	Probable Cultural Affiliation: Eskimo

This site is located on a flat north-south trending river terrace of the North Fork Koyukuk River, 1 kilometer north-northwest of its confluence with Ernie Creek. The terrace extends north from behind the base camp #1 location for nearly 4 kilometers to near the southwestern foot of Two Prong Mountain. The terrace, at the site location, is elevated 4-5 meters above a seldom active river channel. A short distance to the south beaver has caused the inundation of low lying spruce. West of the terrace edge, which appears to be the site boundary, boggy ground predominates, which in turn is bounded by rising terrain to the west.

The terrace is primarily covered by small to large spruce. Dwarf birch predominates on the lower portions of the site while cranberry and lichen cover the ground in most of the well drained areas. To the west of the site small cotton-grass tussock meadows support scattered dwarf birch

and alder accompanied by a variety of flowering plants. Spruce predominate to the east, across the 10 meter wide river channel, where kettle/kame topography extends to the northeast.

This two locality site was discovered during a surface inspection along a game trail which parallels the overflow channel along the terrace edge. At locality "A" several flakes of black and gray chert and gray patinated rhyolite were found in an erosional area beneath a large spruce. A projectile point of gray/dark gray chert was present in this flake cluster. The artifact may be a sideblade but is more likely an endblade or projectile point due to the fact that it appears to have a definite base. The tool has been made on a flake on which the dorsal surface has been worked with parallel-oblique pressure flaking and the ventral face has received only minor, less controlled, modifications. The artifact appears to be complete, save for a small chunk missing from a lateral margin. The missing chunk appears to have been detached from the tool during manufacture. A few gray chert flakes were also found on the cutface of the terrace, presumably derived from up slope.

At locality "B", fifty meters to the north of the projectile point/flake cluster, five small flakes of black chert were found exposed in a game trail.

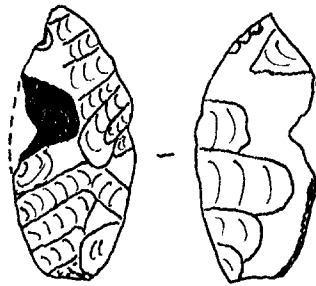
Due to a relatively robust vegetational cover over most of the terrace there were few areas of exposed mineral soil; therefore subsurface testing was initiated. Test pit #1, a 15 cm² test located 3 meters south of the projectile point/flake cluster, produced six black chert flakes, each less than 1 cm. in size, at a depth of 2-3 cm. below surface. The test pit was excavated in brown silty sand which changed to sand and gravel beyond a depth of 5 cm. below surface. Test pit #2, a 15 x 30 cm. excavation located five meters north of test pit #1, yielded a few flakes of black and gray chert as well as a moderate concentration of charcoal. This charcoal may be cultural in origin, however, given the wildfire history of this area a cultural origin is doubtful. Locality "A", appears to have a minimum size of 5 meters (N-S) by 2-3 meters (E-W). At locality "B", two 15 cm² tests located 45 and 52 meters north of datum, were excavated to a depth of 10 cm., and proved to be culturally sterile.

This site has the potential for subsurface materials as very little of the surface is exposed and very little subsurface testing was done. The site affords little in the way of a strategic view which may indicate that it had a function dissimilar to most other sites in the local area.

The single formal artifact from the site has an Eskimo "flavor" to it. Given the cultural "flavor" and its location, the site probably represents a culture belonging to the Eskimo Continuum; possibly in the time span between Denbigh and Ipiutak, 3500-1300 years ago.

No impacts appear to be seriously threatening this site. Site significance based upon the level of investigation, as well as the size and location of the site appears to be moderate. Because of the site's location, not a promontory location like the others in the area, additional investigations might provide interesting information.

Gray Chert Point



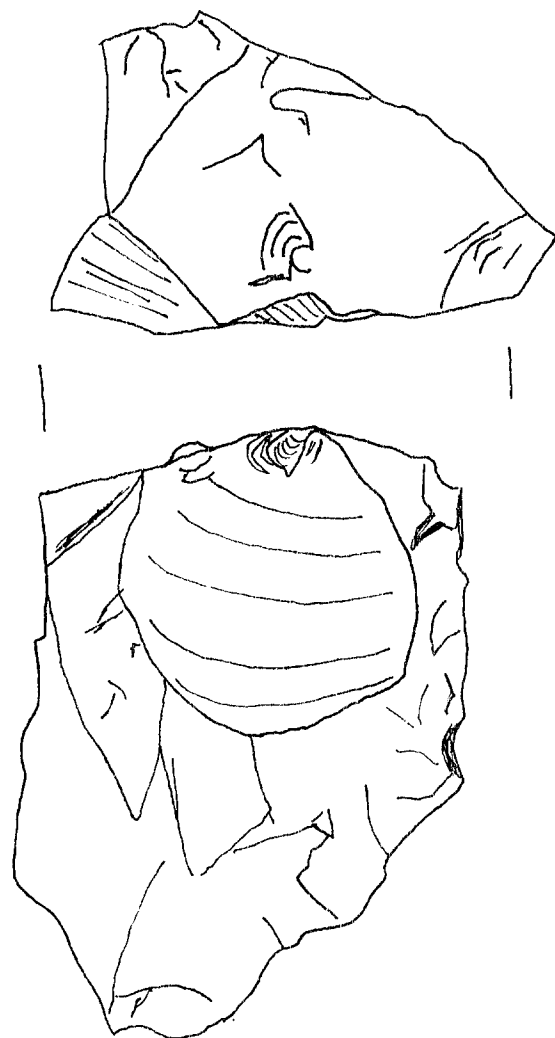
WIS-072 Artifact - Actual Size

	WIS-082	
Site Elevation:	NW1/4, SW1/4	Probable Site Type:
1700 ft	Section 25	Unknown
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies atop a bluff on the west side of Ernie Creek. The site is located about 90 meters west of WIS-066 and 70 meters east of a high point on the bluff. The sole artifact, a flake core, was 4 cm. from the bluff edge in unvegetated colluvial material. The site tag was placed 1 meter west of the flake core location. Vegetation in the immediate vicinity consists of Betula glandulosa shrubs, Arctostaphylos, Cladonia sp, and Picea glauca trees.

The single artifact at this site is a large black chert flake core. The artifact was almost ready to fall over the bluff edge and, therefore, was collected. Since there is no other cultural material at this location, the site may be merely the location of a discarded core. Alternatively, the remainder of the site may have already fallen over the actively eroding bluff into Ernie Creek. The core itself is of fairly good quality chert and does not seem to be exhausted. Perhaps the artifact was simply lost.

Because of the single artifact, site function is not determinable at WIS-082. Since the only artifact has been removed, the site no longer is of any importance from the standpoint of preservation, and the active bluff erosion is no longer detrimental.



Black Chert Flake Core

WIS-082 Artifact - Actual Size

WIS-083

Site Elevation:	NW1/4, SW1/4	Probable Site Type:
1700 ft	Section 25	Lookout/Flaking Station
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is situated near the south end of a north-south trending ridge that extends back from the right bank of Ernie Creek. The ridge is of glacial origin, perhaps a crevasse in-filling. The site has a good view of the surrounding area to the south, east, and north. To the west the view is blocked by ridges and knolls about 200 meters away. The eastern view extends across the North Fork Koyukuk to the opposite valley wall. Vegetation covers about 50% of this part of the ridge. Picea glauca, Betula glandulosa, Arctostaphylos uva-ursi, Vaccinium uliginosum and Empetrum nigrum are the most common taxa. The site area is presently experiencing some frost heaving, which is the only disturbance process influencing the site.

Within a 2 x 3 meter area about 15 meters from the south end of the ridge is a scatter of more than 50 black chert flakes of varying size. The flakes are all on the surface, and there appears to be no subsurface material at this site, though only two test pits were excavated.

This site appears to be another lookout/flaking station. The presence of only one kind of chert and the restriction of the debitage to a localized area indicates a single flaking event. The lack of diagnostic artifacts precludes temporal or cultural assessment. Site significance appears low as does research potential.

WIS-084

Site Elevation:	NW1/4, SW1/4	Probable Site Type:
1800 ft	Section 25	Flaking Station
	T36N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site is about 200 meters west of WIS-083 and 100 meters south of Ernie Creek in a complex of kame-like knolls. The site tag is about 4 meters west of the highest point on the knoll. Two localities are identified: one is in the vicinity of the site tag and a second is about 50 meters northeast. The view from the site is excellent; a 360° panorama including a good view up Ernie Creek Valley and south down the North Fork. At locality #1 the vegetation cover is about 35%, at locality #2 about 50%. In both locations the dominant taxa are Dryas octopetala, Salix sp., Arctostaphylos uva-ursi and Betula glandulosa. The knolls are surrounded by birch shrub tundra.

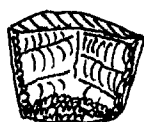
Both localities were discovered as a result of surface inspection. A projectile point base is located at the site tag. The artifact is made of dark gray chert and has a contracting stem. Three meters to the north of the site tag is a broken end scraper made of black chert. Microscopic examination shows moderate use-wear. Three meters west-northwest of the tag lies a broken black chert side scraper. In addition to these formal artifacts six other black chert flakes are scattered within a 4 meter radius of the site tag. At locality #2, 50 meters northeast of the tag, are two gray chert flakes and one black chert flake on the southwest corners of a sparsely vegetated area.

Locality #1 seems to represent a lookout/flaking station where both tool use and repair were undertaken. The projectile point base may indicate re-hafting activity, and the broken scraper, manufacture or use of the tool. Locality #2 shows flaking of at least two types of chert, black and gray. Because of the artifacts present, this is an interesting site as none of the other sites between Ernie and Shushalluk Creeks produced formal artifacts. The site is experiencing ongoing frost heaving, but is not in any danger of destruction.

DRAFT

Point Base
Dark Gray Chert

Scraper
Black Chert



End Scraper Fragment
Banded Black Chert

WIS-084 Artifacts - Actual Size

WIS-146

Site Elevation:
2200 ft.

NW1/4, NE1/4
Section 30
T36N, R14W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on the southern valley wall of the North Fork Koyukuk River approximately 300 meters south of the river and 150 meters west of Bombardment Creek. Situated on a rounded bedrock knoll nearly 175 meters above river level, the site offers an unrestricted view up and down the

valley. The site lies on the southern portion of this knoll and overlooks WIS-053 and WIS-054 which are located about 2 kilometers to the northwest. Vegetation at the site consists of dwarf birch, lichen, alder, and other woody and herbaceous plants. The knoll displays several bedrock outcrops but in the main is covered by sediment and vegetation. Ground squirrel and frost activity have affected the surface of the knoll in some places resulting in non-vegetated areas. No evidence of wild fire activity could be found here, although a recent (3-5 year) fire pit had been created nearly 30 meters north of the main lithic scatter at this site. The fire pit is most probably the result of recreational activity.

The site was discovered by surface reconnaissance. Lithics at this site are present at two localities approximately 20 meters apart. The first locality contained a single black chert waste flake. The second locality contained at least six chert microblade fragments of a variety of colors. These microblade fragments included medial and proximal fragments. No use or retouch was observed on these artifacts. The microblades occur in an area 2 meters in diameter which is a frost churned, and wind-eroded. No test pits were dug at this site due to ample exposed surface.

Based on the location and lithics, it appears this site may have functioned as an lookout/flaking station. The presence of microblades suggest the site may be about 2000 years old.

At present there appears to be a fair amount of recreational use of this knoll as a campsite, therefore the site may be adversely impacted.

WIS-077

Site Elevation: 1900 ft	NE1/4, SE1/4 Section 36 T26N, R15W	Probable Site Type: Lookout/Flaking Station
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on an abrupt bedrock outcrop approximately 150 meters above the valley floor. The outcrop is flat topped and bench-like in appearance. At the north end of the bench is a 15 meter² area of bedrock which is elevated approximately 1 meter above the rest of the bench surface. It was on this elevated area that the site was located. The view to the north extends up the Ernie Creek Valley for a distance of about 16 kilometers. The view to the south encompasses the North Fork Koyukuk Valley to the Gates of the Arctic (Boreal Mountain and Frigid Crags) a distance of 7 kilometers. To the west the view includes the Shushalluk Creek drainage and the mountains of the valley wall. To the east the view is up; visible were Dall Sheep on the steep face of Hanging Glacier Mountain.

The surface of the site is about 90% vegetated by low herbaceous plants, moss, lichen, grass clumps and scattered small spruce which do not exceed 10 meters in height or 15 cm. in diameter. Spruce are not present on

the site proper but line the perimeter making the site itself quite open in character. The few unvegetated areas are small, not exceeding one or two meters in diameter, and appear to be the result of frost action. The exposed mineral soil contains numerous spalls and chunks of bedrock as well as some glacial material. Some small pieces of charcoal were observed on and in the surface in several areas and may be of cultural origin as no evidence of wildfire was observed. Only minor erosion is occurring around the edges of the site area. Cultural material was observed in two of the exposed mineral soil areas and consisted of two chert flakes lying on surface about 3 meters apart. One was a large bluish-white flake the other a white chert with reddish brown banding. No other surface material was observed. Two 15 cm² test pits were excavated adjacent to the flake locations to a depth of 6 cm. No additional cultural material was encountered. Soil is a reddish brown loess mixed with bedrock spalls and glacially transported pebbles and cobbles.

The site probably served as a lookout/flaking station possibly associated with sheep hunting. No assessment of temporal or cultural associations can be made. In the general sense site significance is low. However the site is locally significant in its association with and similarity to other sites in the confluence area. At present the site is in no danger of adverse impacts.

WIS-078

Site Elevation:	SW1/4, NW1/4	Probable Site Type:
2100 ft	Section 31	Lookout/Flaking Station
	T36N, R14W	(Sheep Hunting Site?)
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site lies on a glaciated bedrock knoll that protrudes from the east side of the North Fork Koyukuk River Valley 1 kilometer southeast of its confluence with Ernie Creek. The site is situated about 90 meters southwest of the highest rock outcrop on the prominent knoll. There is little sediment on this feature, what there is lies between cracks in the rocks and on lower flatter areas. Vegetation at the site location consists of Dryas octopetala, grasses, sedges, and mosses. About 40% of the site area is vegetated.

The location of the site is just below a rock outcrop, in a crack filled with sediment. More than 100 black chert flakes were observed on the surface and in the upper 2 cm. of sediment. The concentration of flakes is limited to a 2 meter² area. The chert seems similar to the chert cobbles we have found in the local glacial till. The flake cluster seems to represent a single flaking event.

The view from the site is a remarkable 360° panorama of the North Fork, and Ernie Creek Valleys, and a view eastward of the talus slopes above

which are presently frequented by many Dall sheep. This site appears to be a lookout/flaking station possibly used in the pursuit of Dall sheep. Presently the site suffers from no destructive processes, save the ubiquitous frost action in the region.

WIS-056

Site Elevation: 2000 ft	SW1/4, NW1/4 Section 31 T36N, R14W	Probable Site Type: Lookout
Site Age: >2000 B.P.	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site occurs nearly 75 meters above the North Fork Koyukuk River on the east bank directly across from the mouth of Ernie Creek. Situated on a large rounded knoll, the site offers view potential for several kilometers south north, and west of this location. This site overlooks nearly the entire section of river that passes around this "corner" of the valley, as well as the mouth of Ernie Creek.

Vegetation at the site consists primarily of caribou lichen, dwarf birch, and a few spruce trees. There are several step-like knolls around this site which head upwards to the west slope of Hanging Glacier Mountain and terminate in good sheep habitat. The rounded shape of these knolls reflects the past glacial activity. Presently, swales of poorly drained soils exist between the knolls. No distinctive sign of wildfire activity can be seen at the site.

The site was discovered by surface reconnaissance. Between 10 and 15 small waste flakes were found over a 25 meter area. A small cluster of predominantly black and grey chert flakes were found on the southwestern slope of this knoll. Nearly 5 meters north of this cluster another black chert flake was found within 1 meter of what appears to be a microblade fragment (distal), also of black chert. Fifteen meters north an obsidian flake was found on the surface. This flake and one located in the southernmost flake cluster were collected for hydration analysis. None of these flakes showed distinctive signs of use-wear or retouch. No subsurface testing was conducted due to cultural material occurring in predominantly unvegetated, frost churned areas.

Based on the character of the lithics and site location, it appears this site represents a hunting lookout. The microblade fragment suggests a minimum age of this site of at least 2000 years B.P. The variety of lithic material may indicate that the site experienced more than one occupational event.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

WIS-073

Site Elevation: 1600 ft	NW1/4 NE1/4 Section 22 T35N, R15W	Probable Site Type: Campsite
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located 1.5 kilometers west-northwest of the confluence of Kachwona Creek and the North Fork Koyukuk River. The site lies on one of a group of distinct, drift-mantled, bedrock benches north of the Tinayguk River Pass. The bench is located approximately 200-300 meters north of the deeply incised Kachwona Creek and is defined by fairly steep sides, to the south, a 10 meter drop, and to the east, a 15 meter drop. The north and west boundaries of the bench grade into the gently sloping valley wall. Upon this bench lies locality "A". A less well-defined bench, broader and roughly 5 meters higher in elevation, occurs 100 meters to the south. The eastern extension of the site ridge is a couplet of lower benches at 10-15 meters and 25-30 meters lower in elevation. These lower benches are designated locality "B", 50 meters east, and locality "C", 85-90 meters east. Beyond locality "C" the terrain drops sharply, 15-20 meters, to the level of the upper portions of the well developed Kachwona Creek alluvial fan.

The surrounding lowland area is vegetated predominantly with large spruce, cottonwood, alder, and sphagnum moss close to the active creek channel. Dwarf birch, willow and low woody and herbaceous plants are present on the better drained areas away from the creek. Vegetation on the more elevated portions of the site is characterized by dwarf birch, alder shrubs, scattered medium to small spruce, low woody and herbaceous plants, and lichen. Cotton grass tussocks are present in the more poorly drained areas.

The best view from the site can be had at locality "A". The view, for the most part, is virtually unlimited except to the southwest, north, and east where the view is limited to 400 meters by local obstructions. Views from localities "B" and "C" are generally good but limited to an eastern focus. Frigid Crags, a 5,550 foot peak, rises abruptly on the south side of Kachwona Creek. Boreal Mountain, a 6,666 foot peak, rises to the east-southeast opposite the confluence of Kachwona Creek and the River. Together, Frigid Crags and Boreal Mountain opposite each other on the east and west banks of the North Fork Koyukuk River, form the "Gates of the Arctic", from which the park derives its name.

The surface of locality "A" is a patchwork of exposed gravel and fractured bedrock/lag deposits. The site was discovered through surface inspection of the area. Archeological materials observed consist of:

#1. A bifacially worked dark gray or black chert projectile point or knife which is missing a small portion of the base. This biface is well made and may possibly have been resharpened as the edges are slightly asymmetrical. The basal edges are ground and in cross-section the biface is lenticular.

#2. A pentagonal, bifacially worked, dark gray or black chert projectile point. Pot-lid fractures have removed portions of both surfaces suggesting that the artifact was exposed to a high heat source for a prolonged period of time. Whether the heat source was or was not cultural in origin cannot be determined. The basal edges show slight notching and the tip appears to have been resharpened as the artifact is short in comparison to its width. This projectile point appears to be identical to a one found at site XSP-054 in the moraine complex at the southeast end of Walker Lake. Typologically, this artifact is very similar to projectile points recovered from Band 5/6 at the Onion Portage site (Anderson, 1968b)

#3. A flat, stream worn quartzite cobble, which is rounded and subrectangular in shape with opposing bifacial notches near the midpoint of both margins. There is evidence of use at both ends of this tool which, along with the notches, suggest that the tool may have been hafted and employed as a hammer.

#4. A complete dark gray chert end scraper made on a tabular flake is rectangular in shape with rounded corners. The tool exhibits two parallel arrises along the long edges suggesting blade removal. The working edge appears moderately utilized with some polish and smoothing evident. The edges appear to be ground as though the implement was hafted.

#5. A complete unifacially worked gray chert side scraper/knife made on a relatively thick blade-like flake. This specimen exhibits continuous, intentional, retouch along the right dorsal margin. The proximal end of the tool displays a large striking platform of near cortex type material, which grades into a very fine grained bluish-gray chert. The tool appears to have been hand held.

#6. A prepared blade (complete) of gray marbled chert with two arrises and a semi-spiral curvature along the length of the artifact. The distal termination forms a slightly excurvate edge which has been intentionally retouched dorsally while the parallel edges have received minor retouch through use. This tool may have functioned as both a scraper and a knife.

#7. An amorphous biface of low grade chert made on a blade-like flake. The left dorsal and both ventral margins have been modified through percussion flaking and the distal tip may have been burinated. The tip appears to have been utilized as it exhibits some crushing and slight polish.

#8. A utilized flake of gray marbled chert, with a heavily prepared platform. The utilization appears to be responsible for the edge alteration rather than intentional modification.

Between 50-100 flakes of black and gray chert and a few obsidian flakes, one exhibiting possible use, were also present on surface at locality "A". Two probable hammerstones were observed each made of a granitic type material and both exhibiting battering at both of the respective long axis ends. A possible tent ring feature was observed composed of at least nine rounded cobble-boulder sized rocks in a circular arrangement, 2.5 meters in diameter.

Limited subsurface testing was carried out at four locations in locality "A". Test #1, a 20 cm² excavation, was excavated in the center of the possible tent ring and was culturally sterile. This excavation indicated only minimal soil development has occurred at the site. Two other 20 cm² tests were excavated in areas of stratigraphic potential but neither indicated more than several centimeters of soil and both were culturally sterile. Test #3, a 20 cm² excavation, located 4 meters south and 2 meters east of datum, was excavated through a robust moss cover to a depth of 15 cm. Frost shattered schist and silt was the soil matrix encountered which yielded only 2-3 very small black chert flakes just below the decomposed organic layer.

Locality "B", located 50 meters east of datum exhibited at least two flakes of black chert on surface. Locality "C", 85-90 meters east of datum, displayed, on surface, a single piece of black chert from which a few flakes had been struck so that it may be classified as a flake core.

The variety of lithic material at the site suggests more than a single occupational event took place. The artifacts are not of the diagnostic type and it is therefore difficult to assign a culture or time of occupation to the site. Given the site's location, it is reasonable to assume that most of the occupation, through time, was by people of the Eskimo Cultures.

A sample of the surface obsidian from locality "A" for hydration analysis and yielded a hydration rind thickness of 2.38u. Using a hydration rate of 1.44u²/1000 years the obsidian indicates an age of 3934±232 years B.P. for the occupational episode it represents. However, while this date may be correct there is an equal chance that it is not. The hydration measurement may be in error and the hydration rate used is one that was developed in the area of the upper Kobuk River (see Kunz, 1984) which lies 212 kilometers to the west and 116 kilometers to the south. The upper Kobuk River area lies in a different climatic regime than does this site. Such a climatic difference may effect the effective hydration temperature (EHT), which is beleived to be the single most important factor governing the rate at which a given piece of obsidian hydrates. Therefore culturally altered obsidian from the upper North Fork Koyukuk River may have a different hydration rate than chemically similar obsidian from the upper Kobuk River. If such is the case the hydration rate of 1.44u²/1000 years and the chronology are not applicable. At the least, however, a general intra-area chronology can be generated from the hydration data. In other words, the obsidian with the thickest hydration rind from an area site is probably the oldest, the next thickest is the next oldest, and so on.

Because of the extent of the unvegetated areas of the site and the apparent shallowness of the soils, the surface cultural material is probably a reasonably good indicator of site size and artifactual density.

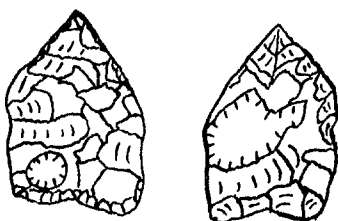
Surface evidence suggests use of the site area over a fairly long period of time. The pentagonal projectile point is similar to some recovered at the Onion Portage site from Band 5/6 (Anderson, 1968b). At Onion Portage

this style of projectile point has been dated ca. 4600 B.P. years as previously stated the obsidian at WIS-073 suggests one occupation of the site occurred at ca. 4000 years B.P. Lastly, the tent ring, most often associated with recent Eskimo activities in this region, may indicate use of the site area at some time during the last 500 years.

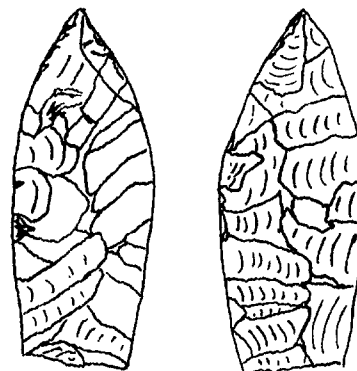
Use of the site area is almost certainly greater than that indicated by the observable physical evidence. The site is located in an excellent position to serve as a hunting camp. Sheep are plentiful in the area as are moose and caribou at certain times of the year. In addition the site is located at the head of what might have been a travel route or hunting circuit either to the Tinayguk or John Rivers.

Natural impacts at the site seem to be limited to frost induced erosion and subsequent defoliation. Site significance, based upon the level of investigation and the sites size, is moderate in the regional sense but may be higher in terms of its relation to other local sites and the general prehistoric land use patterns of the area. Additional research at this site might produce some interesting data of local importance.

DRAFT



Black Chert Point

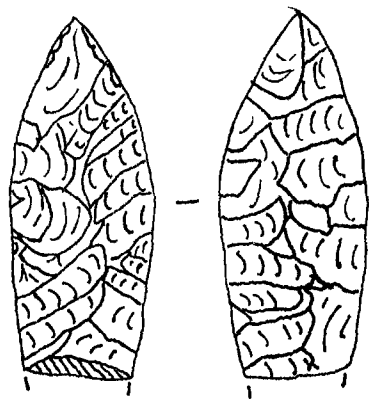


Black Chert Point/Knife

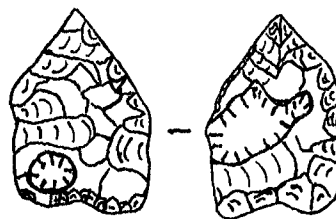


Gray Chert Utilized Flake

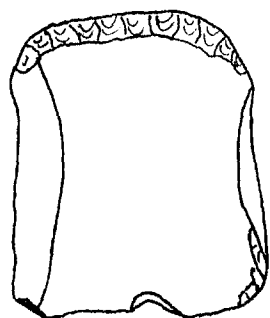
WIS-073 Artifacts - Actual Size



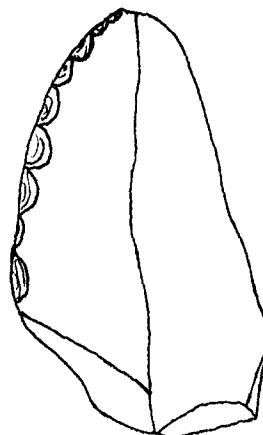
Black Chert Point Fragment



Black Chert Point



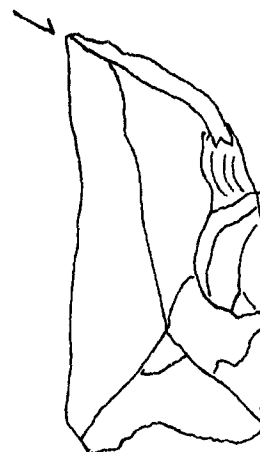
Gray Chert End Scraper



Gray Chert Side Scraper



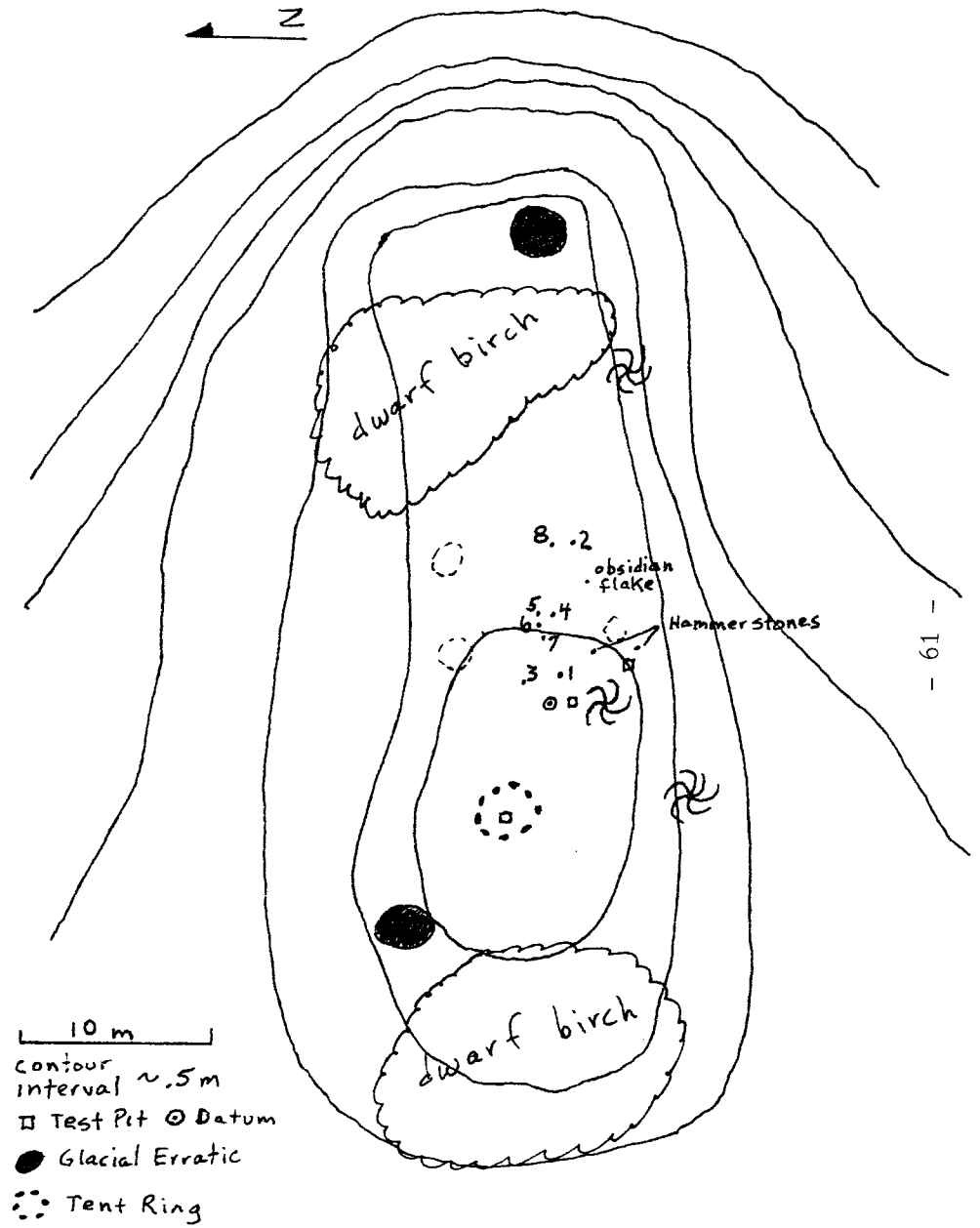
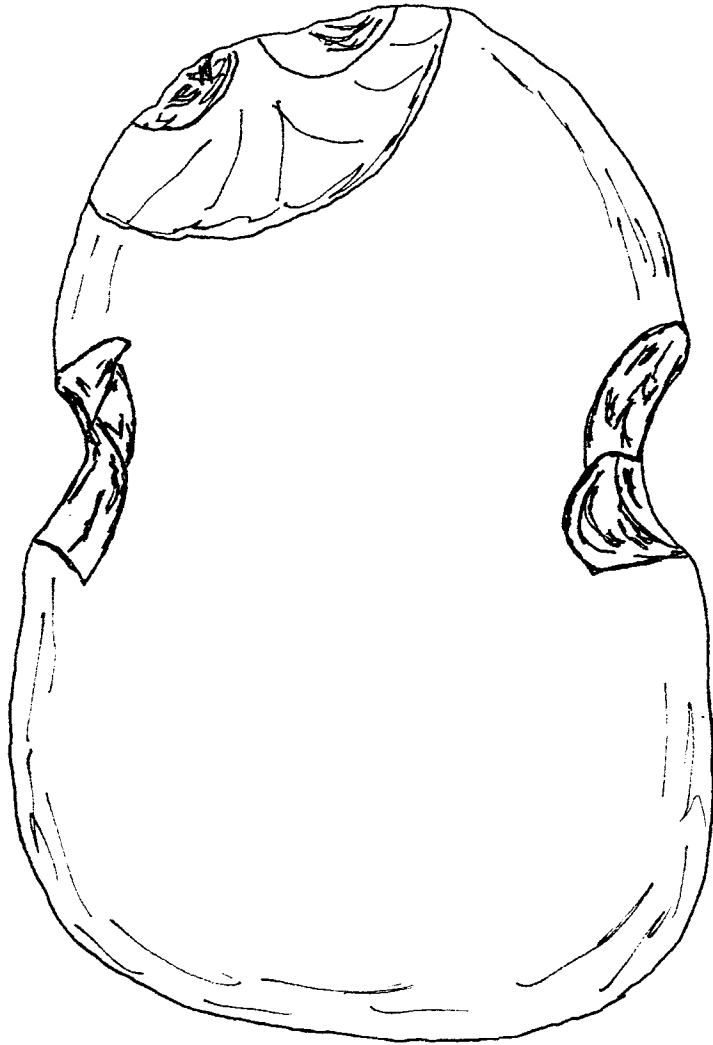
Gray Chert Blade



Gray Chert Burin On Biface

WIS-073 Artifacts - Actual Size

Notched Cobble



WIS-075

Site Elevation: 1600 ft	NE1/4, NW1/4 Section 22 R15W, T35N	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located approximately 250 meters north of Kachwona Creek and nearly 1 kilometer west of the North Fork Koyukuk River. Situated on a series of bedrock knolls, the site overlooks a river terrace almost 200 meters to the east. This series of knolls has been glacially scoured and is oriented roughly north-south along the valley wall. WIS-074 is located approximately 175 meters southeast of this site. The view from WIS-075 is 5 kilometers in all directions except to the west, which is limited to several hundred meters.

Vegetation at the site consists primarily of caribou lichen, dwarf birch, and herbaceous plants. The knolls are partly unvegetated due to frost action and the exposure of bedrock. There is some evidence of game movement across these knolls. There are no distinctive signs of wildfire activity at this location.

The site was discovered through surface reconnaissance. A group of three localities comprise the distribution of lithic material on each of three distinct knoll tops spaced approximately 50 meters apart. Each locality contained a fairly unique set of cultural material, thus making a positive correlation between these localities difficult.

Locality A contained the majority of formal artifacts, as well as the only obsidian artifacts at this site. Surface finds included a ground notched, obsidian, projectile point base fragment, an obsidian utilized flake with cortex and two black chert biface fragments. In addition to these artifacts at this northernmost locality, two moderate sized flake scatters were found on the knoll top containing waste flakes of black and gray chert, obsidian, basalt, and a white chert-like material. The two flakes scatters were no greater than 3 meters in diameter nor more than that distance apart. In addition to the lithic material, a distinctive bone fragment was found which displayed evidence of notching and sharpening. This artifact may have functioned as an awl. Two 10 cm² test pits were excavated through hard packed loess and fragmented bedrock and produced no additional cultural material.

Locality "B" contained a black chert flake core, as well as a few scattered black and gray chert and basalt waste flakes. This cultural material was found in an unvegetated area. No subsurface testing was conducted at this locality.

Locality "C" is the southernmost location of cultural material at this site. It contains a black chert knife fragment and a small scatter of black chert and obsidian waste flakes.

WIS - 075

● = GLACIAL ERRATIC

* = Datum

• = FLAKE

B = BIFACE

P = POINT

FC = FLAKE CORE

BK = BLADE/KNIFE

~5m

Contour interval ~ 2m

LOCALE "A"

LOCALE "B"

LOCALE "C"

KACHWONA
CREEK
~250 M

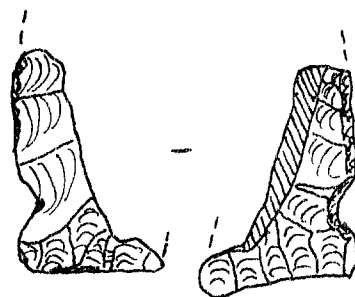


Artifacts - Actual Size

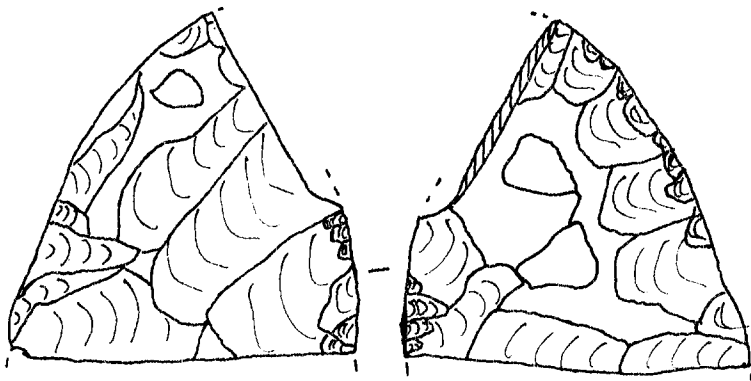
WIS 074
~175m



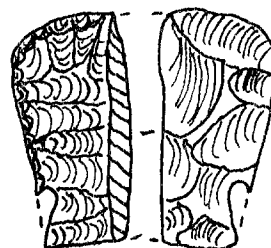
Bone Needle (?)



Notched Projectile Point
Fragment - Obsidian



Biface Fragment - Black Chert



Biface Fragment - Black Chert

The knife lies immediately adjacent to the flake scatter. A 10 cm² test pit was excavated in the shallow loess and fragmented bedrock substrata and produced no further cultural material.

Based on the location and lithic material found at this site it appears to represent some kind of lookout and tool manufacture location probably associated with hunting. As mentioned before, the three localities cannot be proven contemporaneous, but it appears that similarities in such materials as the obsidian may suggest a temporal continuity. The obsidian projectile point base was analyzed for hydration data. This analysis determined that no hydration rind was present and therefore no age assessment can be made. It is also possible that the landscape gave this site a unique location whereby game filtering through the knolls could be easily ambushed. Regardless, the site does contain a variety of interesting artifacts, such as the notched projectile base which may indicate the presence of a Northern Archaic component. Further analysis of the obsidian and other cultural material may make this an interesting site. At current levels of human and natural impact, the site appears safe from adverse impact.

DRAFT
WIS-085

Site Elevation:
1800 ft

SW1/4, SE1/4
Section 1
T35N, R15W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is situated on a small knoll about 1.5 kilometers east of the North Fork Koyukuk River. The knoll is about 60 meters north of Pyramid Creek, and 30 meters north of the creek bluff edge. Vegetation at the site is dominated by Picea glauca, Betula glandulosa, Empetrum nigrum, Ledum uliginosum. The view from the site is excellent to the southwest, west and northwest encompassing the North Fork Koyukuk River and surrounding flat, marshy upland. A modern campfire with a portion of an Albers Cornmeal box lies 3 meters to the north of the site tag.

The site consists of a single black chert flake lying on a slight southern slope on the south side of the knoll. No other cultural material is present, and no test pits were excavated.

The site probably functioned as a lookout/flaking station, although the sole black chert flake is little evidence to support any explanation.

The significance of the site is low as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

WIS-086

Site Elevation: 1800 ft	SW1/4, SE1/4 Section 1 T35N, R15W	Probable Site Type: Hunting Camp
Site Age: 1000 years B.P.	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a bedrock knob about 250 meters northwest of WIS-085. It lies about 1.5 kilometers east of the North Fork Koyukuk River and 400 meters north of Pyramid Creek. The knoll overlooks a low, swampy, sedge tussock "terrace" that runs along the Koyukuk north of Pyramid Creek. The knoll is 100% vegetated, and the dominant taxa are Picea glauca, Empetrum nigrum, Vaccinium vitis-idaea. The view from the site is excellent in all directions; to the south, west, and north the view encompasses the valley of the North Fork from Gates of the Arctic north to Ernie Creek.

No cultural material was observed on the surface. Due to the excellent location of the knoll, and the complete vegetation cover that cloaked the surface, a test pit was excavated at the promontory on the west end of the knoll. The test pit encountered a fire hearth containing charcoal and burned bone. Seemingly, the hearth is quite old, as the bone and charcoal are well mixed with the root mat and mineral soil. Some of the bone is unburned, some is partially burned, and some is calcined. The bone is highly fragmented, but appears to be that of caribou or sheep. From the fragmented bones identification was made of the heads of three femora, indicating at least two animals are represented in the collection. Because the site lies right at the base of Hanging Glacier Mountain, where we have been observing numerous Dall Sheep, it is probable that the remains are sheep. The hearth was shallow, no deeper than 15 cm. No lithic material of any kind was found in the test pit.

A sample of the charcoal was submitted for radio active carbon analysis and returned a date of 990 ± 90 years. B.P. (Beta 11085).

The site provides direct evidence of prehistoric subsistence in this region. Unfortunately, no artifacts were recovered at this site, making a cultural assignment impossible.

Site significance and research potential appear to be low. The site does not appear to be in danger of impact by human or natural forces.

WIS-074

Site Elevation: 1500 ft.	NW1/4, NE1/4 Section 22 T35N, R15W	Probable Site Type: Lookout/Camp
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

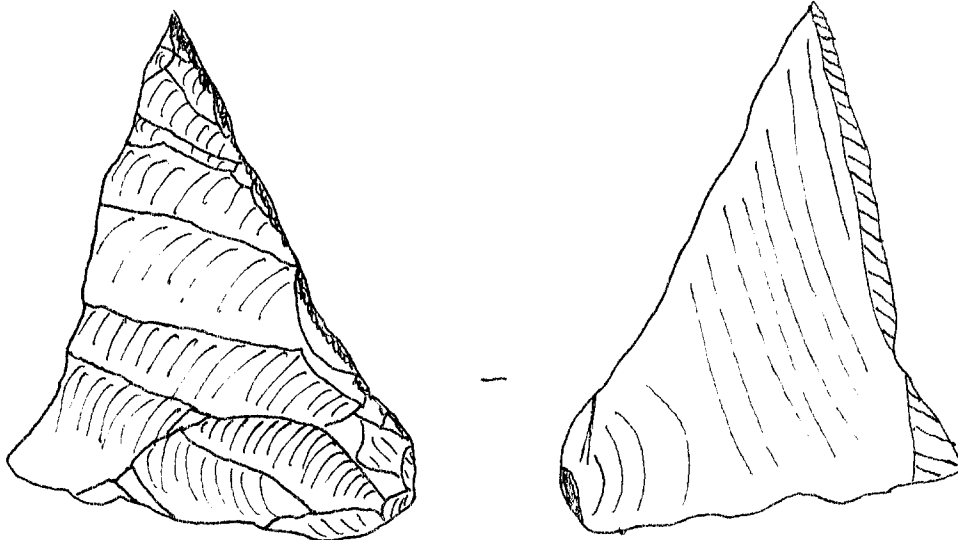
This site is located 100 meters north of Kachwona Creek and nearly 1 kilometer west of the North Fork Koyukuk River. Occupying on a series of knolls just above the creek, the site offers a view of the area just north of the creek and along a terrace to the north. This site is strategically located just east of the valley constriction of Kachwona Creek and WIS-075.

Vegetation at the site consists of dwarf birch, lichen, woody plants, and scattered spruce trees. Spread over four different localities, the site area covers two knoll tops, which are largely unvegetated, and the areas between which are hummocky and brushy. Glacial erratics are scattered along some of the knoll tops. Frost action is evident in all four localities and some ground squirrel burrowing is evident.

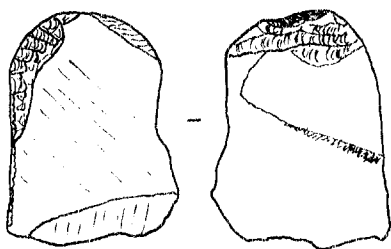
The site was discovered through surface observation of lithics. The four localities are situated like four corners of a square. Surface lithics and hearth features were found and tested at two localities, but no subsurface cultural material was located.

At locality "A," which is situated at the northeast corner of the site, three hearth features were identified by fire-cracked rock protruding from the vegetation. Several black chert waste flakes were found just downslope from the hearths. Subsurface testing failed to produce cultural material. Test #1 (30cm²) produced fire-cracked rock and some slightly burned bone fragments. The stratigraphy here is as follows 0-4 cm. below surface, surface organics and root mat, 4-10 cm. below surface organic silt, fire cracked rock, moderate to slightly burned bone fragments, and flecks of charcoal, 10-12 cm. below surface gray ash with charcoal, some oxidized sandy silt, and 12 cm. below surface yellowish sandy-silt with cobbles. Approximately 5 meters south of this hearth was an arrangement of a large to medium boulders. A test pit, 30 cm², excavated to a depth of 10 cm. adjacent to the boulders produced no cultural material. Nothing conclusive could be determined regarding this feature.

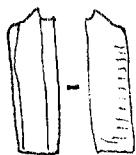
At locality "B", which is located approximately 40 meters south of locality "A", several possible hearth features were observed and tested. No charcoal was found as a result of subsurface testing. On the surface, however, a large, black chert flake knife was found in association with a scatter of waste flakes. The flake knife exhibited evidence of use-wear along one margin and a pointed tip which may have served as a punch. A medial section of a dark grey chert microblade was found nearly 2 meters south of the flake knife. The waste flakes were black and gray chert and showed no signs of use-wear or retouch.



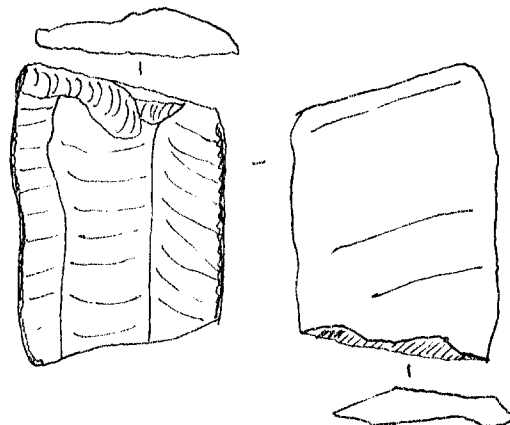
Black Chert Retouch Flake



Black Chert Scraper



Microblade
Dark Gray Chert



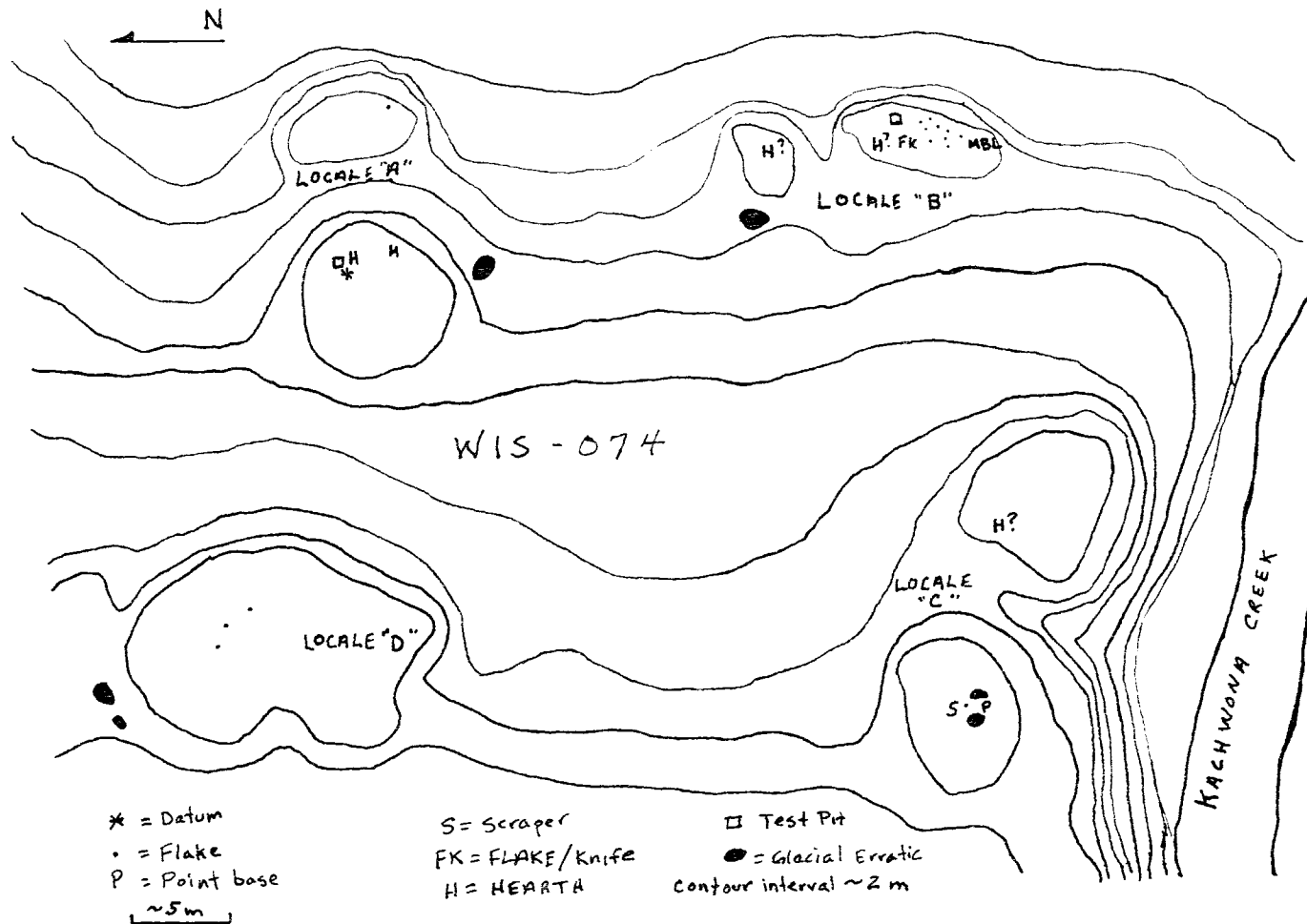
Blade - Black Chert



Point Fragment



Flake Core
Black Chert



Locality "C" is located approximately 50 meters west of locality "B" and occupies a knoll just above Kachwona Creek. At this locality only surface lithics were discovered. Cultural material included a small projectile point fragment and a flake scraper both of black chert. No subsurface testing was conducted at this locality.

Locality "D" completes the four corner pattern by being situated nearly 75 meters north of locality "C" and almost 40 meters west of locality "A". At locality "D" four black chert flakes were located. One of these flakes showed signs of retouch. No subsurface testing was conducted at locality "D" and no features were observed.

Based on the four localities and their contents, it appears that this site represents an area of fairly concentrated use. The activities here probably included camping and hunting. The variety of tools tend to support this supposition. Whether or not these activities were spread over a period of time cannot be determined. Inadequate amounts of charcoal in the limited test failed to produce enough datable material. This area, just north of Kachwona Creek, displays a number of potentially rich sites and certainly deserves further investigation. The temporal span could range from beyond 2000 years B.P. based upon the presence of microblade technology.

Recreational camping in this area is not infrequent and the three sites in the area (WIS-073, 074, and 075) are candidates for possible human impact.

WIS-079

Site Elevation: 1920 ft	NW1/4, NE1/4 Section 11 T35N, R15W	Probable Site Type: Quarry/Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a bedrock outcrop of limestone and chert about 100 meters above the North Fork Koyukuk River and 500 meters west of the river. Although the site lies below the limit of trees and visibility is somewhat obscured by spruce, the site does offer a good view of the river and of the upland areas on the west side of the river. The vegetation is dominated by bushy areas of Betula glandulosa and open areas with Dryas octopetala, Vaccinium uliginosum, Salix sp., and grasses. Scattered Picea glauca occur on the site. A band of poor quality black and gray chert occurs in the outcrop on the southern end of the site a few meters below the top of the outcrop. On the northwest end of the site is an outcrop of red shale.

The entire top of this outcrop area contains cultural material. A thin scatter of black chert flakes may be found throughout the site. In some areas the cultural material is more concentrated. Two projectile points

were found on surface one of black chert with an imperfection in the material near the top, and one of dark gray chert that had a CaCo_3 accumulation on its bottom side. A black chert scraper was also found. Several scatters of flakes were observed, including one containing both black, gray, and red chert, as well as clear and dark obsidian. Some of the black chert flakes are of poor quality material, possibly the chert from the outcrop below the site was being utilized. This may explain the presence of the site on a bluff that is no better than others in the region except for the presence of the chert outcrop.

A 20 cm² test pit was excavated just south of two large spruce trees. The excavation produced three gray chert flakes, one black chert flake, and two burned bone fragments. A similar sized test pit excavated near the site tag produced 14 black chert flakes. Most of these flakes appear to be of the material cropping out at the site. This test pit also produced coarse and a fine grained gray chert flakes.

This is an important site because it appears to demonstrate the use of local raw materials for lithic manufacture, produced two projectile points, and a great diversity of raw lithic material. The site appears to lack dateable charcoal and has no direct evidence of subsistence activities, but nevertheless, is one of the more interesting sites found on the upper portion of the river.

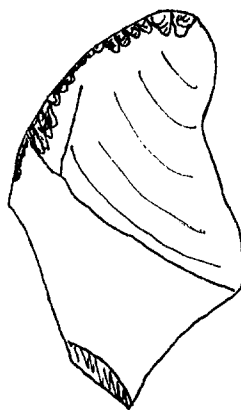
The variety of lithic material suggests that the site was the location of several occupational events. The formal artifacts are not diagnostic and therefore no temporal or cultural assessment can be made. However, the obsidian may provide a hydration date.

There appears to be little danger of either human or natural impact at this site. The significance level of this site is high enough that the site should be given protection consideration if any future impacts should threaten it.

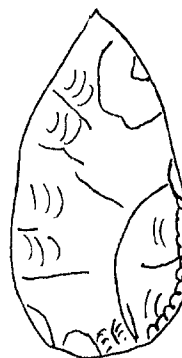
WIS-079 Artifacts - Actual Size



Gray Chert Projectile Point



Obsidian Scraper



Black Chert Projectile Point

MAP AREA #2

NORTH FORK KOYUKUK VALLEY: FISHLESS CREEK TO REDSTAR CREEK

Camp #3 and #4 June 16-28

On June 16, Camp #3 was set up on the east side of the river about 1 3/4 miles below the mouth of Fishless Creek. Seven days were spent working out of this camp. An area of roughly 4 square miles was surveyed and 11 prehistoric sites were located.

The majority of these sites are small and appear to be hunting lookouts or very short term campsites. Two of the sites, however, are large and exhibit formal hearth remains, numerous artifacts and a wide variety of lithic material. The artifacts at the two large sites suggest game butchering and hide working occurred at these probable hunting camps.

The largest of these sites, WIS-076, is one of the most interesting and important sites that was located during the 1984 field season. Radio active carbon dates, obsidian hydration dates, and artifact types, including a fluted projectile point and multi-faceted burins, indicate that this site has been occupied numerous times over the past 10,000 years. Obsidian hydration analysis of the fluted projectile point indicates that the site may be as old as 11,000 B.P. making it the oldest known archeological site in Northern Alaska.

On June 23, Camp #3 was struck and gear, supplies, and personnel were loaded aboard the rafts and floated roughly 5 miles down river to the Camp #4 location. Camp #4 was located on a gravel bar on the east side of the river roughly 1/2 mile above the Cladonia Creek confluence.

Work was conducted out of Camp #4 for a period of five days. During that time 17 prehistoric sites were located in a surveyed area of roughly 5 square miles.

A very tight cluster of 14 prehistoric sites occurred in the Redstar Creek/Lakes area. The majority of these sites appear to be small, short duration, hunting camps and/or hunting lookouts. Although none of the sites were very large, several had hearths present and a wide range of artifacts and lithic materials. Two of these sites appear to have been base camps for hunting activities and probably served as game butchering sites as well.

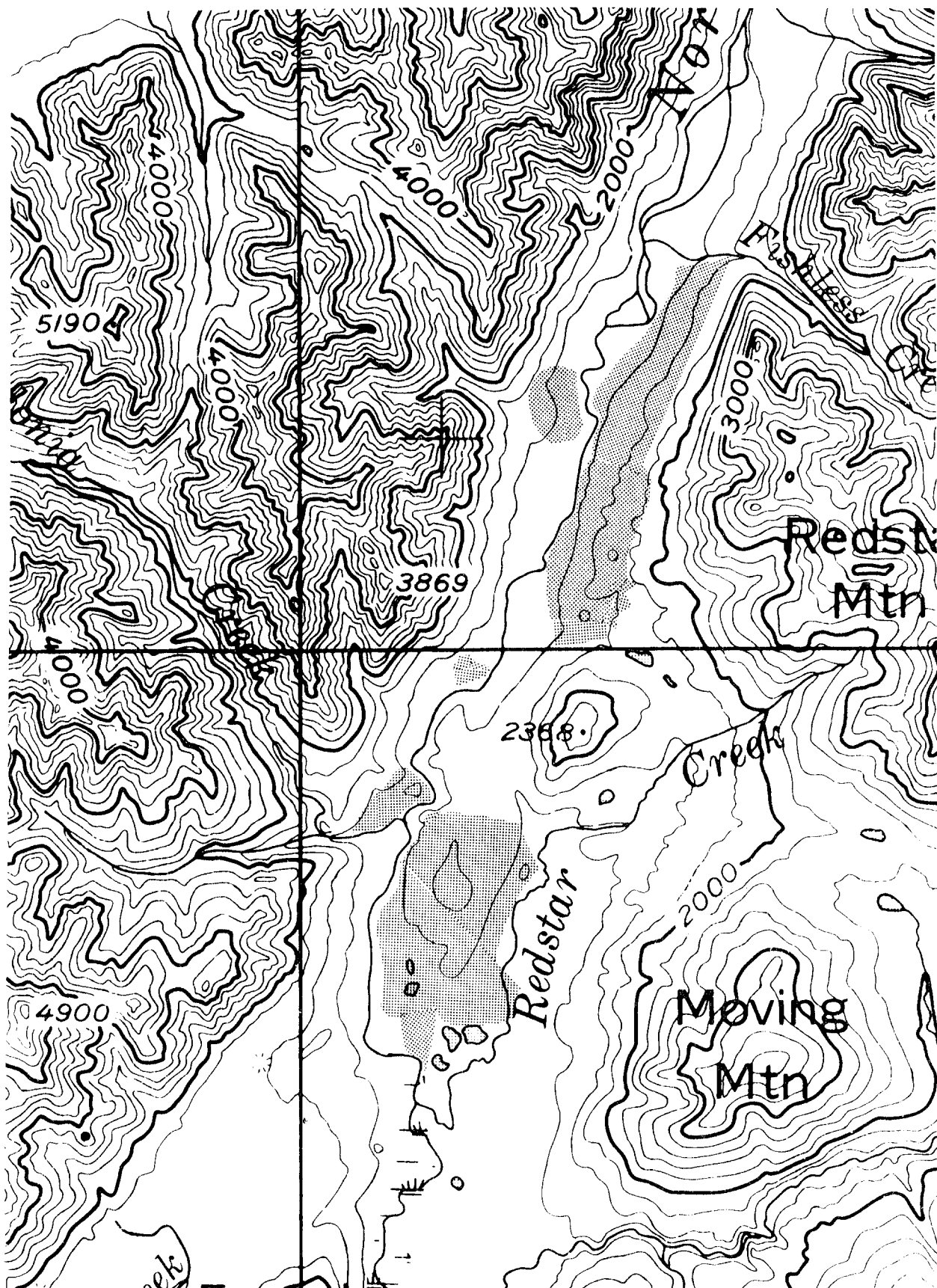
The majority of the sites appear to have been used by Eskimo peoples. Typical of this is WIS-097 which was occupied ca. 4000-2000 years ago by people of the Denbigh Flint Complex, the earliest of the Eskimo Cultures.

The largest site in this area appears to have been occupied numerous times over the past 7000 years B.P. An obsidian projectile point from the site yielded a hydration date of ca. 7000 years while charcoal from a hearth at the site produced a radio active carbon date of ca. 500 years B.P.

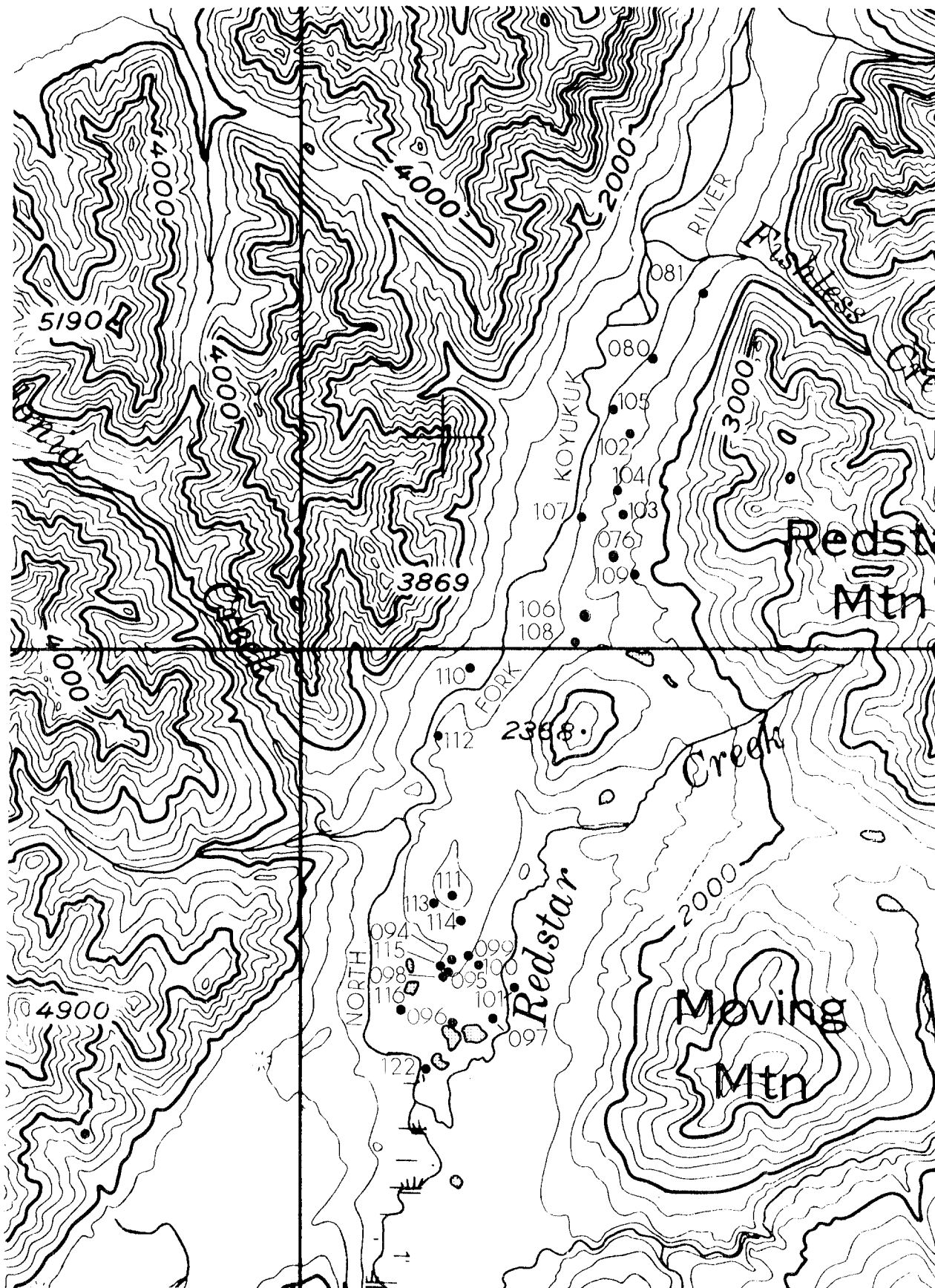
Many of the sites in this area show evidence of recent use. Much of this use appears to be related to recreational activities such as backpacking or floating the river. At least one historic period site was also recorded in this area.

The Redstar Creek/Lakes area is quite interesting because site density is so great over a relatively small area. This suggests that the area had a special attraction to aboriginal peoples over at least the last seven millennia. Evidence suggests that hunting was especially good in the area, therefore, high use levels and numerous archeological sites.

DRAFT



Shaded Area = Surveyed Area



Site Elevation: 1800 ft	NE1/4, NE1/4 Section 33 T34N, R15W	Probable Site Type: Campsite
Site Age: 10,000-4,000-400 years B.P.	Fairbanks Meridian	Probable Cultural Affiliation: American Paleo Arctic Northern Archaic Late Prehistoric

This site is located atop a prominent east-west trending schist/slate bedrock ridge 5 kilometers west of Redstar Mountain and 400 meters east of the North Fork Koyukuk River. The Cladonia Creek/North Fork Koyukuk confluence is located 7.5 kilometers to the south. The valley floor is over 150 meters below the site elevation and an excellent, unimpaired and virtually unlimited view is available in every direction. This ridge is the westernmost, well elevated ridge on the east side of the river and therefore may be considered to be in a strategic location.

Vegetative cover at the site consists of low growing woody and herbaceous plants as well as lichen, mosses, grasses, and dwarf birch. At least 50% of the site surface is unvegetated, fractured bedrock and gravel. A few glacial erratics are present at the highest portion of the ridge which is rounded as the result of past glacial activity.

The site was discovered as a result of surface inspection. Along the south facing slope of the ridge top abundant artifacts and debitage, of several types of chert and obsidian were observed. Formal artifacts consist of:

#1. This artifact is a dark gray quartzite boulder spall scraper with retouch along most of the ventral margins. This artifact is not diagnostic of any cultural or time but is quite common in some early Holocene assemblages in Interior Alaska.

#2. This artifact is a relatively thin, gray rhyolite flake which has been broken into two pieces. The two pieces were observed on surface within two meters of each other. The right dorsal margin, of both fragments exhibits continuous, intentional retouch from the proximal end to within 1 cm. of the distal end. The tool may have served as a knife.

#3. This artifact is a heavily patinated, chert core tablet. The direction of tablet removal was from the front. The core tablet's platform area exhibits extensive preparation and there are a total of seven recognizable microblade removal scars present. The distal end of the tablet exhibits a feathertype termination. The specimen measures 2.5 cm. (l) x 2.2 cm. (w) x 0.8 cm. (t).

#4. This artifact is a long, thick, variably patinated reddish gray chert core tablet. The direction of tablet removal is also anterior-posterior. The platform and left lateral edge has received extensive platform preparation. The number of facets was not completely documented but at least five are present and possibly a few more. It measures 5 cm. (l) x 2.5 cm. (w) x 1-1.5 cm. (t) (proximal-distal).

#5. This is a fragment of a small core tablet probably broken either from frost or thermal expansion. Only the proximal and left lateral side was observed and at least five microblade facets were present. Dimensional information is not available for this specimen. Not pictured.

#6. This core tablet is complete, very thin, and appears to have been struck from a conical microblade core. Tablet removal was achieved by a single blow struck from the rear. Microblade removal scars encompass the lateral margins as well as the front of the tablet. This artifact is an excellent example of the highest level of microblade/core craftsmanship. This artifact measures approximately 3.0 cm. (l) x 1.7 cm. (t) x 0.4 cm. (w).

#7. This is a very patinated sub-triangular white chert burin found slightly west of #3. This was in two pieces which articulate. The fracture obscures slightly the morphology of the artifact, and fracture appears to be the result of either frost or thermal expansion. Two transverse burination facets are present across the distal end of the flake. The degree of weathering prevents any identification of utilization, but the foreshortened nature of the flake suggests repeated burinations and an exhausted state. It measures 1.8 cm. (l) x 2.8 cm. (w). Not pictured.

#8. This artifact is a sub-triangular flake of gray chert with a well prepared platform and heavily intentional retouch along the right lateral dorsal edge. The distal edge shows two facets of burination, transverse to the long axis of the flake. A third located at the junction of the distal and left edges, exhibits a direction of force, distal to proximal, or parallel to the axis of the flake. This intersection also is the location of the platforms for each burination. This specimen measures 3.2 cm. (l) x 3.0 cm. (w) x 0.7 cm. (t).

#9. This artifact is a semi-triangular black chert flake exhibiting two burination facets across the distal edge, transverse to the axis of the flake. The platform is well prepared and isolated and the right lateral edge, with a steep facet paralleling the edge, served as the platform for the burin blows. This artifact measures 2.5 cm. (l) x 3.0 cm. (w) (no thickness measure, but is between 0.5 and 1.0 cm.). Not pictured.

#10. This artifact is made on a flake of light gray/green chert, which is sub-rounded in shape. Three transverse burin facts are present across the distal edge. A fourth, parallel to axis, is present at the junction of the distal and left lateral edge which probably served as a platform for spall removal. The right dorsal edge exhibits slight crushing along its mid-portion. The burin measures 3.7 cm. (l) x 3.7 cm. (w).

(In all cases burination facets were complete, no miscarries or hinges across distal edge, and widths of facets, except for #4, were nearly identical.)

#11. This artifact is the basal 2 cm. of a red/black/clear banded obsidian projectile point exhibiting fluting through the removal of multiple flakes on both faces. The concave base, with an indentation measure of 0.5 cm. exhibits bifacial nibbling on each (lateral) edge. No identifiable

edge grinding was present on this basal fragment which might indicate an unfinished product, i.e. broken in manufacture. The lack of additional red/black/clear banded obsidian at the site (i.e. flakes, other fragments) as well as the wholly "finished" character of the artifact may argue against this possibility. The specimen has a flat cross-section and measures 2.0 cm. (l) x 2.8 (distal) cm. (w) 0.4 cm. (t).

#12. This artifact consists of the basal 3 cm. of a nearly clear, (light gray) obsidian projectile point. The slightly excurvate base and basal edges are heavily ground. The flaking pattern across both faces is parallel oblique. A complex fracture composes the distal end and may represent an impact fracture resulting from use. This artifact measures 3.0 cm. (l) x 2.7 cm. (w) and 0.7 cm. (t) with a lenticular cross-section.

Other semi-diagnostic artifacts found at the site include at least five microblades of chert, one burin spall of gray chert, a second boulder spall scraper of a degraded quartzite and three crude core fragments or blocky chert pieces. For the number of tools or semi-diagnostic artifacts observed on the surface, the number of detrital flakes was relatively low. This could very well be a function of size sorting in the (frost-churned) exposed areas with the larger materials being more resistant to re-introduction into the surface lag once exposed, or this could be attributable random surface reconnaissance.

One cultural feature was observed at the site in an area of robust vegetation. This feature consisted of a cluster of eight exposed angular to sub-rounded cobbles/boulders of both the bedrock (schist) and glacially transported materials. These were distributed in a .75 meter (N-S) x .50 meter (E-W) cluster with several more rocks covered by the vegetation mat. A 50 cm² test pit was excavated in order to collect dateable organic materials (charcoal) which were observed when one of the larger cobbles was removed from its position. A small amount of charcoal was recovered from the northern-central portion of the test pit.

The extreme southern end of the test yielded the most abundant and largest pieces of charcoal. An obsidian waste flake was recovered from the southeast quadrant of the test at 5-6 cm. below surface in a charcoal pocket containing the ubiquitous fractured schist and (organic) silt matrix. A few carbonized seed fragments were also observed in a portion of the sample.

This charcoal was submitted for radiocarbon analysis. A radiocarbon date of 1570 A.D., 380 ± 70 years B.P (Beta-11084) was received on 0.7 grams of carbon. The flake of obsidian which was associated with the hearth charcoal was submitted for hydration analysis. No measureable hydration rind was observed. This may be consistent with the relatively recent age determined for the hearth, as 300-400 years may not be a sufficient amount of time for a measureable hydration rind to develop.

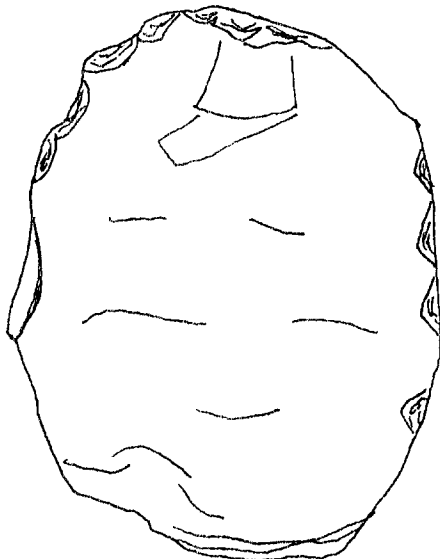
The two obsidian projectile point bases collected from the surface of the site were also submitted for hydration analysis. The parallel-oblique

flaked point base yielded a hydration rind thickness of $2.38 \pm 0.07u$. According to the hydration rate established for the southern flanks of the Brooks Range (Reanier, this volume) of $1.44u^2/1000$ years, this hydration rind converts to a hydration age of 3934 ± 232 years B.P.

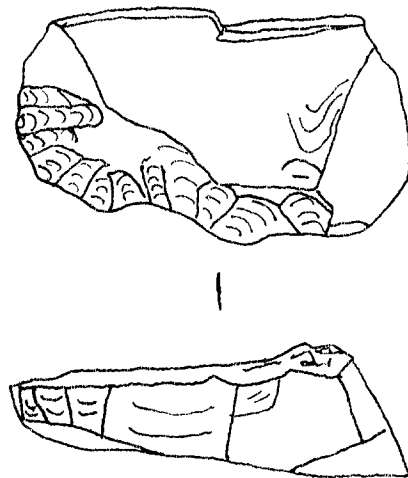
The red/black/clear banded obsidian fluted point was also submitted for obsidian hydration analysis and yielded a hydration rind thickness of $3.75 \pm 0.26u$ which converts to a hydration age of 9766 ± 1254 years B.P. This age determination is consistent with other similarly dated obsidian fluted points from Interior Alaska (Clark, 1984), as is the hydration rind thickness.

This site is probably one of the more significant sites located during the 1984 survey as it provides several diagnostic artifacts which have been dated elsewhere to a late Pleistocene or early Holocene. In addition, the multi-component nature of the site and the temporal separation of the occupational events suggests the site occupies a unique or strategic location.

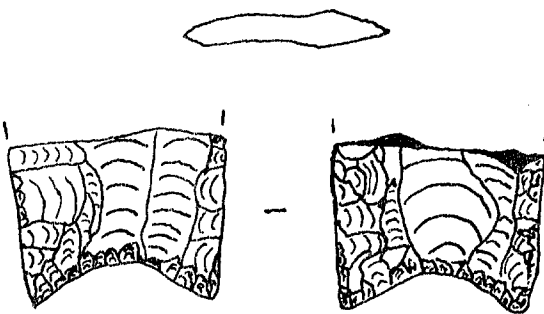
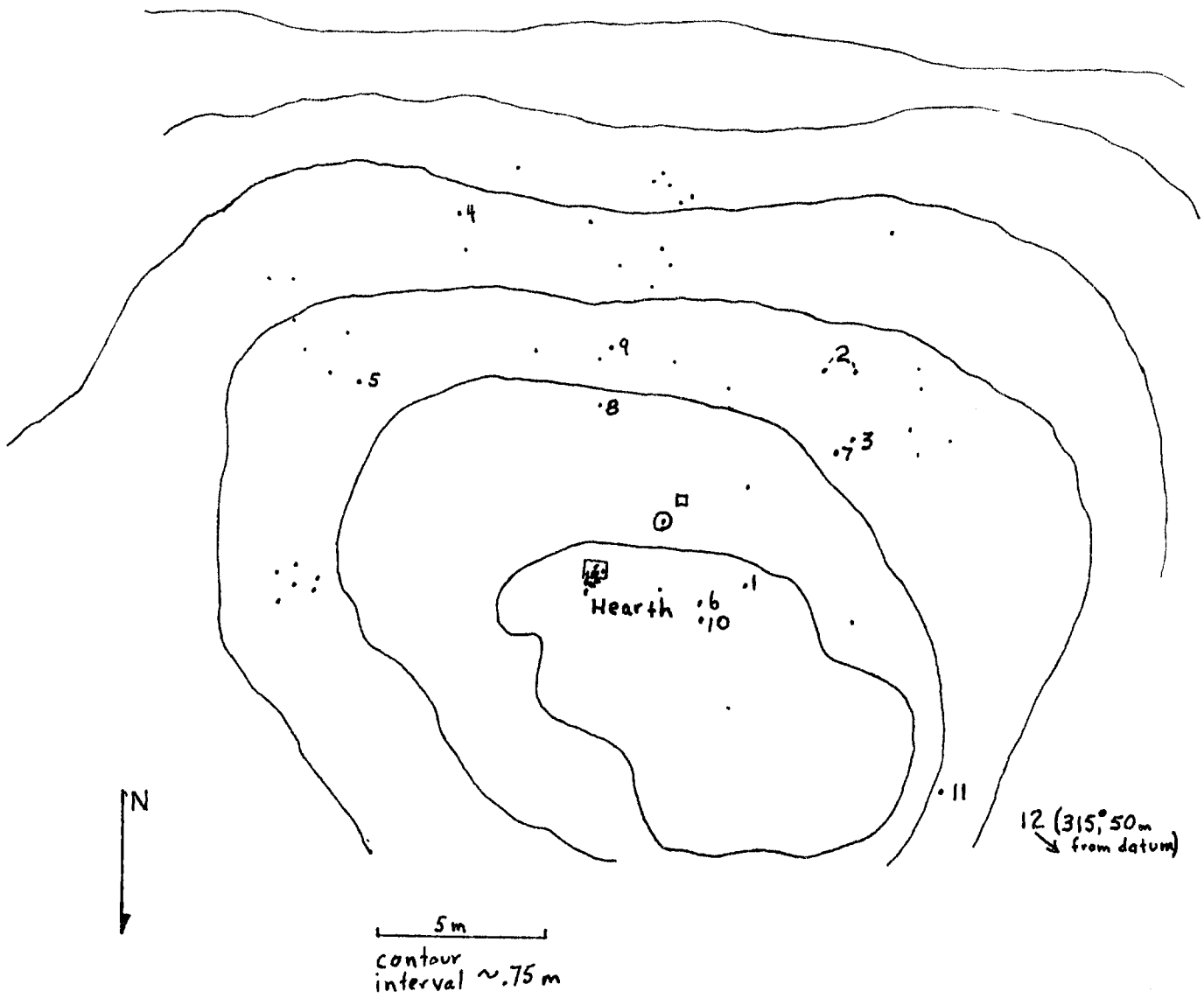
No adverse natural impacts were observed at this site and none appear to be threatening. Any indication of human disturbance at the site should be considered as an endangerment to the cultural resources present there. Efforts to mitigate any adverse natural or human induced impact is warranted. Research potential for this site is extremely high.



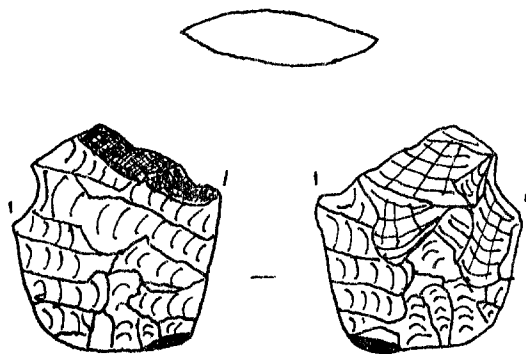
Boulder Spall Scraper - Quartzite



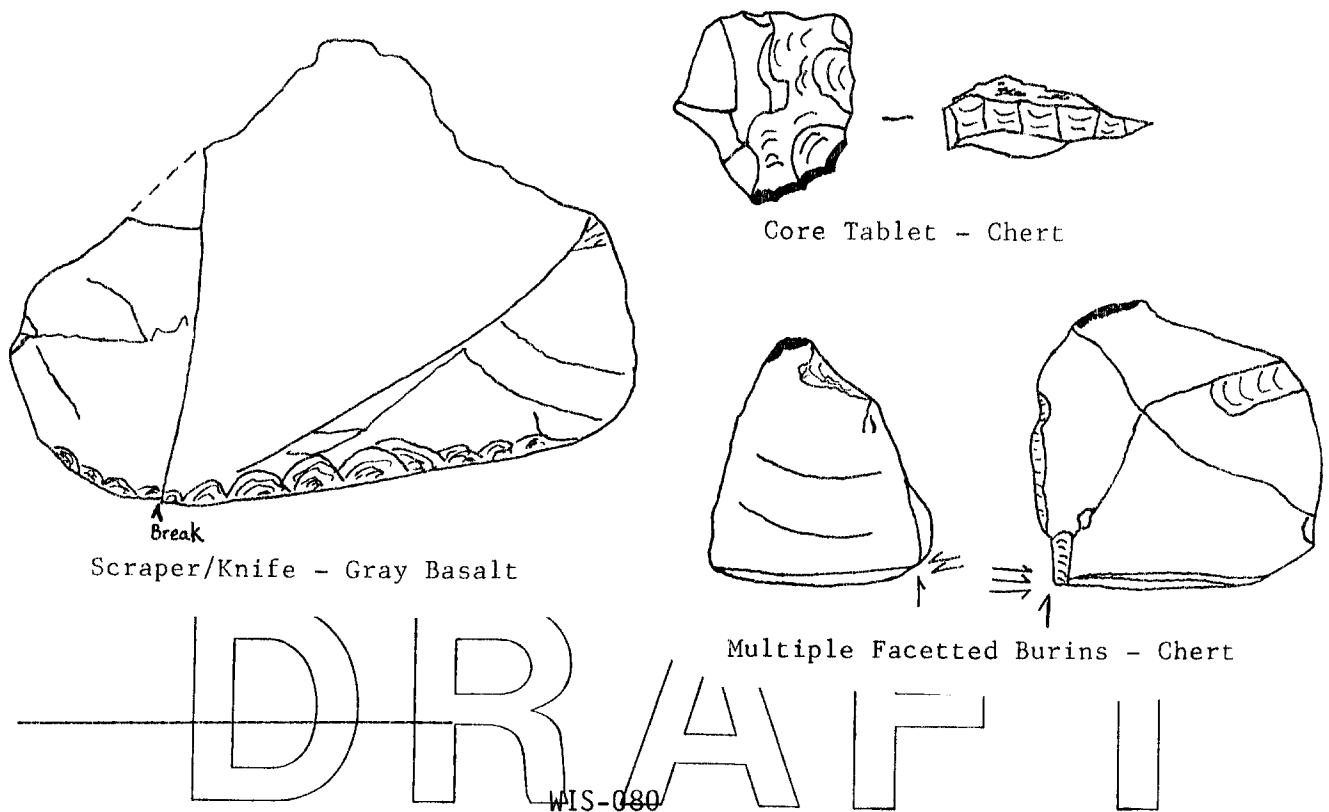
Core Tablet - Chert



Fluted Point - Obsidian



"Bedwell" Point - Obsidian



Site Elevation:
1400 ft

SW1/4, NW1/4
Section 22
T34N, R15W

Probable Site Type:
Lookout/Flaking Station

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site lies on an open, lightly vegetated knoll 400 meters east of the North fork Koyukuk River and roughly 3 kilometers south of Fishless Creek. The area consists of a 20 meter² frost heaved locality with about 40% vegetation cover. Dominant taxa are Dryas octopetala, Empetrum nigrum, Vaccinium uliginosum, Betula glandulosa, grasses and lichens. Alnus crispa shrubs surround the area. The view from the site is an excellent 360° panorama except to the north where an alder covered ridge 80 meters away blocks a view of the valley. The knolls to the south (WIS-076) are clearly visible.

One small obsidian flake was found at the site tag. A black chert flake lies 1 meter southwest of the tag, while a small gray chert flake lies 1.6 meters west-northwest of the tag. No test pits were excavated.

This site probably functioned as a lookout/flaking station because of the excellent view and the presence of lithic debitage. The diversity of raw material may indicate three distinct flaking events, which may or may not be contemporaneous. The site presently is affected by general frost heaving, and the westward edge is eroding. Because of the paucity of material and the absence of anything diagnostic of cultural period, the site has low significance and there should be little concern over possible site impacts.

WIS-081

Site Elevation: 1600 ft	NW1/4, SE1/4 Section 15 T34N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a frost heaved area along a ridge complex north of a small unnamed creek and about 1 kilometer south of Fishless Creek. The general area of the site has about 75% vegetation cover consisting of Arctostaphylos alpina, Betula glandulosa, Vaccinium uliginosum, Ledum sp., and Dryas octopetala. The site commands an excellent view, 360°, as far north as the Ernie Creek Valley and south down the North Fork Koyukuk.

The site consists of a single obsidian scraper or utilized flake. No other cultural material was present and no test pits were excavated. The obsidian artifact may make it possible to obtain a hydration date for the site.

The presence of only one artifact makes interpretation difficult, however, due to the excellent view the site was probably a lookout. Because of the paucity of cultural material the site is of low significance, and research potential. At present the site does not appear to be threatened by any adverse impacts.



Utilized Flake - Obsidian

WIS-081 Artifact - Actual Size

WIS-102

Site Elevation: 1500 ft	NE1/4, NE1/4 Section 28 T34N, R15W	Probable Site Type: Unknown
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a low schist-quartz outcrop 350 meters east of the North Fork Koyukuk River and roughly 5 kilometers south of Fishless Creek. The site overlooks the lower portions of the westward sloping, sedge-tussock river valley. Alder, willow and infrequent spruce are scattered over this variably drained terrain. The site affords a good

view up valley to the north, across valley to the west and down valley to the south. The view to the east is limited by rising terrain. The vegetation on site, amidst exposed and fractured bedrock, consists of Vaccinium uliginosum, Empetrum nigrum, Salix, Alnus, Betula glandulosa and limited Cladonia.

The site outcrop measures roughly 10 meters² with 50% of the outcrop consisting of a west facing scree area. During surface inspection a single flake of pale green chert with slight edge modification was located in the scree. This piece may have functioned as a scraper or knife. No other materials were observed and no testing was necessary as much exposed, and frost churned ground was present.

The higher terrain to the east of the site was surveyed with negative results and it appears that site location in this portion of the valley is oriented toward those more well-drained isolated knobs closest to the river. This site probably functioned as a short-term lookout.

No adverse impacts other than natural cryo-related processes are acting on the site appears necessary.

DRAFT

WIS-103

Site Elevation: 1550 ft	SE1/4, SE1/4 Section 28 T34N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a prominent schist outcrop 500 meters east of the North Fork Koyukuk River and 4.5 kilometers west of Redstar Mountain. WIS-076 is located 400 meters to the south and WIS-104 is located 200 meters to the north. The site lies 80 meters above a river bend and occupies a relatively flat, exposed bedrock area 20 meters by 10 meters. A small tributary of the North Fork lies 50 meters to the south.

The vegetation adjacent to the site consists of sedge-tussock, dwarf birch, alder, and willow with the latter also occurring on the site along with Arctostaphylos and other low herbaceous and ericaceous plants. Eighty-percent of the site surface is exposed fractured bedrock and lag deposit.

A single flake of pale green/gray creamy chert was located on the northeast part of the frost churned exposure partially embedded in the lag. This site may have additional subsurface cultural material incorporated in the lag deposit. Use as a short term lookout is a good possibility for site function.

Site significance appears low as does research potential. At present the site does not appear to be threatened by any adverse impacts.

WIS-107

Site Elevation: 1400 ft	NW1/4, NE1/4 Section 33 T34N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on the north side of a small creek that runs into the North Fork Koyukuk River from the east and drains the area north and east of WIS-076. The site is situated on a river terrace at the top of a low bluff. About 70% of the site surface is vegetated. Picea glauca trees grow on the slope below the site, as do Betula papyrifera trees. Betula glandulosa shrubs grow on the east and south portions of the site. The ground cover is Vaccinium uliginosum, Salix sp., Arctostaphylos alpina, Picea glauca seedlings, and Cladonia lichen. There are good views of river valley and of knolls to the east (WIS-076).

Five black chert flakes and five coarse-grained gray chert flakes are located within a 1 meter² area around the site tag. The flakes are small and may indicate a secondary stage in lithic manufacture. A modern campfire with no associated trash is situated 8 meters southeast of the site tag on a frost boil.

The site may represent a brief flaking event involving the use of two types of lithic material. The site may have functioned as a lookout or campsite, but this is not really determinable from the small amount of cultural material. The significance of the site is low. The only impact is from slow, natural erosion of the bluffs. Impact from recreational activity is quite possible because it is closely situated to the river.

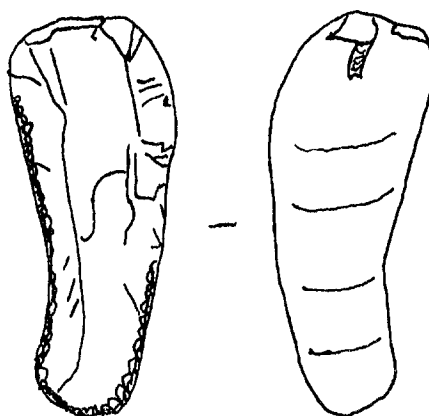
WIS-108

Site Elevation: 1500 ft	NW1/4, SE1/4 Section 33 T34N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on the southern most of a system of knolls 1 kilometer south of WIS-076, a site that lies on the most prominent knoll. About 80% of the site area is vegetated with Dryas octopetala, Empetrum nigrum, Vaccinium uliginosum, Picea glauca seedlings, Betula glandulosa, Arctostaphylos alpina, mosses and lichens. Three large Picea glauca trees are located 12 meters south of the site tag. The site is on the western edge of the knoll top. The view from the knoll is a perfect 360° panorama; only WIS-076 provides a better view. The site overlooks the Koyukuk River Valley, to both the north and the south. The northward view is somewhat blocked by the WIS-076 knoll. Evidence of wildfire is not apparent at the site.

A black chert artifact resembling a Norton flake knife is located 35 cm. west of the site tag. The flake knife has three blade facets on its dorsal surface. Field examination of the edges of the flake knife with a 22x microscope showed rounding of the cutting edge from use. A single black chert flake was found 10 meters to the south of the site tag under a spruce tree. No test pits were excavated, but the entire knoll top (50 meters²) was carefully searched and no other cultural material was located on surface.

The site probably functioned as a lookout. Although site significance is low the site is interesting because of the semi-diagnostic flake knife which suggests Eskimo cultural affiliation. This site also lacks datable organic remains. No natural disturbance processes are currently affecting the site adversely.



"Norton" Flake Knife - Black Chert

WIS-108 Artifact - Actual Size

WIS-104

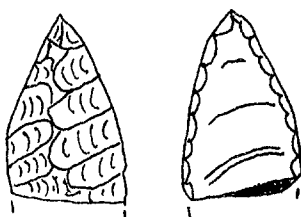
Site Elevation: 1550 ft	NE1/4, SE1/4 Section 28 T34N, R15W	Probable Site Type: Unknown
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a flat topped, schist, bedrock bench 250 meters east and 75 meters above the North Fork Koyukuk River. Redstar Mountain lies 5 kilometers to the east and WIS-104 and 076 lie 200 and 600 meters, to the south. To the south a small stream passes within 25-30 meters of the site. The terrain drops sharply to the west where sedge-tundra, alder and willow dominate to the rivers edge. The ground to the east rises gently with exposed, rounded, schist outcrops in a more or less terraced landscape. Infrequent spruce, birch and more common alder, willow and dwarf birch grow in this more well-drained and elevated section of the valley. The site vegetation consists of Dryas, Salix sp., Arctostaphylos

and Betula glandulosa around the perimeter of the frost churned, exposed, bedrock/gravel which comprises 80% of the site surface.

This unvegetated area allowed the observation of black, gray, bluish gray, and pale green chert flakes as well as several obsidian flakes. A gray chert projectile point fragment was also observed. The dorsal face of the artifact has been parallel-obliquely flaked and only marginally retouched along its ventral edge. This artifact appears somewhat similar to the projectile point found at WIS-073 in that both are made on a flake with minimal secondary modifications. The lack of diagnostic artifacts precludes any temporal or cultural assignment.

Site significance is low and there need be little concern for any but human induced impacts.



Point Fragment - Gray Chert

WIS-104 Artifact - Actual Size

WIS-105

Site Elevation:	NE1/4, NE1/4	Probable Site Type:
1450 ft	Section 28	Camp
	T34N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This two locality site is located between 50-150 meters east of the North Fork Koyukuk River, 3 kilometers south of Fishless Creek, and 10 kilometers north-northeast of the Cladonia Creek/North Fork Koyukuk confluence. Locality "A", the nearer of the two localities to the river, lies atop the northern portion of a narrow lenticular shaped north-south trending rise which measures slightly over 30 meters in height and is 30-35 meters above the river. Locality "B" is 10 meters higher in elevation than locality "A". Locality "B" is located on the highest knoll of a northeast-southwest trending till capped, bedrock ridge, 90-100 meters southeast of locality "A".

The vegetation on locality "A" is dominated by a dozen scattered white spruce, small paper birch and a robust growth of dwarf birch, particularly toward the southern, sloping, end of the ridge. Some alder is present

in the midst of the dwarf birch. Within 5 meters east of locality "A", in a saddle or swale between the more general valley slopes and the slightly elevated site ridge, tussock tundra begins. This vegetation, along with intermittent alder, dwarf birch and some willow, characterizes the rising terrain to the east of the site for 1.5 kilometers. The slope then abruptly changes to a combination of talus slopes and exposed and rounded bedrock outcrops flanking the Redstar Mountains. Cladonia is the predominant ground cover on the majority of locality "A" with Vaccinium, Ledum, Arctostaphylos; other low ericaceous and herbaceous plants make up the remainder of the ground cover. Locality "B" is predominantly covered with low woody ericaceous and herbaceous plants with a sparse cover of Cladonia. Frost action and limited erosion is at least partially responsible for the exposed gravel/fractured bedrock present over 35% of this locality.

The view from both locality "A" and "B" is excellent. To the north and south, the North Fork Valley is visible for distances exceeding 10 kilometers.

Locality "A" consists of a possible hearth feature. Reddened fire-cracked rock is scattered over the central portion of the locality. Ten meters south there appears to be a subrectangular or roughly oval configuration of fifteen boulder sized clasts. The diameter of this possible cultural feature is roughly 3.5 x 4 meters. The northeastern corner of the feature has been incorporated in the construction of a modern fire ring. Modern trash, mostly paper products is evident in the lichen mat.

On the highest portion of the site beneath two white spruce where recent rodent burrowing has occurred, a black chert flake was observed. The left margin of the flake exhibits continuous retouch while the right proximal margin may be the result of a burination attempt. The artifact's location in the spoil of a rodent burrow, suggests that subsurface cultural material is present.

A 30 cm² test pit was excavated at 11.3 meters south of datum at the location of a large fire-reddened cobble protruding through the vegetation mat. Burned bone and tooth fragments were recovered from between 3-10 cm. below surface in a grayish-brown silty matrix which may represent wood ash. A single gray chert pressure flake was recovered at 8-10 cm. below surface. Charcoal is scarce but present in Unit 3 in the form of carbonized twig fragments and seeds. The presence of burned bone, probably caribou, lithic debris, a 3-5 cm. ash horizon overlying a hard packed oxidized horizon including abundant angular and heat discolored rock fragments, suggests the presence of a formal hearth.

The robust ground cover on this well-drained locality and limited subsurface testing precluded the gathering of further information. Evidence suggests that this site may be a rare occurrence in this region of Alaska; a stratified 'archeological' deposit.

Locality "B" consists of a surface scatter of two black chert flakes and one obsidian flake. No subsurface testing was deemed necessary as surface exposure was enough to allow adequate inspection of the area.

The site has been the scene of both prehistoric and modern activity. The possible cultural feature, a portion of which has been utilized as a modern fire ring may contain materials diagnostic of a particular culture. Further testing might also yield adequate amounts of dateable organic remains which could indicate the time of site occupation. The integrity of the deposits appears to be good. However, with increased use of the North Fork Valley for recreation by park visitors, damage may occur to this apparently well preserved site.

WIS-106

Site Elevation:
1500 ft

SW1/4, NE1/4
Section 33
T34N, R15W

Probable Site Type:
Lookout/Flaking Station

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

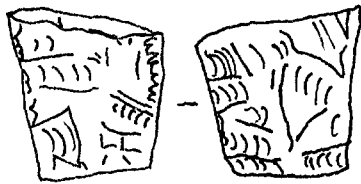
This site lies on a glaciated outcrop of bedrock covered in places with a thin veneer of drift. The site consists of two localities, one south and one north. Vegetation at the two localities consists of *Dryas octopetala*, *Empetrum nigrum*, *Vaccinium uliginosum*, *Arctostaphylos alpina*, and lichens. The two localities are separated by a dense, but low, cover of *Betula glandulosa* bushes. The view from the site is excellent; the North Fork Koyukuk Valley is only blocked from view to the north by the WIS-076 ridge and knoll. There is no evidence of wildfire at this site.

Locality #1, at the site tag, is the southern of two localities, and lies on the highest portion on the knoll. At the site tag are nine black chert flakes within a 2 meter² area. Three meters to the east is one black chert flake and a retouched obsidian flake that is possibly the beginning of a mitten-shaped burin. Ten meters south of the tag is a single large flake of black chert, while 12 meters to the west of the tag is a medial fragment of a black chert projectile point.

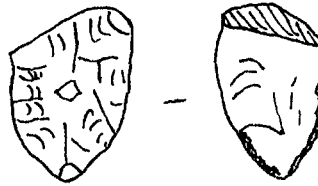
Locality #2 lies 85 meters northeast of locality #1, near the north end of the knoll. Cultural material at this locality consists of one gray chert flake, two black chert flakes, a black chert end scraper, and a black chert side scraper. No subsurface testing was conducted.

The site probably functioned as a lookout/flaking station. With WIS-076 and WIS-108, it strongly suggests the importance of prominent knolls that provide excellent views. The two localities are not necessarily related, nor are the artifacts at one locality necessarily related to each other. Time period and cultural affiliation are impossible to ascribe in this case, and there could well have been both Indian and Eskimo use of the knoll.

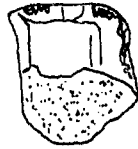
There is little apparent danger of impact to the site from natural or human activities.



Medial Fragment of Projectile Point
Black Chert



Retouched Flake - Obsidian



End Scraper - Black Chert



Side Scraper - Black Chert

WIS-106 Artifacts - Actual Size

WIS-109

Site Elevation:
1800 ft

SW1/4, NW1/4
Section 34
T34N, R15W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

The site is located on a small ridge about 30 meters north of a small rock outcrop. The view from the site is excellent to the south, but to the west and north the view is obscured by the ridge to the south, about 1 kilometer distant and by the knoll on which WIS-076 is located. Vegetation at the site is a 75% cover of Arctostaphylos alpina, Vaccinium uliginosum, Betula glandulosa, Ledum sp. and Dryas octopetala, with lichens. The open area of the ridge itself is surrounded by Betula glandulosa shrubs. There is no evidence of wild fire, and the degree of surface disturbance (frost heaving) is only moderate.

Cultural material at the site consists of twelve black chert flakes of various sizes, probably indicating a single flaking event. The material was all on the surface within 1 meter of the site tag. No test pits were excavated due to the shallowness of the soil.

No tools or diagnostic material were recovered from this site. Its significance is low, but it does indicate additional use of the local area.

WIS-110

Site Elevation:	NW1/4, SE1/4	Probable Site Type:
1300 ft	Section 32	Lookout/Flaking Station
	T34N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies on the northern end of a bedrock knoll about 1/2 kilometer west of the North Fork Koyukuk River and 50 meters above river level. The top of the knoll is quite flat, with a large, rectangular area of exposed bedrock. No cultural material was observed on this exposure. About 25 meters to the northwest is a gently sloping eroded area where the site tag is located. The vegetation provides about a 30% ground cover of Vaccinium uliginosum, Salix sp., Empetrum nigrum, Vaccinium vitis-idaea, and Betula glandulosa. The area is surrounded by shrub tundra. The view from the knoll is an excellent 360° of the river valley to the north and south, and the knobs on the east side of the valley (WIS-076 etc.). Spruce trees presently obscure the view to some degree.

A black chert flake was observed 5 meters northeast of the site tag. One meter north of the tag are two coarse gray chert flakes. Two and one half meters northwest of the knoll top lie two coarse tan colored chert flakes, one large blade-like flake of the coarse gray chert, and one flake of a tan chert with reddish bands. One meter west of the tag are three flakes of this tan and red chert, while 3 meters west is a large retouched flake of the same material.

The site is of low significance since it provides no chronological or cultural information. It is, however, one the few sites on the west side of the valley in this region. The site no doubt served as a lookout-flaking station. The variety of lithic material suggests that more than one occupational event occurred at the site. The site is presently impacted by minor frost heave activity.

WIS-112

Site Elevation:	NE1/4, SW1/4	Probable Site Type:
1200 Ft.	Section 5	Unknown
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located at the northern end of a limestone outcrop along the eastern bank of the North Fork Koyukuk River about 1.5 kilometer north of Cladonia Creek. The southern end of the outcrop rises rapidly to an elevation of 100 meters above river level, then falls gently away to the north. The site location offers an excellent view for many kilometers to the north and west to the valley wall.

The site has an uneven topography and is densely covered with dry moss, crowberry, labrador tea and some grasses. Small willows and a number of spruce some 5-10 meters high grow thickly on the site. Charred tree roots on surface indicates wildfire activity in the not too distant past.

Surface cultural remains were limited to a fragment of a caribou mandible along with a smaller unidentifiable piece of bone and a piece of wood which appeared to have been cut by an ax. One small subsurface test was made revealing one small unidentifiable mandible-like bone. A charcoal sample was collected although it would be impossible to determine if the charcoal is cultural in origin.

Little else can be said of this site other than it may represent a small lookout location as indicated by it's setting and view potential. The significance of the site appears to be very low. At present the site does not appear to be threatened by any adverse impacts.

DRAFT		
WIS-094		
Site Elevation: 1400 ft	SE1/4, SW1/4 Section 30 T33N, R15W	Probable Site Type: Unknown
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on the north facing edge of a low east-west trending bedrock outcrop, about 200 heavily tussocked meters north of a much larger dominant cliff faced outcrop. This site is the northernmost of a suite of three other sites in the immediate area: WIS-115, 095 and 098.

The view potential from this site is largely obstructed by higher ground to the north, east and south. Even to the west the view includes no portion of the river although the eastern approach to a high broad pass leading to the Tinayguk River can be seen.

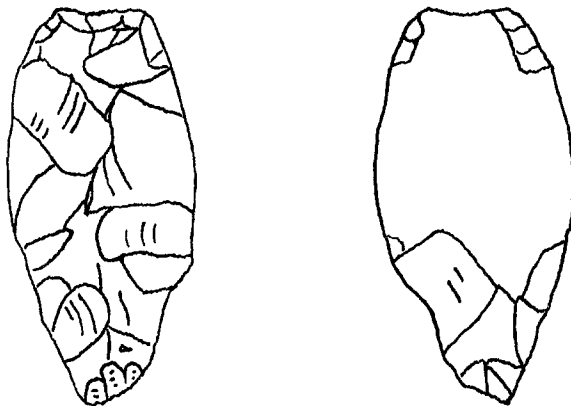
The surface of the site, immediately behind the 10 meter high northern face of the outcrop, is a narrow 2-3 meter band of sparsely vegetated gravelly, shisty, reddish brown soil with intermittent patches of a dry gray moss.

It was in one of the extensive areas of exposed mineral soil that cultural materials were observed on surface. This material consists of two bifaces, one of which appears to be an unfinished projectile point.

The unfinished porjectile point, fashioned from a dull black chert, has a thin lenticular cross-section althought the thinning process was not completed. The other artifact is a bifacially worked piece of black chert that appears to be the medial section of the biface.

Because of the limited cultural remains at this site, its significance and potential for providing significant data is rated low. The site may have been a short term lookout although there are much better locations near by. Little else can be said of this site.

At present the site does not appear to be threatened by any adverse impacts.



Unfinished Projectile Point - Black Chert

WIS-094 Artifact - Actual Size

WIS-095

Site Elevation:
1450 ft

SE1/4, SW1/4
Section 17
T33N, R15W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable cultural
Affiliation: Unknown

This site is located atop a till covered bedrock knoll on the eastern flank of a towering cliff faced bedrock outcrop which rises 1 kilometer north of the Red Star Lakes and 1.5 kilometers east of the North Fork Koyukuk River. The nearest sites are WIS-094 about 200 meters due north, WIS-115 a like distance to the northeast and WIS-098 situated near the crest of the large outcrop. Vistas offered by this site are quite good from the area of Red Star Mountain in the northeast, eastward to Moving Mountain and southward down the valley. Vegetation and high ground preclude views to the west.

Ground cover on this site consists primarily of a soft thick gray moss interspersed with areas of low woody and herbaceous plants including blueberry, crowberry and labrador tea. A handful of small spruce saplings and a single birch tree round out the vegetation cover.

This site was discovered by the presence of surface cultural remains. The materials include one small black chert waste flake, one small gray chert thumbnail scraper, small unidentifiable bone fragments and a small concentration of fire-cracked rock.

No subsurface testing was conducted. The lack of diagnostic materials makes any sort of cultural assessment of the site impossible. The site may represent a short term observation stand, based on its location, and setting. Lacking any additional information, little more can be said of this site or its apparently low level of significance.

At present the site does not appear to be threatened by any adverse impacts.

WIS-111

Site Elevation:	NE1/4, NW1/4	Probable Site Type:
1650 ft	Section 17	Lookout
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located atop an east-west trending glacially rounded bedrock ridge which is overlain by till. The top of the ridge is elevated above rolling tundra dotted with alder and infrequent spruce. Redstar Mountain is in plain view 7.5 kilometers to the northeast. Eroded Mountain, and the mouth of the Tinayguk River are visible 7.5 kilometers to the south. Redstar Creek lies 1.5 kilometers to the east and the Nork Fork Koyukuk River lies within a mile to the west.

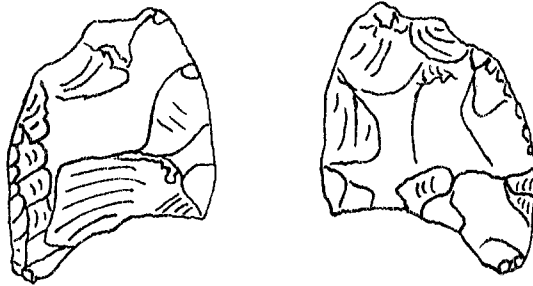
At locality "A" an obsidian biface fragment was found on the surface of an eroding fractured bedrock slope. No other cultural material was observed at the locality, except a large fragment of a gray chert cobble. The lower portion of ridge yielded a dark gray chert biface. The biface is relatively thin and appears to be the midsection of a projectile point, possibly a notched variety.

Locality "B" some 80 meters to the west of locality "A" is situated on a sizable flat topped bedrock outcrop whose bluff face, rising some 7 meters in height, faces north-northwest. The outcrop gently slopes to the south-southeast. The locality, while not allowing a direct view of the river to the west, offers a good vista to the north and excellent coverage to the south and southwest with a fine view of a high pass leading to the Tinayguk drainage.

Because of the bedrock nature of the outcrop, the vegetation is both sparse and spotty, growing on an open flat well-drained surface of solid rock, small gravel and occasional quartz fragments. Plants hardy enough to take root here were limited to Dryas, bearberry, crowberry, a few grasses, occasional lichen, dry mosses, small clumps of dwarf birch, one or two willows and a few small birch.

Cultural material was found entirely on surface, and was limited to 4 small black chert flakes, one unworked dark gray/black chert cobble and a fragment of chert biface; possibly a portion of a notched projectile point. One small subsurface test was excavated and yielded no additional cultural material.

Because of the limited and non-diagnostic remains at locality "B" the significance and archeological potential of the site appears to be very limited. The site most likely represents a briefly occupied lookout. At present the site does not appear to be threatened by any adverse impacts.



Chert Biface Fragment

WIS-111 Artifact - Actual Size

~~DRAFT~~

Site Elevation:
1600 ft

SE1/4, NW1/4
Section 17
T33N, R15W

Probable Site Type:
Temporary Camp

Site Age:
100 years

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located in the central portion of the broad upland east of the Cladonia Creek/North Fork Koyukuk River confluence and west of the Redstar Creek Valley. Redstar Lakes are located 3 kilometers to the south. This glacially rounded and gently undulating terrain is dotted with infrequent spruce and dwarf birch patches but is in general open sedge tundra in the more poorly drained areas and typical alpine ground cover on the well-drained rises.

The site is located on a low lenticular rise of gravel capped bedrock and offers a good view to the south down the gradual slope that ends in the more chaotic kettle/kame topography north of the Redstar Lakes. WIS-111 is located 150 meters to the northeast and WIS-114 is located 250-300 meters to the east-southeast.

The site consists of a single hearth feature composed of 10-15 cobbles and slabs on the most elevated portion of the rise, 1-2 meters above the tundra to the north. The feature measures 50 x 75 cm. and contains abundant charcoal beneath the 1-2 cm. thick vegetation mat that partially covers the feature. A sample of the charcoal was collected. No cultural materials were observed in the hearth test nor in any of the three 20 cm² tests pits dug within 4 meters of the feature.

This site may represent a very short term campsite. At present the site does not appear to be threatened by any adverse impacts.

WIS-114

Site Elevation: 1500 ft	NW1/4, SE1/4 Section 17 T33N, R15W	Probable Site Type: Hunting Overlook
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located at the southeast corner of the broad upland between Redstar Creek on the east and the Cladonia Creek/North Fork confluence to the west. Within a mile or so to the south the Redstar Lakes area is visible. The site is orientated toward the Redstar Creek Valley and occupies an exposed bedrock bench at the break-in-slope of the western valley of the creek.

Birch and alder are the dominant trees/shrubs while the low ground cover is Arctostaphylos, Dryas, and Vaccinium. One half of the site area is vegetated, the rest consists of exposed, fractured quartz/schist bedrock, and gravel lag.

The site was discovered when three flakes of black chert were found on the surface of a relatively flat area 10 meters from the bluff edge. Ten meters west of the flake scatter is a configuration of large quartz boulders forming a ring 50 cm. in diameter. Here a 20 cm² test was dug to a depth of 20 cm. through silt and fractured bedrock. Beneath the vegetation mat at the northeast corner of the test a large black chert biface was recovered. This bi-pointed, fairly well-made tool may have been a knife or preform. It is possible that this artifact may have been cached within the confines of this unusual arrangement of boulders. The biface and the flakes were of identical material and the size of the flakes suggests their origin was the last stage of reduction of biface manufacture.

The age of this site is unknown and no cultural association can be inferred from these remains. The site is in no danger of natural or human induced impacts.

WIS-115

Site Elevation: 1400 ft	NE1/4, NW1/4 Section 20 T33N, T15W	Probable Site Type: Camp/Lookout
Site Age: 500 B.P. and 6800 B.P.	Fairbanks Meridian	Probable Cultural Affiliation: Northern Archaic

This site is located upon a relatively flat-topped bedrock bench 800 meters west of Redstar Creek. The terrain slopes eastward, dropping off rapidly and then gently grading into the rather broad creek valley. The creek is typical of those in glaciated terrain as it is "underfit" for the valley size. The creek flows south for roughly 1.5 kilometers before

bending west around the largest of the Redstar Lakes, and proceeding towards its confluence with the North Fork Koyukuk River. Redstar Mountain is in full view 11 kilometers to the north-northeast. WIS-114 is clearly visible 250 meters to the northwest and WIS-094 can be seen 100 meters to the west, across a poorly drained, in-filled "pot-hole" dominated by cotton grass tussocks and low willow.

The site occupies the northern end of a 15 meter wide north-south trending bench which constitutes the edge of the Redstar Creek Valley. It would appear that this broad, open, valley, especially its northern reaches, was the main focus of attention for the site's inhabitants. Dense stands of birch and spruce occupy the central and southern portion of the site. The northern end is more open with dwarf birch, Ledum, Vaccinium, Cladonia and a few scattered birch and spruce. Over 90% of the surface of the site is vegetated.

The site was discovered through visual reconnaissance when an obsidian flake was observed near the northeast end. Further surface inspection revealed an notched obsidian biface on the eastern slope, a large black chert end scraper embedded almost entirely in the mineral soil of the western side of the bench, a black chert cortex flake and an a 2.5 x 1.2 meter concentration of fire-cracked rock and burned bone. This feature was overgrown with Cladonia, but frost activity had caused some broken cobbles to protrude through the vegetation mat. The concentration of fire-cracked rock is slightly elevated above the adjacent ground thus delineating it's outline. Fire-cracked rock is scattered to the north, toward the dipping northern slope of the site. A single gray chert flake was observed on surface adjacent to the eastern edge of the feature.

A 20 cm² test pit was excavated to a depth of 23 cm. into the north-central portion of the hearth to collect a charcoal sample. The test pit revealed a mantle of fire-cracked rock, 0-5 cm., overlying a silt/ash/fire-cracked rock/bone concentration, 6-15 cm. below surface. The sediment below this level was predominantly oxidized silt, 16-20 cm., overlying sandy gravel and schist bedrock.

The size and character of the hearth suggests more than casual use or possibly several occupational events.

The heavily vegetated surface of the site may tend to mask the number and kinds of artifacts present since all specimens observed were located along the less vegetated edges of the bench.

Evidence of multiple uses of this locality are provided by 1) obsidian hydration analysis of the notched point mentioned above, and 2) radiocarbon age determination of the charcoal sample collected from the hearth feature.

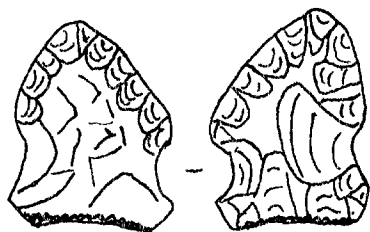
The notched obsidian biface yielded a hydration rind thickness of $3.13\mu + 0.05$. Given the equation derived from the corrected 1983 obsidian hydration analysis (this volume) of $1.44 \mu^2/1000$ years an age of 6803 ± 217 years B.P. is obtained. Differences in the climatic regime in this portion of the North Fork Valley may differ somewhat from that of Lake

Selby where the hydration equation was derived. However, the effective hydration temperature for both locations should be only slightly different and impart only a minor discrepancy to the North Fork Valley dates.

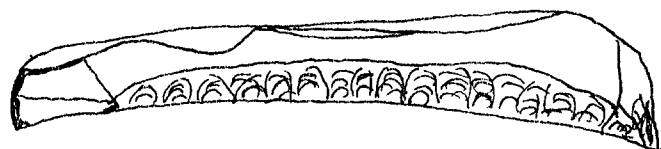
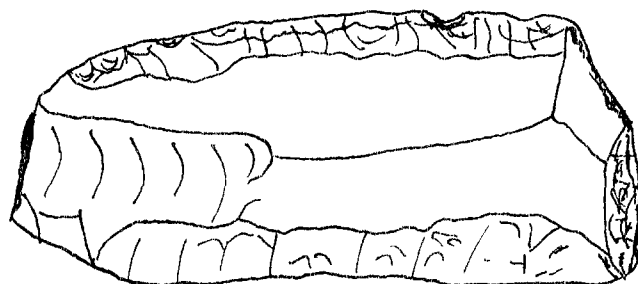
The radiocarbon analysis of the charcoal recovered from the hearth was secured from 0.4 grams of carbon after pretreatment and yielded an age of 490 ± 80 years B.P. (Beta-11086). This sample was given the extended counter time usual when samples of less than 1.0 grams are submitted. It is possible that this date is somewhat less reliable than an age yielded from a larger standard sized sample. The radio active age determination is different enough from that of the obsidian hydration age to consider these artifacts, hearth and biface, as temporally distinct.

The notched biface falls into a generalized category of Alaskan artifacts, morphologically, attributable to the "Northern Archaic Tradition". However, the 6800 year B.P. age estimate is slightly greater than the accepted time range of 6000-3000 years B.P. for the "Northern Archaic Tradition".

The significance of this site remains somewhat ambiguous although a multi-component aspect is suggested. As noted previously the intensity and range of cultural materials present is unknown due to vegetation cover. The location of the site as well as the artifacts suggest the site served as a hunting camp and/or lookout. The site does not appear to be threatened by any natural or human induced impacts.



Notched Projectile Point - Obsidian



End/Side Scraper - Black Chert

WIS-115 Artifacts - Actual Size

WIS-096

Site Elevation:	NE1/4, SW1/4	Probable Site Type:
1150 ft	Section 20	Unknown
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on and around a small knoll at the northern end of an isthmus separating the two largest of the three Red Star Lakes. The knoll offers commanding, wide ranging views, eastward to Moving and Red Star Mountains, south across the Red Star Lakes and the flats beyond and westward to the Tinayguk Pass. The view to the north, however, is blocked by a low ridge.

Much of the knoll is heavily vegetated, primarily by low birch up to 1.5 meters high and many spruce trees up to 7 meters in high. There are scattered areas of exposed soil, particularly at the crest of the knoll, where repeated human use has worn away the vegetation to expose a reddish brown mineral soil.

Cultural materials reflective of the prehistoric component are limited to a single large black chert flake with a well prepared striking platform and some unifacial retouch along one edge. This flake found at the crest of the knoll is associated with other evidence of much more recent occupations including recently sawn and cut wood. Fifty meters to the north in a swale is a pile of firewood and fire-cracked rock and perhaps 70 meters to the northwest embedded in the aufeis field is a metal drum.

The potential for this site to yield significant data on prehistoric land use is limited.

Human impacts have already heavily impacted the site.

WIS-097

Site Elevation:	SW1/4, NE1/4	Probable Site Type:
1250 ft	Section 30	Campsite/Lookout
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Ca. 2500 B.P.		Affiliation: Denbigh Flint Culture

This site is located atop a small glacial kame on the east side of the North Fork Koyukuk Valley about .5 kilometer to the northeast of the Red Star Lakes and 150 meters west of Red Star Creek. The site, situated on the valley floor and surrounded by wet tussock tundra, provides a 360° view of this portion of the valley.

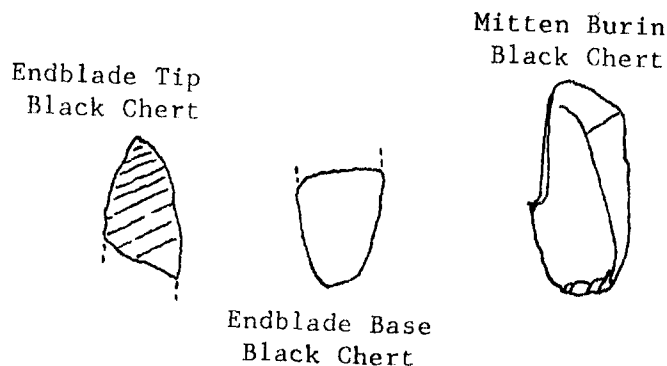
The crest of the kame is sparsely vegetated with discontinuous patches of Dryas and bearberry over areas of exposed gravelly well-drained soils. The margins of the kame are fringed with dwarf birch up to 1 meter in height and half a dozen scattered spruce trees, which stand 3-6 meters tall.

This site was located by the presence, on the surface, of both modern and prehistoric cultural materials around the highest point of the kame. The modern materials, found a few meters to the south of the older remains, consisted of several small patches of a coarsely woven cloth that are well integrated into the vegetation mat, and a short 2.5 cm. x .3 cm. cylinder of an unidentified coarse grained material.

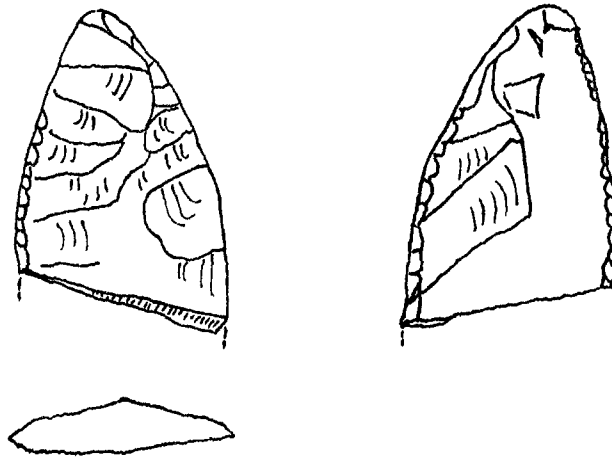
The demonstrably prehistoric materials consist of both waste flakes and a concentrated number of diagnostic artifacts which can be attributed to the Denbigh Flint Complex. The artifact inventory included two burin spalls, one mitten-shaped burin, one probable exhausted burin, and the distal ends of two end/side blades and the proximal portion of an endblade. Additionally, a larger though undiagnostic biface fragment, perhaps a knife, appeared to have been transversely burinated along its fractured end. All materials were made of high grade fine grained chert ranging from light gray to dark gray to black. All cultural materials were found in a 4 meter² area immediately to the west of two stone features.

The two features consist of a small hearth-like stone arrangement and a much larger L-shaped stone feature, both at the crest of the kame. The arms of the "L", each 5 meters in length, are made up of a number of cobbles spaced up to 1/2 meter apart. Each cobble has an opposite corresponding cobble 1 meter apart, thus forming a sort of "hollow L". Immediately west of the juncture of the two outside arms of the "L" is the stone hearth-like feature which is devoid of either fire-cracked rock or charcoal. At present, neither feature can be definitely associated with identified historic or prehistoric site occupations. Due to the abundance of diagnostic materials on surface no subsurface testing was undertaken.

This site is significant in that it is one of the few sites in the valley that is definitely attributable to a culture of the Eskimo Continuum. The site may contain valuable information. Because of this potential the site should be considered for protection from any adverse impact.



WIS-097 Artifacts - Actual Size



Biface Fragment/Knife - Black Chert

DRAFT

WIS-098

Site Elevation:
1400 ft

NE1/4, NW1/4
Section 20
T36N, R15W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located along the steep eastern bluff face of the highest bedrock outcrop 1 kilometer north of the Redstar Lakes. The bedrock is composed of schist which has been subject to extreme pressure as exhibited in its folded character. The site overlooks a spruce covered slope which leads down to the open tundra comprising the Redstar Creek Valley. An excellent 180° view north to south is available.

The site is vegetated with medium sized spruce and birch but is mostly open with a healthy Dryas, grass and blueberry groundcover. The site area extends 25 meters north-south but only 5 meters east-west.

The site consists of a surface expression of five black chert flakes, one grayish basalt flake and two flakes of darker basalt. A possible hearth feature, an arrangement of cobbles is located near the center of the bluff line. The lack of diagnostic artifacts precludes any temporal or cultural assessment.

At present the site does not appear to be threatened by any adverse impacts.

WIS-099

Site Elevation:	SW1/4, SE1/4	Probable Site Type:
1400 ft	Section 17	Unknown
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located atop a bedrock knoll which rises 30 meters above the flat tundra of Redstar Creek 4 kilometers due west of Moving Mountain. Redstar Creek, flowing south, lies 350 meters to the east. An excellent view of the entire valley is available from this site.

The vegetation on the site is and consists of small paper birch trees, medium to small spruce, robust alder, along the northwestern boundary, and dwarf birch in patches in and around the site area. Seventy percent of the area ground surface is exposed gravel lag over bedrock with the remainder covered with Cladonia, Vaccinium, Dryas and mosses.

The site consists of a surface flake scatter composed of three reddish brown and two gray chert flakes. A small expended flake core of pinkish gray chert was also observed. This core exhibited numerous (12) flake scars and measured 3.5 cm. x 2.5 cm. x 1.5 cm.

The site most likely functioned as a lookout. It's significance lies only in the fact that it is one of several localities identified along the western side of Redstar Creek presumably related to hunting activity.

At present the site does not appear to be threatened by any adverse impacts.

WIS-100

Site Elevation:	NE1/4, NE1/4	Probable Site Type:
1400 ft	Section 20	Unknown
	T33N, R15W	
Site Type:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on a low bedrock bench in the valley bottom 250 meters west of Redstar Creek. WIS-099 is located 100 meters to the northwest. The site is elevated only slightly, 2-3 meters, above the actual flood plain, yet affords a good view up and down valley. Scattered spruce grow amidst exposed bedrock in well-drained, sandy areas. Some Dryas, Vaccinium and Cladonia are present, but majority of the surface is exposed sand and pebbles.

Ten black chert flakes were observed on the surface over a 3 x 5 meter area in and around the roots of two spruce trees. No other cultural materials were observed. The flakes appear to be debris the final phases of biface manufacture.

The site is in no danger of impact. The significance of the site lies only in its proximity to several other hunting related sites in the immediate vicinity.

WIS-101

Site Elevation: 1400 ft	NE1/4, SE1/4 Section 20 T33N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located atop a well-drained bedrock/gravel rise in the middle of Redstar Creek Valley approximately 1 kilometer north of the easternmost of the Redstar Lakes. The site rises 5 meters above the surrounding wet muskeg/tundra which occupies the flood plain of Redstar Creek. An excellent 360° view of the surrounding terrain for a distance of roughly 8 kilometers can be had from the site. Vegetation consists of dwarf birch, Vaccinium, Cladonia, mosses and a few scattered spruce trees.

The rise is 70 meters north-south by 10 meters east-west. Two other low rises occur 20-25 meters to the west but the site location is definitely the dominate high ground. A number of other sites in the area are visible from this central location including WIS-111, 114, 115, 95, 98, 99, 100. The Red Star Lakes are not visible, however, as elevated terrain north of the lakes blocks the view.

The site consists of 10-15 black chert flakes, 2 gray basalt flakes, 20-25 flakes of a low grade black material, 2 gray chert flakes, and a core tablet of light gray banded chert.

It is not clear from which type of core the tablet was struck, but the tablet was removed from the faceted side rearwards. A conical or tabular type core may have produced this artifact. Interestingly, no microblades were observed at the site.

The site's location suggests it was related to hunting activities in the Redstar Creek Valley, but due to lack of formal tools, or diagnostic artifacts little can be said as to the function or cultural affiliation of this site. The presence of a microblade core tablet suggests a minimum site age of ca. 2000 years B.P. The variety of lithic material also suggests that more than one occupational event occurred at the site.

Site significance is of a local nature only. The site appears to be in little danger of adverse impacts.

WIS-116

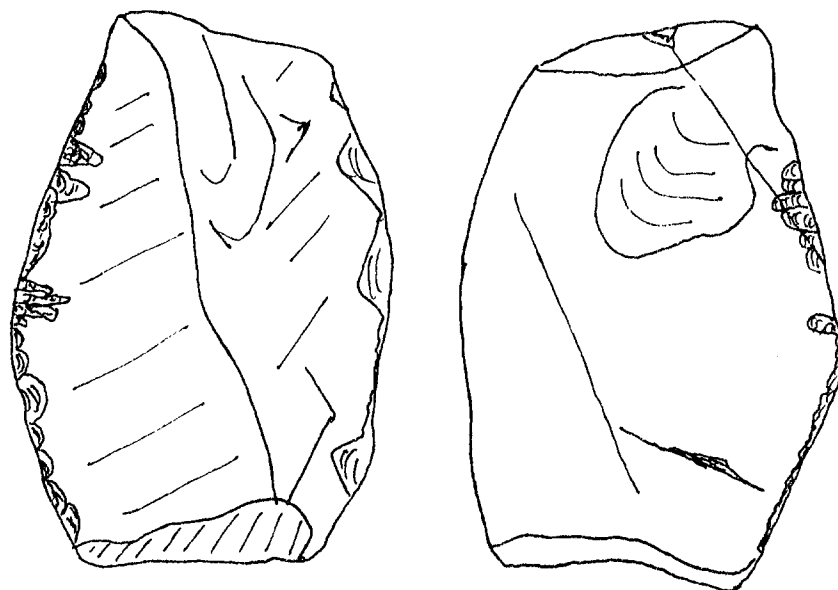
Site Elevation: 1400 ft	SE1/4, NE1/4 Section 19 T33N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located 1 kilometer east of the North Fork Koyukuk River and about 1.5 kilometers west of Redstar Creek. The largest of the two northern lakes of five lakes in the area lies 150 meters to the northwest of the site and the westernmost of the two large southern lakes lies 1 kilometer to the southeast. WIS-111, 113, 114, 194, 198, are all in view from this prominent location. The North Fork is visible both to the northwest and south and the entire valley in the latter direction is visible for up to 16 kilometers. Redstar Mountain with its four peaks of red and orange bands of oxidized rock, cast a blood stained look to the highlands of the northeast. Moving Mountain due east has a west facing valley that is occupied by a massive mud/rock glacier which is covered by vegetation. The area between the northern and southern lakes is characterized by prominent bedrock bluffs on the northeast and southwest with lower lying bedrock features filling a low gap. These bedrock areas are characteristically rounded and plucked by glacial overriding indicating the north-south direction of glacial flow. Spruce and birch are the dominate trees while the ground cover consists of primarily of caribou lichen, various mosses, Ledum, Vaccinium sp., vitas idaea, and some herbaceous plants.

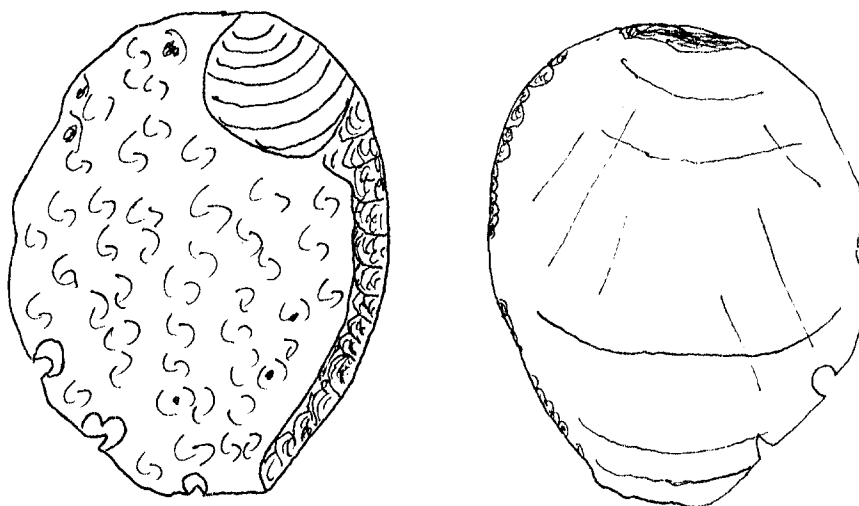
The site consists of an upper and lower portion, the lower containing a single black chert knife/scrapper with continuous margin retouch. The right dorsal face of the artifact is entirely cortex except where the edge has been retouched. The upper portion of the site yielded an obsidian scrapper/knife. In addition four flakes of obsidian were observed within 1 meter of the obsidian tool. Associated with this cultural scatter were three gray chert flakes, five black chert flakes, and a gray rhyolite flake. The upper and lower portions (localities) are separated by about 12 meters horizontally and 3 meters vertically.

The site may have functioned as a hunting camp or lookout. Due to the lack of diagnostic artifacts no cultural assessment is possible. However, the obsidian may provide a hydration date. The vareity of lithic material suggests more than one occupational event occurred at the site.

Based on the level of investigation, site significance is low. There is little danger of significant impact at this site. Human impact, however, is a distinct possibility.



Scraper - Black Chert



Boulder Spall Scraper - Obsidian

WIS-116 Artifacts - Actual Size

WIS-122

Site Elevation:	NW1/4, NW1/4	Probable Site Type:
1300 ft	Section 29	Campsite
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on the eastern edge of a gravel terrace 100 meters southwest of the southernmost of the five lakes near Redstar Creek. The terrace is elevated 12 meters above low lying muskeg/black spruce floodplain and is vegetated with spruce, birch, dwarf birch and some willow. Cladonia, Vaccinium vitis idaea, Ledum and other ericaceous plants cover the ground. Large spruce are scattered along the slopes. The view is best to the southeast, and good through slightly obscured by spruce to northeast. To the north, west, and south the view is blocked by higher terrain.

Cultural material was located through surface observation. Approximately 25 black chert flakes were found in a linear area of 3 meters along game trail. The flakes are small and may be the result of the finishing stages of lithic tool manufacture. No other cultural material was observed and no subsurface testing was conducted.

The site may have served as a short term campsite. The lack of cultural material renders cultural or temporal assessment impossible.

The site is in little danger of suffering any measureable adverse impact other than animal trampling and subsequent erosion

WIS-090

Site Elevation:	SW1/4, SE1/4	Probable Site Type:
1900 ft	Section 31	Lookout
	T33N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies on a soil capped bedrock hill which protrudes from the east face of the ridge which extends to the north from the base of Eroded Mountain. Pass Creek heads on the west side of this ridge and the site lies near the southern end. The view to the north is excellent encompassing 8 kilometers of the North Fork Koyukuk River Valley. To the east part of the Clear River drainage is visible, while the view to the south and west is limited to 2 kilometers or less.

The surface of the site is undulating in nature. Only two level areas are present. Vegetation consists of a crusty mat of moss and lichen with scattered small spruce and birch no more than 4 meters in height. The soil is a reddish color probably the result of oxidation caused by

a wildfire that passed through the region 60 or more years ago. A few burned stumps and snags are visible as are chunks of charcoal on and in the surface. There are a few areas of exposed mineral soil; the result of frost action.

Cultural material at the site consisted of two chert flakes observed on surface. The flakes lie about 5 meters apart; one black, one gray. Pot lid fractures were observed on the surface of the gray chert flake, indicating exposure to extreme heat; probably a wildfire. Datum is at the location of the gray flake. A 15 cm², 5 cm deep test pit was excavated 3 meters north of datum and was culturally sterile.

The site could have been little else but a lookout location. Significance is low except as the site relates to others in the area. At present the site does not appear to be threatened by any adverse impacts.

DRAFT

MAP AREA #3

NORTH FORK KOYUKUK VALLEY: CONFLUENCE TINAYGUK RIVER

Camp #5 June 30 - July 10

We arrived at this camp via our rafts in rather straggling fashion. Upon our departure from Camp #4, roughly 12 miles up stream from Camp #5, we took two days enroute stopping to work along the way. The two crews worked out of siwash camps one in the Redstar Creek/Lakes area and the other near Eroded Mountain.

A reduced crew (on July 2 half of the crew floated 15 miles down river and established a camp near the north end of Long Lake) worked out of this camp near the Tinayguk River confluence for eleven days. During that period of time nine prehistoric sites were located in a surveyed area of roughly 3 square miles.

The topography of this area especially on the east side of the Koyukuk, is one of numerous bedrock knolls which have been rounded by glacial scouring. The knolls create a somewhat chaotic local relief which occasionally exceeds 100 feet. The vegetation is quite robust in this area and six of the nine sites were found as a result of subsurface testing. Evidence of area-wide wildfire activity, in excess of 150 years ago, is marginally visible throughout the area.

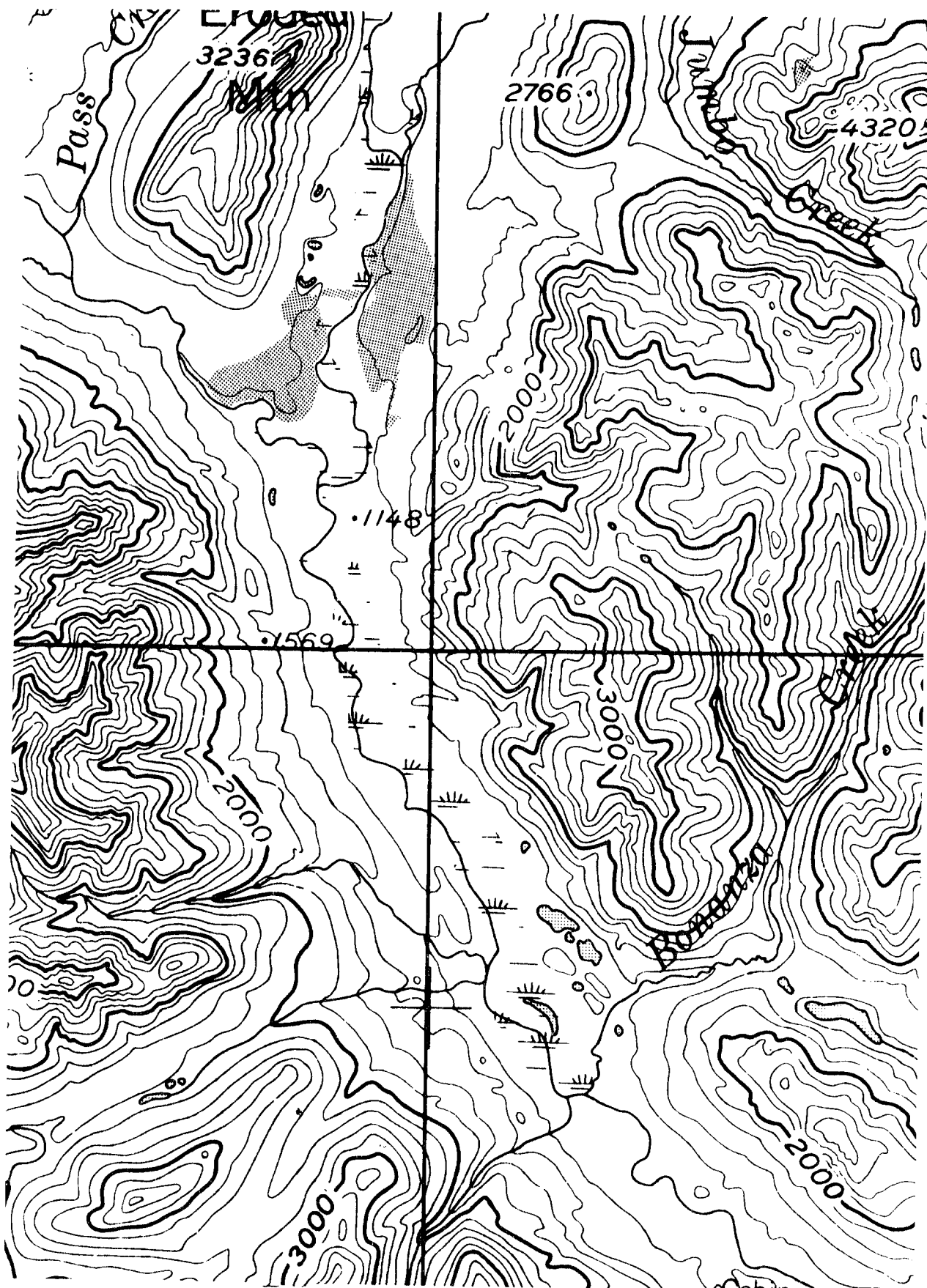
All of the sites in this area appeared to be of the lookout or camp/lookout variety. None appeared to be very large, although, it was difficult to tell as most of the sites have little or no surface expression. Another point of interest concerning the sites in this area is that the majority are deeply buried. Lithic cultural material was regularly found at depths of 8-15 cm. below surface in well developed soils. In this region of the Arctic, such artifact provenience strongly suggests site antiquity.

Additional evidence for area site antiquity can be found at WIS-092. This site produced deeply buried cultural material including a variety of chert and basalt flakes as well as a fluted projectile point; all indicative of antiquity. This site also produced more recent cultural manifestations in the form of a shallowly buried hearth that contained burned bone, fire-cracked rock, charcoal, and potlid fractured chert. This suggests the use of the site area at several periods of time over the last 6-8 millennia.

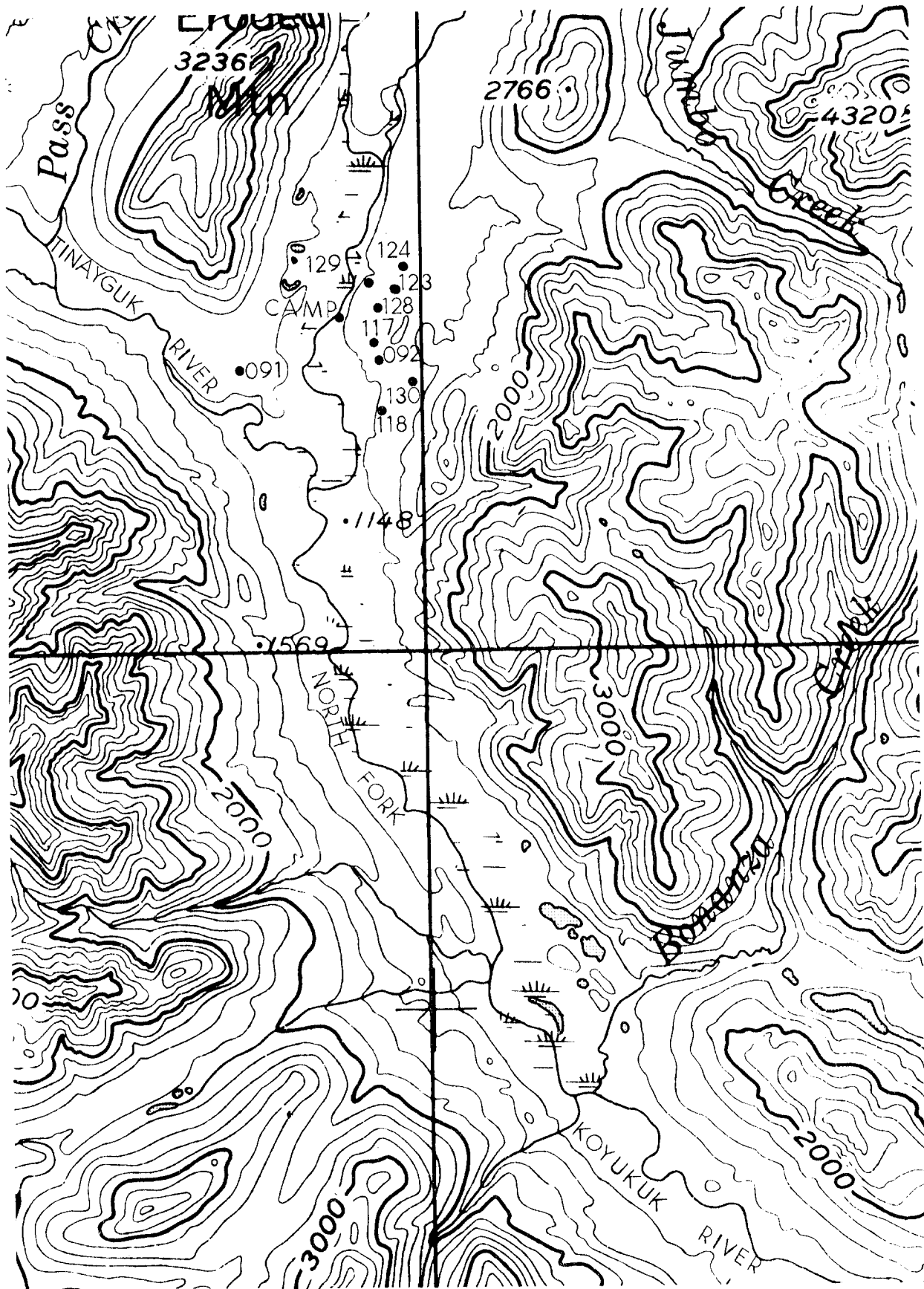
Of all the areas investigated in the valley of the North Fork Koyukuk River, this locale appears the most promising in terms of research potential because of the apparent integrity of its deeply buried sites.

This is one of the few areas along the North Fork where there was only slight evidence of recent or historic use. The best example of such use is a log cabin near the mouth of the Tinayguk River that was constructed by hunting guides in the recent past.

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Shaded Area = Surveyed Area



6 miles
- 109 -

WIS-123

Site Elevation: 1210 ft	NW1/4, SE1/4 Section 13 T32N, R16W	Probable Site Type: Camp/Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site sits approximately 200 meters east of the North Fork Koyukuk River and roughly 3 kilometers downstream from the mouth of the Clear River. Situated on a 2 meter high bedrock knoll, 100 meters south of an unnamed creek the site offers an unrestricted view in excess of 16 kilometers to the north. The knoll also provides a view of the river approximately 300 meters to the northwest and of the area which is drained by the unnamed creek to the northeast. Visibility to the south of the site is restricted to roughly 50 meters by rising terrain and trees. WIS-124 lies approximately 150 meters northeast of this site on the north side of the unnamed creek.

Vegetation at the site consists of caribou lichen, dwarf birch, black spruce, some alder and low woody plants. The site overlooks lower terrain to the north, which is characterized by poorly drained tussock tundra. The spruce trees in this area are heavily covered by black lichen, and there are indications that wildfire activity occurred in the area during the past 20-50 years. No other natural impact was observed at the site.

The site was discovered by subsurface testing. No surface expression of the site could be found during the initial reconnaissance. A single 20cm² test pit produced six clear, somewhat blade-like, obsidian flakes at 3-5 cm. below surface. The test profile consisted of 2 cm. organics, 3-6 cm. of orange-brown loess overlying lighter brown loess, and fragmented shale bedrock 6-8 cm. below surface. These waste flakes showed no use-wear or retouch.

Based upon this single test and the lithic material found, it appears this site represents a combination flaking station/lookout, taking advantage of the wide view to the north and along the creek. The depth of material suggests some antiquity, however, the lack of diagnostic artifacts precludes any cultural assessment. The obsidian flakes may provide a hydration date.

This site appears to be in little danger from adverse impact at current levels of visitor use in this area.

WIS-091

Site Elevation:
1200 ft

SW1/4, NW1/4
Section 23
T32N, R16W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located atop a narrow, but prominent north-south trending bedrock ridge located on the north side of the flood plain of the Tinayguk River, about 2.5 kilometers northwest of its confluence with the North Fork Koyukuk River. This shear faced ridge is the southern spur of a series of schist outcrops which are remnant portions of the southeastern base of Eroded Mountain. The Tinayguk flows southeastward 550 meters to the south of the site. The view from the site, which lies 35 meters above the flood plain, is good in all directions except due north where the view is blocked by the nearby bulk of Eroded Mountain.

The area is revegetating after a 50-60 year old wildfire which is evidenced by standing snags, weathered, burned stumps and chunks of charcoal on and in the surface. Vegetation at the site consists of a crusty moss and lichen mat, scattered low herbaceous plants, and very small birch and spruce which are no more than waist high. Mineral soil exposures are common and the soil is reddish, appearing to have been somewhat oxidized by the wildfire.

Cultural material is present both on surface and subsurface. The site covers the entire outcrop, an area of 4 x 6 meters. Surface cultural material includes flakes of black and dark gray chert, light gray obsidian, and a microblade fragment of white chert. Two 20 cm² test pits were excavated to a depth of 8 cm. Test #1 located 1 meter east of datum, adjacent to the microblade fragment, yielded a single obsidian flake from a depth of 4 cm. Test pit #2 located 1 meter south of datum yielded two obsidian flakes and about a dozen chert flakes 1-5 cm. below surface.

The variety of lithic material at the site suggests more than one occupational event occurred. The presence of a microblade suggests that at least one of the occupational events occurred ca. 2000 years B.P.

The site's location suggests it served as a lookout, possibly associated with hunting activities.

Some minor erosion is taking place along the edge of the outcrop but there is little danger that it or any other adverse impacts will affect the site. The significance of the site is moderate in that it is unique in the local area; an area that, unless the site dates to a treeless era, has little to recommend it for human occupation.

WIS-117

Site Elevation:	NW1/4, NE1/4	Probable Site Type:
1200 ft	Section 13	Lookout
	T32N, R16W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site lies atop a high knoll or ridge overlooking the North Fork Koyukuk River. The knoll forms the northwest corner of a amphitheater formed by several knolls in this vicinity and connects to a lower ridge to the south upon which lies WIS-092. The ridge is almost totally vegetated, apart from a small disturbed area where site datum was placed. Vegetation consists of Picea mariana, Betula glandulosa, Salix sp., Betula papyrifera, Ledum sp., Empetrum nigrum, Vaccinium vitis-idaea and Cladonia lichen. Burned snags, stumps and chunks of wood indicate wildfire activity in the area roughly 60 years ago. The view from the knoll is a perfect 360° panorama. To the north the view extends through the Gates of the Arctic to Als Mountain in the Chandler quadrangle. To the south the river valley is visible for 15 kilometers or more, while to the west a fine view of Eroded Mountain can be had.

A single gray chert flake was found on surface in a disturbed area near a previously excavated culturally sterile test pit. No additional test pits were excavated, but there is good potential for additional material under the robust vegetation mat.

This site probably functioned as a lookout, but due to the limited material recovered, a significance statement cannot be made. The lack of any diagnostic artifacts precludes cultural to temporal assessment. The site does not appear to be threatened by any adverse impacts.

WIS-124

Site Elevation:	NW1/4, SE1/4	Probable Site Type:
1200 ft	Section 13	Lookout
	T32N, R16W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site located on a bedrock knoll just north of an unnamed creek which flows west into the North Fork Koyukuk River. The mouth of the creek is approximately 200 meters west of the site and approximately 3 kilometers below the confluence of North Fork Koyukuk and Clear Rivers. WIS-123 lies approximately 150 meters to the southwest. The site provides a panoramic view of the surrounding terrain for a distance of roughly 2 kilometers.

Vegetation at the site consists of spruce, birch, caribou lichen, and some woody plants. The bedrock material is heavily weathered schist. The south face of the knoll is quite steep and is suffering active erosion. The knoll is mantled by loess, some of which is exposed in unvegetated areas. Evidence of past wildfire fire activity is readily visible.

This site was located through surface reconnaissance. A single black chert waste flake was observed on the promontory of the knoll near the base of a wind-toppled spruce tree. No use-wear or retouch was observed on the flake. A 10 cm² test pit was excavated to a depth of 8 cm² 2 meters west of the surface flake location and proved to be sterile.

The site's location suggests it served as a lookout, taking advantage of the knoll's elevation and commanding view of the local area.

The lack of diagnostic artifacts precludes cultural or temporal assessment. Site significance is low and of a local nature only. At present the site does not appear to be threatened by any significant adverse impacts.

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Site Elevation:
1150 ft.

NE1/4, SW1/4
Section 24
T32N, R16W

Probable Site Type:
Short Term Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on the northernmost promontory of a sizable knoll on the east bank of the North Fork Koyukuk River about 1.5 kilometers upstream from its confluence with the Tinayguk River. Due to trees and rising terrain, the best view from the site is westward into the Tinayguk drainage.

The ground cover at the site is primarily a robust growth of caribou lichen interspersed with occasional clumps of labrador tea and other low herbaceous and woody plants, as well as scattered small spruce and birch. Larger spruce and birch surround the site to the north, south and east.

No cultural materials were evident on surface, however the prominence of the knoll suggested the need for subsurface testing. Two small 15 cm² test pits were excavated to a depth of 8 cm. and yielded black chert waste flakes and three flakes of clear obsidian. The cultural material was found below surface in discolored reddish brown soil. Since no charcoal or fire-cracked rock were evident the discolored soil is probably due to wildfire activity.

The significance of this site is low, its chief value being its relationship to other sites in the area. WIS-123, roughly 2 kilometers to the north, also yielded clear obsidian flakes. The physical setting and limited remains at the site suggests it served as a short term lookout. The

variety of cultural material suggest that the site may represent more than a single occupational event. The lack of diagnostic artifacts precludes any cultural assessment, however, when analyzed, the obsidian may provide a hydration date.

At present, the site does not appear to be threatened by any adverse impacts.

WIS-128

Site Elevation:
1350 ft

NE1/4, NW1/4
Section 24
T32N, R16W

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

DRABAT
This site is located atop a prominent bedrock knoll 300 meters east-southeast of the North Fork Koyukuk River and some 70 meters above river level. WIS-123 is located 400 meters northeast and WIS-117 lies slightly more than 500 meters to the south. The site provides an unobstructed view to north for more than 5 kilometers, west and east approximately 2 kilometers, and south roughly 1 kilometer. To the east the view is blocked by rising terrain.

The site occupies the promontory of the knoll which covers an area of 4 meters². Surface cover at the site consists of a mat of moss, lichen, low woody and herbaceous plants and some scattered dwarf birch and willow. Black spruce surround the knoll except on the southwest perimeter where a 4 meter cliff is located.

The site was located through subsurface testing. Six 20 cm² test pits were excavated to a depth of 15 cm. on the western portion of the knoll promontory. The area of subsurface testing covered roughly 3 meters². The westernmost test pit, #1, yielded a fragment of an obsidian flake core and a flake of brown/gray chert at a depth of 8-10 cm. below surface. Test pits #2 and #3, located approximately 1 meter to the east and northeast of test pit #1 both proved to be culturally sterile. Test pit #4, 1 meter south of test pit #2, produced a flake of gray/brown chert and a flake of quartzite 8-10 cm. below surface. Test pit #5, located 1 meter west of test pit #4 was culturally sterile. Test pit #6 located 1 meter north of test pit #4 yielded 2 obsidian flakes and a single gray chert flake at a depth of 8-10 cm. below surface. Several small bone fragments were associated with the lithics. Much of the cultural material appeared to come from the top of a soil horizon that may represent a paleosol. Abundant charcoal was noted in this soil horizon. However, due to the limited testing it is unknown whether the charcoal's origin is cultural or natural. The site's location suggests that it served as a lookout and/or camp.

It is of interest that all the cultural material was located at roughly the same depth below surface and in the same soil matrix in all of the producing test pits.

The site can be considered deeply buried for this region of the Arctic which suggests at least moderate antiquity. The uniformity of depth argues for a short temporal span in terms of the periods of occupation (s) while the variety of lithic material may suggest either closely spaced multiple occupations or a single occupation by a moderately large group. The lack of diagnostic artifacts precludes any cultural assessment, however, the obsidian may provide a hydration date.

Due to the site's possible antiquity and it's apparent subsurface integrity its significance and research potential are moderately high in a local sense. The probable/possible interrelationships between this site and the others local sites, particularly WIS-092, further enhances it's significance.

At present the site does not appear to be threatened by any adverse impacts.

DRAFT

WIS-129

Site Elevation:
1270 ft

NE1/4, SW1/4
Section 13
T32N, R16W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on a well-drained terrace/bench 75 meters east of and 25 meters above the North Fork Koyukuk River. WIS-123 is located 200 meters east and WIS-128 is located 400 meters south. The view from the site is good in all directions but best up and down the valley. Vegetation on the site includes black spruce, birch, dwarf birch, willow and a robust growth of lichen, moss and low woody and herbaceous plants.

The site was located through subsurface testing. A 20 cm² test pit was excavated in the center of the site area and approximately 20 black chert flakes were recovered from the contact zone of oxidized silt/fractured bedrock 5-6 cm. below surface. A number of the flakes were superimposed on one another in northwest corner of test pit suggesting a concentration of cultural material west and north of the test excavation.

The site's location suggests it served as a lookout. Due to the lack of diagnostic artifacts no temporal or cultural assessments can be made. Site significance is of a local nature. The site does not appear to be threatened by any adverse impacts.

WIS-092

Site Elevation: 1310 ft	NE1/4, NW1/4 Section 24 T32N, R16W	Probable Site Type: Camp/Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site is located on the south end of a 100 meter long west-northwest/east-southeast trending river terrace which lies adjacent to an inactive and long stabilized channel of the North Fork Koyukuk River. The site lies on the east side of the North Fork Valley approximately 500 meters east of the river. WIS-117 lies slightly more than 300 meters to the north while WIS-130 lies about a kilometer to the southeast. The terrace is relatively flat-topped and averages about 10 meters in width along its length while sloping gently to the south. At the extreme southern end the terrace has been cut at 90° by an intermittent drainage, the process forming several descending terraces or benches. The underlying structure of the terrace may be a spur of the same bedrock formation that forms the local hills. However, all that is visually apparent is that the terrace is comprised of glacial till capped by a relatively thick soil and robust vegetation mat. The terrace stands roughly 13 meters above the valley floor. Little active erosion is occurring on the terrace's steep cutface as the cutface has been well stabilized by vegetation.

Vegetation at the site consists of a thick and robust lichen/moss/low herbaceous and woody plant mat, large clumps of dwarf birch and scattered spruce trees to 12 meters in height. A lower bench extends about 15 meters further south beyond the maximum elevation terminus of the terrace. This bench is about 5 meters lower in elevation and descends in step-like fashion to the level of the stabilized river channel. The old river channel appears to have been abandoned and stabilized for quite some time as there has been a good soil development over the river gravels. The active river channel, which lies about 400 meters to the west, has down-cut about 3 meters below the level of the stabilized channel.

The view from the site is limited to the local area due to the present tree growth. However, prior to the arrival of the modern forest in the region, ca. 5000-6000 years ago the view would have been excellent to the north, south, and west. Such a view would also exist following a wildfire.

There was no observable cultural material on surface. The site was located through subsurface testing. The initial site discovery resulted from the excavation of a test pit at the southern prominence of the terrace. This 20 cm² test pit revealed a black chert, fluted projectile point about 10 cm. below surface in the B2 soil horizon. The test pit was then expanded into a 50 cm² test square, in an effort to determine the physical and cultural stratigraphy. Seventy-five black and gray chert flakes were recovered from the test square, in addition to the fluted projectile point, and ranged in depth from 8-15 cm. below surface. The

majority of this cultural material was recovered from a depth of 10-12 cm. below surface.

Because of the potential importance of this site the 50 cm² test excavation was expanded to a 1 meter² test square. The southwest corner of the square was arbitrarily designated as datum so that the grid location of the square is N 0-1/W 0-1. Grid north bears 26° mag.

The tundra mat was carefully removed from the surface of the square and the square excavated by soil horizons. Flakes were collected by level and quadrant. Flake provenance was carefully observed in an effort to accurately document the depth of the cultural material.

A large amount of charcoal was observed in the tundra mat and the A2 horizon. Evidence from this and other local sites suggests that the charcoal is the result of wildfire activity. Surface evidence of past wildfire activity is very slight amounting to an occasional charred and almost completely decomposed stump. The size of most of these charred stumps indicate wildfire ravaged the area when a climax or near-climax forest existed. Today's existing forest is approaching climax stage. Cores taken with an increment borer indicated the oldest spruce trees in the site area to be ca. 250 years old. This evidence appears to indicate that the most recent wildfire in the area occurred slightly more than 250 years ago. A sample of the subsurface charcoal was collected for dating and identification.

Large numbers of gray chert flakes were recovered from the A2 and B2 soil horizons. Only a few flakes of black chert, the material of the fluted projectile point, were recovered. The soil horizons appear undisturbed indicating that the cultural material was probably incorporated in the soil matrix before the soil developed and the horizons became clearly distinguished. This evidence suggests a fair amount of antiquity for the site. Surprisingly, a few flakes were found at the base of the B2 horizon lying on the sandy, gravelly substrate, adding further weight to the evidence for site antiquity.

Many of the flakes were observed to be in geologically unstable positions, i.e. standing at verticle angles as though they had been trampled into the surface at the time of occupation. A number of the flakes which were lying flat exhibited a reddish patina on their undersides, adding further strenght to the possibility of site antiquity.

At the completetion of the excavation of the test square the west wall was profiled and is recorded here as typical of the general stratigraphy of the site.

Horizon	Depth '	Description
01	11-9 cm.	moss, lichen, leaves, twigs
01	9-0 cm.	tundra mat, roots, decomposed organic matter

A1	0-2 cm.	dark reddish brown (5yr 3/2) organic rich mineral soil discontinuous
A2	0-2 cm.	grayish brown (10yr 5/2 moist) silt loam; weak, very fine, platy and breaking to crumb; very friable, slightly sticky, slightly plastic, many very fine to fine roots, common medium roots abrupt wavy discontinuous boundary, thickness 1-3 cm.
A21	2-6 cm.	reddish brown (5yr 4/4) silt loam; weak very fine platy breaking to crumb; very friable, slightly sticky, slightly plastic; common very fine-fine roots abrupt wavy thickness 2-5 cm.
B22	6-12 cm.	strong brown (7.5yr 5/6, moist) silt loam, weak very fine platy breaking to crumb; very friable, slightly sticky, slightly plastic, few very fine to fine roots abrupt wavy boundary thickness 3-7 cm.
C	12-25+cm.	strong brown (7.5yr 5/6 moist) gravelly sandy loam; very fine crumb; very friable, non sticky, non plastic few very very fine roots.

Note: "B2 Horizon" refers to B21 and B22 horizons combined.

Upon completion of the excavation of the test square the immediately adjacent area was tested through the excavation of four 20 cm² test pits. These test pits were excavated to depths in excess of 20 cm. in an effort to determine the density of subsurface cultural material in the vicinity of the test square.

Test pit #1 was excavated 1.8 meters north of the northeast corner of the test square and proved to be culturally sterile. The stratigraphy was identical to that of the test square except that much of the B horizon and below was in a frozen or semifrozen condition due to an extremely thick surface vegetation.

Test pit #2 was excavated 30 cm. east of the northeast corner of the test square. This test pit mirrored the stratigraphy of the test square, contained no frozen soil, and proved to be culturally sterile.

Test pit #3 was excavated 35 cm. southwest of the southwest corner of the test square. This excavation yielded two gray chert flakes which were recovered from the B soil horizon, the level which produced the majority of the cultural material in the test square.

Test pit #4 was excavated 70 cm. west of the northwest corner of the test square and proved to be culturally sterile.

The rather negative evidence of the subsurface testing may indicate that the occupational event reflected by the presence of the fluted projectile point and associated waste flakes was of low intensity, short duration, or isolated in nature.

Eight additional test pits were excavated in a 45 meter² area at the southern end of the terrace in the general vicinity of the original test square. Five of these test excavations proved to be culturally sterile. All of the test pits were 20 cm² and excavated to depths in excess of 20 cm. The stratigraphy in all of the test excavations generally reflected that described for test square N 0-1/W 0-1. The following test pits were culturally sterile: Test pit "A" located approximately 10 meters east southeast of datum on the terrace's lower bench; test pit "B" 3 meters west southwest of datum; test pit "F" 9 meters west of datum; test pit "G" 8 meters west-northwest of datum; test pit "H" 5 meters north of datum.

Test pits "C", "D", and "E" all produced subsurface cultural material. Test pit "C", approximately 7 meters west of datum, yielded numerous flakes of basalt and a few flakes of chert in the same stratigraphic position as the test square roughly 7 meters to the east. Following the initial discovery, this test pit was expanded into a test square, N 0-1/W 7.5-8, so that the cultural material and the stratigraphy could be better documented. The vegetation mat and organic soil horizons and to a lesser degree the A2 horizon contained numerous chunks, pieces, and flecks of what is believed to be wildfire generated charcoal. Cultural material begins to appear in the A2 horizon and continues to the base of the B2 slightly more than 20 cm. below surface. The majority of the cultural material is located in the lower A2 and upper two thirds of the B2 soil horizons. This suggests that the cultural material in this square although lithically different, is of the same age as that recovered from the original test square. A few very small pieces of charcoal were recovered from the B2 horizon in association with the cultural material.

Test pit "D", located roughly 7.5 meters west of datum revealed a stratigraphy identical to that of test pit "C" and produced a single gray chert flake from the B2 horizon. This test pit was not expanded by additional excavation.

Test pit "E", located roughly 9 meters west of datum, produced cultural material, apparently a hearth, and was expanded into test square N 2.5-3/W 9-9.5. Beneath the tundra mat the organic soil horizons contained a great deal of broken and burned bone including several articular ends probably a distal femur and proximal metapodia of a caribou. Associated with the bone was a lot of ash and charcoal, several pieces of fire-cracked rock and four pieces of reddish brown chert which exhibited pot-lid fractures. The stratigraphy was mixed indicating some type of physical disturbance. Any charcoal in this area is suspect, however, the bone might provide a reliable date. It is apparent, however, that this material is much younger than the material buried deeply in the B2 horizon.

Three additional test pits were excavated on the northwestern end of the terrace roughly 67 meters west-northwest of datum. The soil was not as thick or well developed in this area as it was to the southeast and vegetation was much less robust. All of the test pits in this area proved to be culturally sterile.

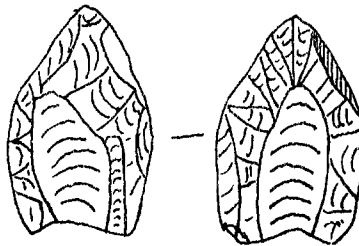
The data indicates that the site probably experienced multiple occupations of at least two different ages. The deeply buried cultural material and the fluted projectile point suggest considerable antiquity. The cursory testing seems to point to rather sporadic and/or short term use of the site. Its location would be suitable for both a campsite and a game lookout.

The significance of this site can be considered high in terms of the data it might contain relating to extremely early human occupation of the area and the antiquity of fluted projectile points in the Arctic. Research potential is quite high, and additional work at the site is strongly recommended.

At present, the site does not appear to be threatened by any adverse impacts. If adverse impacts threaten the site in the future the site should be considered a priority for excavation/research.

DRAFT

Fluted Point - Chert



WIS-092 Artifact - Actual Size

WIS-130

Site Elevation:
1300 ft

SW1/4, NE1/4
Section 24
R32N, R16W

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located atop a prominent lichen covered, bedrock knoll about 350 meters east of the North Fork Koyukuk River. The knoll rises roughly 70 meters above the river flood plain and offers an excellent view north, up valley and along an abandoned bedrock lined channel of the North Fork. The view is good to the west across the river and up the Tinayguk Valley for several kilometers and south down valley for approximately 2 kilometers.

The promontory of the knoll lies at its northern end. From the promontory the knoll gently slopes south for 65 meters before ending abruptly in a 5 meter drop off. The ridge is widest at the north end, and relatively flat. The ridge then narrows and becomes uneven as the ground slopes downward south to the cliff.

Birch, spruce, and dwarf birch are the dominant vegetation while willow is present to a lesser degree. The ridge is open with the trees growing intermittently along the slopes. Downslope from the top of the knoll the tree growth increases substantially. The ground cover is typical of well-drained ground in the region. Lichen, Ledum, and Vaccinium vitis idaea are among the low woody ericaceous and herbaceous plants growing at the site.

The site was located through subsurface testing. Two 30 cm² test pits were excavated to a depth of 10 cm. on the northern promontory. Both of the test pits proved to be culturally sterile. A third, similar sized, test pit was excavated approximately 3 meters to the south of test pits #1 and #2 and yielded eight small flakes of brown, gray and dark gray chert at a depth of 6-7 cm. Test pit #4 was excavated 2 meters to the south of test pit #3 and produced a single black chert flake from a depth of 3-4 cm. below surface. Two additional test pits, #5 and #6, were excavated several meters to the northwest and southeast of test pit #1 and proved to be culturally sterile. Four 20 cm² test pits were excavated to a depth of 10 cm. on the southern portion of the knoll all of which proved to be culturally sterile.

Subsurface evidence suggest that the promontory at the northern end of the knoll was the main focus of past human activity and may have served as a camp and/or lookout. The variety of lithic material may indicate more than a single occupational event occurred at the site. The lack of diagnostic artifacts precludes any cultural or temporal assessment.

Site significance is of a local nature and because of the possibility of a fair amount of subsurface cultural material being present may be considered "locally moderate". Additional significance can be ascribed to the site as a member of a suite of sites in the local area which appear to have been occupied at a time when the river flowed considerably farther to the east than it does today. The possibilities of interrelationships between these local sites is of further interest in that one of the sites has produced subsurface cultural material at depth, which included a fluted projectile point. Research potential for the local area appears to be relatively high.

At present the site does not appear to be threatened by any adverse impacts.

MAP AREA #4

NORTH FORK KOYUKUK VALLEY: LONG LAKE TO GLACIER RIVER

Camp #6, #7, and #8 July 2-21

Camp #6 was located on a vegetated gravel bar on the east side of the North Fork near the north end of Long Lake. On July 2, half the crew departed Camp #5 and spent two days floating the 20 miles to Camp #6 working out of siwash camps and surveying along the way. On July 4, the reduced crew began working out of Camp #6.

Survey operations were conducted out of Camp #6 from July 4-8. During this period of time three prehistoric sites were located in a surveyed area of roughly 2 square miles. The majority of the area surveyed was in the glacial topography surrounding Long Lake. The paucity of sites around the lake was rather startling as the area appeared to possess all the necessary attributes to make it attractive to prehistoric peoples. The sites that were located in this area were small and appeared to be of the short term variety. Evidence of historic and recent use of the area is quite apparent.

On July 8 the helicopter moved the gear and personnel of of Camp #6 down river about 5 miles to camp #7. This camp was located on a vegetated gravel bar on the east side of the river about a mile below the confluence of Ipnek Creek. On July 10, the remainder of the crew arrived at this camp, having floated the 20 miles down river from Camp #5.

This area is one of stagnant ice glacial topography creates a rather chaotic local relief. However, the glacial features do provide excellent site locations as is demonstrated by the site density. Evidence of wildfire activity occurring within the last 60 years is readily observable area-wide.

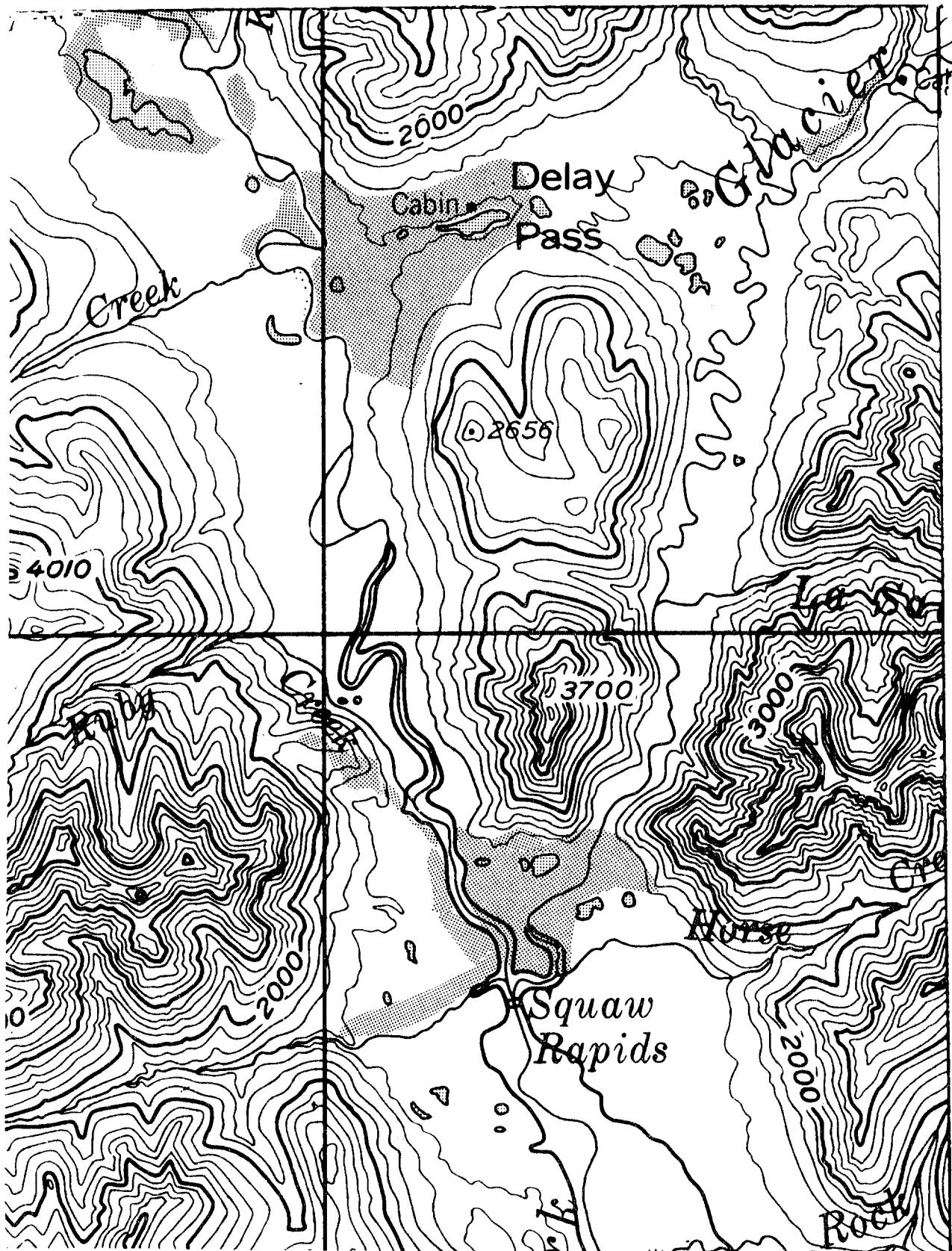
The majority of the sites located in this area appear to be of the lookout type. This probably indicates the area was a good hunting location. At least two of the sites appear to have been hunting oriented camps. An example of this type of site, WIS-136, covers a large area and exhibits artifacts associated with butchering and hide working. Additionally, the site contains at least one large hearth which produced large quantities of fire-cracked rock, burned bone, and charcoal. A radio active carbon date on charcoal from the hearth indicates the site is a least 600 years old. Indications from other area sites suggest that the local suite of sites represents area use over the past 5-6 millennia. The area also displays considerable evidence of historic and recent use.

On July 15 we loaded up the rafts and moved roughly 8 miles downstream and and set up camp #8. This camp was located on a gravel bar on the west side of the North Fork about 1/4 mile above the mouth of the Glacier River. Like Delay Pass, this area is one of stagnant ice glacial features such as kames, eskers, and kettle lakes. Evidence of recent wildfire activity is also plainly visible throughout the area.

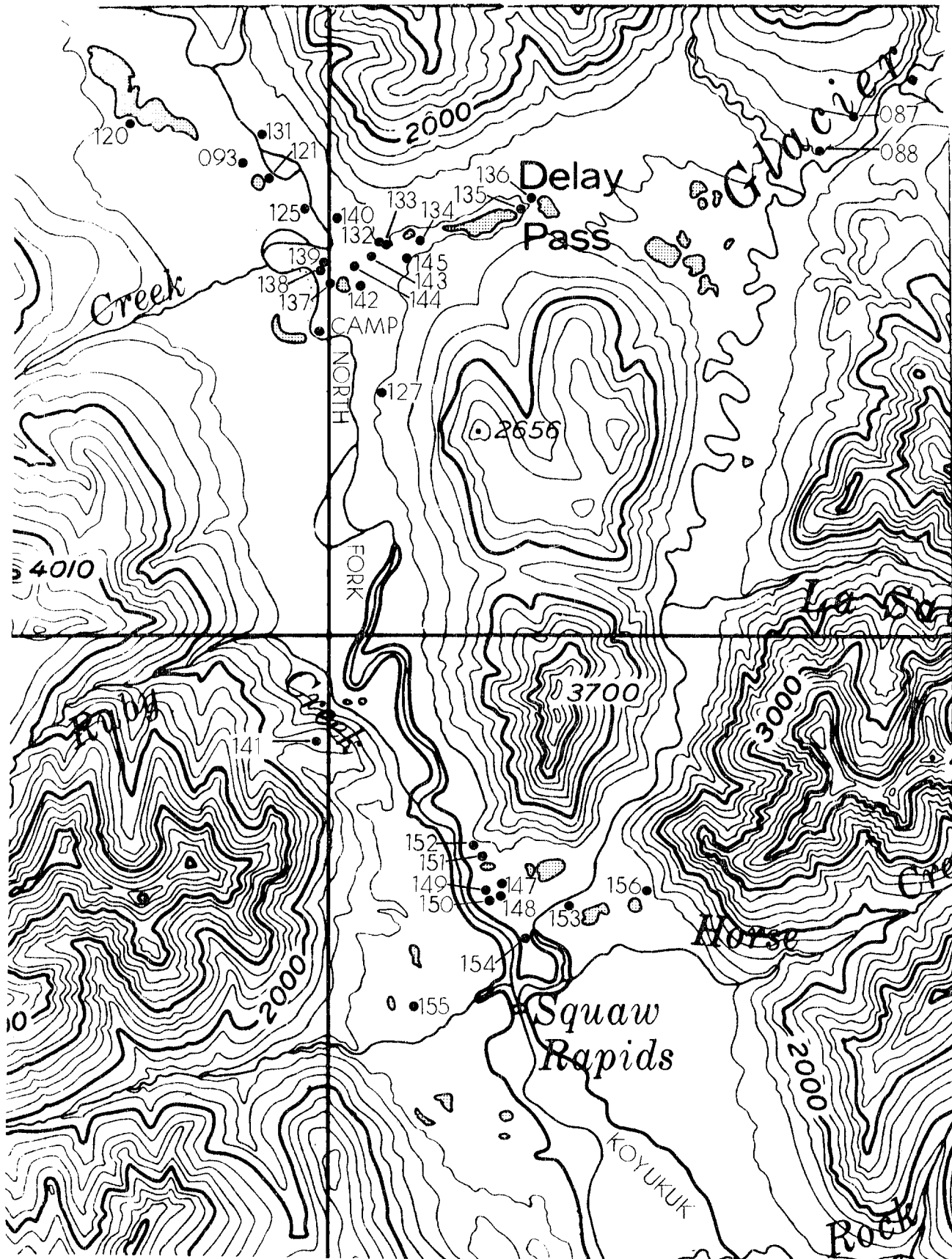
Archeological survey was conducted out of this camp for a period of five days and covered roughly 3 square miles. A total of eleven sites were located in this area, the majority of which appear to be small lookout sites associated with hunting activities. One of the sites, WIS-148, appears to have been a base camp for a hunting party. A variety of artifacts typical of butchering and hide working were observed at the site. The sites size and variety of lithic material present suggests that it was occupied on numerous occasions. A hydration date obtained from a obsidian scraper at this site indicates that one of the occupations dates to roughly 5000 years ago. Evidence from other area sites suggest that multiple occupations are common. The evidence also suggests utilization of the area by prehistoric people for at least the past 6000 years. Evidence of historic and recent use of the area is abundant.

On July 21, we struck camp and moved all gear and personnel to Bettles via helicopter. This concluded our work in the North Fork Koyukuk Valley.

Of the 106 archeological sites that were located in the North Fork Valley almost all of the sites appear to be associated with hunting/subsistence activities. Most of the sites are small, although several mutiple occupation base camp sites are fairly large. No long term sites, such as seasonal village locales, were found; this is not suprising given the regional topography. Also, generally speaking, the majority of the sites roughly 4000 years old or younger appear to be the result of Eskimo occupation.



Shaded Area = Surveyed Area



6 miles
- 125 -

WIS-119

Site Elevation:	NE1/4, NW1/4	Probable Site Type:
1200 ft	Section 2	Lookout
	T30N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located atop a river-edge bluff that rises 30 meters above the valley floor. The site lies roughly 2 kilometers northeast of Long Lake and roughly 1 kilometer northwest of the confluence of Richmond Creek and the North Fork Koyukuk River.

The view from the site is good to the east, south, and west exceeding several kilometers in those directions. Higher terrain and trees obstruct the view northward limiting it to less than 300 meters.

Small to medium sized spruce and birch are scattered about the site accompanied by a healthy understory of moss, lichen, and low woody and herbaceous plants. The bluff edge is characterized by exposed bedrock partially mantled by loess and the vegetation mat. Standing and fallen burned spruce snags and stumps indicated the passage of a wildfire through the area at some time in the recent past.

The site was located as the result of subsurface testing. A 10 cm² test pit was excavated to a depth of 8 cm. on the bluff edge 3 meters south of datum. This test pit yielded five gray chert waste flakes at depth of 3-5 cm. below surface. A second test pit was excavated adjacent to datum and proved to be culturally sterile.

The lack of diagnostic artifacts precludes cultural or temporal assessment of the site. The site's location suggests that it served as a lookout. Both site significance and research potential are of a local nature and of a low level. At present the site does not appear to be threatened by any adverse impacts.

WIS-126

Site Elevation:	SW1/4, NE1/4	Probable Site Type:
1070 ft	Section 3	Camp/Lookout
	T30N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located along the crest of a finger of land which extends 20-30 meters into Long Lake from its northern shore. The point itself is located in the northwestern corner of the lake and is flanked on the west by the lake's vegetation choked outlet stream. The view from the site is limited to the lake, its forested shores and glacial topography which defines the local area.

Although small birch and spruce trees grow along the lower flanks of the point its broad crest is nearly devoid of ground cover save for scattered patches of crowberry and grasses, which grow in the pebbly soil. Areas of a dull reddish brown mineral soil are exposed at the tip of the point and the presence of charred wood and charcoal along its length is evidence of past wildfire activity.

Cultural remains at the site span both the recent and prehistoric past. Modern materials include a fire hearth, expended cartridge cases, remains of a wooden blazo box and portions of a metal case gas can. Older materials included two small black chert flakes found on surface about 10 meters from the hearth and a concentration of small light gray chert flakes found on and in the surface at the tip of the point. The dozens of small flakes which appeared to be pressure/finishing flakes were localized in an area of approximately 1/2 square meter in an area of exposed reddish brown mineral soil. Two 15 cm² test pits were excavated to a depth of 8 cm in the areas of the two flake concentrations and yielded no additional cultural material.

Due to the lack of diagnostic artifacts no temporal or cultural assessment can be made. The variety of lithic material may indicate the site was occupied more than once.

The site location is clearly a good lookout/camping area as indicated by the presence of both modern and prehistoric cultural remains. Because of its location near the lakes outlet stream, it may also be a good fishing locale.

Site significance is low. The site does not appear to be threatened by any adverse impacts.

WIS-087

Site Elevation:
1400 ft

NE1/4, NE1/4
Section 11
T30N, R14W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located about 1 kilometer downstream from the mouth of Blue Cloud Creek on the Glacier River. Lying approximately 100 meters west of the river, the site occupies a south facing knoll along a north-south oriented ridge. The view from this knoll encompasses the area 1.5 kilometers upriver and roughly 800 meters downriver. The site sits 70-80 meters in elevation above the Glacier River.

Vegetation at the site includes grasses, small aspen and spruce trees, and woody plants. Behind the unvegetated area on the slope sits a thick stand of spruce, dwarf birch, and aspen trees. Evidence of recent past wildfire activity is found at the site in the form of charcoal on the surface, burnt spruce trees, and young aspen. Despite the relatively steep, 30° slope,

there appears to be only a little erosion induced by frost action. Some game trampling is also evident at this site.

The site was discovered through surface observation of a single chert waste flake. A 10 cm² test pit excavated to a depth of 8 cm. produced no cultural lithics. Fragmented bedrock and light colored loess was encountered at 7-8 cm. below surface.

Based on the occurrence of a single chert flake it appears this site represents a short term event. Since no other lithic material was found in this reconnaissance other than a waste flake, no cultural or temporal affiliations can be determined. Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

Site Elevation: 1400 ft	WIS-088 SW 1/4, NE 1/4 Section 11 T30N, R14W Fairbanks Meridian	DRAFT
Site Age: Unknown		Probable Cultural Affiliation: Unknown

This site is located on a north-south oriented ridge which runs between Mascot and Conglomerate Creeks in the Glacier River drainage. Situated approximately 120 meters west of the river, the site lies nearly 1 kilometer above the mouth of Conglomerate Creek and 150-200 meters south of WIS-087. The site sits on a south-facing knoll which is part of the southern edge of the ridge. The view from this site is good towards the south encompassing 3 kilometers along the Glacier River drainage.

Vegetation at this site consists of grasses and sedges on the slope. Along the ridge and knoll top is a thick stand of small spruce and birch trees. Wildfire activity appears to have occurred on this ridge in the recent past. Small regrowth trees, surficial charcoal, and burnt spruce snags in the area of the site attest to this fire activity.

No surficial lithics were observed at the site. A single subsurface test at the top of the knoll yielded five small (<1 cm.) waste flakes of black and mottled gray chert at a depth of 3-5 cm. below surface.

Based upon the small amount of lithic material it appears that this site represents a lookout and a single occupational event. The lack of diagnostic artifacts precludes temporal or cultural assessment.

Site significance is low as is research potential. At present the site does not appear to be threatened by any adverse impacts.

WIS-089

Site Elevation: 2000 ft	NW1/4, NE1/4 Section 35 T31N, R13W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site is located in the Glacier Pass area approximately 600 meters north of a lake which drains west into the Glacier River. The site sits on a rounded knoll nearly 70 meters above this lake on the northern side of Glacier Pass. Sitting on the western end of this knoll, the site has a view potential of several hundred meters to the north, west, and south. A historic cabin (GAAR-015) was found approximately 150 meters west-northwest of this site.

Vegetation at the site consists of spruce, dwarf birch, and a surface cover dominated by caribou lichen. The knoll appears glacial in origin and is well drained. Stumps of cut spruce are common on the eastern end and southern flank of this 100 x 40 meter knoll. Evidence of wildfire in the recent past is present on this knoll in the form of burned stumps and snags. Game trampling and bear excavations are also common at this site.

The site was discovered by surface reconnaissance. Four small black chert flakes were found in an area of 1 meter². These waste flakes showed no sign of use-wear or retouch. A quick examination of a bear excavations 2 meters away from this flake scatter and 8 cm. deep into the loess and basal gravel yielded no subsurface material. No subsurface testing was conducted.

Based upon its location and small amount of lithic material, this site appears to represent a short term hunting lookout. It is possible that other manifestations of the site occur across this knoll, but lithics were only found at its western end. No cultural affiliations are seen and no other sites were found in the Glacier Pass area during this reconnaissance. The natural impact at this site is minimal. At present the Glacier Pass is used as a route by the Coldfoot Classic Dog Sled Race and by the mining operation on Mascot Creek. The site is located approximately 100 meters north of this route and at present appears in no danger from this impact.

WIS-120

Site Elevation:	NW1/4, NW1/4	Probable Site Type:
1165 ft	Section 11	Camp/Lookout
	T30N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located along the break in slope of a prominent ridge on west side of Long Lake. The site lies due west of Pete Merry's cabin on the south side of a cove on the west side of the lake. The ridge rises roughly 50 meters above the lake and is bisected by a well worn game trail which parallels the lake amid the glacial topography.

Surface cover consists of a robust vegetation mat of moss, lichen and low herbaceous and woody plants as well as birch and spruce. The game trail is the only source of exposed mineral soil on the site. The view from the site is limited to the eastern quadrant of the lake and lake shore as trees block the view in all other directions.

Two black chert flakes were found lying in the game trail. Three 20 cm² test pits were excavated to a depth of 8 cm., 4 meters apart around the surface flakes. However, no other cultural material was located.

The location of the site suggests it served as a camp or possibly a lookout. Site significance is low and of a local nature. The site does not appear to be threatened by any adverse impacts.

WIS-137

Site Elevation:	NS1/4, SW1/4	Probable Site Type:
1150 ft	Section 18	Camp/Lookout
	T30N, R14W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on top of a kame which slopes gently downward to the south. At the foot of the kame lies a kettle lake approximately 200 meters east of the North Fork Koyukuk River and about 700 meters east-southeast of the confluence of Ipnek Creek and the North Fork. The site lies at the western end of Delay Pass which connects the Glacier and North Fork River Valleys. The kame upon which the site lies is one of a series which run roughly north-south for 400 meters or so, east of the Ipnek Creek confluence. The site is on the southernmost kame in the series and rises about 50 meters above river level.

Vegetation at the site consists of a healthy mat of lichen, moss, and low woody and herbaceous plants as well as stands of birch and spruce. There are very few mineral soil exposures present.

The view from site is excellent to northwest, west, southwest, and southeast. Higher knolls to north and a ridge to the south block the view in these directions. The view to east is blocked by rising, tree covered terrain 800 meters distant.

Two 15 cm² test pits were excavated to a depth of 8 cm. along the western edge of the kame proved sterile while a similar sized test pit excavated in the central portion of northern end of the kame yielded several small gray chert flakes and burned bone from what appeared to be a hearth. This feature is of unknown horizontal dimensions but vertically spans a silty sand (oxidized) matrix beginning below the top of the A horizon, at a depth of 6 cm. From 6-12 cm. below surface the soil matrix consists of a gray silt mixed with burned bone fragments, ash, and chert flakes. Gravel is encountered below this depth. It is reasonable to assume that there is more subsurface cultural material at the site.

The lack of diagnostic artifacts precludes cultural assessment, however, the bone recovered from the hearth might provide a date of occupation. In general the presence of recognizable bone in a site in this region indicates a site age of less than 2000 years B.P.

The site's location as well as cultural evidence suggests that the location served as a camp. However, the location is also well suited for a lookout and interception point for game moving through Delay Pass, and/or the surrounding kame field.

Site significance is of a local nature and research potential is moderate. The site does not appear to be threatened by any adverse impacts.

WIS-138

Site Elevation:	NE1/4, SE1/4	Probable Site Type:
1180 ft	Section 13	Lookout
	T30N, R14W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies on the northern end of glacially rounded bedrock ridge. The ridge, 50 meters in length, trends northwest-southeast and lies 125 meters east of the North Fork Koyukuk and 400 meters east-southeast of the river's confluence with Ipnek Creek. WIS-137 lies 150 meters to the south-southeast.

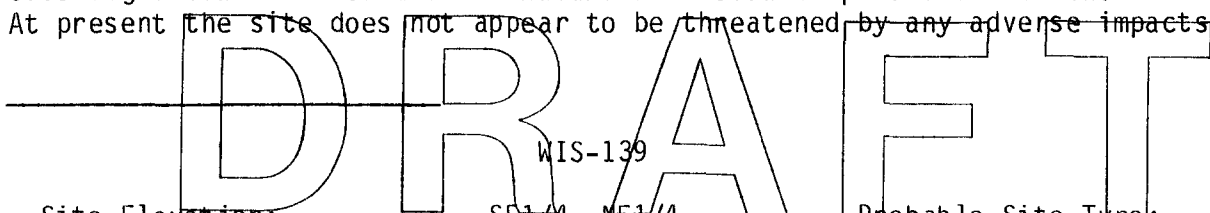
The site lies 60 meters above the river offering an excellent view to the north, northwest, west, southwest, south, and southeast. The view to the east and northeast is obscured by trees and higher terrain.

Vegetation at the site consists of a healthy mat of lichen, moss, and low woody and herbaceous plants. Spruce and birch are scattered around the site in thin to moderately dense stands. Very few mineral soil exposures were observed.

Along the length of the ridge ridge, seven 15 cm² test pits were excavated to a depth of 7 cm. Testing began at the southern end of the ridge and proceeded north. Tests pits #1 and #3 proved to be sterile and test #4 produced a few flakes of dark gray and a gray-green chert from 2-4 cm. below surface. Test pits #5, #6, and #7 were placed 3 meters north, west and east, respectively of test #4, with test #7 the only test pit to produce further cultural material; a single flake of dark gray chert 3-4 cm. below surface.

The lack of diagnostic artifacts precludes cultural and temporal assessment of the site. However, the variety of lithic material may indicate that more than one occupational event took place. The site's location suggests that it served as a hunting lookout as it offers a good view of the western end of Delay Pass and the glacial topography of the local are.

Site significance is of a local nature and research potential is low. At present the site does not appear to be threatened by any adverse impacts.


WIS-139

Site Elevation: 1195 ft	SE1/4, NE1/4 Section 13 T30N, R14W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located atop the highest and northernmost of three glacial/bedrock ridges 400/600 meters east-southeast of the Ipnek Creek/North Fork Koyukuk River confluence. WIS-138 lies 100 meters southwest, and WIS-137 lies 250 meters to the south, and an 8-10 acre kettle lake lies 300 meters to the south of the site. The river flows east to west 300 meters north of site then turns south and flows within 200 meters of the site's west side.

Being located on some of the highest local terrain the site offers a truly panoramic view of the area. Vegetation at the site consists of a mat of moss, lichen, and low woody and herbaceous plants. Small to medium sized spruce and birch as well as a few willow are scattered over the site area. Bedrock and mineral soil is exposed in some areas.

The site was discovered through subsurface testing. Five 20 cm² test pits were excavated to a depth of 8 cm along the ridge top. Test pit #2, in the central portion of the site, produced a single black chert flake 4-5 cm below surface. Test pits #1, #3, and #4 to the east, west, and south of test pit #2 produced no cultural material. Test pit #5, on the northern edge of the site yielded three bluish-gray chert flakes and what appears to be a black chert burin spall at depths of 4-6 cm. below surface. The two test pits which produced cultural material lie roughly 15 meters apart.

The lack of diagnostic artifacts precludes cultural or temporal assessment. The variety of lithic material may indicated that multiple occupational events occurred at the site.

The site's location suggests that it served as a hunting lookout as it offers and excellent view of Delay Pass, a natural travel route utilized by game animals.

Site significance is of a local nature and research potential is moderate. At present the site does not appear to be threatened by any adverse impacts.

WIS-142

Site Elevation:
1050 ft

NW1/4, SW1/4
Section 18

Probable Site Type:
Unknown

Site Age:
Unknown

T30N, R14W
Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on the southern flank of a linear, till covered knoll near the northeast corner of a small kettle lake at the western entrance to Delay Pass. The lake is perched atop a terrace, slightly more than a kilometer south of the creek which drains the western slope of the pass.

The site, lies on a 3-4 meter high terrace atop the knoll which offers a commanding view of the area overlooking the lake and beyond into Delay Pass, across the North Fork Koyukuk Valley to the west, and southwards down river.

The area of the site is heavily overgrown with spruce and birch trees accompanied by a dense understory of moss and low herbaceous plants. Red oxidized soils, exposed on the site's unvegetated and exposed embankment, and the presence of burned tree stumps clearly indicates wildfire swept through the area in the past several decades.

Midway down the exposed embankment, one gray and two black chert flakes were observed on surface. Three 15 cm² test pits were excavated to a depth of 7 cm along the top of the terrace. Only one test, #3, located some 6 meters back from the terrace edge, yielded any cultural material; one small light gray chert flake at a depth of 2 cm. No features or any other cultural materials were observed.

Little else can be said about this site beyond its close association with two other sites, WIS-143 and 144, located to the northeast and northwest on this same knoll.

The site's location suggests that it may have served as a hunting lookout. The lack of diagnostic artifacts precludes cultural or temporal assessment.

Site significance is of a local nature and research potential is low. At present the site does not appear to be threatened by any adverse impacts.

WIS-143

Site Elevation:
1200 ft

SE1/4, NW1/4
Section 18
T30N, R14W

Probable Site Type:
Lookout/Camp

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This multiple locality site lies on two small knobs roughly 50 meters apart. The two knobs are situated near the northeast corner of the same knoll upon which WIS-142 lies; slightly less than a kilometer to the south southwest. The confluence of two creeks draining the western slopes to Delay Pass lies 200 meters north of the site.

Locality "A" the datum location and the southernmost of the two knobs, is marked by the presence of a dozen silvered, dead standing trees. From this vantage point the view potential is limited to the entrance to Delay Pass and eastward into the pass itself.

The ground cover is a dense mat of reindeer lichen low woody and herbaceous plants including Labrador tea, bear berries, and some small willows. Spruce trees 1-3 meters in height and numerous burned snags complete the surface cover as well as indicating the passage of wildfire in decades past.

Because of the setting and view potential of locality "A", four 15 cm² test pits were excavated to a depth of 8 cm. Only one of these test pits yielded cultural material; a number of small waste flakes and some firecracked rock. No charcoal was recovered. The flakes, found on the A/B horizon contact about 4 cm below surface, were a coarse, black, vesicular basalt.

Locality "B", the higher of the two knobs, is located roughly 50 meters north of Locality "A". Vegetation and ground cover conditions at locality "B" are identical to those at locality "A". This locality offers an excellent view in all directions; northwards up to the North Fork Koyukuk River, westward across the river and up the Ipnek Creek drainage, southwest, into the Delay Pass entrance, and east into the pass itself.

As with locality "A", although no cultural material was evident on surface, the view potential dictated subsurface testing. A single 15 cm² test pit was excavated to a depth of 8 cm. and yielded a number of black and light gray fine grained chert flakes, at the A/B horizon contact 3-4 cm. below surface.

No diagnostic materials were found at either locality of this site which precludes cultural or temporal assessment. The variety of lithic material at the site suggests the occurrence of more than a single occupational event. Subsurface evidence suggests the site could be large affecting its research potential and local level of significance. The site's physical location suggests it served as some sort of game lookout and/or a short term camp.

At present the site does not appear to be threatened by any adverse impacts.

WIS-144

Site Elevation:	SW1/4, NW1/4	Probable Site Type:
1100 ft	Section 18	Lookout
	T30N, R14W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on the southwest face of what can be termed the central knob of the same knoll that WIS-142 and WIS-143 are located on. The site lies some 30-40 meters beyond the northeast corner of a small kettle lake. The view potential from this site is limited primarily to the area immediately surrounding the lake, and a short distance beyond to the south and northwest.

The immediate site area, while surrounded by heavy spruce and birch growth, is rather open with patches of exposed reddish soil derived from the parent bedrock material. The soils are well drained with scattered growths of crowberry and reindeer lichen. Burned spruce snags indicate the area was swept by wildfire in the past 60 years.

Attention was initially drawn to this site because of its physical prominence. A close visual inspection revealed the presence of a single black chert flake, found on surface in an unvegetated area. Three 10-20 cm² test pits were excavated to a depth of 8 cm. but no other cultural materials were found.

The paucity of cultural remains at the site, its less than prime location, and the limited view potential suggest a low level of significance and research potential. The site's most interesting aspect is its proximity with two other sites, WIS-143 and WIS-142, on the same knoll.

The lack of diagnostic artifacts at the site precludes any cultural or temporal assessment. The location of the site and the paucity of cultural remains suggests the site served as a lookout.

At present the site does not appear to be threatened by any adverse impacts.

WIS-132

Site Elevation:	NE1/4, NW1/4	Probable Site Type:
1220 ft	Section 18	Lookout
	T30N, R14W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site located atop a south facing bluff on the north side of the stream that drains the largest lake on the western slope of Delay Pass. The lake lies slightly more than a kilometer to the east of the site.

The North Fork Koyukuk River is located approximately one kilometer west of the site where the river makes a very sharp bend to the west before its confluence with Ipnek Creek. This portion of the river is visible from the site.

The site is 150 meters east of the western end of the ridge which lies 75 meters above the valley floor. To the south of the site lies a low, flat muskeg area which is dotted with spruce on the more well-drained localities. The view from the site is best to the east side of the Koyukuk Valley south to Ruby Creek some 6 kilometers distant. A view of more than a kilometer is available to the east-southeast and west-southwest. Due southwest of the site, across the stream rises an upland area which contains six other archeological sites between one and two kilometers distant.

Evidence of wildfire is prominent on the western slopes of Delay Pass and appears to have passed through the area 60-80 years ago as birch, spruce, poplar are in a moderate to advanced stages of regrowth.

The bluff face of site supports a few young spruce and birch. The top of the bluff is well vegetated and supports medium sized spruce and birch. Ground cover consists of a mat of moss, lichen, and low woody and herbaceous plants, as well as some scattered clumps of grass.

The site was discovered by surface observation. At the break in slope flakes of dark, relatively coarse grained argillite were observed eroding out of an area of grizzly bear excavations, soil slumping, and tree up-rooting. One flake was slightly exposed from an area near a burrow and was in stratigraphic position in the upper B horizon 4-6 cm. below surface. The occurrence of cultural material appears to be restricted to the bluff edge, spanning a distance of 8 meters east-west. Three 20cm² test pits were excavated to a depth of 8 cm. along the bluff face and yielded no additional cultural material. Two similar sized test excavations back from bluff edge also proved to be sterile. The lithic material appears identical to that observed at WIS-138, and also appears to be at the same stratigraphic location.

The lack of diagnostic artifacts precludes any cultural or temporal assessment. The site's location suggests that it served as a hunting lookout.

Site significance is of a local nature and may be considered moderate in terms of the probable interrelationships of the suite of local sites. Area research potential is good.

At present the site does not appear to be threatened by any adverse impacts of a serious nature.

WIS-133

Site Elevation:
1200 ft

SW1/4, NE1/4
Section 18
T30N, R14W

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on the southern edge of a bluff overlooking the western end of Delay Pass. The bluff runs east-west on the north side of the outlet stream of the largest lake in the pass. WIS-132 is located 130 meters to the west on a slightly lower bluff. The bluff, upon which WIS-133 lies, is the most prominent one along the western end of ridge. The bluff faces south and is relatively flat on the 20 meter² area comprising its top, except for a slight rise on the northern edge. Lower, marshy terrain lies 50-100 meters north. The terrain then rises onto the south facing valley wall of the pass where peaks reach elevations of 1200 meters. The surrounding relatively flat muskeg terrain is offset by well-drained lichen covered knolls which increase in number to the east.

The view from the site is excellent to the south, southeast, and southwest while the view to the west is obscured by trees. The vegetation at the site consists of a healthy mat of moss, lichen, grasses, and low woody and herbaceous plants accompanied by numerous small to medium sized spruce. The bluff face is steep and is thinly vegetated by grasses and willow. The site area exhibits evidence of 60+ year old wildfire activity.

Three flakes of dark gray chert were observed on a break-in-slope in an erosional area of fractured schist bedrock and mineral soil. Twelve meters north, on a slightly higher knob of the bluff, two more dark gray chert flakes were observed eroding out of the same erosional break in slope. A black chert flake was observed on surface 6 meters to the west. Cultural material appears to be scattered over an area 14 meters north-south by 10 meters east-west.

A single 20 cm² test pit was excavated to a depth of 8 cm., 4 meters north of the bluff edge and produced two dark gray chert flakes 4-5 cm below surface.

The lack of diagnostic artifacts precludes cultural or temporal assessment of the site. However, the variety of lithic material may indicate the site experienced more than one occupational event.

The site's location as well as cultural evidence suggests that it may have served as a lookout and/or hunting camp. Site significance is of a local nature and may be considered moderate in terms of the probabal interrelationships of the suite of local sites. Area research potential is good.

At present the site does not appear to be threatened by any adverse impacts.

WIS-134

Site Elevation: 1225 ft	NE1/4, NE1/4 Section 18 T30N, R14W	Probable Site Type: Lookout/Camp
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a kame/knoll which constitutes southern portion of a general east-west trending series of glacial features on northern side of Delay Pass. Three kettle lakes lie in the near vicinity, 250 meters northwest, 150 meters southwest, 200 meters southeast. The knoll is 35 meters in length and is connected to another ridge to the north. The site lies roughly 25 meters above most of the surrounding terrain. Vegetation at the site consists of a mat of moss, lichen, grasses, and low woody and herbaceous plants. Birch is the dominate tree on the top of the knoll while mixed stands of birch and spruce cover the slopes. The view from the site is somewhat obscured by the surrounding trees. Evidence of wildfire activity is abundant in the area.

The site was located by subsurface testing. On the east end of the knoll a 20 cm test pit was excavated to a depth of 6 cm. and yielded one small purple chert flake at 4 cm. below surface. Another similar sized test pit 20 meters to the west-northwest produced one white and two gray chert flakes 2-3 cm. below surface.

The lack of diagnostic artifacts precludes any cultural or temporal assessment. However, the variety of lithic material may indicate that more than one occupational event occurred at the site.

The site's location as well as the cultural evidence suggests that the site served as a lookout and/or campsite. While site significance is of a local nature it may be considered moderate in terms of the probabal interrelationships of the suite of local sites. The area research potential is good.

At present the site does not appear to be threatened by any adverse impacts.

WIS-145

Site Elevation 1100 ft	SE1/4, NE1/4 Section 18 T30N, R14W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located on a low flat topped terrace like bedrock feature just inside the western approach to Delay Pass. The site lies midway between the east bank of the North Fork Koyukuk River and the largest of two lakes near the summit of the pass. Immediately north of the site is

a small pond and just beyond that is the westward flowing stream which drains the western slope of Delay Pass. View potential from this site is extensive. To the west and northwest the view is across and up the river taking in the locations of WIS-144, 132 and 133. To the southwest and south the western approaches to the pass are easily observed.

The margins of the terrace are very open with rocky well-drained soils thickly covered by caribou lichen, crowberry and other low woody and herbaceous plants. Scattered about are patches of exposed mineral soil, fire-cracked rock and traces of burned wood, all indicating that wildfire has swept the terrace sometime in the recent past. Anywhere from 2-10 meters back from the terrace margins spruce and birch trees up to 10 meters high grow in abundance as they do along the western slopes of the terrace.

The site was located by visual inspection of the surface. A single flake of black obsidian was observed in what appeared to be a previously excavated and partially revegetated test pit. The pit, possibly an old grizzly bear excavation, and flake were situated on the western flank of the terrace, some 4 meters back from the edge. Designated as locality "A", the "test pit" was reopened and tested, along with three other shallow 15-20 cm² test excavations in the immediate area. None of these test pits yielded any additional cultural material. Some 60 meters to the southeast, following the curving margin of the terrace, another obsidian flake was found. The flake lay on surface midway down the sparsely vegetated south facing terrace slope designated as locality "B". Three unproductive shallow test pits were excavated atop and behind the 3 meter high embankment upon which the flake lay.

Based on the limited materials recovered, the apparent significance of this site, beyond its possible relationship to other sites in the area, can be said to be low. The lack of diagnostic artifacts precludes cultural assessment although the obsidian may be able to provide a hydration date. The site's location as well as cultural evidence suggests the site served as a lookout.

At present the site does not appear to be threatened by any adverse impacts.

WIS-093

Site Elevation:	SW1/4, NW1/4	Probable Site Type:
1150 ft	Section 12	Lookout
	T30N, R15W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies on a linear bedrock outcrop, the promontory of which is approximately 35 meters long and about 3 meters wide. The axis of this "hogback" is east-west orienting it up and down river. The North Fork Koyukuk River lies 400 meters to the north of the site. The site lies

about 40 meters above river level and the view, while somewhat localized, is good. The southern end of Long Lake can be seen to the north as well as a portion of a kettle lake roughly 200 meters to the southeast. The river valley can be viewed for roughly 2 kilometers up and downstream.

Surface evidence in the site area indicates the passage of a wildfire in the recent past. Coring of the largest spruce trees in the site area suggest the fire occurred 60-80 years ago. Burned stumps and sections of trees as well as chunks of charcoal are easily observed. Vegetation at the site consists of a healthy mat of lichen, moss, and low woody and herbaceous plants, as well as scattered small spruce, birch, and willow. A few mineral soil exposures are present. The soil is shallow and somewhat reddish in color, probably having been oxidized by the wildfire. Bedrock spalls occur profusely at 8 cm. below surface.

No cultural material was observed on surface, the site was located by sub-surface testing.

Four 15 cm² test pits were excavated to a depth of 8 cm. below surface. Test pits #1, #2, and #3 all contained cultural material. Test pit #4 was excavated 12 meters southsoutheast of datum, is off the ridge crest and was culturally sterile. Test pits #1 and #3 contained several small black and gray chert flakes. Test pit #2 contained three flakes of gray chert, one flake of black chert and one chunk of obsidian. The chert in all test pits was located 3-5 cm. below surface while the obsidian was found in the root mat, about 1-2 cm. below surface. No formal artifacts were recovered.

The lack of diagnostic artifacts precludes cultural assessment, however, the obsidian may provide a date of occupation. The variety of the lithic material may indicate that more than one occupational event occurred at the site.

Because of its limited level surface area, it is suspected that the site served as a lookout. The significance of the site is moderately low except as it relates to other sites in the local area. At present the site does not appear to be in any danger of natural or human impact.

WIS-121

Site Elevation:
1040 ft

SE1/4, SW1/4
Section 12
T30N, R15W

Probable Site Type:
Camp

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

The site is on the crest of a low rise which is roughly 20 meters in diameter at its base. Because of its low elevation, less than 5 meters above the valley floor, the view is restricted to the immediate area which includes the adjacent kettle lake and 600 meters of the North Fork Koyukuk River Valley.

The surface of the site is covered by a thin mat of lichen, moss, and low herbaceous plants. There are numerous small areas of exposed mineral soil which appear to be the result of frost action. The soil is reddish in color, quite shallow, and contains numerous pebbles and cobbles. The site is open in aspect with scattered small birch, spruce, and willow being present. Wildfire passed through the area in the recent past and appears to be the same fire as observed at WIS-093; the surface evidence being identical.

Cultural material was observed on surface and consisted of one obsidian flake and a badly pot-lidded fragment of a chert flake knife. Datum was located on the promontory of the rise. A 20 cm² test pit was excavated to a depth of 8 cm., 2 meters to the south of datum. The test excavation yielded one chert flake, one obsidian flake, and one WRA Co. US Army 30 caliber cartridge case. All cultural material was located 2-4 cm. below surface.

Because of its location, size, and cultural evidence, this site appears to have served as both a prehistoric and recent hunting camp.

The lack of diagnostic artifacts precludes cultural assessment, however, the obsidian recovered from the site may provide a hydration date. The presence of a variety of lithic material may indicate that more than one, prehistoric, occupational event occurred here.

There seems to be little chance of natural or human impact affecting this site. Significance is low except in the site's relationship to other local sites and the fact that the location was used both prehistorically and historically.

WIS-125

Site Elevation: 1150 ft	SW1/4, SE1/4 Section 12 T30N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site is located on a bedrock outcrop that rises abruptly to an elevation 25 meters above the North Fork Koyukuk River. The view from the site extends for roughly 2 kilometers up and down the river and encompasses the western approaches to Delay Pass. Physically the site can be considered a "hogback", being 20 meters long and no more than 3 meters wide with steeply sloping sides. The surface of the site is mostly bedrock and exposed mineral soil. There are scattered areas covered by a mat of lichen, moss, and low herbaceous and woody plants. Spruce to 5 meters in height, are very thinly scattered along the crest. Evidence of recent wildfire activity is abundant over the site area.

The site was located through visual inspection of the surface. Cultural material, consisting of 30-40 small black and brown chert flakes, was scattered over an area roughly 1 meter². No cultural material was observed in other areas of the site and no subsurface testing was undertaken.

The lack of diagnostic artifacts precludes cultural or temporal assessment. The variety of lithic material may indicate more than a single occupational episode occurred at the site. The site's location suggests it served as a hunting lookout.

The site's significance is of a local nature only and research potential is very low. At present the site does not appear to be threatened by any adverse impacts.

	WIS-135	
Site Elevation:	SE 1/4, SE 1/4	Probable Site Type:
1190 ft	Section 8	Camp/Lookout
	T30N, R14W	
Site Age:	Fairbanks Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site lies at the northeast corner of the largest lake on the western slope of Delay Pass. The site is located on top of a low, well-drained rise or old beach terrace 50 meters north of the lake's inlet stream. The terrace is oriented northwest-southeast giving an open, bright aspect to the site.

The view from the site, while good in all directions, is most extensive towards the south where the terrain rises away from lake. For the most part the lake is surrounded by poorly drained spruce covered terrain which gives way to muskeg toward valley walls. Vegetation at the site consists of lichen, moss, low woody and herbaceous plants, grasses, and scattered dwarf birch and willow. Evidence of past wildfire activity is abundant although the spruce has come back well and is scattered across the site. Mineral soil exposures are present, mostly along the break-in-slope of the crest of the terrace.

The site area has been the location of fairly intense modern use. The dry spruce covered rise at the eastern end of the lake, 75-100 meters southeast of site; is covered with scraps of black visqueen, cut stumps, beer cans, and other trash. A cabin on the north shore of lake is 800 meters west of site.

The site was located as the result of visual inspection of the surface. On the break-in-slope just off the top of rise, two small dark gray chert flakes were observed lying in the exposed mineral soil. A 20 cm² test pit was excavated to a depth of 8 cm., 1 meter north of the surface flakes and yielded a single gray chert flake at a depth of 3-4 cm. A line of four additional test pits were excavated at 15 meter intervals to the north, and produced no cultural material.

The lack of diagnostic artifacts precludes cultural or temporal assessment of the site. The site's location suggests that it may have served as a camp and/or lookout.

Site significance is of a local nature and research potential is low. At present the site does not appear to be threatened by any adverse impacts with the possible exception of visitor activity.

WIS-136

Site Elevation:
1220 ft

SE1/4, SE1/14
Section 8
T30N, R14W

Probable Site Type:
Hunting Camp/Kill Location

Site Age:
600 years B.P.

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located along the south facing portion of an east-west trending lenticular rise midway between the two largest lakes on the western slope of Delay Pass. The rise lies slightly north of the center of the valley and is roughly 60 meters long by 30 meters wide and rises only a meter or two above the surrounding country. The northern boundary of the site grades into tussock tundra which extends north 150-200 meters before spruce again covers the sloping valley wall. To the south of the site lie the wetlands between the two lakes. The site lies in the narrowest portion of the western slope of the pass.

Both of the lakes are visible from the site as well as most of the adjacent area up to 2 kilometers distant. The absence of trees would greatly enhance the view.

Vegetation at the site consists of a healthy mat of moss, lichen, and low woody and herbaceous plants. Some dwarf birch and willow are scattered about as are small spruce. Standing and fallen burned snags and stumps are evidence of past wildfire activity. The only mineral soil exposure is created by a game trail which traverses the site.

This site was discovered through visual inspection of the surface. Several concentrations of black and gray chert flakes were observed on and in the surface of the game trail. Two formal artifacts, a fragment of a gray chert knife/scrapper and a black chert end scraper, were located in the game trail roughly 50 meters apart. The end scraper exhibits a potlid fracture which may be the result of exposure to wildfire. Also visible on surface were several concentrations of fire-cracked rock located in the game trail at the eastern end of the site.

A 20 cm² test pit was excavated to a depth of 10 cm. in one of the fire-cracked rock concentrations. Subsurface testing suggests this feature is a hearth measuring 2 x 1.5 meters. Abundant bone, burned/unburned, charcoal, and fire-cracked rock were collected from the test pit. A charcoal sample was collected and yielded a date of 550 $\pm$ 90 B.P. (Beta-11087).

It is possible that cultural charcoal could be contaminated by wildfire charcoal. However, the integrity of the hearth appeared good and the physical state of the unburned bone suggests the date is correct.

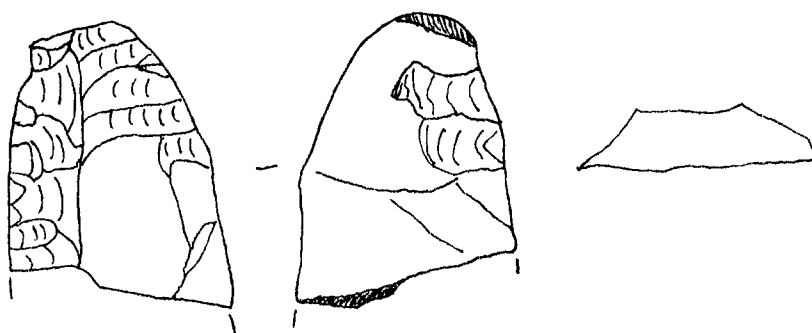
The site is definitely oriented toward hunting in pass constriction, and hearths and bone accumulation indicates a probable camp location as well as a possible kill location.

The lack of diagnostic artifacts does not allow cultural assessment of the site. The apparent size of the site, the scattered concentrations of cultural material, and the variety of lithics present suggests more than one occupational event took place.

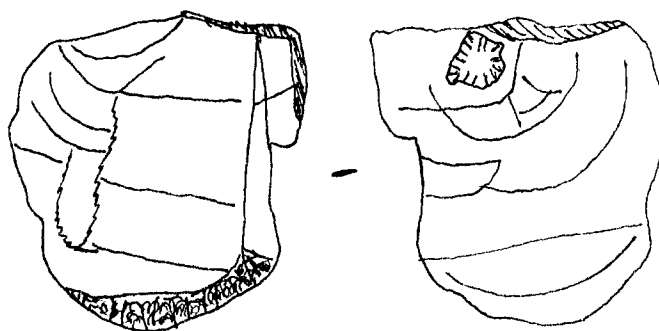
The cultural evidence as well as the site's location suggests that the site was a hunting camp and/or a kill location.

The site has relatively high local significance and the research potential in the local sense, also appears to be moderately high. The erosion caused by the game trail appears to be the sole impact on the site. At present the site does not appear to be threatened by any adverse impacts.

DRAFT



Gray Chert Knife/Scraper



Black Chert End Scraper

WIS-136 Artifacts - Actual Size

WIS-127

Site Elevation: 1200 ft	NW1/4, SE1/4 Section 19 T30N, R14W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site lies on a bedrock knoll which is capped by a thin cover of colluvium or glacial drift. The site lies 60 meters above the valley floor providing an excellent 360° panoramic view of the valley to the south as far as Ruby Creek and to the north as far as Long Lake. The view east is limited to roughly 200 meters and to the hill on which the knoll lies. To the west the valley wall is visible some 3 kilometers distant.

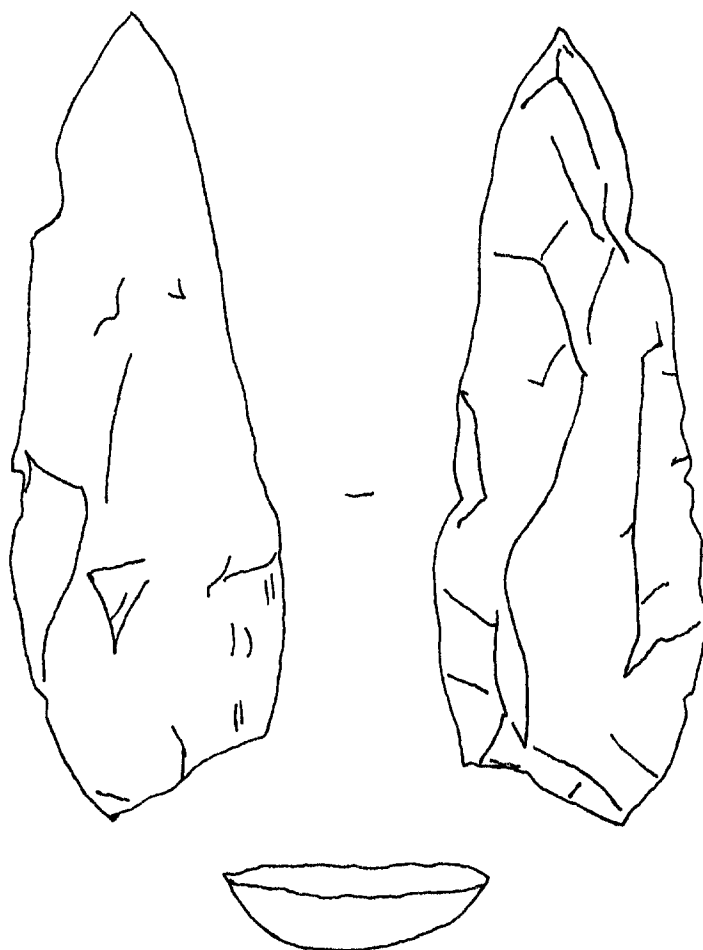
The vegetation at the site is a 90% cover of *Betula glandulosa*, *Empetrum nigrum*, *Ledum decumbens*, *Vaccinium uliginosum* and *Salix* sp. in the understory, with scattered *Picea glauca* and *mariana*, and *Betula papyrifera* trees. *Cladonia* lichen is also present. Evidence of past wildfire activity is present but not clearly discernable.

The site was located through visual inspection of the surface which revealed a fragment of wedge shaped microblade core at datum location. Three meters west of datum was a gray chert flake, and 6.5 meters south of datum a large rhyolite biface was found. Two 20 cm² test pits were excavated to a depth of 8 cm²; test pit #1 at datum and test pit #2, 3.5 meters east of datum. Test pit #1 yielded a single gray chert flake and test pit #2 produced one tan and twelve gray chert flakes.

The chert flakes may or may not relate to the wedge shaped microblade core and/or to the rhyolite biface. The site was quite probably used as a lookout/flaking station, and its prominent topographic location makes it a likely locale for repeated occupation. The variety of lithic material scattered about the site also suggests multiple occupational events.

The evidence of microblade technology suggests a minimum date of 2000 years B.P. for at least one occupational event. When analyzed, the obsidian artifact may provide a hydration date. The observed cultural material are not sufficiently diagnostic to attempt cultural assignment.

Site significance is of a local nature and research potential may be considered low. At present the site does not appear to be threatened by any adverse impacts.



Rhyolite Biface

WIS-127 Artifact - Actual Size

WIS-140

Site Elevation:
1150 ft

SW1/4, SW1/4
Section 8
T30N, R14S

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site located atop a prominent north-south trending knoll 200 meters east of the North Fork Koyukuk River and 300 meters northeast of the confluence of the Delay Pass drainage with the North Fork. The site lies roughly 30 meters above the valley floor and offers a fair view to the south, southeast and east. Birch and spruce are the predominant trees at the site accompanied by a robust vegetation mat of lichen,

moss, and low woody and herbaceous plants. Only a few small mineral soil exposures are present. Evidence of past wildfire activity in the site area is pronounced.

The west and south facing boundaries of site slope downward steeply while the east and northern boundaries slope off more gradually. The terrain to the east of the site levels off for 100 meters before sloping gradually then more steeply upward onto exposed bedrock slopes.

Near the center of the south facing portion of the site two gray chert flakes and a small obsidian flake were observed in a small mineral soil exposure. Thirteen meters north, in another mineral soil exposure, a white chert flake was observed.

Because the surface of the site was almost completely vegetated fourteen 20 cm² test pits were excavated in 4-5 meters intervals over the site area. Seven of the pits contained cultural material, the majority of which occurred on the eastern and central portion of the knoll top.

Test pits #1, #4 and #6 contained both chert and obsidian flakes. Test pit #3 produced several utilized chert flakes and a retouched quartzite flake. Test #13 produced numerous pieces of fine-cracked rock and a single black chert flake while test pit #7 produced chert flakes associated with charcoal. All subsurface cultural material appears to be coming from a 4 cm. thick band at the contact of the A and B soil horizons.

The site appears to be quite extensive in area covering at least 75 meters². The obsidian and the charcoal may be able to provide occupation dates. However, the lack of diagnostic artifacts precludes cultural assessment. The variety of lithic material, the apparent size of the site, and the site's location all argue for the occurrence of multiple occupation events. Site location and cultural evidence suggests the site served as a huting camp/lookout.

Site significance while of a local nature, is quite high as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

WIS-131

Site Elevation 1200 ft	NW1/4, NE1/4 Section 12 T30N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site lies atop a prominent schist bedrock knoll quite visible from the river. The east, or upslope side of the knoll, grades fairly smoothly into the surrounding tundra, but the west, or river side of the knoll forms a sharp escarpment rising about 20 meters above the tundra. There is

abundant evidence of recent wildfire activity, perhaps 60 years old. Vegetation on the knoll consists of Picea glauca, Betula papyrifera, Salix sp., Epilobium latifolium, Ledum sp., Vaccinium vitis-idaea, and mosses. Additionally, Artemisia sp. grow on the dry bluff face. The view is excellent, 360°, south toward Ruby Creek and the east flank of Ipnek Mountain, the Delay Pass area knolls and ridges are easily visible, as are the knolls near Long Lake.

A thorough search of the bluff face revealed no cultural material on surface. Because of the prominence of the knoll, and the presence of a site on a similar knoll on the opposite side of the river (WIS-093) a test pit was excavated at the highest point on the knoll. A single, small, black chert flake was recovered from this test pit. Soil within the test pit consisted of the vegetation mat which was underlain by a red oxidized horizon that extended to about 10 cm. below surface. Below this was a yellowish loamy horizon. A sample of charcoal was recovered from the red/yellow contact, about 10 cm. below surface. However, this sample may simply be a result of the recent wildfire activity, and may not be cultural in origin.

The site probably functioned as a lookout/flaking station. Due to the single flake recovered, no cultural assignment or chronological determination can be made. The site has relatively low significance and research potential. Presently, the only impact on the site is the slow natural erosion of the bluff face.

WIS-141

Site Elevation: 2000 ft	NE1/4, NE1/4 Section 12 T29N, R15W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located atop a very prominent ridge trending northwest-southeast on the eastern flank of Ipnek Mountain roughly 7 kilometers north-northwest of the Glacier River North Fork Koyukuk confluence. The ridge top lies at an elevation of almost 700 meters, over 300 meters above the valley floor. The view from the site is excellent to the north and south encompassing the valley for a distance of many kilometers. The views to the east and west are restricted by the valley walls.

The ridge top covers an area roughly 60 meters east-west by an average of 10 meters north-south. Near its center this area is relatively flat. The ridge top is vegetated in patches, by dwarf birch, lichen Arctostaphylos, Vaccinium, Ledum, and other ericaceous plants of low woody character. Dryas and Salix are also abundant. Fifty percent or more of ground surface is exposed mineral soil and/or crusty moss with boulders, cobbles, pebbles and fractured schist bedrock appearing through the vegetation mat.

The site was located through visual inspection of the surface. On the north facing slope of ridge top, near its eastern-central portion, two gray basalt flakes, and one black chert flake were located within a 50 cm² area. No other surface cultural material was observed and no subsurface testing was initiated.

The lack of diagnostic artifacts precludes cultural or temporal assessment. The variety of cultural material may indicate that more than one occupational event occurred at the site. The site's location suggests that it is served as a lookout.

Site significance is of a local nature and low as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

	D	R	A	F	T
Site Elevation:			WIS-151		
1100 ft			NW1/4, NE1/4		Probable Site Type:
			Section 17		Unknown
Site Age:			T29N, R14W		Probable Cultural
Unknown			Fairbanks Meridian		Affiliation: Unknown

This site is located about 2 kilometers north of the confluence of the Glacier and North Fork Koyukuk Rivers. The site lies on a small, narrow east-west trending ridge on the southern face of a large unnamed mountain which straddles and overlooks the confluence. This area is one of depositional glacial topography; a morainal complex with associated kettle lakes. The view potential from the site is limited by higher terrain in all directions save to the west where a portion of the North Fork can be seen.

The narrow crest of the ridge is generally open and flat, covered primarily with caribou lichen and bearberry with an occasional spruce or birch sapling 2-3 meters in height. Chunks of burned wood and charcoal suggest the somewhat rocky surface of the ridge was swept by wildfire in the recent past. The surrounding vegetation, on both the steep downslope of the ridge and the mountain side rising above it, consists of a dense, almost impenetrable growth of alder, birch and spruce.

The site was located through visual inspection of the surface. A single flake of black obsidian was observed on the central portion of the ridge. Three 20 cm² test pits were excavated to a depth of 12 cm. along the length of the ridge. Only the test pit excavated at the surface flake location yielded any subsurface material. At 10 cm. below surface a possible, crude unifacial chopping tool was recovered from the rocky soil.

Due to the lack of diagnostic artifacts no cultural assessment can be made. However, the obsidian does offer the possibility of obtaining a hydration date for the site.

The site's location does not suggest what its function may have been. Site significance is of a local nature and low as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

WIS-152

Site Elevation:
1200 ft

NE1/4, NW1/4
Section 17
T29N, R14W

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

DRAFT

This site is located some 50 meters higher and several hundred meters west of WIS-151 in the moraine complex. The site lies on a broad terrace on the southwest face of the large mountain which straddles and overlooks the confluence of the Glacier and North Fork Koyukuk Rivers. The confluence lies roughly 2 kilometers to the south. The vistas offered by this site are commanding ones, eastward into the Glacier River drainage, westward across the Koyukuk and for many kilometers down the Koyukuk to the south.

The margins of the terrace, particularly its northwestern portion are thickly overgrown with birch and alder. The interior area of the terrace is much more open. The ground is relatively flat, level and well drained though somewhat rocky. Surface vegetation is a combination of caribou lichen, labrador tea and crowberry interspersed with occasional patches of exposed mineral soil which has been discolored by wildfire of the recent past. Scattered burned snags, 2-4 meters high, birch, and smaller spruce saplings give the site an open parklike appearance.

The site location was revealed by the presence of a single black obsidian flake found on surface near the north central portion of the site clearing. A small 15 cm² test pit was excavated to a depth of 8 cm. at the flake location. This test pit yielded several small flakes of dark gray and clear obsidian 3-4 cm. below surface. No other cultural materials were found to be present on surface and no additional subsurface testing was undertaken.

Based upon the limited remains recovered from the site, its significance appears to be low. Although its location, commanding view and areas of the site not checked because time limitations leave open the possibility of it being a larger more significant site.

The lack of diagnostic artifacts precludes cultural assessment however, the presence of obsidian may provide a hydration date for the site. The site's location suggests it may have served as a lookout.

Because of the elevated location of the site and the strenuous effort needed to reach it there is little likelihood of impacts from campers and hikers. Natural impacts such as erosion are also unlikely because of the soil stabilizing vegetation on and around the site.

WIS-147

Site Elevation 1200 ft	SW1/4, NE1/4 Section 17 T29N, R14W	Probable site type Lookout
Site Age Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located along the crest of a high till capped bedrock ridge, the highest and most prominent feature in the moraine complex which lies between the converging courses of the North Fork Koyukuk and Glacier Rivers. The actual confluence of these rivers lies about 2 kilometers to the south of the site. WIS-148 is located on a lobe of high ground some 200 meters to the southwest. The view from the site is all encompassing west and south overlooking the valley of the North Fork and eastward across and up the Glacier River drainage. Northward the view is blocked by the large mountain that looms over the area.

While the southern face of the ridge is fringed with birch and spruce several meters in height, the surface of the relatively narrow crest is sparsely vegetated. Small frost boils and other areas of exposed rocky mineral soil are interspersed with patches of reindeer lichen, bearberries and blueberries. Small birch are also scattered about the site as well as evidence of recent wildfire activity.

The site was located as the result of visual inspection of the surface. Near the promontory of the ridge a concentration of gray basalt waste flakes was observed covering an area of several meters. Roughly 20 meters to the southeast of the basalt flakes a small scatter of black chert flakes was also observed. A 20 cm² test pit was excavated to a depth of 8 cm. near the basalt flakes and yielded three gray/pink chert flakes from a depth of 2-3 cm. Surface and subsurface evidence suggests the site covers an area roughly 10 x 20 meters.

The lack of diagnostic artifacts precludes cultural and temporal assessment of the site. The variety of the lithic material as well as the apparent size of the site suggests more than one occupational event took place. The site's location indicates it may have served as a hunting lookout.

Site significance is of a local nature as is the research potential both of which can be considered moderately low. At present the site does not appear to be threatened by any adverse impacts.

WIS-148

Site Elevation:
1100 ft.

SW1/4, NE1/4
Section 30
T29N, R14W

Site Age:
4500 years B.P.

Fairbanks Meridian

Probable Site Type:
Hunting Lookout/
Butchering Station
Probable Cultural
Affiliation: Unknown

This site is located approximately 1 kilometer east of the North Fork Koyukuk River and slightly more than 2 kilometers due north of the mouth of the Glacier River. Situated in an area of glacial topography between these two rivers, the site occupies a south-facing knoll edge which offers a limited view of the Glacier River as well as the North Fork. The site also provides a view in excess of 10 kilometers down the North Fork Valley.

Vegetation at the site consists of birch, a thin mat of caribou lichen, low woody plants, and small spruce trees. The glacial landscape has been ravaged by wildfire in the recent past and is experiencing regrowth.

The site was located as a result of a visual inspection of the surface. Two chert flakes and three formal artifacts were found scattered over the site partially embedded in the surface. A black chert end scraper and two obsidian scraper/knives were found on the crest of the knoll.

The obsidian artifacts both exhibited cortex and may possibly be made from spalls or large flakes of a single cobble. These two artifacts were found roughly 20 meters apart. The black chert end scraper was found 2 meters west of datum, the location one of the obsidian artifacts, and 18 meters south-southeast of the other obsidian tool. The gray chert flake lies within a meter of the northernmost obsidian tool while the single black chert flake lies 36 meters southeast of datum.

Two 20 cm² test pits were excavated to a depth of 10 cm.; test pit #1 adjacent to datum while test pit #2 was excavated 20 meters north-northwest near the gray chert flake and obsidian tool. Both of these test pits proved to be culturally sterile.

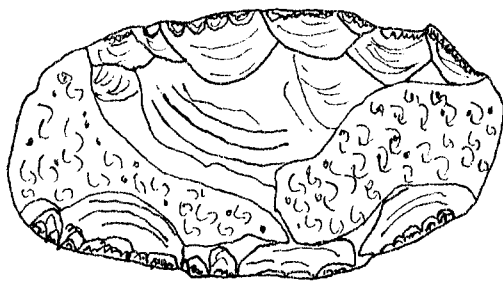
The obsidian tool located adjacent to datum was analyzed for hydration rind thickness and yielded a measurement of $2.55 \pm 0.22u$. Based upon the locally derived hydration rate of $1.44 u^2/1000$ years the hydration rind thickness indicates artifact age to be 4516 ± 1169 years B.P.

The lack of diagnostic artifacts makes cultural assessment impossible. However, the variety of lithic material, the apparent size of the site as well as its location suggest multiple occupational events took place.

The site's location as well as the artifact inventory indicates use as a hunting lookout and/or camp or butchering locality.

Significance level and research potential are of a local nature and difficult to ascertain due to the limited amount of subsurface testing carried out at the site. At present the site does not appear to be threatened by any adverse impacts.

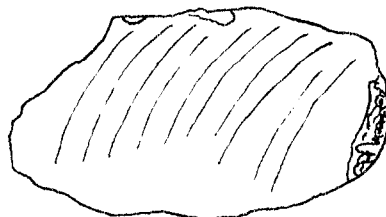
Scraper/Knife - Obsidian



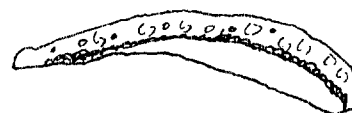
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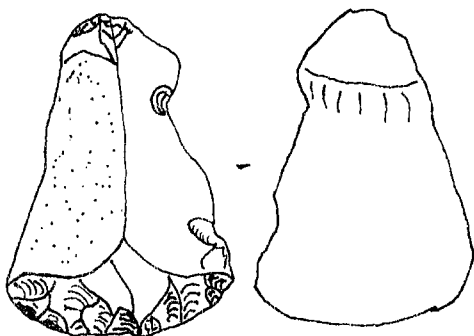
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Scraper/Knife - Obsidian



|



End Scraper - Black Chert

WIS-148 Artifacts - Actual Size

WIS-149

Site Elevation: 1100 ft.	SE1/4, NW1/4 Section 17 T29N, R14W	Probable Site Type: Overlook
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site is situated approximately 100 meters east of the North Fork Koyukuk River and slightly more than 2 kilometers due north of the mouth of the Glacier River. Located on an east-west oriented knoll, the site offers a view potential of only several hundred meters in any direction over the surrounding kame and kettle topography. WIS-147 is nearly 150 meters northeast and WIS-148 is almost the same distance to the east.

Vegetation at this site consists of scattered stands of birch trees and a thin, spotty vegetation mat of lichen, moss, and low woody and herbaceous plants. Wildfire activity in the recent past is indicated by the presence of charred spruce snags. Frost action is evident in the mineral soil exposures and game trails criss-cross the area.

The site was found by surface reconnaissance. A black chert scraper was observed on surface near the knoll's eastern end. Several meters west of this scraper was a small flake scatter consisting of 6-8 black and gray chert waste flakes. A single black chert flake was found nearly 10 meters west of the scraper. A 10 cm² test pit was excavated to a depth of 6 cm. near the scraper and proved to be culturally sterile.

The site, based on its location and the cultural detritus appears to represent a hunting lookout. The scraper may represent game processing activities. This site, like others in the immediate area, may represent a favored hunting locale in the glacial topography immediately north of the mouth of the Glacier River. Current evidence indicates a fair amount of animal traffic in the area.

The lack of diagnostic artifacts precludes cultural or temporal assessment. However, the variety of cultural material suggests more than one occupational event occurred at the site.

Site significance is of a local nature and research potential appears to be low. At present the site does not appear to be threatened by any adverse impacts.

WIS-155

Site Elevation:
1150 ft

NW1/4, SE1/4
Section 19
T29N, R14N

Probable Site Type:
Lookout

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

The site lies on a small prominence that juts from the south face of a low bluff that parallels an unnamed creek for about 1.5 kilometers on the west side of the North Fork Koyukuk River. The bluff is elevated about 15 meters above the flood plain of the creek which lies approximately 400 meters south of the site. The confluence of the Glacier and North Fork Koyukuk Rivers lies 2 kilometers east of the site.

The view from the site encompasses the local area for a radius of slightly less than 2 kilometers. The North Fork cannot be seen due to the moderately thick spruce forest which surrounds the site area. However, following a wildfire or before the forest arrived in this area, ca. 6000 years ago, the North Fork would be visible as would the mouth of the Glacier River.

Vegetation at the site consists of a thin, but healthy, ground cover of lichen, moss and low herbaceous plants. Mineral soil exposures while common are small in size. Small to medium sized spruce and birch are thinly scattered about the site. Little active erosion appears to be taking place. Wildfire evidence is present but barely observable.

The site was located through visual inspection of the surface. Cultural material was observed protruding from the surface and consisted of a chunk of gray chert, and one small flake of brown chert. Datum was placed on the site prominence approximately 1 meter west of the surface material.

A test pit 15 cm² was excavated to a depth of 7 cm., 20 cm. east of datum and yielded one brown chert flake. A second similar sized test pit was excavated 3 meters west of datum and proved to be culturally sterile. Subsurface cultural material appears to lie at the base of the root mat 2-3 cm. below surface. Soil at the site is red, suggesting oxidation has occurred, is well drained and contains cobbles, some of which appear to have been fractured by heat. The chunk of chert protruding from the surface displayed several small pot-lid fractures possibly the result of past wildfire activity.

Because of the site's location and size, level surface area does not exceed 3 x 4 meters, the site could have served for little else than a lookout. There appears to be little chance of natural or human impact adversely affecting this site. Site significance is low except as this site relates to other local sites. Research potential is also low.

WIS-150

Site Elevation:
1100 ft.

SW1/4, NE1/4
Section 17
T29N, R14W

Probable Site Type:
Overlook

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located in a morainal complex approximately 300 meters west of the North Fork Koyukuk River and 2 kilometers due north of the mouth of the Glacier River. Situated on a kame terrace along the south end of a dry kettle lake, the site provides a limited view in all directions. The North Fork is visible 500 meters to the south and WIS-149 can be seen 250 meters to the northwest.

The vegetation at the site consists of a spotty, thin mat of moss, lichen, and low woody and herbaceous plants. Birch are scattered about the site and some aspen is present on the southern slope. Evidence of past wildfire activity is quite obvious. Some surface disturbance is being caused by seasonal frost action but does not appear to be causing an erosional problem. Mineral soil exposures occur in frost activity areas and in the game trails which cross the site.

The site was discovered by the observation of lithic cultural material on surface. Three surface cultural material localities were found along the center of this kame terrace. A gray basalt core tablet was found on the promontory of the site. Approximately 20 meters west of the core tablet, a possible flake core was found. Eighty meters northwest of the core tablet lay a black chert flake.

Based upon the location and surface lithics, the site appears to represent a hunting lookout and/or flaking station. The lack of diagnostic artifacts precludes cultural or temporal assessment, however, the core tablet suggests a minimum age of ca. 2000 years for one of the occupational events. The apparent size of the site and the variety of lithic material may indicate the site experienced more than one occupational event. The site's location, adjacent to a number of game trails, also suggests it may have been a hunting locale.

Site significance is low except when considered as a member of the local suite of sites. Research potential is also low except when given the same consideration. At present the site does not appear to be threatened by any adverse impacts.

WIS-153

Site Elevation:
1080 ft

NW1/4, SW1/4
Section 16
T29N, R14W

Probable Site Type:
Slookout/Camp

Site Age:
Unknown

Fairbanks Meridian

Probable Cultural
Affiliation: Unknown

This site is located on a till capped bedrock terrace which stands 25 meters above the valley floor. The river side of the terrace is steep creating a bluff-like face. In the past the Glacier River has flowed at the base of the terrace but today it lies some 100 meters to the northwest and north. The confluence of the Glacier River and the North Fork Koyukuk River lies 1.5 kilometers south southwest of the site.

At the present time the site is so heavily and densely vegetated that there is no view whatsoever. Small, densely growing spruce and birch to 2 meters in height cover the site area as does a robust ground cover of lichen, moss, and low herbaceous plants. There are many downed, burned, spruce and standing snags and stumps indicating the passage of a wildfire through the area in the recent past. The view would have been excellent in pre-tree times ca. 6000 years ago or immediately following a wildfire. Under more or less treeless conditions the view from the site would be panoramic for at least 6 kilometers.

No cultural material was observed on surface. Eight 20 cm² test pits were excavated to a depth of 10 cm. at scattered localities along the terrace top. Three of these test pits each produced a single flake of which two were chert and one was basalt. The cultural material was recovered from a depth of 2-4 cm. below surface.

The variety of cultural material may indicate that more than one occupational event occurred at the site. At the same time the paucity of cultural material suggests the site was not often used. The lack of diagnostic artifacts precludes cultural or temporal assessment of the site. The location suggests that the site served as either a lookout or a camp.

Site significance and research potential appear to be low except in terms of the site's relationship to other sites in the local area. At present the site does not appear to be threatened by any adverse impacts.

WIS-154

Site Elevation: 1100 ft.	NW1/4, SE1/4 Section 17 T29N, R14W	Probable Site Type: Lookout/Camp
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

The site is located on the southern end of a morainal complex approximately 100 meters east of the North Fork Koyukuk River and 200 meters west of the Glacier River. Lying along the terrace edge nearly 60 meters above the the confluence of these rivers, the site offers a restricted 360° view of the local area. Although several other sites are located in the surrounding kette/kame topography north of this site none are visible.

Vegetation at the site consists of a fairly thick growth of birch, spruce, and poplar on the terrace slope and an understory of lichens, and low woody and herbaceous plants. Wildfire activity in the recent past has left the site area littered with burned spruce snags and stumps.

The site was located through visual inspection of the surface. Several pieces of fire-cracked rock and a piece of burned bone was observed protruding from the terrace edge. A single black chert waste flake was located on the surface one meter from the fire-cracked rock. A 10 cm² test pit was excavated to a depth of 8 cm. near the surface material and proved to be culturally sterile. Another similar sized test pit was excavated 6 meters to the southwest and also proved to be culturally sterile.

The lack of diagnostic artifacts precludes cultural or temporal assessment of the site. The site appears to be limited in size and possibly represents a hunting lookout/camp. The fire-cracked rock and burned bone could be either cultural or natural in origin.

Site significance and research potential are of a local nature. At present the site does not appear to be threatened by any adverse impacts.

WIS-156

Site Elevation: 1200 ft	SE1/4, NE1/4 Section 16 T29N, R14W	Probable Site Type: Lookout/Camp
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located atop a prominent, till capped, bedrock ridge 800 meters east of the Glacier River and roughly 1 kilometer south of its confluence with the North Fork Koyukuk River. A 20 acre pond lies at the base of the knoll 250-300 meters south of site. The site provides a

good view of the local area encompassing the North Fork Valley within 3 kilometers of the site.

The vegetation on site consists of small to medium sized spruce and birch accompanied by a robust understory of moss, lichen, and low woody and herbaceous plants. The surface of site is about 90% vegetated with only a few, scattered areas of exposed mineral soil.

Along the promontory of the ridge, scattered over an area roughly 20 x 15 meters, waste flakes of chert, basalt, and obsidian were observed. A 20 cm² test pit was excavated to a depth of 8 cm., 3 meters south southeast of datum. This test pit yielded three gray chert flakes and a gray chert biface fragment at a depth of 1-2 cm. A second test pit excavated 2 meters north of datum proved to be culturally sterile.

The lack of diagnostic artifacts precludes cultural assessment. However, the presence of obsidian may provide a hydration date for the site. The variety of lithic material may indicate that the site experienced more than one occupational event. The sites location suggests that it may have served as either a lookout or a hunting camp.

Both site significance and research potential are of a local nature and appear to be of a low level. At present the site does not appear to be threatened by any adverse impacts.

MAP AREA #5

ITKILLIK RIVER/OOLAH VALLEY: ULUTAGIAK TO AUGMAGULIGAURAUQ CREEK

Camp #9 July 23-31

After spending a day and a half in Bettles getting reorganized after our 46 day stint on the North Fork Koyukuk River, we began moving gear and personnel to the north side of the Brooks Range to the Oolah Valley.

On July 22, one crew member and a load of gear was transported to Summit Lake, roughly 100 miles northeast of Bettles, via the park's float equipped Cessna-185. Shortly after this trip was completed the weather closed in and no more flights could be made. Working out a siwash camp at Summit Lake the lone crew member made a cursory survey of the area immediately surrounding the lake and observed no archeological sites.

In mid-afternoon on July 23 a float equipped standard Beaver transported most of the remaining gear and personnel from Bettles to Summit Lake. Shortly thereafter our Jet Ranger helicopter transported the remaining gear and personnel from Bettles, beyond Summit Lake, to the Camp #9 location in the Ulutagiak Valley. During the late afternoon the helicopter ferried the remaining gear and personnel from Summit Lake to the Camp #9 location.

Archeological survey work was conducted out of Camp #9 for a period of eight days during which time an area of roughly 8 square miles was examined and 15 archeological sites were located.

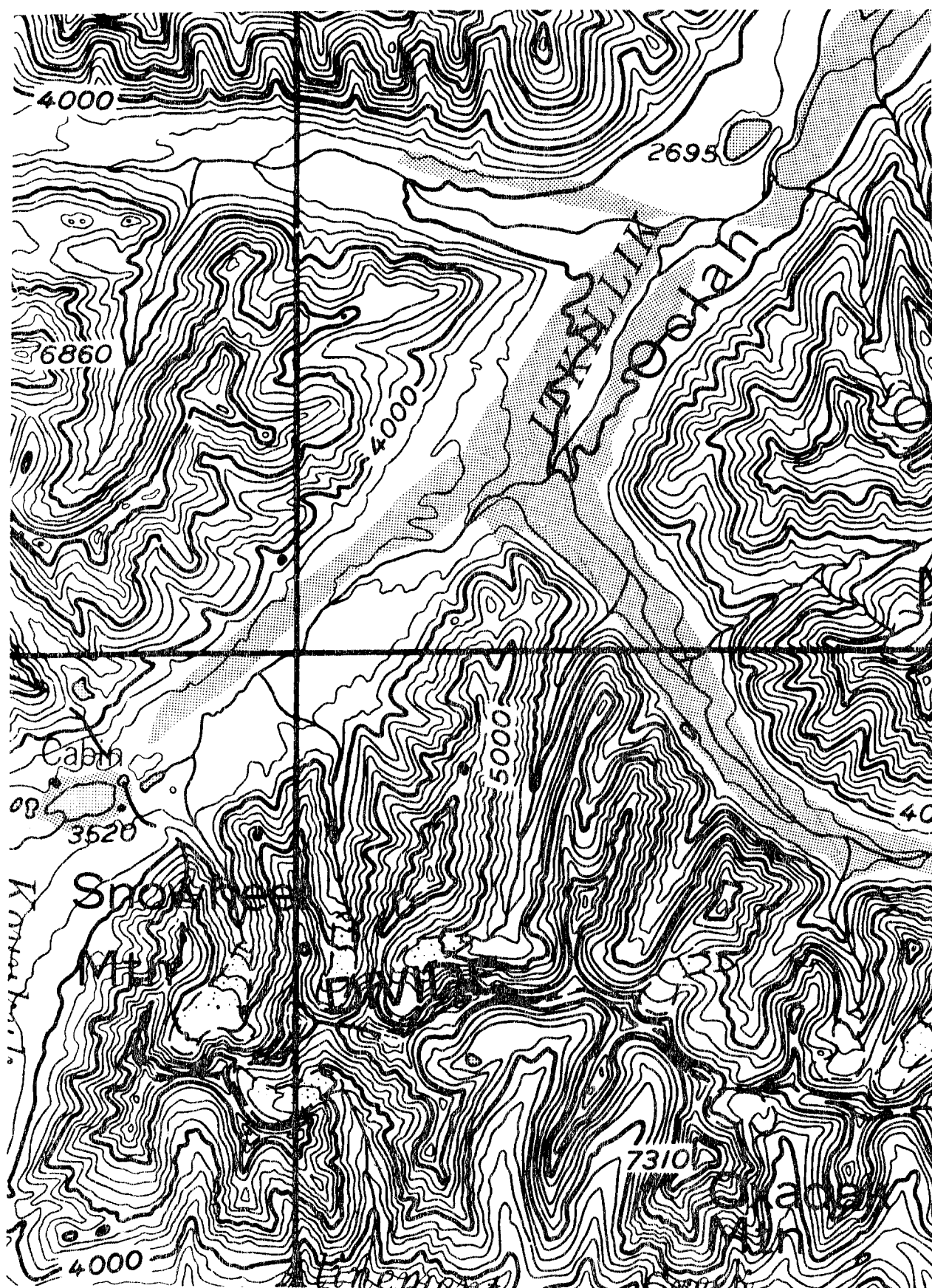
Camp #9 was located roughly 3 miles up the Ulutagiak Valley on the south side of the Itkillik River. Ulutagiak is the Ulumiut name for the valley of the upper portion of the Itkillik River. Ulutagiak is the Valley/River which descends from the Oolah Pass to the broader Oolah Valley, joining the larger valley roughly 5 miles north of Summit Lake.

The sites located in this region fall into two basic classifications prehistoric and late-prehistoric/contact (the last 200 years). Prehistoric sites were generally small and most appeared to be short term hunting camps or lookouts. One prehistoric site, XCL-025, appears to be moderately large and may contain considerable subsurface cultural material. The surface indications at the site suggest that it represents an occupation by Denbigh Flint Complex peoples indicating a site age between 4000-2000 years ago. The site may have been occupied at other times by other cultural groups also. Another interesting site lies near the head of Ulutagiak Valley. Cultural material at the site suggests that the site was often used by a variety of people over a fairly broad expanse of time, possibly as a rest or brief camping spot for people traversing the Oolah Pass.

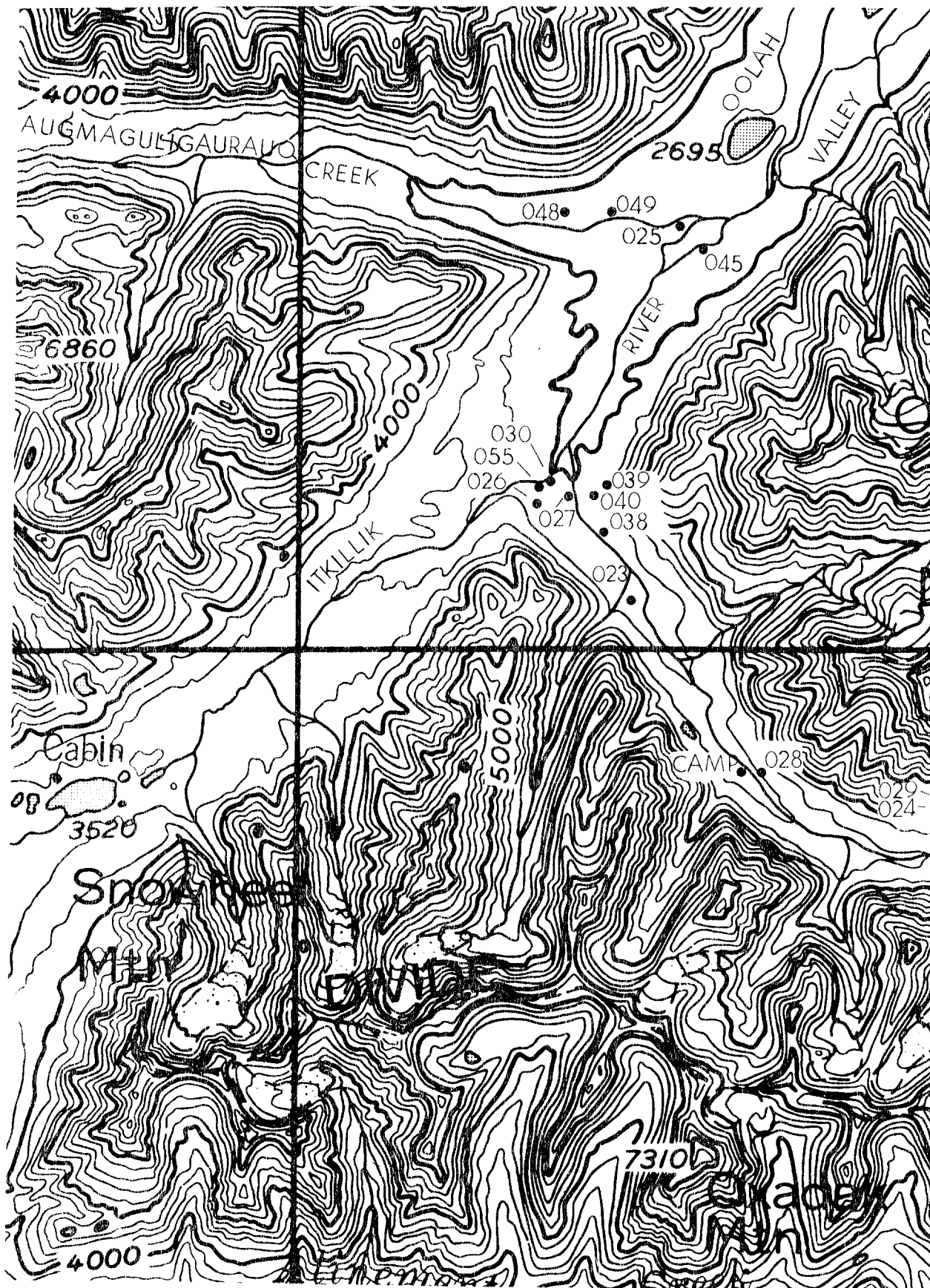
The late-prehistoric/contact sites reflect the activities of the Ulumiut, the local band of Nunamiut Eskimos, over roughly the last two centuries. Most of these sites are tent ring sites which indicate camps and associated activities during non-snow months. However, one site on the Ulutagiak appears to be somewhat unique. Evidence indicates this site is a winter village occupied roughly 100 years ago. The village appears to be made up of four ivruliks or moss houses. Very few of these villages have been located especially in such a pristine condition with all the associated artifacts present and in place. This site holds enormous potential for yielding significant data concerning turn of the century Nunamiut subsistence and land use activities in the Oolah Valley and is probably typical of region-wide activities of that date.

In addition, several recent sites were located which indicated hunting and/or trapping locations dating from roughly 30 years ago. Several recreational camp sites were also observed.

DRAFT



Shaded Area = Surveyed Area



6 miles

- 163 -

XCL-023

Site Elevation:
3100 ft

NW1/4, SW1/4
Section 34
T16S, R8E

Probable Site Type:
Camp

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located on the northern 1/3 of a broad alluvial fan 250 meters south of Ulutagiak (Itkillik River) and 2.5 kilometers southeast of the river's confluence with an unnamed drainage at the head of the Oolah Valley. The tongue of the fan is approximately 300 meters across and is heavily vegetated with willow along the stream channels. The site also supports sparse and spotty clumps of vegetation consisting of moss, lichen, grass, and low woody and herbaceous plants.

The site lies on a relatively flat portion of the fan. To the south the fan rises gently and fairly evenly to its apex some 200 meters to south of site. The view from site is excellent encompassing all of the Ulutagiak Valley and the northernmost portion of the Oolah Valley.

The site was located through visual inspection of the surface and appears to consist primarily of a large hearth covering 1 meter². Fire-cracked rock, burned bone and a chert flake were observed embedded in the soil/vegetation mat.

A single 30 cm² test pit was excavated to a depth of 8 cm. at the eastern end of hearth. Several spirally fractured, unidentifiable burned and unburned bone fragments were encountered along with a ground squirrel mandible. Abundant charcoal was also encountered along with two small chert flakes. The cultural material was recovered from 0-5 cm. below surface. Although the site is only partially vegetated it is reasonable to assume that additional subsurface cultural material may be present

The lack of diagnostic artifacts precludes cultural assessment, however, the recovered charcoal may provide a date of occupation. In general the presence of recognizable bone in a site in this region suggest a site age of less than 2000 years B.P.

The site's location as well as cultural evidence suggests the site served as a camp. Site significance appears to be of a local nature. Research potential is unknown. At present the site does not appear to be threatened by any adverse impacts.

XCL-028

Site Elevation: 3220 ft	NW1/4, NW1/4 Section 11 T16N, R9E	Probable Site Type: Short Term Lookout
Site Age: 1000-4000 years B.P.	Umiat Meridian	Probable Cultural Affiliation: Astt

This site is located on the north side of the Itkillik River 4.5 kilometers above the mouth of the Ulutagiak Valley. The site is situated atop a small-dome like glacial deposit overlooking a deeply entrenched section of the upper Itkillik River. The view from the site is limited encompassing no more than 2 kilometers in any direction.

The ground cover on this site is quite sparse, consisting of small patches or clumps of grasses, lichen, moss, and low woody and herbaceous plants. Some dwarf willow is scattered about the wetter areas of this generally well-drained locale. Small but numerous mineral soil exposures are present over 60% of the site area.

The site was located by visual inspection of the surface. A number of gray chert waste flakes were observed in and on the surface clustered near the northern edge of the site. A shallow 20 cm² test excavation was made in this area, yielding three gray chert flakes and a portion of the medial section of a light gray chert biface. Its small size, exceptionally thin lenticular cross section and delicate parallel oblique flaking suggest that it is a fragment of an end or sideblade representative of the Arctic small tool tradition. The only other cultural material observed was a small chert pebble from which a few flakes had been driven off.

Based on the materials recovered the significance of the site and its research potential can be considered low. The physical setting and limited cultural remains indicate the sites probable role as a short term game lookout. The endblade/sideblade fragment suggests the occupation of the site occurred within the last 4000 years.

At present the site does not appear to be threatened by any adverse impacts.

XCL-038

Site Elevation: 3050 ft	SE1/4, SW1/4 Section 27 T15S, R8E	Probable Site Type: Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located on what appears to be a valley mouth glacial feature, possibly a moraine remnant. The site lies on the east side of this low glacial feature which is several hundred meters in width and extends downslope to the river from the northern valley wall.

The view from the site is excellent to the east encompassing 7 kilometers of the Ulutagiak Valley's length. There is a good local view to the west and somewhat better view to the southwest. Views to the north and south are blocked after a short distance by the valley walls.

The surface of the site is 50-60 % vegetated. Vegetation consists of moss, lichen, clumps of grass, and low herbaceous plants. Dwarf willow and birch are sparsely scattered about. The exposed mineral soil is very rocky with numerous boulders, cobbles, and gravel patches scattered about the site. The surface of the site is undulating and there are few level areas, all of which are small in size, not exceeding 10 meters². Although the entire surface of the glacial feature was given a reasonably thorough visual inspection, only one small area was noted to have cultural material.

Surface cultural material was observed on the eastern edge of the glacial feature about 300 meters north and 20 meters above the river. Surface cultural material was strung out in a linear pattern, downslope, for a distance of 3 meters beyond datum on a bearing of 125° mag. This material consisted of chert waste flakes of black, gray, and banded gray material. The site may have been used several times as a lookout.

The lack of diagnostic artifacts precludes any cultural or temporal assessment of the site. However, the variety of lithic material may indicate that more than a single occupational event occurred at the site. The site's location as well as the cultural material suggests the site served as a lookout.

Site significance as well as research potential is low except as the site relates to other local sites. At the present time the site does not appear to be threatened by any adverse impacts.

XCL-039

Site Elevation:
3150 ft

SE1/4, NE1/4
Section 28
T15S, R8E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Eskimo

The site lies on a bedrock outcrop which is mantled by glacial debris and fractured bedrock. The outcrop juts southward from the north valley wall and lies approximately 70 meters above the Itkilik River (Ulutagiak). The view from the site is excellent in all directions especially to the north where approximately 20 kilometers of the Oolah Valley are visible.

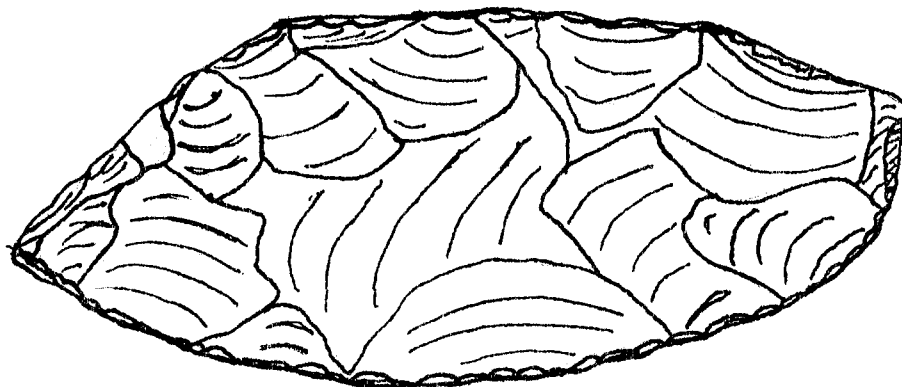
The surface of the site is somewhat undulating and slopes gently, then steeply down to the south, west, and north. The surface of the site is 85% exposed bedrock, cobbles, boulders, and mineral soil. What vegetation cover is present is a sparse, patchy mat of lichen, moss, low herbaceous plants, and scattered clumps of grasses.

Cultural material was noted on surface and consisted of two medium sized gray chert flakes, 3 meters from datum on a bearing of 208° mag.; a chunk of black chert and a fragment of a large black chert blade/flake exhibiting use retouch, 11 meters from datum on a bearing of 160° mag.; and a green chert ulu blade 12 meters from datum on a bearing of 211° mag.

The lack of diagnostic artifacts precludes cultural or temporal assessment. However, in general terms the presence of an ulu blade suggests at least one of the sites occupations was by Eskimos.

The location of the site suggests that it served as a lookout. Indeed, the paucity of cultural material on such a prime location is somewhat puzzling.

Site significance and research potential appear to be low except as the site relates to other sites in the local area. At the present time the site does not appear to be threatened by any adverse impacts.



Ulu Blade - Green Chert
XCL-039 Artifact - Actual Size

XCL-040

Probable Site Type:
3000 ft

SE1/4, NE1/4
Section 28
T15S, R8E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located on a very low, narrow, bedrock ridge. The ridge is capped with glacial debris and fractured bedrock. The ridge appears to be a very low level continuation of the outcrop upon which XCL-039 is located. The ridge extends southward, downslope to the Itkilik River (Ulutagiak) a distance of 350 meters.

The view from the site is locally good in all directions encompassing the area from within 1-5 kilometers. Vegetation at the site covers perhaps 65% of the surface and is sparse and discontinuous. Vegetation consists of moss, lichen, low herbaceous plants and scattered clumps of grass. Dwarf birch and willow are common in small depressions. Cultural material was observed on surface in unvegetated areas. At datum a scatter of dark gray chert waste flakes is present. This flake scatter covers an area about 3 meters². At a distance of 20 meters from datum, on a 265° bearing, lies what appears to be a medial fragment of a gray chert flake knife.

The site may have served as a lookout. Site significance is low except as it relates to other sites in the area. The paucity of cultural material at this site may indicate infrequent use of the locale. At present the site does not appear to be in danger of adverse impact.

D R A F T

Site Elevation: 3700 ft	XCL-024 NE1/4, SW1/4 Section 7 T16S, R9E Umiat Meridian	Probable Site Type: Lookout/Camp Probable Cultural Affiliation: Eskimo
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This site is located on the eastern end of a relatively low kame terrace approximately 300 meters north of the Itkillik River at the head of the Ulutagiak Valley. The broader Oolah valley lies 10 kilometers to the northwest. The long axis of the kame runs east-west spanning some 80 meters while the width averages 30 meters. To the south the terrace drops fairly steeply to the flood plain of the river some 5 meters lower in elevation. To the north the terrace grades into a small scree/alluvial fan building from the south facing mountain side near the location of a prolific marmot colony. An excellent view of the surrounding local area is available from this well-drained location. XCL-029 is visible slightly less than a kilometer to the east-southeast.

Dryas, grasses, lichens, low willow, and moss, are present as a 50% ground cover. Exposed gravel, cobbles, and boulders submerged in gravels comprise the remainder of the surface of the terrace.

The site was located as the result of visual inspection of the surface. Seven flakes of gray chert, two of dark gray chert, a gray chert chisel-like tool, and retouched flakes of quartz crystal, black, and bluish gray chert were located in a 3 meter² area.

Three meters to the west the medial section of a gray-white banded chert projectile point was located. Several pieces of what appear to be fire-cracked rock are located between the projectile point fragment and the other cultural materials. A 20 cm² test was excavated to a depth of

6 cm. among the possible fire-cracked rock fragments but yielded no additional cultural material.

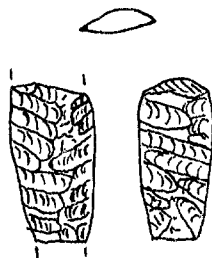
Although the remainder of the terrace was thoroughly inspected no additional cultural material was located. The site appears to be limited to the easternmost 6 meters of the terrace.

Although no truly diagnostic artifacts were observed at the site the projectile point is typical of cultures of the Eskimo Continuum, and may date from almost any time over the last 4000 years. The variety of lithic material observed at the site suggest several occupational events occurred there.

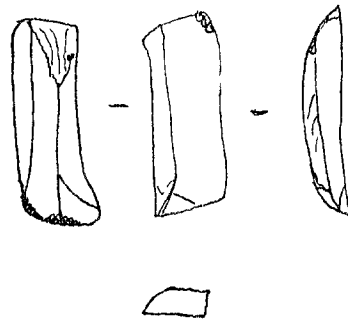
The site's location, at the head of the Ulutagiak Valley suggest that it served either as a hunting lookout, a hunting base camp, or as an often used short term travel camp by people crossing the Qolan Pass.

Site significance and research potential are low except on a local level. At present the site does not appear to be threatened by any adverse impacts.

DRAFT



Projectile Point - Gray Chert



Chisel Tool - Gray Chert

XCL-024 Artifacts - Actual Size

XCL-029

Site Elevation:
3600 ft

SE1/4, SE1/4
Section 7
T16S, R9E

Probable Site Type:
Winter or Spring Camp

Site Age:
20th Century

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut Eskimo

This site is located near the head of Ulutagiak, the southernmost tributary valley which enters the Oolah Valley from the east. The site is situated along a gravel outwash deposit of the Itkillik River as it descends from the narrow, steep walled, western approach to Oolah Pass and opens out onto the broader Ulutagiak Valley. Due to the constricted nature of the surrounding area the views available from here are limited primarily to the west, down the Ulutagiak Valley, for a distance of 4-6 kilometers. XCL-024 is visible slightly less than a kilometer to the west-northwest.

Portions of the site area are hemmed to the northeast and south by lobes of high ground which merge into the valley floor. The outwash deposit, while rocky and cut by a number of intermittent stream channels, is vegetated by a combination of thick moss, low herbaceous plants, willow and occasional grassy areas.

The site was located as a result of visual inspection of the surface. Cultural materials are scattered for over 100 meters downstream (westward) along the outwash deposit. There is no clear area of concentration although most of the materials tend to be located on the easternmost 50 meters of the site. Artifacts in this area include a 12" x 16" section of sheet metal, a small scattering of wood chips and several short lengths of saw cut and split sections of spruce wood. A couple of tin cans and two sections of sheet metal were broadly distributed over the sites remaining 50 meters to the west.

Based on the materials present, this site is thought to have a relatively low significance. Perhaps the most interesting aspect of the site is its location so near to Oolah Pass and the presence of spruce wood, all of which indicates ties to the south and the forested drainage of the upper Dietrich River on the eastern side of the pass. Because it was a common practice of the Nunamiut to obtain forest products and transport them to the treeless north side of the Brooks Range for later use, and because the upper Dietrich drainage was the traditional forest use area of the Ulumiut of the Oolah Valley, this site most likely represents a late winter camp of the Ulumiut where the northward migrating caribou herds could be intercepted.

At present the site does not appear to be threatened by any adverse impacts.

XCL-027

Site Elevation:
2900 ft

SW1/4, SE1/4
Section 28
T15S, R8E

Probable Site Type:
Summer Hunting Camp

Site Age:
Recent Historic

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut
Eskimo

This site is located near the mouth of the Ulutagiak Valley, the southernmost major tributary valley to enter the main Oolah Valley from the east. The site is situated on the southern bank of the Itkillik River, approximately 1 kilometer east of its confluence with the northward flowing creeks that drain the north face of the Continental Divide at the head of the Oolah Valley. Two other sites XCL-030 and XCL-055 are located nearby approximately 1 kilometer to the northwest. Because this site is obstructed by spurs of land extending out from the valley's southern wall. The best views are southeastward up the Ulutagiak and northwest into the Oolah Valley.

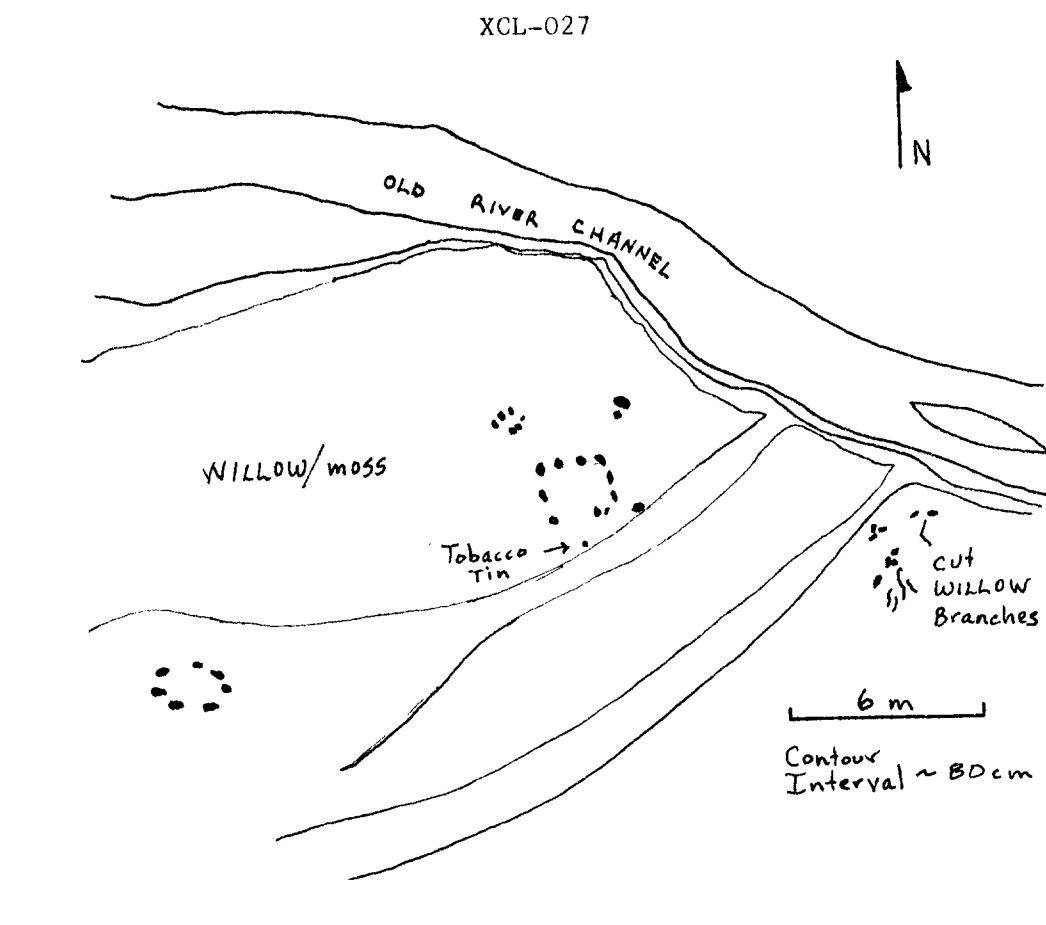
The site, situated along the margin of this portion of the Itkillik River and its flood plain, is on open flat and well-drained ground. Vegetation at the site consists of grasses, mosses and low woody and herbaceous plants as well as a robust growth of low willow. Immediately north of the site, along the islands and channels of the creek, are dense stands of willow reaching heights of 2-3 meters.

The presence and location of this site was previously recorded ethnographically. It consists of seven stone tent rings distributed along the south bank of the creek over a distance of some 150 meters. These cultural features occur in two groups, one group comprised of five rings another group of two rings 100 meters to the east. Because tent ring sites are not known for yielding an abundance of artifactual materials, no subsurface testing was done. The only artifact noted was a Prince Albert Tabacco tin associated with one of the tent rings with an individual's name scratched into it. This person was known to be a former Ulumiut band member and later a resident of the village of Anaktuvuk Pass.

This general area, the mouth of Ulutagiak, was known ethnographically as a favored all season camping area by the Ulumiut. It is, however, felt that the potential of this site to yield important archeological information is limited. The location of the site is consistent with many other tent ring sites of this type; i.e. closely associated with a ready source of water in a sheltered setting with ready access to firewood. The presence of stone tent ring weights suggests a non-snow month occupation, probably in summer or early fall when hunters may have been on either a wolf pup outing or in pursuit of sheep; a resource for which Ulutagiak is well known. It is likely that the site represents one or at most two brief occupational events by small groups of hunters.

Because recreational use of this area is increasing the site may be in some danger of human impacts, either by surface artifact collecting,

unauthorized excavation, or the vandalization of the stone tent rings. If any of these activities are observed to be taking place further testing and documentation of the site is recommended.



XCL-025

Site Elevation:
2775 ft

SE1/4, NW1/4
Section 15
T15S, R8E

Probable Site Type:
Lookout/Camp

Site Age:
4000-2000 years B.P.

Umiat Meridian

Probable Cultural
Affiliation: Denbigh
Flint Complex

This site is located on the northern end of a north-south trending ridge or kame terrace 300 meters south of the confluence of Augmaguligaurauq Creek and the Itkillik River. West of the site the Augmaguligaurauq Creek Vally is visible to the base of Cockedhat Mountain a distance of slightly more than 10 kilometers. To the south the broad Oolah Valley is visible beyond the mouth of Ulutagiak and to the north the rolling terrain surrounding lower Summit Lake is clearly in view. Side channels of both the Itkillik to the east and Augmaguligaurauq Creek to the west flow within 50 meters of the site.

The site vegetation consists of typical low ground cover found on well-drained ground and consists of lichen, moss, scattered grass, low woody and herbaceous plants, as well as willow. About half of the site's surface is exposed mineral soil, gravel and boulders.

The site was discovered through visual inspection of the surface. Twenty gray chert flakes were observed scattered about the center of a small

flat area at the north end of the ridge. Adjacent to the flake scatter, a primary burin spall of gray chert, a burin spall of the same material and the distal portion of a gray chert microblade were all located in a 2 meter² area. A short distance to the west-northwest, a black chert utilized flake and a gray chert burin spall were found. Approximately 15 meters to the west-southwest a gray chert flake had been exposed as the result of ground squirrel burrowing. Twelve meters to the south, five gray chert flakes were exposed in the back dirt of another ground squirrel burrow.

Site appears to cover at least 12 meters north-south x 10 meters east-west. Ulumiut informants have mentioned a possible chert source up Augmaguligaurauq Creek. Since at least three gray chert flakes at the site appear to represent very early stages of reduction due to size, thickness, and the presence of cortex, the possibility exists that the material may be derived from nearby source. As indicated by ground squirrel activity, the possibility of subsurface material is quite high.

While no truly diagnostic artifacts were observed at the site the evidence suggests that at least one occupational event was by Denbigh Flint Complex people. This would indicate that one of the site occupations occurred between 4000-2000 years ago.

The site's location as well as the cultural evidence suggests the site could have served as either a lookout or a camp.

Lack of information makes it difficult to determine site significance or research potential. At present the site does not appear to be threatened by any adverse impacts.

XCL-026

Site Elevation:
3050 ft

NW1/4, SW1/4
Section 28
T15S, R8E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

The site is located on a bedrock knoll approximately 75 meters south of the Itkillik River tributary which drains the head of the Oolah Valley and 300 meters southwest of Ulutagiak. Situated on the southern valley wall

at the mouth of Ulutagiak, roughly 5 meters in above the valley floor, the site overlooks the entire confluence area. The view, which is roughly 5 kilometers up and down vally, includes the extensive willow patches above the confluence of these two tributaries.

Vegetation at the site consists of a spotty mat of lichen, moss, grass, and low woody and herbaceous plants. Numerous mineral exposures are present and cobble-sized spalls of bedrock are scattered about. Large depressions exist just downslope of the knoll crest and appear to be the result of grizzly bears digging up the succulent little ground squirrels and inducing seasonal erosion.

The site was discovered by surface reconnaissance. A single flake of grey chert was found on the promontory of the knoll. No other surface lithics were observed. A 10 cm² test pit was excavated to a depth of 8 cm. through frost-shattered bedrock and loess and proved to be culturally sterile.

The site's location, at the junction of two valleys as well as the view suggest the site served as a lookout. The lack of diagnostic artifacts precludes any cultural or temporal assessment. Additionally the paucity of cultural material suggests the site was rarely occupied.

Site significance is of a local nature and of low level as is research potential. At present the site does not appear to be threatened by any adverse impacts.

XCL-045

Site Elevation:
2780 ft

SW1/4, NE1/4
Section 15
T15S, R8E

Probable Site Type:
Game Lookout

Site Age:
Less Than 100 Years

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut
Eskimo

This site is located on a large island in the braided course of the Itkillik River about 400 meters south of its confluence with Augmaguligaurauq Creek, a large tributary which enters the Oolah Valley from the west. XCL-045 is situated on the crest of a half eroded pingo-like feature which rises some 4 meters above the surrounding, heavily willow covered, island. The elevated nature of the site provides an extensive view over much of the central portion of the valley, southward into the mouth of Ulutagiak and westward into Augmaguligaurauq. The view northward is partially blocked by high river bluffs.

Although the eastern edge of the site is heavily eroded, forming a steep rocky precipice, the western side slopes gently to the level of the island. Much of this surface is exposed well-drained pebbly soil with scattered patches of grasses, moss and caribou lichen. The crest of the

feature, where ground squirrels and bears have disturbed and enriched the soil, is heavily overgrown with willow which grow up to a meter or more in height.

The site was located as a result of visual inspection of the surface. A long east-west alignment of four rocks was observed near the southern end of the island's crest. A shallow 20 cm² test excavation was made among the rocks revealing a half dozen small crushed bone fragments. Several pieces of cut willow were scattered about the immediate area.

The significance of the site is felt to be relatively low. It may represent a game lookout utilized by Nunamiut Eskimo hunters during the

last 100 years. This assessment is suggested by the condition of the worked willow, the preservation of the bone remains and the nearby location of a ethnographically know Nunamiut winter camp. Little else can be said of the site at this time.

At present the site does not appear to be threatened by any adverse impacts.

DRAFT
XCL-030

Site Elevation:
2950 ft

NE1/4, SW1/4
Section 28
T15S, R8E

Probable Site Type:
Winter Village Site

Site Age:
Turn of the Century

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut Eskimo

This site is located at the mouth of Ulutagiak, the southernmost major tributary valley which enters the Oolah Valley from the east. It is situated on the valley floor between the south bank of Itkillik River, as it flows through Ulutagiak and the eastern bank of an unnamed creek which flows northward from the Continental Divide. XCL-055 lies 200 meters to the east. The view potential from this site is, like XCL-027, limited primarily to the northwest and east. However, by scaling the spurs of high ground to the south and west excellent visibility can be gained in all directions.

The site, situated between the two streams, sits on an open, fairly even surfaced flood plain. The well-drained soil is vegetated primarily by grasses, mosses, caribou lichen, Eskimo potato, a variety of low herbaceous plants as well as patches of willow which grow up to 1 meter in height.

The location of this site, like its neighbor, XCL-027, had been noted previously through ethnographic interviews. A careful surface inspection of the area revealed an exceptionally rich site distributed over an area of some 75 x 50 meters. Surface features at the site included two stone tent rings and four stone lined hearths. Surface artifactual remains were extensive including cut metal, cut and worked bone and worked wood. Small shallow test excavations were made near each stone hearth, each

revealed underlying willow structural members which indicate the great likelihood that the four hearths indicate the presence of four winter houses or ivruliks.

This site is one of the more significant finds of the 1984 survey. the site appears to represents a turn of the century Nunamiut Eskimo winter village site, very few of which have been located and even fewer excavated. Indications are that the site is very rich in archeological remains with the potential to yield significant data on the traditional Nunamiut utilization of the Oolah Valley including data on site structure, house types, and methods of construction, as well as turn of the century material culture demonstrating the blend of traditional an introduced items and technology. Perhaps of greatest interest, it has the potential to provide

data on the subsistence resources utilized and what resources were available at the season and era of occupation.

DANGER
This site is in no danger from any sort of foreseeable natural impacts. However, because the recreational use of this area is increasing and the surface indications of the site are readily apparent, the site is potentially in serious danger from unauthorized excavation or collection by recreational users of the area. The protection of this site from unauthorized disturbance should be considered. Further testing documentation and eventual excavation of this site is highly recommended.

XCL-048

Site Elevation:
2800 ft.

SW1/4, SW1/4
Section 9
T15S, R8E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located approximately 200 meters north of Augmaguligaurauq Creek and 3 kilometers west of the Itkillik River. Situated on the westernmost knoll of a terrace overlooking the creek, the site sits nearly 15 meters in elevation above this east-flowing tributary of the river.

The view from the site is excellent encompassing most of the Augmaguligaurauq Valley and much of the upper Oolah Valley including the mouth of Ulutagiak.

Vegetation at the site consists of grasses, lichens, dwarf birch, and willow. There are a number of glacial erractics scattered about the surface of this site. Animal burrowing is evident at the site, especially in the willows on the south slope of the knoll. Frost action is also apparant in the form of churned non-vegetation areas on the knoll top. The area surrounding the knoll is poorly drained and consists of willow and tussocks.

The site was discovered through the surface observation of a single chert waste flake. No other lithic material was observed at the site. Due to the extensive mineral soil exposures no subsurface testing was deemed necessary.

The site appears to represent a lookout. The lack of diagnostic artifacts precludes cultural or temporal assessment while the paucity of cultural material suggests the location was rarely used.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

XCL-049

Site Elevation: 2800 ft.	DRAFT	SE 1/4, SW 1/4 Section 9 T16S, R8E Umat Meridian	Probable Site Type: Lookout
Site Age: Unknown		Probable Cultural Affiliation: Unknown	

This site is located approximately 40 meters north of Augmaguligaurau Creek and roughly a kilometer west of the Itkilik River. Situated on a terrace on the north side of the creek, the site overlooks the area around the confluence of the creek and river. A reasonably good view of the upper Oolah Valley is also available. XCL-048 lies 400 meters to the west.

Vegetation at the site consists of grasses and lichens with willows occurring at the base of the terrace. The surface of this site is sparsely vegetated due in part to frost and wind action.

The site was located as the result of visual inspection of the surface. A single gray chert blade-like flake was the only cultural material observed at the site. Due to the high percentage of exposed surface, no subsurface testing was conducted.

The site's location as well as the cultural evidence suggests the site was a rarely used hunting lookout. The lack of diagnostic artifacts precludes cultural or temporal assessment. Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

XCL-055

Site Elevation:
3000 ft

NW1/4, SW1/4
Section 28
T15S, R8E

Probable Site Type:
Hunting Camp

Site Age:

Umiat Meridian

Probable Cultural

Less Than 100 Years

Affiliation: Nunamiut Eskimo

This site is located just inside the mouth of Ulutagiak, the southern most tributary valley which enters the Oolah Valley from the east. It is situated between the base of a spur of land that extends westward from the southern wall of Ulutagiak and a small creek which on its way north flows parallel to the spur for some 110 meters before swinging north again and joining the Itkilik River. Views directly from this site are best to the northwest into the main Oolah Valley and eastward several miles up Ulutagiak. The lands to the south and west are only visible by scaling the near by high ground. Two other sites in the area, XCL-027 and XCL-030 lie 400 meters to the east.

The site area is level and well drained, though somewhat hummocky and rocky. The primary vegetation is patchy low herbaceous plants and willow covering some 50-60% of the area with the remainder made up of mosses, grasses, Eskimo potato and reindeer lichen.

Cultural remains evident on the surface of this site consist of three fire hearths and perhaps three stone tent rings. All of these features are distributed over a distance of 23 meters along the northern edge of the outwash feature upon which they sit.

Hearth #1, a concentration of fire cracked rock, weathered bone, and charcoal sits in the middle of what appears to be two superimposed or overlapping stone tent rings. Hearth #2, also a small cluster of fire-cracked rock and charcoal is 15.5 meters to the west of hearth #1 and 2.5 meters beyond that is what is believed to be another stone tent ring. Hearth #3, another concentration of fire-cracked rock is situated some 4.5 meters to the east of hearth #1.

The significance of this site is deemed, on the scanty evidence so far recorded, to be medium to good. It appears to be a Nunamiut Eskimo site, probably occupied in a non-snow month based on the presence of the stone tent rings. Due to the lack of metal or historic period artifactual materials there is the possibility that this is a precontact era site.

At present the site does not appear to be threatened by any adverse impacts.

MAP AREA #6

ITKILLIK RIVER/OOLAH VALLEY: KUUGUKPUK CREEK TO INIKAKLIK CREEK

Camp #10 and #11 August 1-18

Gear and personnel were moved from Camp #9 to Camp #10 by helicopter. Camp #10 was located in some stagnant ice glacial features on the eastern shore of an unnamed lake 1 1/2 miles northeast of Lower Summit Lake. Six days were spent working out of this camp during which time ten sites were located in a surveyed area of roughly 4 square miles.

Approximately 1 1/2 miles north of Camp #10 two large creeks join the Itkillik River. On the map these streams are unnamed, however, they are referred to in the text by their Eskimo names; therefore their locations will be described. The Oolah Valley becomes wider at the point where these two creeks join the river. Kuugukpuk Creek joins the Itkillik from the east while Tuuyak Creek joins the river from the west. The confluences of these creeks are about 1/2 mile apart.

The majority of the work conducted out of this camp was near the mouth of Kuugukpuk Creek and in the dead ice glacial features to the south. Two thirds of the sites fall into the prehistoric category while the others are contact period or recent.

Most of the prehistoric sites appeared to be of the lookout variety. One or two of these sites may have had a small camp associated with the lookout. The largest of these sites, XCL-041, near the mouth of Kuugukpuk Creek appears to have been used often over a period of time and may contain considerable subsurface cultural material. None of the prehistoric sites contained any diagnostic artifacts and therefore it is difficult to make any reasonable speculation as to the time of occupation.

Two of the more recent sites appear to date from the contact period. One of these sites had been located during the summer of 1982 but was not recorded at the time. We had great difficulty relocating this site, although one of our crew members was the original locator. After much searching it became evident why it was so difficult to find the site. Most of the surface cultural material at this turn of the century Ulumiut camp consisted of numerous pieces of cut willow which had served as components of a meat drying rack and structural members of other constructs. Between 1982 and 1984 a recreational party had camped near the site location and noted the large diameter pieces of wood scattered about. They had collected almost all the wood and burned it in their campfire. Thus our difficulty in relocating the site. This sort of thing doesn't happen too often but is described here to point out how unintentional damage can occur at archeological sites even in very remote areas.

Several recent campsites were also found, one of which was an Eskimo camp occupied 30-50 years ago. The rest appear to be the camps of recreational users.

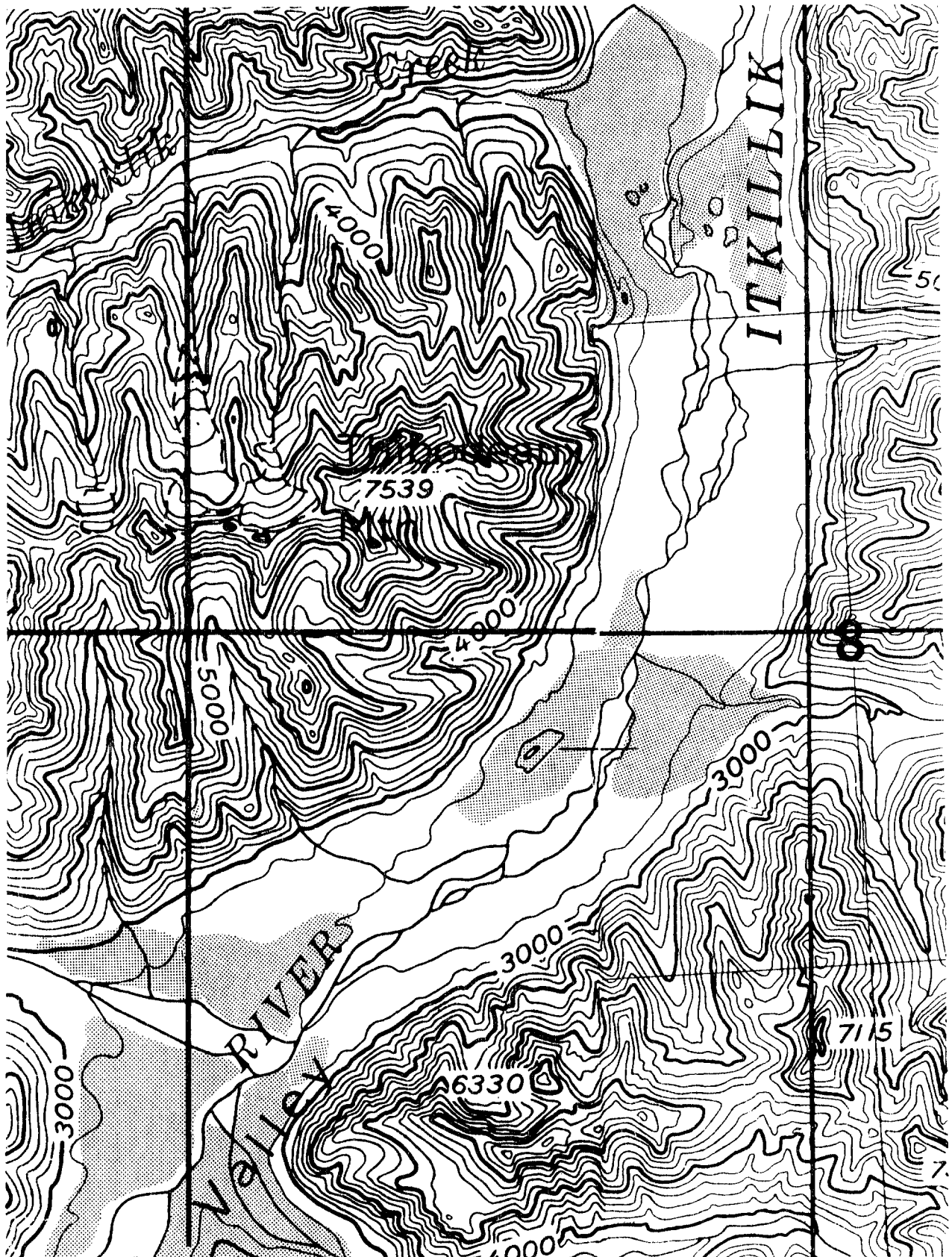
On August 7, the gear and personnel were transported by helicopter to Camp #11 located on the southeastern shore of Itkilik Lake. Over the next ten days various portions of Map Area #6 were surveyed using our helicopter for transportation. Roughly 4 square miles were investigated and 19 sites located during this period.

These sites can be divided into two main groups, prehistoric and late prehistoric/contact period.

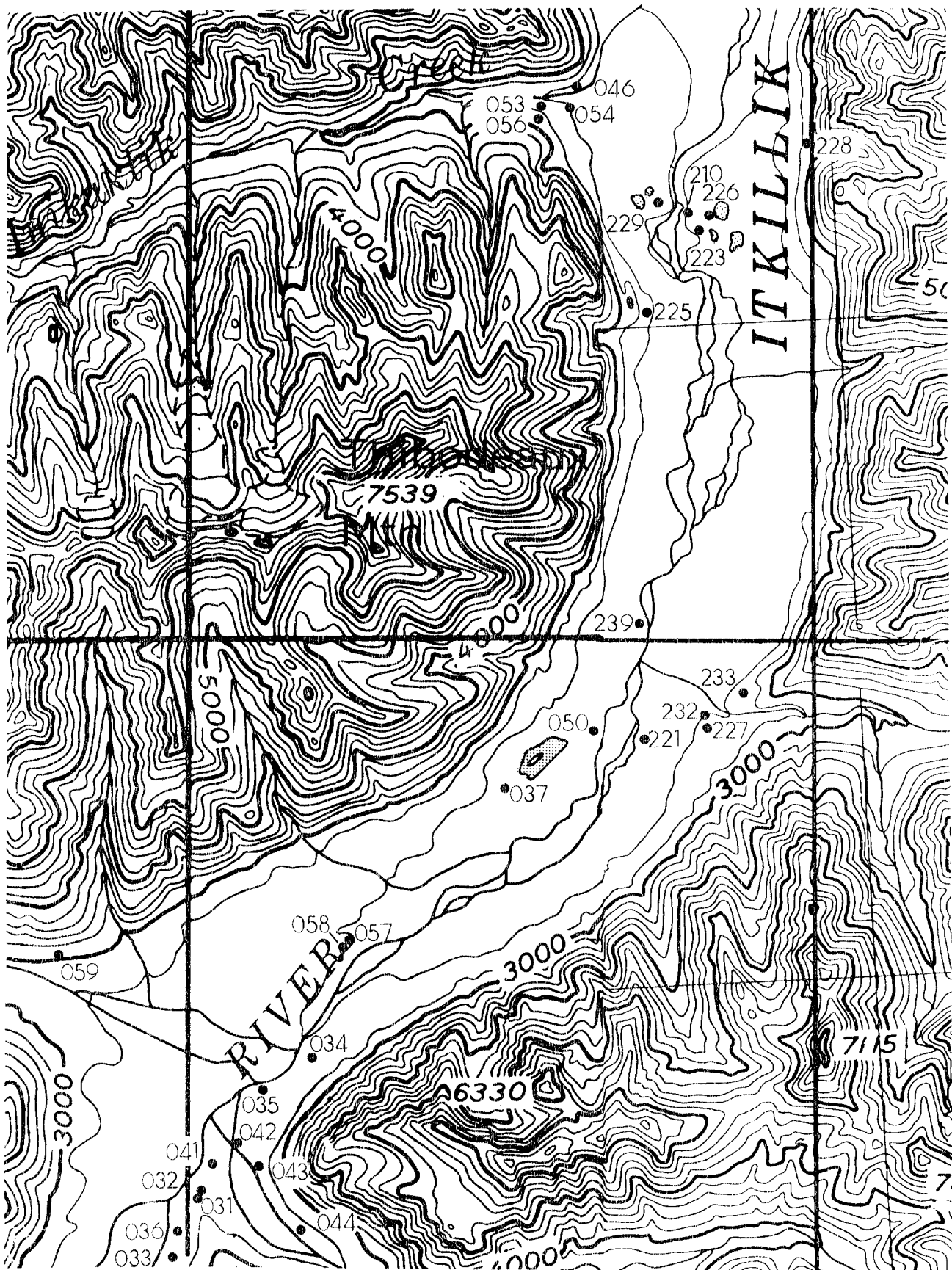
As had been the case in other areas, the majority of the prehistoric sites appeared to be of the lookout variety, although, several may have served as camps as well. Some of the sites had diagnostic artifacts present which were indicative of time and culture. In a general sense most of these sites appear to have been occupied during the last 4000 years by a variety of Eskimo Cultures. At least one of the sites in this area, however, appears to reflect a Athapaskan Indian occupation of roughly 300 years ago.

Several contact period Nunamiut sites were also located in the area. One of these sites, a traditional fall and winter caribou hunting locale, was located on the east side of the valley. At this site caribou were both shot with firearms and also snared in the more traditional manner. Cultural features that remain at the site are at least 65 inuksuk (stone decoys) one shooting pit, several shooting blinds and some snare anchors. The value of this site in understanding a portion of the Ulumiut "seasonal round" is very high.

A number of more recent sites were also observed, most dating from the last 20-30 years. Most of these sites are hunting camps, several, such as the one at Island Lake, have been used year after year for quite some time.



Shaded Area = Surveyed Area
- 181 -



6 miles
- 182 -

XCL-031

Site Elevation:	SW1/4, SE1/4	Probable Site Type:
2800 ft	Section 31	Lookout
	T14S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site is located in the southern quarter of a long ridge-like glacial feature that may be an Oolah Valley lateral moraine, a Kuugukpuk Valley lateral moraine, or simply a bedrock feature which has been glacially scoured and capped by glacial debris. The floor of the Oolah Valley lies roughly 75 meters below the site elevation. The Itkillik River lies about 400 meters to the west of the site while Kuugukpuk Creek is situated 400 meters to the north.

The view from the site is excellent; especially to the north and south where over 8 kilometers of the Oolah Valley may be seen. A good view of about 2 kilometers can be had up the Kuugukpuk Creek Valley to the east while the mouth of the Tuuyak Creek Valley can be seen 2 kilometers to the west-northwest.

The surface of the site is uneven and undulating and is 50-60% vegetated. Vegetation consists of lichen, moss, low herbaceous plants, clumps of grass, and dwarf willow and birch. Frost action has exposed a fair amount of mineral soil and it was in these mineral soil exposures that cultural material was observed. Cultural material consisted of two gray and one black chert flakes scattered over a 3 meter² area. Due to the extensive mineral soil exposures not subsurface testing was initiated.

The site's location and the paucity of cultural material suggests that the site served as a lookout. The lack of diagnostic artifacts precludes temporal or cultural assessment. Site significance is low except as the site may relate to others in the local area. The site does not appear to be threatened by any adverse impact.

XCL-032

Site Elevation:	SW1/4, SW1/4	Probable Site Type:
2800 ft	Section 31	Camp
	T14S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Recent		Affiliation: Nunamiut

This site lies 150 meters north of XCL-031 and is located in the southern quarter of a long glacial feature that may be an Oolah Valley lateral moraine, a Kuugukpuk Valley lateral moraine, or simply a bedrock feature which has been glacially scoured and capped by glacial debris. The floor of the Oolah Valley lies roughly 75 meters below the site elevation. The Itkillik River lies about 400 meters to the west of the site while Kuugukpuk Creek is situated 400 meters to the north.

The view from the site is excellent; especially to the north and south where over 8 kilometers of the Oolah Valley may be seen. A good view of about 2 kilometers can be had up the Kuugukpuk Creek Valley to the east while the mouth of the Tuuyak Creek Valley can be seen 2 kilometers to the west-northwest.

This site is a two component site. One component is a recent Nunamiut occupation probably 30-40 years ago and may very possibly be a wolf hunting camp from the days when the Federal government was offering a \$50.00 bounty on wolves. The second component is a single endblade fragment which appears to be an isolated find. Site datum is adjacent to the hearth at the Nunamiut camp and the endblade fragment lies 73 meters from datum on a bearing of 340° mag. The endblade is unifacially worked and the artifact appears to have broken at what might be considered the shoulders.

The recent Nunamiut camp is composed of several features: a roughly 50 cm² hearth which contains burned bone (large long bones) and fire-cracked rock. There are a few fragments of bone and some cut willow scattered about the hearth. The cut willow is up to 1 meter in length and 5 cm in diameter and probably was obtained from a nearby flood plain willow patch. A rectangular tent ring indicating the use of a wall tent, is located roughly 12 meters south of the hearth. Several Hills Bros. Coffee cans, a condensed milk can lid with a metal coffee can winding passed through its edge, and cut willow are scattered around the hearth at distances of up to 31 meters. One of the coffee cans has been made into a mole/lemming/mouse trap by having a small center hole cut in the top of the can so that a little critter could get in but couldn't get back out. A wooden sling shot carved from willow was also found at the site.

Site significance and research potential appear to be low. At present the site is not being threatened by any adverse impacts.

XCL-041

Site Elevation: 2650 ft	SE1/4, NW1/4 Section 31 T14S, R9E	Probable Site Type: Lookout/Camp
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located on the northern end of the glacial feature upon which sites XCL-031 and XCL-032 lie. XCL-041 lies about 300 meters north of XCL-032. Although this site is about 30 meters lower in elevation than XCL-032 the view is quite good encompassing the general area around the confluences of Tuuyak and Kuugakpuk Creeks with the Itkillik River.

The site area is quite level and for the most part free from surface cobbles and rocks. Vegetation is a healthy mat of moss, lichen, grass,

and low woody and herbaceous plants. Mineral soil exposures are present but not extensive appearing more like cracks or channels between clumps of vegetation.

Cultural material consists of three surface flake scatters all within a 35 meter radius of each other. Surface cultural material at flake scatter "A" consisted of chert flakes of green, black, and gray and a single microblade fragment. A single 15 cm² test pit was excavated to a depth of 10 cm. at flake scatter "B", the largest of the flake scatters. The test excavation yielded 35 gray, green, and black chert flakes between surface and 6 cm. below surface. Flake scatter "C" consisted of 15 gray and black chert flakes.

This may be a camping locality as water, willows, and view are all present. The lack of diagnostic artifacts precludes cultural or temporal assessment. However, the variety of lithic material may indicate that more than a single occupational event occurred at the site.

There is a good possibility that quite a bit of subsurface cultural material is present. If the site is large it may have moderate significance. At present the site appears to be in little danger of adverse impact.

DRAFT

XCL-034

Site Elevation:
2700 ft

SW1/4, SE1/4
Section 30
T14S, R9E

Probable Site Type:
Lookout

Site Age:
Recent

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut

This site lies atop the highest hill along the east side of the Oolah Valley between Kuugukpuk Creek and Island Lake. The site provides an excellent view in all directions for a minimum of 10 kilometers.

The surface of the site is mostly exposed mineral soil and glacial till. Vegetation is quite sparse and is almost exclusively low woody and herbaceous plants accompanied by scattered moss and lichen. The hill top appears to be quite windswept.

Prehistoric and recent cultural material is scattered about the top of the hill. Several scattered groups of "bowling ball" size rocks may represent collapsed cairns. Long pieces of cut willow are present as are numerous fractured pieces of bone. Several small pieces of milled wood were also observed. A single large piece of green/gray banded chert was the single representative of cultural lithics observed at the site. No subsurface testing was conducted.

The distance of the site from water and willows as well as the hill's windswept nature suggests the location served only as a lookout. No cultural or temporal assessment can be made beyond recent and prehistoric.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impact.

XCL-042

Site Elevation:
2550 ft

SW1/4, SE1/4
Section 30
T14S, R9E

Probable Site Type:
Lookout/Camp

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located on a low glacial feature which runs parallel to Kuugukpuk Creek 400 meters east-southeast of the creek's confluence with the Itkillik River. The site lies 10 meters above the valley floor and offers a good view of the Oolah Valley to the west and south and the Kuugukpuk Valley to the east.

Vegetation at the site consists of typical tundra mat with moss, lichen, scattered grass, low woody and herbaceous plants, and a scattering of dwarf birch and willow. The surface of the site slopes gently toward the creek. Some mineral soil exposures, the result of ground squirrel activity, are present. The creek lies 20 meters south of the site.

Thinly scattered cultural material was observed on surface in several of the mineral soil exposures over an area of roughly 2 meters². Cultural material consisted of chert flakes most of which were blue/gray although gray, black and white material was also present. No subsurface testing was done.

The location of the site and the visible cultural material suggest the site was a lookout or a short term camp site. The presence of more than a single type of lithic material may indicate more than a single occupational event occurred at the site or a single use event by several persons. Although no diagnostic artifacts were observed it is reasonable to assume that the site represents an Eskimo occupation.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

XCL-033

Site Elevation:	SE1/4, SE1/4	Probable Site Type:
2650 ft	Section 36	Lookout
	T14S, R8E	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site sits on a small kame/knoll, about 15 x 25 meters in size, which rises about 2 meters above the surrounding tundra. The kame is just east of a small creek that drains into the Itkillik River which lies slightly more than a kilometer to the west. The confluence of Kuugukpuk Creek and the Itkillik River lies roughly 2 kilometers to the north. The view from the site is excellent, extending south for about 2 kilometers to a kame complex where a small lake is located, to the west about 400 meters to a ridge just east of the Itkillik River, and northwest to a cut bank on the river itself. The view north is blocked by a morainal ridge about a kilometer distant that lies on the south side of the Kuugukpuk Valley. The kame has an approximate 90% vegetation cover of *Dryas octopetala*, *Arctostaphylos alpina*, *Vaccinium uliginosum*, *Salix* sp., and grasses. A clump of *Betula nana* and *Salix* sp. grows on the wet and highest point of the knoll.

The site was located through visual inspection of the surface. A scatter of 30+ black chert flakes and 10 gray chert flakes lies 8 meters east of the highest point on the knoll. The flake scatter is concentrated within an area of 1 x 2 meters.

The site probably functioned as a lookout/flaking station, however, much better geographic situations for such sites are found nearby. The presence of two kinds of chert implies two distinct flaking events, and small finishing flakes suggest the completion or manufacture of a tool. The lack of diagnostic material precludes cultural or chronological assignment.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

XCL-035

Site Elevation:	NE1/4, NE1/4	Probable Site Type:
2650 ft	Section 30	Camp/Lookout
	T14S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Recent		Affiliation: Nunamiut

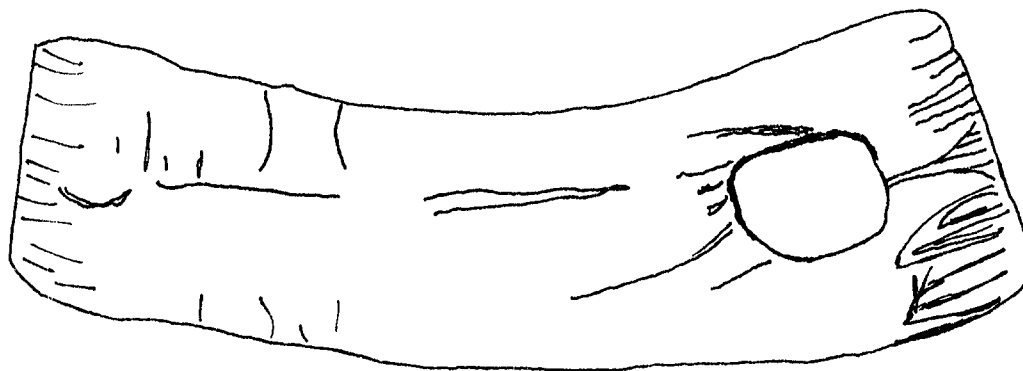
This site is located atop a bluff on the east side of the Itkillik River opposite the mouth of Tuuyak Creek. The site lies about 50 meters above the river and provides an excellent view in all directions except to the east where nearby higher ground obstructs the view.

The surface of the site is approximately 75% vegetated. Vegetation consists of tundra mat and low woody and herbaceous plants with scattered willow and dwarf birch. Areas of mineral soil exposure are present and most prevalent near the bluff edge.

All cultural material was located on surface. No subsurface testing was carried out. No worked lithics were observed. Cultural material consisted of tent ring rocks which were no longer arranged in a circular shape, some pieces of cut willow including one which is slightly curved, about 13 cm. long and 4 cm. wide with a large hole drilled through near one end giving it the appearance of a shaft wrench. Crushed and broken bone fragments are thickly scattered over an area of approximately 2 meters. All of the cultural material at this site was located within a 16 meter² area.

Evidence at the site suggests it served as a short term Nunamiut camp site or hunting camp/lookout combination with occupation occurring within last 100 years.

Some erosion is taking place along the cutface of the bluff, however, the rate appears to be slow and the site is not immediately in danger. Site significance and research potential appear to be low.



Willow Shaft Wrench

XCL-035 Artifact - Actual Size

XCL-043

Site Elevation:
2675 ft

NW1/4, NE1/4
Section 31
T14S, R9E

Probable Site Type:
Lookout

Site Age
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

The site lies atop a small kame 100 meters north of Kuugukpuk Creek, and about one kilometer east of the Itkillik River. A prominent conglomerate boulder lies on the north side of the kame. The site commands an excellent 360° view. To the south near at hand is visible the "island" in the Kuugukpuk Valley, the Oolah Valley is visible beyond beyond. Westward is seen the mouth of Tuuyak Valley, a western tributary of the Itkillik. The view north is blocked by a higher ridge several hundred meters distant. The site is about 90% covered by vegetation consisting of Dryas octopetala, small Salix, Saxifraga sp., grasses and a little lichen. A few small unvegetated areas occur on the top of the kame.

The site was located through visual inspection of the surface. A single green chert flake was found at the top of the knoll in a mineral soil exposure. A single 20 cm² test pit excavated to a depth of 8 cm. proved to be culturally sterile.

The site probably functioned as a lookout/flaking station, although the dearth of cultural material makes cultural or chronological assessment impossible.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impact.

XCL-044

Site Elevation:
2650 ft

SW1/4, SW1/4
Section 32
T14S, R9E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian,

Probable Cultural
Affiliation: Unknown

The site lies atop the last prominent kame on the north side of Kuugukpuk Creek, adjacent to the east end of the "island". The site is about 3 kilometers east of the Itkillik River and perhaps 250 meters north of Kuugukpuk Creek. Vegetation at the site consists of Salix sp., grasses, Arctostaphylos alpina, Epilobium angustifolium, Empetrum nigrum, Betula nana, mosses, and a thin lichen growth. Vegetation covers about 90% of the site's surface. The site commands an excellent 360° view up and down Kuugukpuk Creek, the adjacent portion of the Oolah Valley, and much of the Tuuyak Creek Valley.

XCL-043

Site Elevation:	NW1/4, NE1/4	Probable Site Type:
2675 ft	Section 31	Lookout
	T14S, R9E	
Site Age	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site lies atop a small kame 100 meters north of Kuugukpuk Creek, and about one kilometer east of the Itkillik River. A prominent conglomerate boulder lies on the north side of the kame. The site commands an excellent 360° view. To the south near at hand is visible the "island" in the Kuugukpuk Valley, the Oolah Valley is visible beyond beyond. Westward is seen the mouth of Tuuyak Valley, a western tributary of the Itkillik. The view north is blocked by a higher ridge several hundred meters distant. The site is about 90% covered by vegetation consisting of Dryas octopetala, small Salix, Saxifraga sp., grasses and a little lichen. A few small unvegetated areas occur on the top of the kame.

The site was located through visual inspection of the surface. A single green chert flake was found at the top of the knoll in a mineral soil exposure. A single 20 cm² test pit excavated to a depth of 8 cm. proved to be culturally sterile.

The site probably functioned as a lookout/flaking station, although the dearth of cultural material makes cultural or chronological assessment impossible.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impact.

XCL-044

Site Elevation:	SW1/4, SW1/4	Probable Site Type:
2650 ft	Section 32	Lookout
	T14S, R9E	
Site Age:	Umiat Meridian,	Probable Cultural
Unknown		Affiliation: Unknown

The site lies atop the last prominent kame on the north side of Kuugukpuk Creek, adjacent to the east end of the "island". The site is about 3 kilometers east of the Itkillik River and perhaps 250 meters north of Kuugukpuk Creek. Vegetation at the site consists of Salix sp., grasses, Arctostaphylos alpina, Epilobium angustifolium, Empetrum nigrum, Betula nana, mosses, and a thin lichen growth. Vegetation covers about 90% of the site's surface. The site commands an excellent 360° view up and down Kuugukpuk Creek, the adjacent portion of the Oolah Valley, and much of the Tuuyak Creek Valley.

The site was located through visual inspection of the surface. Two small black chert flakes and two small gray chert flakes were found on the top of the kame. No other artifacts were located and no subsurface testing was undertaken.

The site probably functioned as a lookout/flaking station, but the paucity of cultural material precludes a definitive cultural or chronological assignment.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

XCL-036

Site Elevation: 2600 ft	NE1/4, SE1/4 Section 36 T14S, R8E Uniat Meridian	Probable Site Type: Lookout Probable Cultural Affiliation: Unknown
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This site is located on the eastern side of the Oolah Valley on a glacial knoll approximately 2 kilometers south of the mouth of Kuugukpuk Creek. Situated nearly 50 meters south of a small, round lake. This site overlooks a small north flowing creek approximately 50 meters to the west. The view potential from this site is at least 300 meters in all directions.

The site vegetation is typical of glacial features in the area including grasses and lichens on the knoll top and dwarf birch and willow along the knoll slopes. Frost action and wind seem to have kept the knoll surface only sparsely vegetated. Some evidence of game trampling and rodent burrowing is evident at this site, but the latter is not present in the immediate area of the lithic scatter.

The site was discovered through surface reconnaissance. Three black chert waste flakes were found in a small unvegetated area. The largest flake (1 cm²) had evidence of pot-lid fractures on both surfaces suggesting prolonged exposure to a high heat source; perhaps a campfire.

The site appears to represent a hunting lookout. Numerous game trails run parallel to this creek adjacent to and sometimes over the knolls. The site knoll is unique in that a small pocket on its south edge provides an excellent windbreak.

The lack of diagnostic artifacts precludes cultural or temporal assessment while the paucity of cultural material suggests the site was not often used.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.

XCL-037

Site Elevation:
2500 ft

SE1/4, NE1/4
Section 9
T14S, R9E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site lies atop a prominent hill about 400 meters south of Island Lake. The Itkillik River lies roughly 2 kilometers to the east. The site lies more than 50 meters above the lake and the valley floor and provides an excellent view in all directions.

The majority of the site surface is vegetated and only a few scattered areas of exposed mineral soil are present. Vegetation consists of moss, lichen, low herbaceous plants, clumps of grass, and scattered dwarf willow.

In one of the mineral soil exposures a 50 cm² scatter of ten green chert flakes was observed. The cultural material was on and in the surface. No other cultural material was observed and no subsurface testing was conducted. There is an excellent possibility that subsurface cultural material is present at this site.

The lack of diagnostic artifacts precludes any cultural or temporal assessment of the site. The site's location suggests that it served as a lookout although there is sufficient level surface area to provide a good camping location.

Site significance is of a local nature and research potential appears low. At present the site does not appear to be threatened by any adverse impacts.

XCL-050

Site Elevation:
2800 ft

NE1/4, SE1/4
Section 3
T14S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site lies on a north trending ridge 500 meters north of Island Lake. The ridge top is roughly 60 meters above the valley floor and offers an excellent view in all directions for distances in excess of 9 kilometers.

The majority of the surface of the site is well vegetated although there are scattered areas of exposed mineral soil. Vegetation consists of moss, lichen, scattered clumps of grass, low herbaceous plants and some scattered dwarf willow. There is some minor, but active, erosion occurring at the north end of the site.

All cultural material at this three locality site was located on surface by visual inspection. Site datum is located on the high point of the ridge.

Locality #1 lies 96 meters south-southwest of datum. Two large chert flakes, one black and one green, were located 15 meters apart on surface. No additional cultural material was observed in the area and no subsurface testing was conducted.

Locality #2 lies 15 meters south-southeast of datum. Three gray chert flakes were located in a small mineral soil exposure as well as 7 mm. W.R.A.Co. cartridge case. The cartridge case is probably associated with activities at a perinnial, modern hunting camp in the west shore of Island Lake. No subsurface testing was carried out at this locality.

Locality #3 lies 35 meters to the north of datum. Brown, black, and white chert flakes as well as some crushed bone was observed scattered over a sparsely vegetated 12 meter² area. Several pieces of fire-cracked rock were also present along with the medial section of a black chert microblade.

The lack of diagnostic artifacts precludes cultural or temporal assessment. The site appears to have been occupied numerous times over at least the past 2000 years. Subsurface cultural material may be present as most of the site surface is vegetated and artifacts were observed only in natural exposures. The site's location suggests that it served as either a campsite and/or a lookout.

XCL-053

Site Elevation:
2600 ft

NE1/4, NW1/4
Section 10
T13S, R9E

Probable Site Type:
Game Lookout

Site Age:
Unknown - but probably
less than 100 years

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located along the western wall of the Oolah Valley some 4 kilometers south of Itkillik Lake. The site is situated on the most prominent of several glacial deposits on the south side of Inikaklik Creek 3 kilometers southwest of the creek's confluence with the Itkillik River. XCL-056 sits at the northern base of this feature and XCL-054 is perhaps 100 meters to the east on the lowest of the several glacial features in this group. The view potential from this site is excellent, commanding northernmost 20 kilometers of the Oolah Valley.

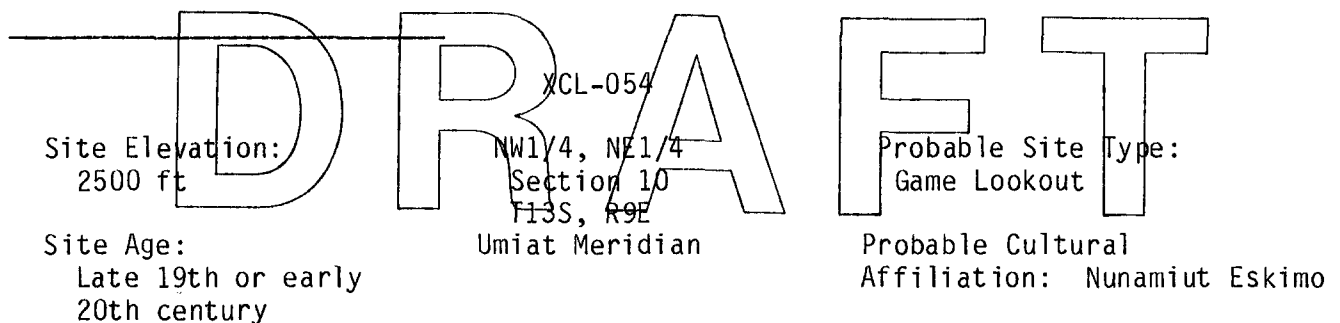
The surface of the site is flat and well drained with a thin clumpy covering of moss, lichen, and low woody and herbaceous plants over 70% of the site. Also present are some grasses and scattered patches of dwarf birch and willow. The southern edge of the site is marked by a

number of deflations and areas of exposed mineral soil.

It was in one of these areas of exposed soil that cultural material was first observed. These materials consisted of small to medium sized chert waste flakes. Three colors were represented, light gray, medium grey, and black. The cultural materials were scattered over an area of 10 x 2 meters near the southeastern edge of the site.

Although the remains evident at the site were limited, the prominent setting of the site and its location adjacent to an ethnographically recorded fall habitation site may indicate that it served as a Nunamiut Eskimo game lookout site.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.



This site is located on the western wall of the Oolah Valley, some 4 kilometers south of Itkillik Lake. The site is situated on the lowest lying, bench-like, glacial deposit on the south side of Inikaklik Creek, roughly 3 kilometers southwest of the creek's confluence with the Itkillik River. The nearest other sites are XCL-053 and XCL-056 both within 100 meters to the west. The vistas offered by this site are extensive, northward to Itkillik Lake and south up the valley for perhaps 15 kilometers.

The surface of the site is typical of glacial deposits in this area, well-drained pebbly soil with a ground cover of moss, lichen, low woody and herbaceous plants, and grasses with small patches of dwarf willow growing in shallow depressions.

The site was initially located by finding scattered lithic and faunal remains on surface near the south end of the bench. Further surface and subsurface investigation indicated the size of the site to be at least 15 x 30 meters containing chert waste flakes of a variety of colors including black, light gray, medium gray and greenish gray. Perhaps the most interesting aspect of the materials found was the direct association of lithics and crushed bone in and on the surface over an area of 4 meters².

The significance of this site is thought to be low to medium. Because of the sites location immediately adjacent to the ethnographically known fall camp of the Ulumiut band of Nunamiut Eskimo, and the direct association

of bone and lithic materials, there is the very real possibility that this is a precontact Nunamiut hunting lookout. Very few such sites have been found, so far, but what this particular site may have to offer as far as significant new information is unknown.

At present the site does not appear to be threatened by any adverse impacts.

XCL-046

Site Elevation:
2600 ft.

NE1/4, SE1/4
Section 3
T13S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

DRAFT

The site is located on the north bank of Inikaklik Creek at the point where the stream exits the mountains. Situated on a 20 meter high knoll adjacent to the creek, the site offers a view not only of the mouth of the creek valley but also provides a vantage point encompassing the surrounding country for about 6 kilometers. Itkillik Lake is visible from the site 8 kilometers to the north. XCL-053 and XCL-054 are located on the south side of this creek at the mouth of the valley.

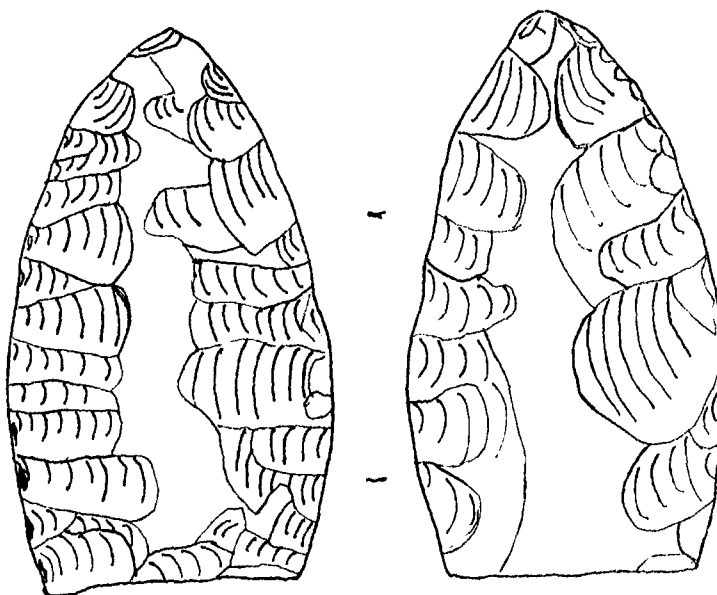
Vegetation at the site consists of thin scattered patches of moss, lichen, low woody and herbaceous plants and some dwarf willow. Frost heaving, ground squirrel burrowing, and grizzly bear excavations have made the surface of the knoll somewhat hummocky. Mineral soil exposures are quite common around the site.

The site was discovered through visual inspection of the surface. Site datum is located on the crest of the knoll. Black and light and dark gray chert flakes are thinly scattered over the site area. The major concentration of flakes occurs on the northern slope about 10 meters north of datum. A dark gray chert biface fragment, a thumb-nail scraper, and a tent ring were found all within a 3 meter radius of datum.

About ten pieces of broken willow are scattered about the periphery of the tent ring. The stones of the tent ring are half-buried in the vegetation and soil. On the ring's southern end the stones have been completely covered by vegetation. The tent ring appears old, but is most likely associated with the weathered, lichen-covered, partially buried willow. It is impossible to determine which examples of cultural material are associated and/or contemporaneous.

The site appears to represent a hunting lookout/camp site. The view offered by this knoll is probably the best of any in the area and would make the locale an attractive spot for watching for game. The tent ring and associated wood probably represent a camping event at some time in the past 75-300 years. The biface, fragment may be a piece of an ulu blade which is indicative of Eskimo cultures.

Site significance and research potential can be considered low. At present the site is being somewhat impacted by natural forces but does not appear to be seriously threatened.



Dark Gray Chert Biface

XCL-046 Artifact - Actual Size

XCL-056

Site Elevation:
2450 ft

SE1/4, SW1/4
Section 3

Probable Site Type:
Summer Hunting Camp

Site Age:
20th Century

T13S, R9E
Umiat Meridian

Probable Cultural
Affiliation: Nunamiut Eskimo

This site is located some 4 kilometers southwest of Itkillik Lake, on the south side of Inikaklik Creek approximately 100 meters west of where the creek emerges from the western wall of the Oolah Valley. The view potential from this site is virtually non-existent, however the immediately adjacent glacial knolls to the south upon which XCL-053 and XCL-054 are located, provide excellent visibility for at least 10 kilometers.

The ground upon which this site is located is rocky and uneven and surrounded by old abandoned and revegetated stream channels. The dominant vegetation is grass and bearberry with patches of low willow.

The cultural remains at this site consist of a single stone tent ring, some 3 meters in diameter. There were no other signs of occupation on surface. A single 15 cm² test excavation made in the center of the ring proved to be culturally sterile.

The significance of this single feature site is felt to be low. Tent ring sites as a rule tend to be rather unproductive in terms of cultural information. Based on ethnographic data the site most likely represents a non-snow month occupation by Nunamiut Eskimo sometime in this century.

At present the site does not appear to be threatened by any adverse impacts.

XCL-057

Site Elevation: 2500 ft	D R A F T	NW1/4, NE1/4 Section 20 T14S, R9E Umiaq Meridian	Probable Site Type: Camp/lookout
Site Age: Unknown		Probable Cultural Affiliation: Unknown	

This site is located on the north end of an old terrace of the Itkilik River. Island Lake lies slightly more than 3 kilometers to the north and XCL-058 lies approximately 150 meters to the south. The Itkilik River is 100 meters east and 30 meters below the terrace.

The top of the terrace is reasonably flat and heavily vegetated by grass, low herbaceous plants, dwarf birch, and dwarf willow. The cutface of the terrace, an eastern exposure, is quite steep and unvegetated consisting of weathered river gravels and glacial till.

The view from the site is excellent and encompasses the Oolah Valley for a distance of roughly 7 kilometers north and south.

Cultural material at the site consisted of a single flake of dark green chert exposed on the cutface roughly 1 meter downslope from the edge of the vegetation mat. The flake's position suggests that it eroded out of the organic soil/root mat on the top of the terrace. Although only a single flake was observed there is a possibility that more subsurface material is present beneath the thick vegetation mat.

The site's location suggest that it could have served as either a camp site and/or a hunting lookout. Site significance is of a local nature only and research potential is low. With the exception of some minor erosion taking place along the cutface the site does not appear to be threatened by any adverse impacts.

XCL-058

Site Elevation: 2500 ft	NW1/4, NE1/4 Section 20 T14S, R9E	Probable Site Type: Camp/Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

The site is located on the southern end of an old terrace of the Itkillik River 150 meters south of XCL-057. The general description for this site is comparable to that for XCL-057 and will not be repeated here. The two sites may be associated.

Cultural material consisting of about twenty dark green and dark gray chert flakes was observed scattered about the surface of a 2 meter² grizzly bear excavation. This suggests that there may be additional cultural material present beneath the thick vegetation mat.

The lack of diagnostic artifacts precludes temporal or cultural assessment. The site's location suggests it served as a campsite and/or lookout. The site significance is of a local nature and research potential appears low. At present the site does not appear to be threatened by any adverse impacts.

XCL-059

Site Elevation: 2900 ft	NW1/4, NE1/4 Section 23 T14S, R8E	Probable Site Type: Hunting Camp
Site Age: 50-100 years B.P.	Umiat Meridian	Probable Cultural Affiliation: Nunamiut

This site is located atop a depositional glacial feature about 9 kilometers southeast of Island Lake on the north side of the mouth of the Tuuyak Creek Valley. The site lies roughly 30 meters above the valley floor and offers an excellent view of both the Oolah and Tuuyak Valleys

The surface of the site is well vegetated by a mat of grass, lichen, moss, low herbaceous plants, and scattered growths of dwarf birch and willow. Large stands of willow attaining heights in excess of 2 meters, lie along the stream edge 200-300 meters south of the site.

On surface cultural material at the site consists of a number of cut willow poles surrounding a hearth. Several of the poles are forked and their position suggest they supported a spit across the fire. Other pieces of cut willow may have formed a rack of some type. The hearth contains some charcoal and remnants of burned wood as well as fragments and chunks of burned bone. Unburned bone fragments are thinly scattered around the site which covers an area of 4 meters². No formal artifacts, metal or lithic were observed. The site probably represents a Nunamiut hunting camp between 50-100 years old.

Site significance is of a local nature only and research potential is low. The site does not appear to be threatened by any adverse impacts.

PSM-221

Site Elevation: 2500 ft	SE1/4, SE1/4 Section 2 T14S, R9E	Probable Site Type: Camp/Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Eskimo

This site is located on the east bank of the Itkillik River approximately 800 meters north and 1.5 kilometers east of Island Lake. The site occupies a rounded knoll 15 meters east of the eastern channel of this braided section of the Itkillik River. Located at the northern end of an esker, the site lies 15 meters in above river level. The view from the site encompasses the general area for several kilometers in all directions.

Vegetation consists primarily of scattered lichen, moss, grasses, and low woody and herbaceous plants and a few willows. The adjacent terrain is poorly drained sedge-tussocks tundra. Some rodent burrowing and subsequent grizzly bear excavations have occurred at the site.

The site was found through surface reconnaissance. Lithics were scattered over a 2.5 meter area in the saddle and on the southern side of the knoll. A light blue, chert endblade was found in association with a concentration of gray and black chert waste flakes. Several of the flakes exhibited use retouch.

Based on the lithics and location it appears that this site represents a hunting camp and/or lookout. The endblade is typical of artifacts from cultures of the Eskimo Continuum and suggest the site was occupied during the last 4000 years. The variety of lithic material suggest more than a single occupational event may have occurred at the site.

Site significance and research potential appear low. At present the site does not appear to be threatened by any adverse impacts.

Utilized Flake - Black Chert



Utilized Flake - Gray Chert



Endblade - Blue Chert

PSM-221 Artifacts - Actual Size

PSM-210

Site Elevation: 2440 ft	NE1/4, NE1/4 Section 14 T13S, R9E	Probable Site Type: Camp/Lookout
Site Age: Unknown	Uniat Meridian	Probable Cultural Affiliation: Unknown

This site is located in one of a series of vegetationally stabilized sand dunes which have, to various degrees, suffered deflation. These dunes are located on the east side of the Itkillik River approximately 9 kilometers south of Itkillik Lake. The dunes overlook and surround a series of small lakes which lie up to a kilometer east of the river. The site lies approximately 30 meters above the river which is located less than a kilometer to the south and west.

The surface of the site is relatively flat and intermittently vegetated by grasses, lichen, moss and dwarf willow. It is obvious that the majority of the site area has been deflated and revegetated at least once and probably several times since the site was occupied. The extreme northern portion of the site, however, does not appear to have been deflated.

The site offers an excellent view both up and down the Oolah Valley for a distance of 9 kilometers.

Cultural material was observed on surface sparsely scattered over the entire 85 x 36 meter area of the site. Surface cultural material included chert flakes and several microblade fragments. A few pieces of fire-cracked rock were also present.

Subsurface testing at the site was limited to two 20 cm² test pits which were excavated to a depth of 20 cm. Test pit #1 lies adjacent to site datum in the deflated portion of the site. This test pit yielded several chert flakes and a backed microblade fragment. Test pit #2 was excavated 12 meters from datum on a bearing of 336° mag. in the undeflated portion of the site and proved to be culturally sterile. The cultural material recovered from test pit #1 was lying flat, as was the surface material, further suggesting past deflation activity. The vertical erosion face of the undeflated portion of the site contained chert flakes eroding out in geologically unstable positions suggesting that this portion of the site has not suffered deflation.

The presence of microblades at the site suggest a minimum age of ca. 2000 years B.P. for at least one occupational event. The variety of lithic material may indicate that multiple occupational events occurred at the site. The lack of diagnostic artifacts precludes cultural or temporal assessment.

Although large in area and possibly rich in artifactual material the site possesses only a moderate level of significance because of its disturbed nature. Only a small portion of the site does not appear to have been deflated at any time since occupation, therefore, only a small

amount of the cultural material would be in situ.

The site's location suggest that it served as both a camp and a lookout.
At present the site does not appear to be theated by any adverse impacts.

PSM-226

Site Elevation:
2460 ft

NE1/4, NE1/4
Section 14
T13S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
90-40 years B.P.

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut Eskimo

This site is located in the same dune complex as PSM-210 and PSM-223, both of which lie several hundred meters to the east.

The site is located in the most elevated portion of the dune complex overlooking the Itkillik River and is in excess of 30 meters above the valley floor. The view from the site is excellent in all directions exceeding 10 kilometers to the north and south.

The surface of the site is quite level and well vegetated by a thick mat of grass and low herbaceous plants along with some scattered dwarf willow. Large willows are abundant along the edge of the river less than 100 meters from the site.

Long pieces of cut willow, and a fire pit containing remnants of burned wood and charcoal as well as a possible cache pit occupy the promontory of the site area. The cache pit lies approximately 5 meters east of the fire pit and a sharpened willow stake is embedded in the ground roughly 5 meters south of the fire pit. The stake appears to have been sharpened by a metal knife. A number of complete and fragmentary caribou long bones and vertebra are scattered about the site area partially embedded in the surface.

About eight meters south of the fire pit the dune face is badly deflated and blown out. Several pieces of fire-cracked rock were observed in this disturbed area.

The site appears to represent a recent, 90-40 year old, Nunamiut occupation. The site's location and cultural remains suggest the site served as a camp and possibly a lookout for caribou hunters. The fire cracked rock in the deflated area of the site may not be associated with the other cultural material at the site.

Site significance is only of local importance in relation to the activities of the local band of Nunamiuts; the Ulumiuts. No metal appears associated with this site. The lack of metal may indicate occupation prior to the contact period.

At present the site does not appear to be threatened by any adverse impacts.

PSM-223

Site Elevation:
2425 ft

NE1/4, NE1/4
Section 14
T13S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located in the same dune complex as PSM-210 which lies roughly 200 meters to the north-northwest, and PSM-226 which lies the same distance to the north northeast.

The Itkillik River lies slightly less than a kilometer to the west and south. The site lies in an extensively deflated and blown out area in the southern face of the dune complex.

Although the site lies only 10-15 meters above the river the view to the south, east and west is excellent. The view to the north is blocked by higher terrain.

Vegetation at the site is sparse to non-existent and is comprised of very scattered small patches of grass and dwarf willow.

The site consists of two localities which display surface cultural material. Locality #1 consists of a large fire-cracked cobble and numerous small fragments of fire-cracked rock, as well as scattered bone fragments, a variety of chert waste flakes and a large flake of quartz crystal. Site datum is at this location. Locality #2 lies 35 meters from datum on a bearing of 146° mag. This locality consists of a hearth remnant comprised of several large fire-cracked rocks covering an area of 90 cm². A thumb nail scraper and some scattered bone fragments were associated with the fire-cracked rock, however, no charcoal was present.

The site's location and cultural remains suggest that it served as a camp site and possibly a hunting lookout.

The lack of diagnostic artifacts precludes temporal or cultural assessment. However, in this region of Alaska sand dune sites of this nature are often attributable to Athapaskan occupation and rarely exceed 300 years in age. This site appears to be quite similar to PSM-052 located at the confluence of Itkillik Lake's outlet stream, and the Itkillik River and site PSM-074 near the confluence of the Galbraith Lake outlet stream and the Atigun River both of these sites have been attributed to Athapaskan occupation.

Significance is low except in a local sense due to the site's disturbed nature. At present the site does not appear to be threatened by any adverse impacts.

PSM-225

Site Elevation:
2800 ft.

SE1/4, SW1/4
Section 14
T13S, R9E

Probable Site Type:
Lookout

Site Age:
3200 years B.P.

Umiat Meridian

Probable Cultural
Affiliation: Denbigh
Flint Complex

This site is located on a prominent knoll approximately 6 kilometers south of the mouth of Inikaklik Creek and 200 meters west of the Itkillik River. Situated on a north-south trending knoll, the site sits nearly 30 meters above the valley floor. The view from this site, in all directions except west, is in excess of 8 kilometers. The view to the west is limited to several hundred meters.

Vegetation at the site consists of grasses, lichens, dwarf birch, and willow. Several glacial erratics are scattered about this 100 meter long knoll. Near its mid-point the knoll is bisected by a small gully which supports a robust growth of willow. In some areas the surface of the site has been disturbed by frost action, ground squirrel burrowing and subsequent grizzly bear excavation.

The site was located through surface reconnaissance which indicated the presence of cultural material on both sides of the gully. On the southern portion of the site a variety of waste flakes and artifacts including an obsidian endblade, microblades, burin spalls, and utilized flakes were observed scattered over an area of 3 meters². On the northern side of the gully, cultural material was less numerous and much more widely scattered. The obsidian endblade was submitted for hydration analysis and yielded a rind measurement of $1.63 \pm 0.04u$. Based on a preliminary hydration rate of $0.82u^2/1000$ years developed at Itkillik Lake the age of the endblade has been determined to be 3240 ± 159 years B.P.

The excellent parallel oblique flaking on the endblade is typical of Denbigh Flint Complex workmanship. The co-occurrence of microblades and burin spalls is also a common trait in Denbigh Flint Complex sites. Additionally, the age indicated by the thickness of the hydration rind is typical of Denbigh sites.

The variety of lithic material at the site suggests multiple occupations have occurred there. The site's location suggests it served as a hunting lookout. No subsurface testing was done at the site, therefore, it is difficult to determine research potential. Site significance is at best at a moderate level. At present the site does not appear to be threatened by any adverse impacts.

PSM-227

Site Elevation:
2675 ft

NW1/4, SE1/4
Section 12
T14S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Uniat Meridian

Probable Cultural
Affiliation: Unknown

This site is located on a bedrock ridge approximately 1 kilometer east of the Itkillik River and 1.5 kilometers northeast of Island Lake. PSM-232 lies approximately 250 meters to the north-northwest.

The surface of the site is well vegetated by a thin mat of grass, lichen, moss, and low herbaceous plants accompanied by scattered growths of dwarf birch and willow. The surface of the site can best be described as hummocky with numerous large boulders and some bedrock exposures present. Although the vegetation is thin, few mineral soil exposures were observed.

The view from the site is excellent extending 16 kilometers north to Itkillik Lake and 23 kilometers south to the continental divide and the head of the Colan Valley

Cultural material was observed on the surface over an area of roughly 5 meters². Blue-gray and dark gray chert flakes and a projectile point base were present on and in the surface of the site. This material was located in one of the few mineral soil exposures on the promontory at the south end of the ridge. No subsurface testing was undertaken and it is reasonable to assume that subsurface cultural material is present.

The projectile point base is morphologically typical of those used by cultures of the Eskimo Continuum and may represent site occupation by Denbigh, Norton, Ipiutak or more recent Eskimo Cultures.

The site's location and cultural material suggest the site served as a lookout or short term hunting camp. Site significance is of a local nature only and research potential is low. There do not appear to be any adverse impacts threatening the site.



Projectile Point Base - Chert

PSM-227 Artifact - Actual Size

PSM-228

Site Elevation:
2500 ft

SE1/4, NE1/4
Section 12
T13S, R9E

Probable Site Type:
Caribou Corralling Site

Site Age:
Late 19th Century
Early 20th Century

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut Eskimo

This site is located along the length of a very rocky alluvial fan on the east side of the Oolah Valley just 5 kilometers south of Itkillik Lake. The site has a commanding view of much of the Oolah Valley, from the valley mouth southwards.

The upper and mid portions of the fan are exceptionally rocky and rilled but its topography becomes considerably more subdued as the fan nears the Itkillik River. The ground cover consists primarily of moss, lichen, grasses, low woody and herbaceous plants and numerous patches of dwarf willow. The only sizable willow growth is along the lower reaches of the mountain stream that flows along the northern edge of the fan and into the river.

Cultural remains at this site are comprised of some 65 inuksuk or stone decoys, one circular shooting pit and two shooting blinds. Beginning from the head of the fan at the eastern wall of the valley, approximately 25 inuksuk are distributed over a distance of 150 meters. This line of inuksuk leads to a shooting pit which is approximately 2 1/2 meters in diameter.

Another 40 or more inuksuk are scattered down the length of the fan. One hundred twenty meters to the southwest of the shooting pit stands a 7 meter long, 1 meter high and 1 meter wide, stone hunting blind. A second hunting blind consisting of half a dozen rocks piled atop a large boulder is located an additional 30 meters due west.

No examination of the large willow grove to the north of the inuksuk where the actual snaring and corralling activities were reported to have taken place was made.

The significance of this site is rated as high, it is the location of "Kangeraktovik" the traditional fall and winter caribou hunting area of the Ulumiut band of Nunamiut Eskimo. Perhaps the major value of the site is that its obvious physical remains graphically portray a vital aspect of the Nunamiut seasonal round and can be used as an interpretative element in understanding the culture history of the area.

At present the site does not appear to be threatened by any adverse impacts.

PSM-229

Site Elevation:	SW1/4, SE1/4	Probable Site Type:
2250 ft	Section 11	Camp
	T13S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located in a series of deflated sand dunes about 100 meters from the western bank of the Itkillik River and 6 kilometers south of Itkillik Lake. The location is easily marked by the presence of three small lakes or ponds some 20-30 meters to the west of the site. From the site the best views are northward to the mouth of the Oolah Valley and southward toward the Continental Divide.

Although the dune field is extensively and deeply deflated, the stabilized portion is densely overgrown with low herbaceous plants, grasses and some willow. Only about 50% of the dune field is vegetated.

It was in one of the deflations near the west edge of the dune field, that cultural material was noted. The material consists of fire-cracked rock and small unidentifiable bone fragments that had eroded out of the organic soil horizon and fallen to the bottom of a 3 meter deep deflation. The materials were scattered over a lineal distance of some 20 meters. A number of shallow test excavations were made but yielded no further cultural materials.

Based on the physical setting and limited remains in evidence the significance of this site appears to be low. Due to the lack of diagnostic artifacts no temporal or cultural affiliation can be given to these remains.

Presently the site is slowly being destroyed by wind erosion.

PSM-232

Site Elevation:	NW1/4, SE1/4	Probable Site Type:
2600 ft	Section 12	Camp/Lookout
	T14S, R9E	
Site Age:	Umiat Meidian	Probable Cultural
ca. 100 years B.P.		Affiliation: Nunamiut

This site lies on a bedrock ridge 250 meters west-northwest of and 20 meters lower than PSM-227 which lies on a parallel bedrock ridge. The Itkillik River flows northward about 1 kilometer to the west and Island Lake is 1.5 kilometers distant to the west-southwest.

The surface of the site is covered by a thin vegetation mat comprised of grasses, moss, lichen, and low herbaceous plants as well as scattered patches of dwarf birch and willow. Numerous large and small boulders are present as well as some bedrock and mineral soil exposures.

The view from the site is excellent encompassing the entire Oolah Valley as far north as Itkillik Lake and south to the Continental Divide.

The site is located on the central portion of the ridge and consists of two localities. Locality #1, located 13 meters from datum on a bearing of 208° mag., consists of a thin sporadic scatter of gray, green, and black chert flakes covering an area of roughly 14 meters². The flakes were observed on and embedded in the surface. No subsurface testing was undertaken.

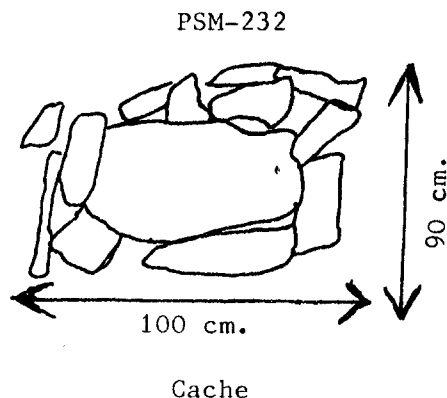
Locality #2 lies 10 meters from datum on a bearing of 360° mag. and consists of a single cultural feature. This feature is a rectangular arrangement of large (average 30 x 40 cm.) stone slabs leaning against and surrounding a larger (60 x 70 cm.) slab which is lying flat. The area covered by this feature is 90 x 100 cm.

The feature appears to be a cache. The perimeter rocks lie against the central slab at angles of roughly 45° suggesting that what ever the cache once held has long since been removed.

Underneath the central slab four narrow slabs of rock were arranged as footings to level and support the central slab above the ground. The feature was photographed, sketched, measured, and then partially dismantled so that a small test excavation could be made at its center. The test pit yielded a small fragment of caribou rib. Soil stratigraphy in the test pit was comparable to that outside the feature suggesting that no aboriginal excavation had occurred. After examination the feature was returned to its original condition.

It is quite possible that there is no cultural association between the two localities at this site. The cache has a Nunamiut flavor to it while the lithic scatter may be considerably older.

The site's location suggests a hunting lookout or short term hunting camp. Site significance is of a local nature. The site does not appear to be threatened by any adverse impacts.



PSM-233

Site Elevation: 2500 ft	SE1/4, NE1/4 Section 2 T14S, R9E	Probable Site Type: Lookout
Site Age: Unknown	Uniat Meridian	Probable Cultural Affiliation: Unknown

The site is located on a prominent bedrock outcrop on the north side of an unnamed creek slightly less than a kilometer east of the Itkillik River. PSM-232 lies roughly a kilometer to the south-southwest of the site.

The view from the site encompasses the Oolah Valley from Itkillik Lake in the north to the Continental Divide in the south.

Much of the surface of the site is exposed bedrock, cobbles, and boulders. Some portions of the site are covered by a thin vegetation mat of grasses, lichen, moss and scattered dwarf birch and willow. Much of the surface is gently sloping.

Cultural material, consisting of gray, blue, black, and banded gray chert flakes was observed on surface thinly scattered over an area of approximately 15 meters². The majority of the cultural material was located on the southern end of the outcrop. No formal artifacts were observed and no subsurface testing was undertaken.

The site location and the cultural material present suggests the site served as a lookout. However, the lack of diagnostic artifacts precludes cultural or temporal assessment. The variety of lithic material suggests that more than one occupational event occurred at the site.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

PSM-239

Site Elevation: 2480 ft	NE1/4, NW1/4 Section 2 T14S, R9E	Probable Site Type: Camp/Lookout
Site Age: Unknown	Uniat Meridian	Probable Cultural Affiliation: Unknown

The site is located on a section of old river terrace on the west side of the Itkillik River roughly 1.5 kilometers northeast of Island Lake. The east face of the terrace descends steeply to the river 10 meters below.

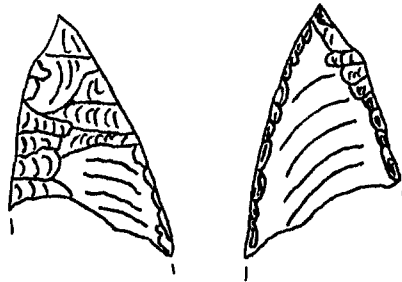
The surface of the site is roughly 80% vegetated by a thin mat of grass, moss, lichen, low herbaceous plants and scattered dwarf willow. The view from the site is excellent encompassing the entire Oolah Valley for a distance of 7 kilometers to the north and south.

Cultural material at the site, consisting of gray, green, black, white, and blue chert and obsidian waste flakes, was observed on surface scattered over an area of roughly 20 meters². The obsidian flakes were concentrated in the northeast portion of the site. A single formal artifact, a knife fragment was also observed on surface. No subsurface testing was undertaken and the possibility of subsurface cultural material being present is moderately high.

The variety of the lithic material suggests that more than a single occupational event occurred at the site. The lack of diagnostic artifacts does not allow temporal or cultural assessments to be made however, the obsidian may produce a hydration date. The site's location suggests that it served as a lookout and or a camp site.

Site significance is of a local nature. The site does not appear to be threatened by any adverse impacts.

DRAFT



Knife or Sideblade Fragment - Chert

PSM-239 Artifact - Actual Size

MAP AREA # 7

ITKILLIK RIVER/OOLAH VALLEY: INIKAKLIK CREEK TO ITIKMALAK RIVER

Camp #11 August 7-18

As previously mentioned we arrived at this camp via helicopter on August 7. The camp was located on the southeastern shore of Itkillik Lake on a location that has been used as an expedition campsite since the original North Slope government petroleum exploration activities in the late 1940's.

All survey work out of this camp was conducted by helicopter as most of the area within a two mile radius of the lake had been well surveyed in 1976 (see Kurz and Spearman this volume). Room and board for our helicopter was provided at the Bureau of Land Management facility at Galbraith Lake roughly 14 miles to the east. The helicopter would fly over from Galbraith Lake in the morning, work with us all day, and return to Galbraith in the evening.

Ten days were spent working out of this camp surveying an area of roughly 6 square miles. A total of 30 sites were located, two of which were outside of the park and preserve.

Almost all of the archeological sites in this locale were located on stagnant ice glacial features such as kames, kame terraces, and eskers; such features are common in this area. These sites can be divided into two groups, prehistoric and late prehistoric/contact period.

The majority of the prehistoric sites are small and of the hunting lookout variety. A few larger sites are also present. One such site located roughly 2 miles west of Itkillik Lake exhibits evidence of multiple occupational events over roughly the last 4000 years. All of the occupations appear to have been by cultures of the Eskimo Continuum.

There is also evidence of possible Athapaskan Indian occupation of at least one or two sites in the area. These sites were probably occupied ca. 300 years ago.

A number of contact period sites were found along the Itikmalak River. The sites consisted of scattered tent rings and isolated inuksuk which are evidence of area use by Nunamiut Eskimo over the last 200 years. Ethnographic information indicates that a large spring camp existed near the mouth of the Itikmalak. However, no physical evidence of such a camp could be found.

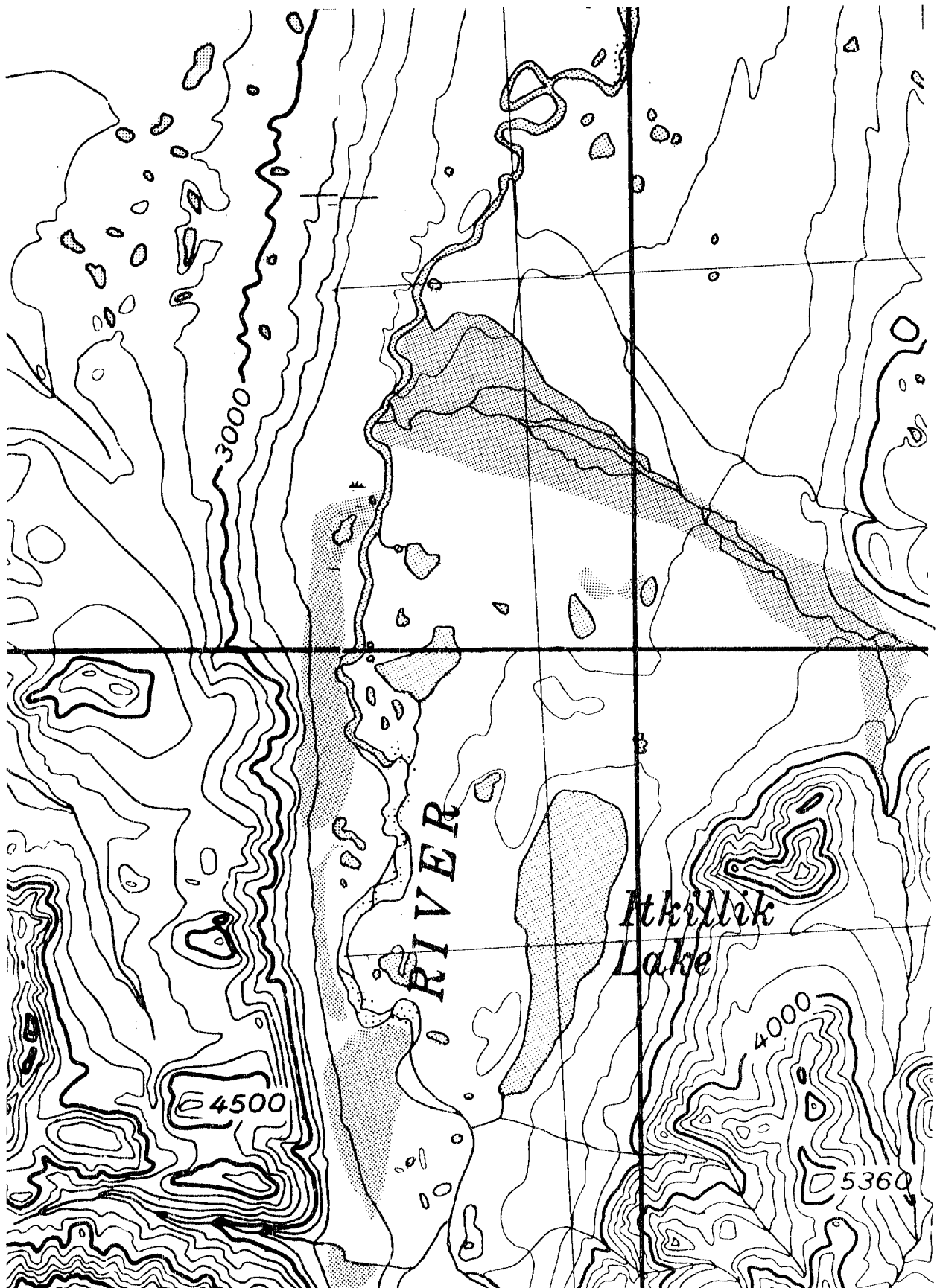
A few recent recreational and hunting camps were also located in the area, most of which appear to have been used during the past 20-30 years.

During the 26 days which were spent surveying in the Oolah Valley, a total of 74 archeological sites were located. With only one or two exceptions all of these sites appear to be directly associated with game procurement activities. Only a few of these sites are larger than small camps. The few large sites appear to be base camps which have been occupied numerous times over the last 4000 years primarily by Eskimo groups.

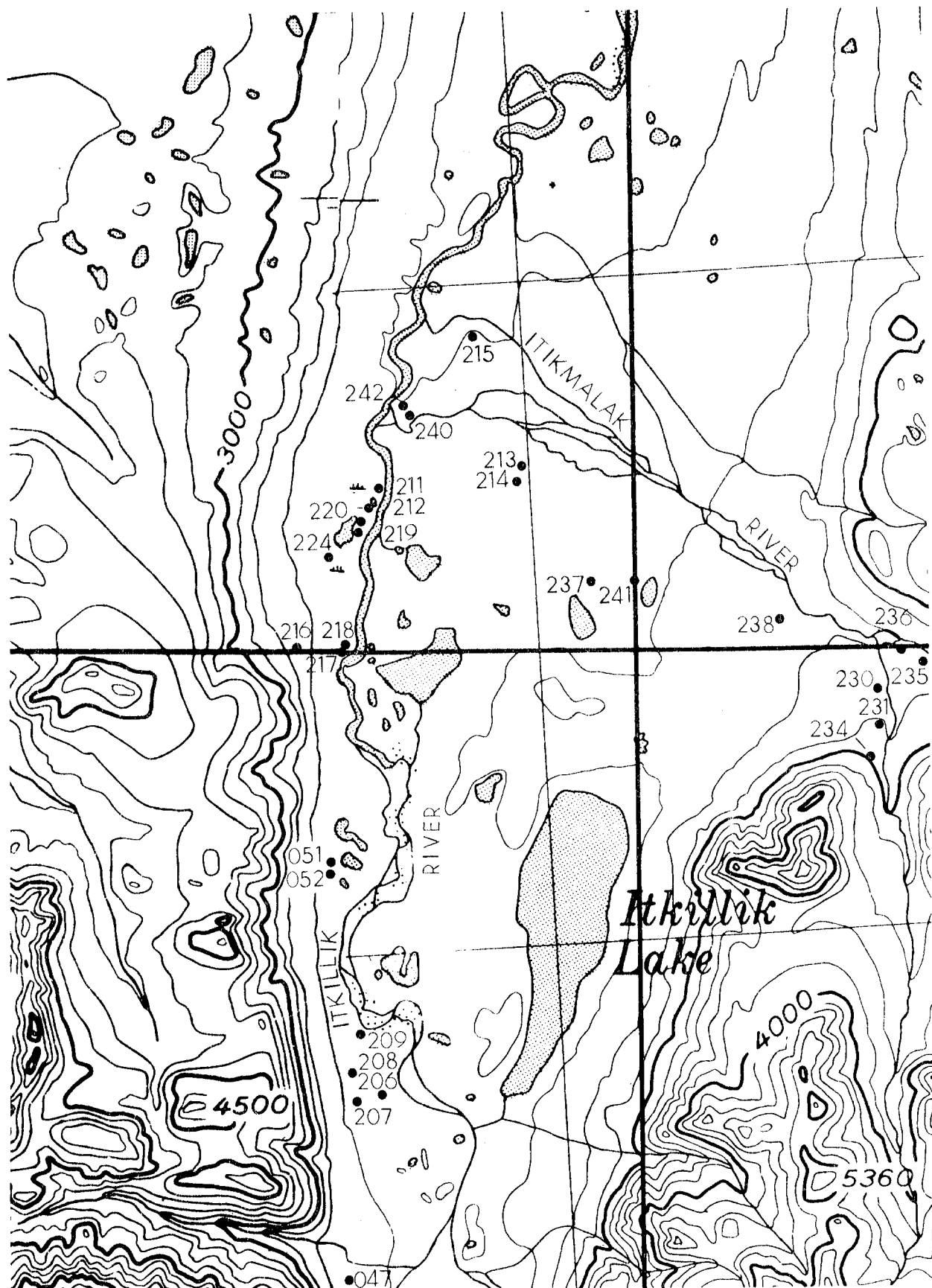
Although, no definitive evidence was found to indicate area use prior to about 4000 years ago such evidence was noted during the Itkillik Lake Survey undertaken in 1976 (see Kunz and Spearman this volume). One seasonal village site, probably turn of the century Ulumiut Eskimo, was located on Ulutagiak. There is an excellent possibility that other seasonal village sites exist in the area.

Departure from Camp #11 marked the end of the 1984 field season. During the 74 days that were spent in the field a total of 180 archeological sites were located, examined, and recorded in over 1200 pages of handwritten notes.

DRAFT



Shaded Area = Surveyed Area
- 212 -



6 miles
- 213 -

XCL-047

Site Elevation:
2600 ft.

SW1/4, SW1/4
Section 36
T12S, R9E

Probable Site Type:
Overlook

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

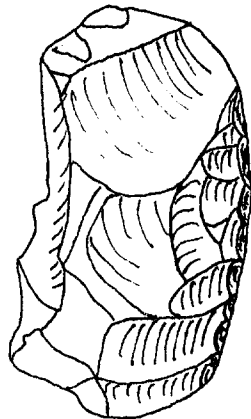
This site is located approximately 300 meters west of Inikaklik Creek on a prominent, rounded knoll. Situated nearly 100 meters south of the north branch of Inikaklik Creek, this 25 meter high glacial knoll overlooks the gently sloping Oolah Valley and the Itkillik River for a distance of at least 8 kilometers to the north, east, and south.

Vegetation at the site consists of grasses and a few willows growing in recently churned soil. The surface of the knoll appears to suffer a good deal from frost and wind action as large areas are churned and unvegetated. Recent rodent burrowing and subsequent grizzly bear excavations are also evident. The vegetation surrounding the knoll is sedge/tussock tundra.

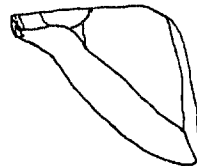
The site was found by surface observation of lithics. A number of chert flakes of various colors including grey and green/black banded and a single flake of rhyolite were located on the promontory of the knoll. A grey chert scraper was associated with the flake cluster. A few meters south of the scraper was a green chert flake that appears to have been used as a graver. The great majority of the cultural material occupies the southern half of the knoll and is probably related to a single event. No subsurface testing was conducted.

Based on the location and material, it appears that this site represents a hunting lookout. The scraper and possible graver suggest butchering or or meat processing may have occurred at the site. Clearly this knoll provides a commanding view of the local area and would have been advantageous to hunters observing game passing north/south on the west side of the Oolah Valley. The lack of diagnostic artifacts precludes any cultural or temporal assessment.

Site significance and research potential are low. At present the site does not appear to be threatened by any adverse impacts.



Scraper - Gray Chert



Graver - Gray Chert

XCL-047 Artifacts - Actual Size

PSM-206

Site Elevation: 2400 ft.	NW1/4, NE1/4 Section 27 T12S, R9E	Probable Site Type: Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

The site is located on the western side of the Itkillik River approximately 4 kilometers west of the south end of Itkillik Lake. The site, which occupies a glacial knoll which is located almost 200 meters southwest of the Itkillik River and overlooks a small creek. The view from the site encompasses at least 2 kilometers in all directions.

Vegetation consists primarily of grasses, low herbaceous plants, and willow. Wind erosion and frost action are the two main causes of exposed mineral soil at the site.

The site was discovered by surface reconnaissance. More than 25 black, green, and dark green chert flakes were found in an eroded area on the knoll's eastern slope. No other cultural material was observed and no subsurface testing was conducted at this site.

The site's location suggests it served as a lookout. However, the lack of diagnostic artifacts precludes cultural or temporal assessment. The variety of lithic material may indicate that more than one occupational event occurred at the site.

Site significance appears to be low as does the research potential. At present the site does not appear to be threatened by any adverse impacts.

PSM-207

Site Elevation: 2400 ft.	SE1/4, SW1/4 Section 22 T12S, R9E	Probable Site Type: Lookout/Camp
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Eskimo

The site is located approximately 300 meters west of the Itkillik River and 2.5 kilometers northwest of the south end of Itkillik Lake. Situated on a broad, rounded knoll, the site sits nearly 30 meters above the river. The view from this site is at least 8 kilometers in all directions. A small, unnamed creek flows almost 200 meters south of the site. PSM-208 is located approximately 200 meters to the north.

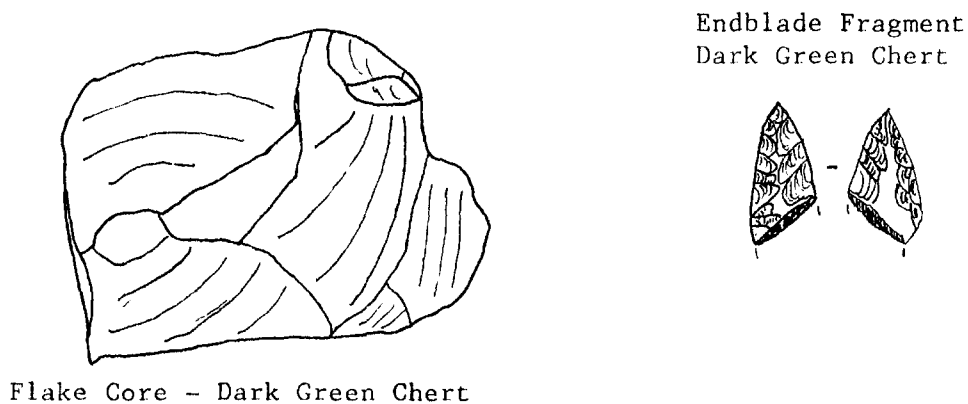
Vegetation at the site consists of grasses, lichens, moss, and low woody and herbaceous plants. Several game trails cross the knoll and suggest frequent game movement through this area. Frost action and wind have had

noticeable effect on the surface of the site resulting in partially unvegetated surface conditions. A very large glacial erratic sits on the north end of the knoll and could have been used as a wind break or a hunting blind.

The site was located as the result of surface reconnaissance. Various colors of chert artifacts and flakes were found in two distinct locations, roughly 30 meters apart. At the northernmost locality a dark green chert endblade fragment was found associated with a cluster of gray and black waste flakes. Nearly 37 meters southeast of this locus a dark green chert flake core and associated waste flake scatter was found. In both localities the cultural material covered an area of no greater than 2 meters².

It appears that the two locations at this site represent different occupational events given their spatial separation and difference in lithic material. However, the lack of truly diagnostic artifacts precludes cultural or temporal assessment. The endblade fragment is typical of artifacts found among cultures of the Eskimo Continuum and indicates the site was occupied at least once during the last 4000 years.

The site's location suggests that it served as a hunting lookout and/or a short term hunting camp. Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.



PSM-207 Artifacts - Actual Size

PSM-208

Site Elevation:	NE1/4, SW1/4	Probable Site Type:
2400 ft.	Section 22	Lookout
	T12S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located approximately 150 meters southwest of the Itkillik River and nearly 2 kilometers northwest of the south end of Itkillik Lake. Located upon on a terraced knoll, the site looks east over a braided section of the Itkillik River and over the rolling tundra hills to the west. The view from this site is at least 8 kilometers in all directions. PSM-207 is located approximately 200 meters to the south while PSM-206 is situated nearly 250 meters to the southeast.

Vegetation at the site consists of grass, sedge, moss, lichen willow, and dwarf birch. Poorly drained tussocky areas lie to the east and west of the site. The surface of the site is somewhat undulating and uneven. Wind and frost action have combined to produce some unvegetated areas scattered about the surface of the knoll.

The site was located as a result of surface reconnaissance identifying two flake scatters located about 20 meters apart. One scatter on the southern end of the knoll consisting of about six flakes of green and gray chert in an area 3 meters². The other flake scatter, located just off the promontory of the knoll, consisted of ten dark green chert flakes and covered an area roughly 2 meters².

No diagnostic artifacts were found at the site, therefore, no cultural or or temporal assessment can be made. Based on the paucity of material and the site's location it appears the site served as a hunting lookout. The variety of lithic material may indicate that more than one occupational event look place.

Site significance is low and of a local nature as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

PSM-209

Site Elevation:	NE1/4, SW1/4	Probable Site Type:
2400 ft.	Section 22	Lookout
	T12S, R9E	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

The site is located on a terrace knoll on the southwest bank of the Itkillik River approximately 2 kilometers northwest of the southern end of Itkillik Lake. The site extends sporadically for roughly 75 meters along the northeast-southwest trending knoll. The view extends for at

least 8 kilometers in all directions and includes the braided river channels of the Itkillik to the north, east, and southeast and the rolling tundra to the west and south. PSM-208 is located approximately 150 meters south of this site.

Vegetation at the site consists grasses, lichen, moss, low woody and herbaceous plants and dwarf birch. The surface of the knoll is partially unvegetated due to frost and wind action as well as game movement. There are several game trails crossing the site, which may be indicative of heavy game movement through the area. The surface of the knoll is somewhat uneven and several small rills give the surface the appearance of a rolling plain. Some erosion in the small gullies between the rills is present.

The site was located as a result of surface reconnaissance. Sporadically scattered over the entire length of the knoll, a wide variety of chert flakes were observed including bluish/brown, light blue, black, grey, and pale green. A small concentration of pale green chert flakes was observed at the northern end of the knoll. No diagnostic artifacts were observed and, therefore, no cultural or temporal assessment can be made. However, the variety and range of lithic material scattered over the site suggests it supported a number of occupational events.

The site appears to have been used as a hunting lookout, and similarities with other nearby sites (PSM-206, 207, and 208) suggest they are all related culturally and temporally.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

PSM-216

Site Elevation: 2350 ft	NW1/4, NW1/4 Section 3 R9E, T12S	Probable Site Type: Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located along top of an esker on the west side of the Itkillik River roughly 3 kilometers south of the mouth of the Itikmalak River and 4 kilometers northwest of the northern end of Itkillik Lake. The site lies roughly 20 meters above the river level and offers an excellent view southward up the Oolah Valley. The site is located in an area of discontinuous vegetation which is dominated by grasses, sedges, and low herbaceous plants as well as isolated clumps of dwarf willow and birch. The ground has been disturbed by frost action and some solifluction is occurring down the slopes of the esker.

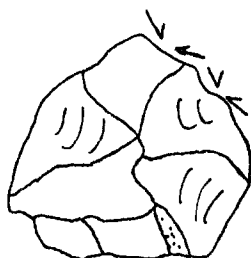
The site was located by visual inspection of the surface. Artifacts and flakes were found scattered over 90% of the surface of the esker. The

major cluster of cultural material is located towards the northern end of the site and covers an area of roughly 90 meters². Most of the cultural remains consist of flaking debitage. There is evidence for the reworking of bifaces and perhaps some secondary utilization. of flakes. Some flakes with cortex suggest primary cobble reduction; possibly cobbles from the nearby river. The lithic material is primarily gray chert but some basalt is also present. Burin-like blows are evident on some flakes. Two gravers and a crude scraper were the only tools found at the site.

The lack of diagnostic artifacts precludes cultural or temporal assessment. However, the variety of lithic material may indicate that more than a single occupational event occurred at the site.

The site's location as well as the cultural evidence suggests that the location served as a hunting lookout and flaking station. Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

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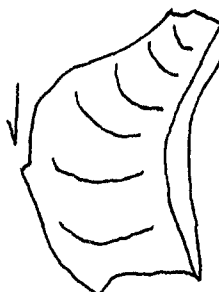
Graver - Basalt



Scraper - Gray Chert



Graver - Basalt



Burinated Flake - Chert

PSM-216 Artifacts - Actual Size

PSM-217

Site Elevation:
2350 ft

NW1/4, NW1/4
Section 3
R9E, T12S

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

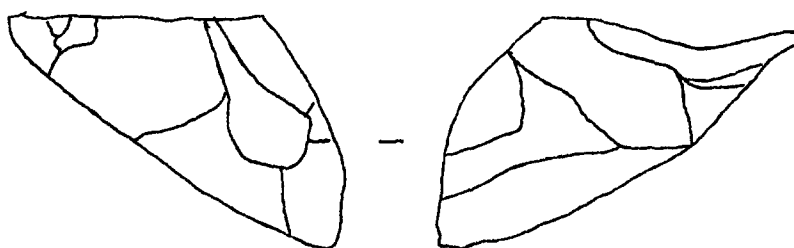
This site is located on the north end of a large esker on the west side of the Itkillik River. The site lies roughly 100 meters west of the river and 120 meters northeast of PSM-216. Itkillik Lake lies roughly 3 kilometers to the southeast. Vegetation at the site can best be described as discontinuous or patchy and includes grasses, sedges, lichen, low herbaceous plants and clumps of dwarf birch and willow. Some areas of the site have been disturbed by frost action. The view from the site is limited to a radius of less than 3 kilometers.

The site was located through visual inspection of the surface and consists of a small flake scatter and a biface fragment. Cultural material, consisting entirely of gray chert, was scattered along the northernmost 5 meters of the esker. Cultural material was observed on and protruding from the surface of the site suggesting that subsurface cultural material may be present.

The lack of diagnostic artifacts precludes cultural or temporal assessment. Additionally, the homogeneity of the lithic material may indicate that only one occupational event occurred at the site.

The site's location as well as the cultural evidence suggest that the location served as a hunting lookout and flaking station. Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impact.

Biface Fragment - Gray Chert



Primary Burin Spall - Gray Chert



PSM-217 Artifacts - Actual Size

PSM-218

Site Elevation:
2350 ft

SE1/4, SW1/4
Section 34
R9E, T11S
Umiat Meridian

Probable Site Type:
Lookout

Site Age:
Unknown

Probable Cultural
Affiliation: Unknown

This site is located 30 meters west of the Itkillik River on the same esker as PSM-217. The site is located near the southern end of the esker near the confluence of the Itkillik River and an unnamed slough. The northern end of Itkillik Lake lies slightly more than 3 kilometers to the southeast. The surface of the site is sporadically vegetated by grasses, sedges, lichen, low herbaceous plants, and dwarf birch and willow. The site offers a good view of the river and lake to the east as well as up and down the Oolah Valley.

The site was located through visual inspection of surface and consists of a small scatter of black and gray chert and a graver. Most of the lithic material was observed in a 3 meter² area at the southern end of the site.

The lack of diagnostic artifacts precludes cultural or temporal assessment. However, the variety of lithic material may indicate that more than one occupational event occurred at the site.

The site's location as well as the cultural evidence suggests that the location served as a hunting lookout and flaking station.

Site significance and research potential can be considered low. At present the site does not appear to be threatened by any adverse impacts.



Graver - Black Chert

PSM-218 Artifact - Actual Size

PSM-219

Site Elevation:
2100 ft

SE1/4, SW1/4
Section 27
R9E, T11S

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located atop an esker which borders the east shore of a small lake on the west side of the Itkillik River. The confluence of the Itikmalak and Itkillik Rivers lies roughly 2 kilometers north of the site while the Itkillik River itself lies 400 meters due east of the site.

The top of the esker is vegetated by lichen, grasses, low herbaceous plants, and scattered dwarf birch and willow. The vegetation is discontinuous along the slopes producing many areas of exposed mineral soil. View is excellent both up and down the Oolah Valley and is oriented more towards the river itself or the eastern portions of the valley.

The site consists of two localities here referred to as north and south. The southern locality represents the major clustering of cultural material while the northern locality contains only twelve flakes. Artifacts are eroding from the slope so proveniency is lost although, much of the material is still partially buried.

All of the cultural material in the southern locality are gray chert waste flakes. A few of the flakes appear to have been utilized and two display some cortex. This flake concentration extends 2.5 meters downslope and 5 meters along the slope in a north south orientation. About 7 meters to the south of this concentration is a single black chert flake and 4 meters beyond that a small concentration of gray chert flakes. The main scatter of cultural material in the locality is comprised totally of gray chert flakes.

The northern locality consists of about a dozen gray chert flakes of various sizes. Cultural material in the locality is not directly eroding onto the slope but were found in frost disturbed ground 5 meters east of the slope edge.

Although somewhat disturbed, the site has reasonable potential for subsurface material. The site probably served as a hunting lookout. The lack of diagnostic artifacts precludes any cultural or temporal assessment.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impact.

PSM-220

Site Elevation:	NE1/4, SW1/4	Probable Site Type:
2100 ft	Section 27	Lookout
	R9E, T11S	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on same esker as PSM-219 but is 40 meters further north at northwestern most point of ridge. The view is similar to PSM-219. Vegetation is also basically the same except more continuous and with more willows.

The site was located as the result of surface reconnaissance. Surface finds consist of two flakes and one basalt uniface scraper. A 25 cm² test pit was excavated next to the scraper and yielded flakes of gray-green chert 2-3 cm. below surface.

The site's location suggests that it served as a lookout. The lack of diagnostic artifacts precludes cultural or temporal assessment. Most of the site appears to have eroded away.

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PSM-224

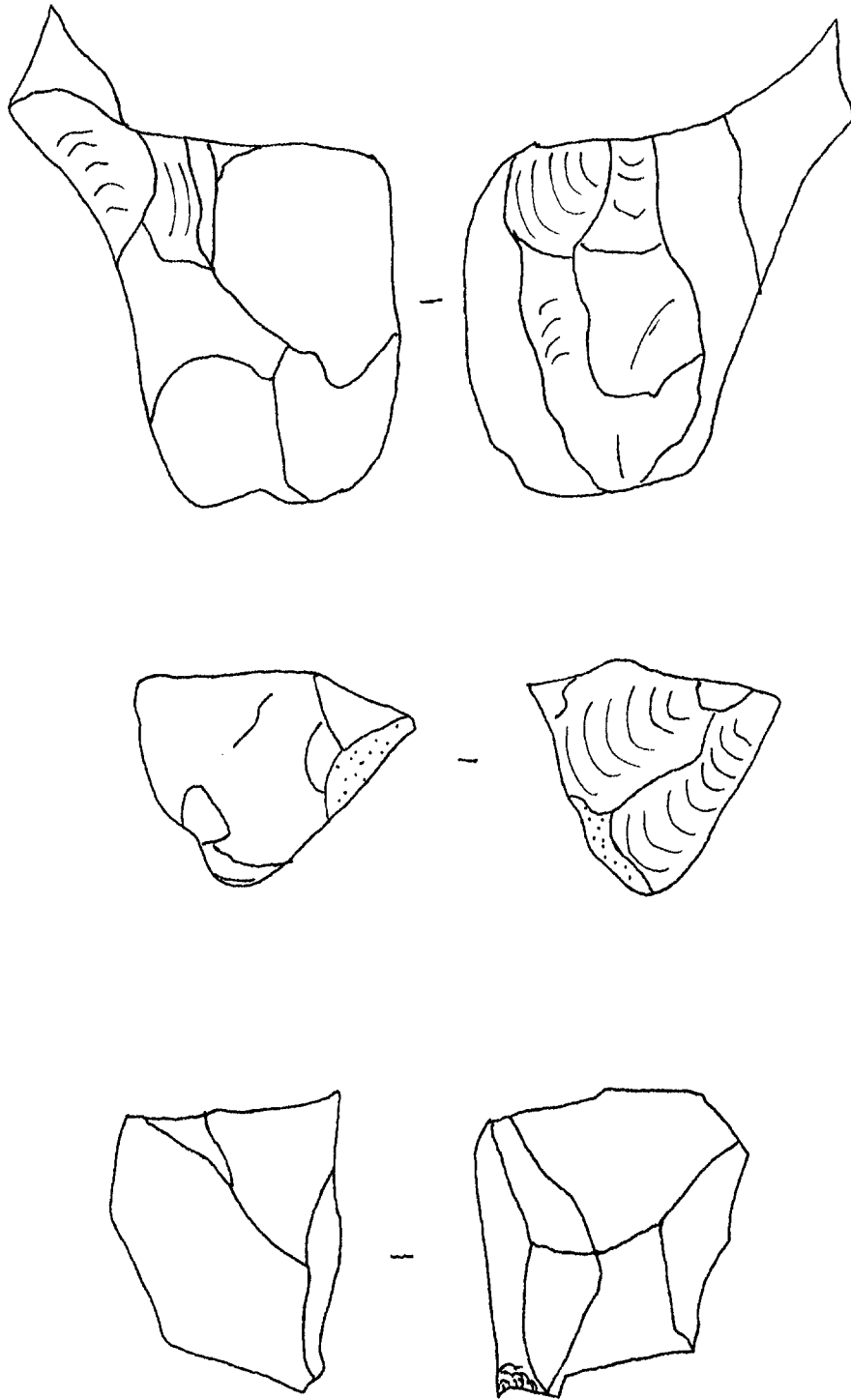
Site Elevation:	SE1/4, SW1/4	Probable Site Type:
2100 ft	Section 27	Lookout
	R9E, T11S	
Site Age:	Umiat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located on the southern end of southernmost set of eskers that lie to the west of the unnamed lake near which sites PSM-220 and 219 lie. The site provides a good view of the lowlands to west of the ridges that immediately border the Itkillik River. The surface of the site is discontinuously vegetated with grasses, sedges, lichen, low herbaceous plants, and scattered patches of dwarf birch and willow. Mineral soil exposures are common along the sloping sides of the esker.

The site consists of two flake scatters, one at the southern edge of the site the other on the east. The material is gray chert, some of which is of poor quality. The eastern scatter covers 5 meters east-west by 4 meters north-south (downslope). The southern scatter lies on an eroding slope and consists of a dozen or more gray chert flakes. Two large chunks of chert, which may be flake core fragments, are associated with the flakes.

The site's location suggests it served as a lookout. The lack of diagnostic artifacts precludes any cultural or temporal assesement. Site significance and research potential appear low. The site appears to have almost completely eroded away.

Core Fragments - Chert



PSM-224 Artifacts - Actual Size

PSM-211

Site Elevation: 2100 ft	SW1/4, NE1/4 Section 27 R9E, T11S	Probable Site Type: Camp
Site Age: Late 19 th Century Early 20 th Century	Umiat Meridian	Probable Cultural Affiliation: Nunamiut Eskimo

The site is located on top of a ridge bordering the Itkillik River which lies less than 200 meters to the east and 400 meters to the north from outlet of unnamed lake around which sites PSM-219 and 220 are located. The ridge is of glacial-fluvial origin unlike the ridges further away from the river. The ridges bordering the river are composed of sand or very fine sandy gravel. These sediments are highly susceptible to solifluction and slump features are quite evident on this ridge. The site offers a good view of Itkillik Lake and to the south up the Qolah Valley.

Vegetation cover at the site is fairly continuous except in local areas of frost boils or soil slumps. Vegetation consists of grasses, sedges, lichen, and low herbaceous plants, as well as dwarf birch and willow.

The site consists of two tent rings, both of which are roughly 3 meters in diameter. The rings are located roughly 10 meters apart. The more northerly of the rings is being exposed as a result of frost action. Some of the tent ring stones however, are almost totally covered by vegetation. The more southerly ring has also been disrupted by frost action but less so than the northern one. No evidence of surface artifacts or other structures was apparent.

Stone tent rings of this apparent age and type are attributable to the Nunamiut Eskimo of the last 200 years. It is reasonable to assume that the site was occupied during the non-snow months, although, it is impossible to determine if the tent rings are the result of contemporary occupations.

Site significance and research potential are low as tent rings are notoriously devoid of cultural remains. Other than the disturbance of frost action the site does not appear to be threatened by any serious adverse impacts.

PSM-212

Site Elevation: 2100 ft	SW1/4, NW1/4 Section 27 R9E, T11S	Probable Site Type: Camp
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located in erosion gullies on a ridge on the west shore of a thaw lake that separates this ridge from the ridge that PSM-211 is located on. The origin of and the materials which make up this ridge appear

identical to those of the PSM-211 ridge. Vegetation in the site area consists of grasses, sedges, lichen, low herbaceous plants, and scattered dwarf birch and willow. The gullies are not vegetated. At present the views from the site are very limited. However, the gullies do provide excellent shelter and may, if they existed prior to the deposition of the culutral material, may be the reason for the location of the site.

The site area consists of five localities scattered over a series of gullies which have resulted from solufuction and frost heaving. Locality #1 lies 15 meters north and 10 meters west of the southwest corner of the lake and consists of a single gray chert fragment. In the gully immediately to the west of locality #1 and 7-10 meters south is locality #2. Locality #2 consists of a deflated hearth containing fire-cracked rock, one chert fragment and, nearby, a caribou long bone. Locality #3 is found in the next gully to the west roughly 6-7 meters west of locality #2. Locality #3 consists of bone fragments scattered south down the gully and a single piece of chert. Locality #4 is about 15 meters southwest of locality #3 in another gully and contains more bone fragments. Locality #5 is in a small gully to the southeast of locality #3 and contains a gray chert flake and more bone. The site thus seems to cover roughly 30-35 meters in north-south direction and 20-25 meters east-west.

The site's location and cultural remains suggest that it served as a camp site and possibly a game butchering location.

The lack of diagnostic artifacts precludes temporal or cultural assessment. However, in this region of Alaska sand dune sites of this nature are often attributable to Athapaskan occupation and rarely exceed 300 years in age. This site appears to be quite similar to PSM-052 located at the confluence of Itkillik Lake's outlet stream and the Itkillik River and site PSM-074 near the confluence of the Galbraith Lake outlet stream and the Atigun River. Both of these sites have been attributed to Athapaskan occupation.

Site significance is low except in a local sense due to its disturbed nature. The site does not appear to be threatened by any additional adverse impacts.

PSM-213

Site Elevation:
2165 ft

SW1/4, NE1/4
Section 26
R9E, T11S

Probable Site Type:
Lookout

Site Age:
500-100 years B.P. *

Umiat Meridian

Probable Cultural
Affiliation: Lake Prehistoric-
Recent Eskimo

The site is located on an outwash knoll 1.5 kilometer southwest of the confluence of Itkillik and Itikmalak Rivers. The knoll provides an excellent view in all directions being essentially unlimited to both the

north and south. Vegetation cover on the knoll is more or less continuous except for scattered, small areas of exposed mineral soil due to frost heaving and/or slumping. Vegetation consists of a healthy mat of grasses, sedges, lichen, low herbaceous plants, and scattered dwarf birch and willow.

The site was located through visual inspection of the surface. Along the top of the knoll is what appears to be an old inuksuk line consisting of fallen piles of rock and, in some cases, near by flake scatters. On the southern slope of the knoll are two distinct clusters of flakes that seem to indicate a fairly complete reduction sequence.

The first inuksuk in the line is made up of six small boulders in an arrangement that suggests they were once piled atop one another. Six meters to the southwest a single dark gray chert flake was found. The second group of inuksuk rocks lies 40 meters due north of the first inuksuk and consists of a group of about 20 small boulders that appear to have once been in a pile or stack. A depression, which may or may not be cultural in origin is near the inuksuk rocks. Seven meters due south of the inuksuk is a small cluster of gray chert flakes, portion of a crude biface, and one triangular shaped flake on which the thick end has been bifacially worked. The third fallen pile of inuksuk rocks lies roughly 80 meters north of the second and is mostly covered by vegetation. Within 2 meters of this inuksuk is a small scatter of about 20 flakes of gray chert. A fourth possible inuksuk lies 10 meters downslope and north-northeast of the third inuksuk. This feature contains 30-40 rocks of various sizes and may be fortuitous in origin the result of hillside slumping. Both inuksuk 2 and 3 provide good views up the Itikmalak and down the Itikillik.

Two isolated flake clusters lie roughly 15 and 25 meters southwest of the first inuksuk. Both clusters contain roughly 10 gray chert flakes and cover an area of no more than 2 meters². This cultural material was observed in mineral soil exposures caused by frost heaving suggesting the presence of subsurface cultural material.

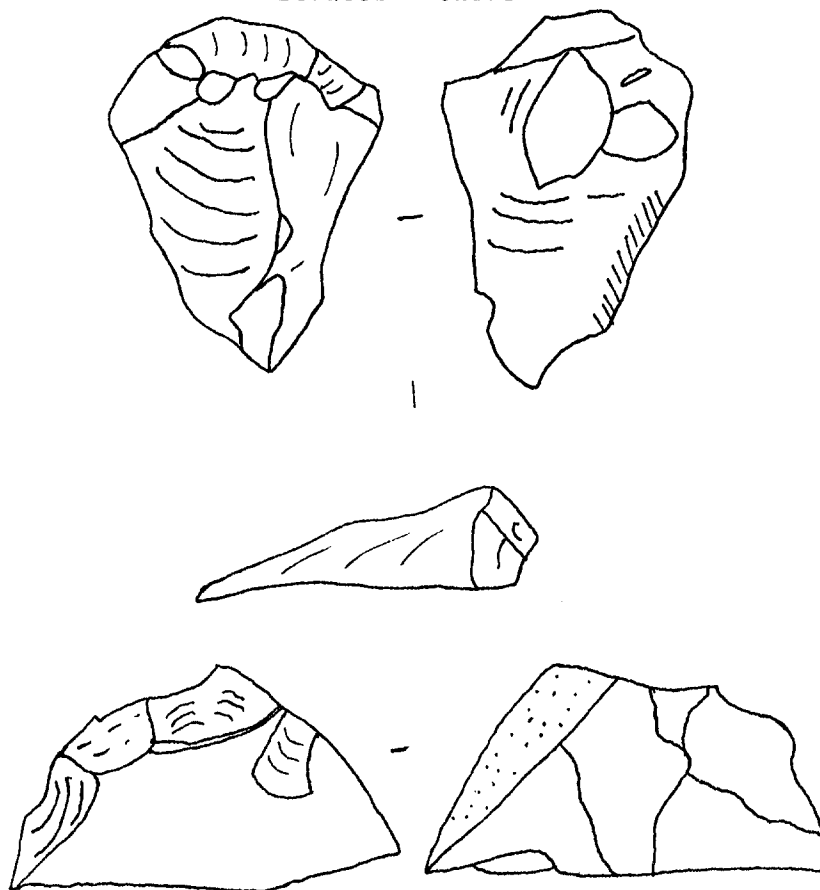
Visible inuksuk are most often considered to be associated with Nunamiut Eskimo hunting activities dating from the recent past. These inuksuk are, however, somewhat atypical in structure and while not of great antiquity appear older than one or two hundred years. Additionally, inuksuk are rarely found in association with other cultural material.

The waste flake scatters may or may not be associated with the inuksuk but the homogeneity of the material suggest the flakes represent a single occupational event.

The site's location and cultural evidence suggests that it served as a hunting lookout probably utilized by a late prehistoric/recent Eskimo group.

Site significance is low and of a local nature as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

Bifaces - Chert



PSM-213 Artifacts - Actual Size

PSM-214

Site Elevation:
2150 ft

SE1/4, SE1/4
Section 26
R9E, T11S

Probable Site Type:
Lookout/Flaking Station

Site Age:
Unknown

Umat Meridian

Probable Cultural
Affiliation: Unknown

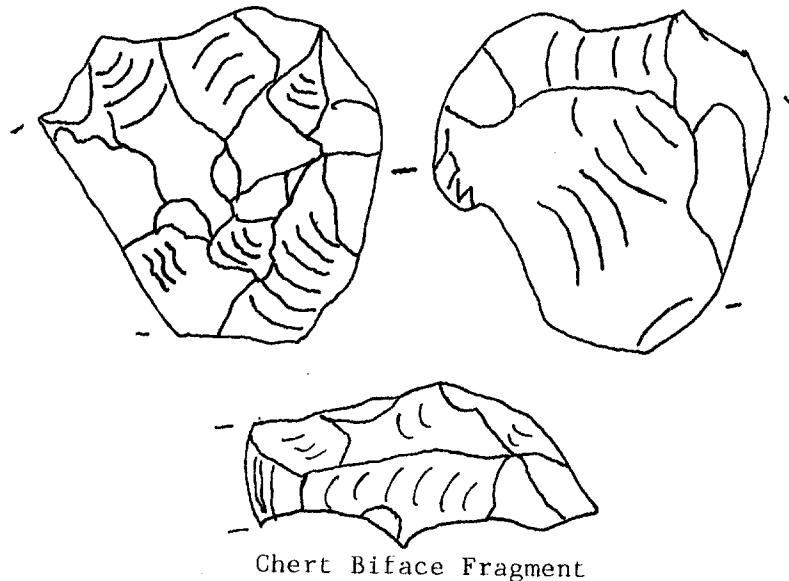
This site is located roughly 150 meters south of PSM-213. The site is located on a finger of high ground that extends down the southern flank of the knoll upon which PSM-213 is located. The knoll provides an excellent view in all directions encompassing the local area for a radius of at least 5 kilometers. The surface of the site is 80% vegetated by a healthy mat of grasses, sedges, lichen, low herbaceous plants, and scattered dwarf birch and willow. Small mineral soil exposures are scattered about the site area.

The site consists of lithic scatters protruding from mineral soil exposures. The cultural material appears to cover an area of 10 meters east-west by 6 meters north-south extending up and down slope. The general scatter of cultural material is fairly continuous over the site area but seems densest on the eastern side. There are literally hundreds of chert flakes of various colors, including dark gray, light gray, bluish gray, green, and green and black banded as well as several crude biface fragments.

It appears that a fairly complete lithic reduction sequence has occurred in the eastern side of the site.

The site's location and the cultural evidence suggests the site served as a hunting lookout and tool manufacturing location. Although, no diagnostic artifacts were noted and, therefore, no temporal or cultural assessments can be made, the variety of lithic material suggests the site was utilized on many different occasions.

Site significance is low and of a local nature as is the research potential. At present the site does not appear to be threatened by any adverse impacts.



PSM-214 Artifact - Actual Size

PSM-215

Site Elevation:
2205 ft

NW1/4, NW1/4
Section 23
R9E, T11S

Probable Site Type:
Lookout/Flaking Station

Site Age:
Unknown

Numiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located roughly 1.5 kilometers northeast of the center confluence of the Itkillik and Itikmalak Rivers. The site lies on the northern end of a knoll which is 2 kilometers north northwest of the knoll upon which sites PSM-213 and 214 lie. There are two major ridges in this area, the northernmost of which has two high spots with a saddle in between. The site is located on top and to the west side of the northern high point. Vegetation on the knoll is mostly continuous with only a few mineral soil exposures present. Vegetation consists of grasses, sedges, low herbaceous plants, and scattered dwarf birch and willow. The view from the highest elevation at the site provides excellent area coverage in all directions.

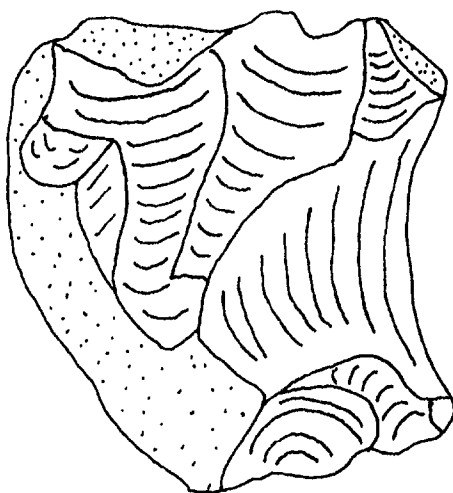
The site was located as the result of surface reconnaissance. There are two main areas of lithic concentration, one on the south and one on west slope. Southern area covers 2.5 x 2.0 meters and contains a wide range of reduction flakes all of light or dark gray chert. This assemblage is quite similar to other lithic debitage found in the Itikmalak-Itkillik area. Between this area and the western slope are a few scattered flakes of gray chert. Most of this area is vegetated and since exposed artifacts are eroding from subsurface it is likely that more material is present than these areas. There are also some bone fragments present but it is doubtful that they are associated with the lithics. There are probably 30-50 flakes visible on the southern locus.

The western area lies 12 meters west-northwest of the southern locus. Lithic debris is scattered over the slope and is part of a rock pavement formed by the slumping and erosion. Like the southern area there are a wide variety of flake sizes suggesting a nearly complete reduction sequence. The debitage is not as dense in the western area. A large flake core remnant is the only artifact of note.

The site's location and cultural evidence suggests it served as a lookout/flaking station similar to others in the area. The lack of diagnostic artifacts preclude any cultural or temporal assessment. However, the homogeneity of the lithic material may indicate the site was not often used.

Site significance is low and of a local nature as is the research potential. At present the site does not appear to be threatened by any adverse impacts.

Flake Core - Chert



PSM-215 Artifact - Actual Size

PSM-230

Site Elevation: 2700 ft.	SE1/4, NW1/4 Section 4 T12S, R10E	Probable Site Type: Lookout
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located approximately 6 kilometers northeast of the northern end of Itkillik Lake. Situated on a rounded knoll nearly 75 meters west of a north-flowing tributary of the Itikmalak River, the site sits almost 15 meters above this unnamed stream. The Itikmalak River, which flows 300 meters north of this site, is visible only in portions of its westward course. The view from the knoll includes all directions for roughly 1 kilometer. PSM-231 is located approximately 130 meters south of this site.

Vegetation at the site consists of grasses, lichens, and woody plants. The area surrounding the site is predominantly tussocks and poorly drained. The knoll's surface is fairly even and to some extent disturbed by frost action. There is some evidence of rodent burrowing at the site. The knoll appears to be very stable and provide a well-drained area relative to the surrounding tussocks.

The site was found through surface reconnaissance. A small cluster of dark green chert waste flakes were found on the northern edge of the knoll. A light green chert microblade fragment and another dark green chert waste flake were found near the center of the knoll. Neither the microblade fragment nor the flakes show any sign of use-wear or retouch. No subsurface testing was conducted.

The site appears to represent a lookout. Being the northernmost of a series of small knolls, this site probable represents hunting activity on the Itikmalak River. The microblade may suggest a minimum date for this site in the range of 2000 years B.P. Historic use of this knoll is suggested by the presence of a Prince Albert tobacco tin.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

PSM-231

Site Elevation: 2750 ft.	NE1/4, SW1/4 Section 4 T12S, R10E	Probable Site Type: Camp
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located approximately 50 meters west of an Itikmalak River tributary stream and almost 400 meters south of the Itikmalak. Itkillik lake lies roughly 6 kilometers to the southwest. The site is located on

a glacial knoll overlooking broad stretches of the Itikmalak drainage. The view potential from the site is about 2 kilometers in all directions. PSM-230 is located approximately 130 meters to the north and PSM-234 lies nearly 150 meters to the south.

Vegetation at the site consists of grasses and woody plants on the knoll top. The area around the site is poorly drained and dominated by sedge/tussocks. Willow grows along the stream bed at the eastern base of the knoll. Some frost action and rodent burrowing has disturbed some areas of the site.

The site was discovered through surface reconnaissance. Spread across two localities, the site consists of two waste flakes of light green chert at one locality and a tent ring at the higher locale. The lower knoll is nearly 5 meters across and a flake was found at either end. The tent ring, at the higher locus, is 2.5 meters in diameter and is situated at the northern end of the knoll. No lithics were found associated with the tent ring. No subsurface testing was conducted.

The site may represent two separate events. The tent ring suggests occupation of the site by Nunamiut Eskimos at some time during the past 150 years.

Site significance and research potential appear low. At present the site does not appear to be threatened by any adverse impacts.

PSM-234

Site Elevation:
2500 ft.

NE1/4, SW1/4
Section 4
T12S, R10E

Probable Site Type:
Lookout

Site Age:
150 years B.P.

Umiat Meridian

Probable Cultural
Affiliation: Nunamiut
Eskimo

The site is located on a glacial knoll nearly 20 meters west of a small stream which flows into the Itikmalak River approximately 300 meters to the north. Situated almost 6 kilometers northeast of the upper end of Itkillik Lake, the site occupies a broad knoll top almost 20 meters in elevation above the tributary stream. The view from the site is unlimited in all directions except to the south where it looks into the constricted stream valley. PSM-231 is located almost 150 meters north of this site.

Vegetation at the site consists of grasses, lichens, and woody plants. The areas around the knoll are less well drained and are dominated by tussocks. Willow grows at the base of the knoll and along the tributary stream. The surface of the site is partially unvegetated due to frost action and rodent burrowing. Several large boulders are scattered across the knoll top.

The site was discovered through the observation of surface lithics. A scatter of dark green chert waste flakes was located at the southern edge of the knoll and a single, light green chert waste flake was found on the knoll's eastern edge. At the southwest end of the knoll two tent rings were discovered. The rings were almost 2.5 meters in diameter and situated approximately 3 meters apart. The easternmost ring was partially buried in the vegetation, which suggests some antiquity. No subsurface testing was done.

Based upon the tent ring's, location and lithics, it appears that the site represents a hunting lookout and camp. It is unknown if the lithics and tent rings are contemporary. The several sites along this western bank of the tributary stream point to concentrated use of these knolls probably associated with travel, hunting, and camping. Most of these locations provide an excellent view of game moving both over the tundra and in the mountains to the south. The tent rings suggests occupation by Nunamiut Eskimos during the last 150 years.

Site significance and research potential are low. At the present time the site does not appear to be threatened by any adverse impacts.

DRAFT

PSM-235

Site Elevation:
2700 ft.

NW1/4, NE1/4
Section 4
T12S, R10E

Probable Site Type:
Lookout

Site Age:
c.a. 2000 years B.P.

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located approximately 75 meters south of the Itikmalak River and nearly 7 kilometers northeast of the upper end of Itkillik Lake. Situated on a high, prominent knoll, the site offers an unlimited view up and down this section of the Itikmalak River. Placed in mid-valley the knoll, which stands almost 30 meters above the valley floor is unique for its observation potential. PSM-236 is located almost 200 meters west of this site.

Vegetation at the site consists of grasses and lichens and some low herbaceous plants. The area around the knoll is poorly drained and is dominated by tussocks. The knoll itself has experienced a good deal of frost and wind action and has large areas of exposed mineral soil. Some rodent burrowing is also evident at the site. The knoll surface is fairly even and covers an area approximately 45 meters.

The site was discovered through surface reconnaissance. At the southern end of the knoll a large, grey chert blade was found. This artifact did not show any signs of retouch or use-wear. At the northern end of the knoll, and nearly 30 meters from the blade, two microblade fragments were located. One proximal fragment of a light purplish/gray chert had light use-wear along both margins. In addition to these artifacts a blue/gray chert flake was discovered on the northeastern edge of the knoll.

The site appears to represent a hunting lookout. Based upon the presence of the microblade, the site have a minimum age of 2000 years B.P. The spatial distance, size, and color difference suggest that the blade and microblade fragments represent separate occupational events. In any case, the knoll presents a unique topographical advantage for hunters in this section of the Itikmalak drainage.

Site significance and research potential appear low. At present the site does not appear to be threatened by any adverse impacts.

PSM-236

Site Elevation:
2600 ft.

NE1/4, NW1/4
Section 4
T12S, R10E
Uniat Meridian

Probable Site Type:
Lookout

Site Age:
150 years B.P.

Probable Cultural
Affiliation: Nunamiut
Eskimo

The site is located approximately 100 meters south of the Itikmalak River and 6 kilometers northeast of the upper end of Itkillik Lake. Situated on a serrated terrace edge overlooking the Itikmalik River, the site sits nearly 20 meters above the River. The view potential from the site is almost a kilometer to the east and is essentially unlimited in all other directions. PSM-235 is located nearly 200 meters east of this site.

Vegetation at the site consists of grass and woody plants. A good deal of tussocks are presnet in the poorly drained area south of the terrace. The terrace edge itself is fairly unvegetated due to frost action and/or game movement. It appears that a good deal of erosion is occurring at this point on the terrace, creating the serrations.

The site was discovered through surface observation of lithics. A small scatter of green chert waste flakes was located on the northeastern part of the site. Additionally, a toppled pile of cobbles was located approximately 10 meters south of the flake scatter. The cobbles may represent an old inuksuk. No subsurface testing was initiated.

Based on the homogeniety and location of the lithics, it appears that this site represents a single event. The site appears to have served as a lookout. There is no evidence that the inuksuk and lithics are related. The lack of diagnostic artifacts precludes any cultural or temporal assessment. However, the inuksuk may represent a recent Nunamiut Eskimo occupation.

Site significance and research potential appears to be low. At present the site does not appear to be threatened by any adverse impacts.

PSM-237

Site Elevation:
2300 ft

NW1/4, NE1/4
Section 36
T12S, R9E

Probable Site Type:
Lookout

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located near the northern end of the central of three large glacial features that lie just north beyond a large bedrock outcrop which straddles the mouth of the Oolah Valley. Because of the outcrop these glacial features offer a limited view to the south. In other directions the site provides fine views of the landscape for many kilometers to the north, westward across the valley and eastward up the Itikmalak drainage.

The surface of this flat topped feature is slightly uneven and well drained. It rises rapidly at its south end and gently tapers northward to join the surrounding tundra. This area is marked by a number of large erratic boulders which were dropped by melting glaciers. The ground cover consists primarily of grasses, lichen, and low herbaceous plants with occasional patches of dwarf birch.

The location of the site was first noted by the presence of a surficial scatter of black chert flake in a small 1 meter² frost boil. Some 7 meters to the east was another flake scatter consisting of gray green and olive drab chert.

Three shallow test excavations of 15-20 cm² in and around the area between the two scatters yielded nothing. However, some 10 meters north an isolated length of cut willow was found on surface.

Based on the limited array of cultural materials and the smallness of the site, its significance is deemed as low. The site probably represents a briefly occupied lookout/chipping station. Due to the lack of diagnostic artifacts no temporal or cultural assessment can be made. However, the variety of lithic material may indicate that more than a single occupational event took place.

Site significance and research potential appear to be low. At present the site does not appear to be threatened by any adverse impacts.

PSM-238

Site Elevation:
2450 ft

NE1/4 SW 1/4
Section 32
T11S, R10E

Probable Site Type
Lookout/Camp

Site Age:
Unknown

Umiat Meridian

Probable Cultural
Affiliation: Unknown

This site is located along the northern edge of an old river terrace that flanks the south bank of the Itikmalak River, about 1 kilometer below the confluence with its only major tributary. The site, set some 70 meters back and 7 meters above the river, overlooks its braided channel and flood plain, northward beyond the mountains and into the arctic foot hills. To the south the view into the mouth of the Oolah Valley is partially obscured by a large bedrock outcrop. The view of the course of the Itikmalak itself is extensive from its confluence with the Itkillik some 7 kilometers to the west and like distance upstream.

The flat, well-drained, and slightly rocky surface of the site is vegetated with a patchwork variety of several types of plants including grasses, dwarf birch, low woody and herbaceous plants, lichen, and mosses, interspersed with areas of exposed mineral soil.

The site was located by the presence of surface lithic remains, a small concentration of chert flakes scattered over an area of 2 x 4 meters near the south end of the terrace. The majority of the flakes were small and thin although there were a few decortification flakes present. The flakes were derived from a number of cherts including brown, and light, medium, and dark gray varieties. No formal artifacts were observed.

Although their identification is extremely uncertain there may also be two tent rings present. The outline of stones is indistinct and well integrated into the vegetation mat and may in fact be fortuitous due to the extensive rocky pavement present at the site.

Because of the variety of chert flakes present, this site may have been utilized more than once, but given its small size, lack of diagnostic artifacts and the very indefinite identification of tent rings, the significance of the site is deemed to be low.

At present the site does not appear to be threatened by any adverse impacts.

PSM-240

Site Elevation: 2150 ft	SE1/4, SE1/4 Section 22 T11S, R9E Umiat Meridian	Probable Site Type: Hunting Camp
Site Age: Late 19th Century to Mid 20th Century		Probable Cultural Affiliation: Nunamiut Eskimo

This site is located on the southernmost esker in a group of glacially formed features about 1 kilometer east of the southern confluence of the of the Itikmalak and Itkillik Rivers. This particular esker, which is oriented north-south and is perhaps 100 meters in length, terminates with its southern end, within a few meters of the river. The view from the site is all encompassing, virtually commanding the northern approaches to the Oolah Valley and the lands beyond the range front.

The surface of the immediate site area is generally well drained but uneven, hummocky, and cracked due to the melting of subsurface ice. The ground cover is primarily lichen, grasses, low herbaceous plants, and scattered dwarf birch and willow.

The site was first discovered by our helicopter pilot as he landed our craft next to a stone tent ring. The stones of the ring, which form a 2 x 3 meter oval, are well integrated into the vegetation mat.

Surface artifactual material consisting of a handful of a light grayish green chert flakes were found both inside and immediately outside the northern rim of the ring. Some 50 meters south atop on of a pair of mounds, which rise 2 meters above the rest of the esker, subsurface materials consisting of burned and broken small mammal bones were recovered from a test pit to a depth of 20 cm. below surface. No diagnostic artifacts were found.

The significance given to this site and the others in its near vicinity, is derived more from recently gathered ethnographic data than directly from the archeological remains themselves. Ethnographically this area at the mouth of the Itikmalak River was the major spring camp of the Ulumiut band of Nunamiut who headquartered in the Oolah Valley. This area was seasonally occupied on a yearly basis from perhaps the late 1870's until about 1920 and again in the early 1940's.

At present the site does not appear to be threatened by any adverse impacts.

PSM-241

Site Elevation:	SE1/4, NE1/4	Probable Site Type:
2300 ft	Section 36	Unknown
	T11S, R9E	
Site Age:	Uniat Meridian	Probable Cultural
Unknown		Affiliation: Unknown

This site is located toward the northern end of the easternmost of the three large, flat topped, glacial features which lie about a 2.5 kilometers north of a large bedrock outcrop commanding the northern entrance to the Ulu Valley. The site offers unobstructed views east and west along the nearby Itikmalak River and northward beyond the valley mouth and into the foothills. The nearest other site in the area is PSM-237 located about 800 kilometers to the west on another large glacial deposit.

The site area is vegetated with the grasses, lichen, low herbaceous plants and dwarf willow, typical of a well-drained upland setting.

Cultural remains at this site consist of a single isolated grayish green chert flake. Neither extensive visual inspection or a handful of shallow 15 cm² test pits revealed any additional material. Little else can be said of this site.

The significance of the site is low, its physical location suggests that its function was that of a short term stopover or lookout site.

The site does not appear to be threatened by any adverse impacts.

PSM-242

Site Elevation:	NE1/4, SE1/4	Probable Site Type:
2100 ft	Section 22	Unknown
	T11S, R9E	
Site Age:	Uniat Meridian	Probable Cultural
Unknown		Affiliation: Possible
		Nunamiut Eskimo

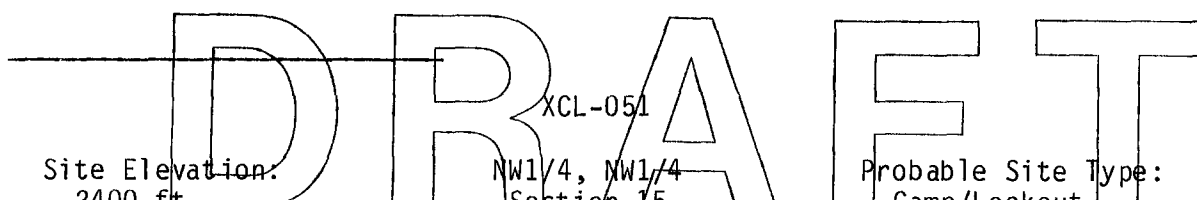
This site is located on the east side of the Itkillik River about 200 meters north of its confluence with the Itikmalak River. The site lies in a small series of shallow deflated sand dunes at the western end of an extensive esker like formation. The site, situated only 50 meters back from the river bank, overlooks the course of the Itkillik River southward covering the northwest entrance to the Oolah valley and northward many kilometers into the foothills. The nearest other site is PSM-240 about 120 meters to the southeast.

The ground cover at this site is primarily grasses, lichen, low herbaceous plants and scattered patches of dwarf willow.

In one of the shallow deflations a lone artifact, a gray green chert biface, was found on surface. Several 15-20 cm² test excavations were made in the area but no additional cultural material was encountered.

The significance of this site is difficult to assess on the basis of a single artifact. There are however a number of considerations which tentatively give this site some significance. Keeping in mind that this area is the traditional spring hunting camp of the Ulumiut bands of Nunamiut Eskimo and that the biface found here appears to be of the same material as the chert flakes associated with the tent ring at PSM-240. There is the possibility that PSM-242 is a precontact Nunamiut Eskimo site, few of which have been found. It must be added that this statement is highly speculative but because of this possibility the site may be worthy of additional investigation.

At present the site does not appear to be threatened by any adverse impacts.

		
Site Elevation: 2400 ft	XCL-051 NW1/4, NW1/4 Section 15 T12S, R9E Umiat Meridian	Probable Site Type: Camp/Lookout
Site Age: Unknown		Probable Cultural Affiliation: Norton/Ipiutak

The site lies on one of a series of depositional glacial features over looking three small lakes approximately 3 kilometers west of the north end of Itkillik Lake. The Itkillik River lies approximately 500 meters to the east and XCL-052 lies about 120 meters to the south.

The site lies upon the most elevated ground in the local area and offers an excellent view of the Oolah Valley; 11 kilometers to the south, 30 kilometers to the north, 8 kilometers to the east, and 1 kilometer to the west.

The surface of the site is quite level around the topographical high point and from there slopes gently downward in all directions. Most of the surface of the site is covered by a thin vegetation mat which is composed of clumpy growths of lichen, moss, low herbaceous plants, grass, and scattered patches of willow. The thin vegetation mat allows for numerous mineral soil exposures. In a number of places grizzly bear excavations have exposed the subsurface strata. A small amount of erosional activity is occurring as the result of frost heaving.

The entire surface of the site area, 50 x 35 meters, is littered with chert waste flakes and artifacts. A wide variety of chert is represented including blue, green, gray, black, brown, white and translucent brown. At least one, and possibly two hearth remains are visible on the surface. No test pits were excavated, however, grizzly bear excavations indicate that subsurface cultural material is present to a depth of 6-8 cm. below surface.

None of the artifacts observed at the site were of a truly diagnostic nature, however, three endblade fragments suggest the site was occupied by a culture or cultures of the Eskimo Continuum. Artifact morphology suggests the cultural groups most often utilizing the site were Norton/Ipiutak.

A second smaller concentration of waste flakes is located on a small rise approximately 60 meters east of the site datum.

The density and variety of lithic material suggests that the site was occupied a number of times over, at least, the past 2000 years. The location of the site would allow it to serve as both a campsite or base of operations as well as game or hunting lookout.

Because of its size, apparent high level of use, and density of cultural remains the site should be accorded both a high level of significance and research potential. The site does not appear to be threatened by any adverse impacts other than minor erosion and grizzly bear excavation.

Gray chert flake knife: 5 meters from datum on a bearing of 123°

Two gray chert biface fragments: 9 meters from datum on a bearing of 126°

Gray chert endblade: 11 meters from datum on a bearing of 140°

Hearth/fire-cracked rock: 10 meters from datum on a bearing of 156°

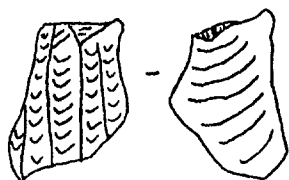
Gray chert sideblade: 4 meters from datum on a bearing of 170°

Gray chert endblade: 5 meters from datum on a bearing of 182°

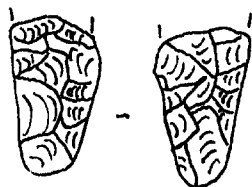
Possible core fragment: 3 meters from datum on a bearing of 185°

Projectile point: 26 meters from datum on a bearing of 140°

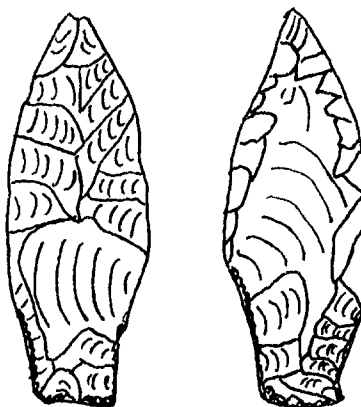
XCL-051 Artifacts - Actual Size



Core Fragment - Gray Chert



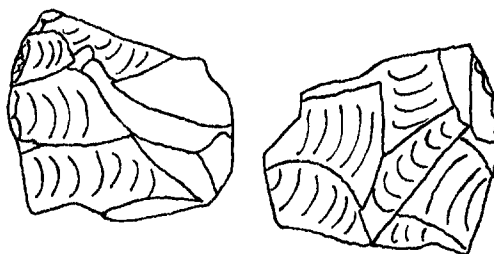
Endblade Fragment - Gray Chert



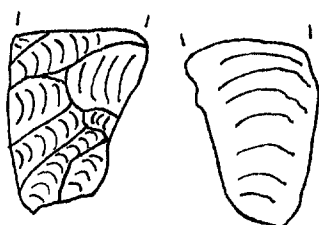
Projectile Point - Gray Chert



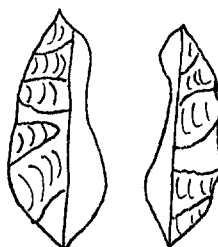
Projectile Point Base - Gray Chert



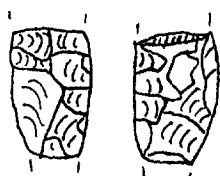
Biface Fragment - Gray Chert



Flake Knife Fragment - White Chert



Biface Fragment - Gray Chert



Sideblade Fragment
Gray Chert

XCL-052

Site Elevation:
2400 ft

NW1/4, NW1/4
Section 15
T12S, R9E

Probable Site Type:
Camp/Lookout

Site Age:
Unknown

Umat Meridian

Probable Cultural
Affiliation: Unknown

This site lies on one of a number of adjacent glacial features on the west side of the Oolah Valley approximately 3 kilometers west of Itkillik Lake. The view of the valley from the site is extensive and panoramic.

Vegetation at the site consists of a thin mat of moss, lichen, grasses, and low herbaceous plants. Scattered dwarf willow is also present. There are numerous mineral soil exposures most of which do not appear to be actively eroding although a large amount of deflation has occurred in the past.

Numerous flakes of chert, several artifact fragments, fire-cracked rock, and some bone fragments were observed scattered over an area roughly 15 x 35 meters. Formal artifacts were represented by two microblade fragments adjacent to the site datum. The fire-cracked rock and bone fragments are also near the datum location and cover an area of roughly 50 cm². The site location and the cultural materials present suggest the site served as a camp and/or lookout.

This site may be associated with XCL-051, although, the presence of microblades argues for an earlier date of occupation by a different cultural group.

The significance of this site is of a local nature and site significance is low. The site does not appear to be threatened by any adverse impacts.

PSM-222

Site Elevation: 2900 ft	NE1/4, NE1/4 Section 20 T13S, R12E	Probable Site Type: Unknown
Site Age: Unknown	Umiat Meridian	Probable Cultural Affiliation: Unknown

This site is located some 10 miles south of Galbraith Lake on a bedrock spur which juts out from the western wall of the Atigun Valley, to within 500 meters of the Atigun River. The view from this site covers most of the central portion of the valley.

This open site is sparsely vegetated with lichen, grasses, and low herbaceous plants interspersed with occasional areas of exposed thin rocky soil.

Cultural remains at this site consist of a large stone cache feature and a chert flake scatter 20-30 meters to the southeast.

The cache located in about the middle of the lowest lobe of the spur and is situated on a rocky sloping area.

The basis of the cache was a very large partially embedded erratic boulder some 3 x 2 x 1 meters in size. The northeast or downslope face of the boulder forms a sort of overhang. Below this is an extensive deposit of limestone slabs and rocks, a number of which were stacked and piled to wall up much of the overhang leaving a 1 meter² entrance at the northeast corner of the boulder. The internal chamber is 1.5 meters deep, 2.5 meters long and about 1 meter wide. The bottom is heavily mossed.

Nunamiut tradition holds that this structure was built by Indians who periodically visited the area in the previous century. The Indians, probably Kutchin Athapaskans, were known as the "Uyagagmiut" or people of the rocks, and were noted for building rock structures. This is the only known such structure in either the Atigun or neighboring Oolah Valleys.

This site lies outside the boundary of the park and preserve.

CHN-017

Site Elevation: 2650 ft	NW1/4, SE1/4 Section 25 T36N, R8W	Probable Site Type: Lookout
Site Age: Unknown	Fairbanks Meridian	Probable Cultural Affiliation: Unknown

This site is located atop a high bedrock outcrop rising above the north end of a 2 kilometer long lake. The lake lies near the mouth of the first tributary valley to join the North Fork of the Chandalar River

from the northwest. The lake, which is perched at an elevation of 2525 feet and hemmed in by high ridges to the east, is located about 2 kilometers southwest of the confluence of the streams. The site provides a commanding view to the north and east encompassing all three tributary valleys which converge here into the single unified valley of the North Fork of the Chandalar. The view to the southeast down valley is also excellent although direct view of the river is blocked by a ridge to the southeast of the site.

With the exception of a handful of tall spruce trees which grow on the western edge of the site, its surface is a combination of patches of blueberry, heather, juniper, and grasses interspersed with areas of exposed soil.

It was in one of these mineral soil exposures that cultural materials were first observed. The material consist of a combination of small unidentifiable and heavily weathered bone fragments and small thin flakes of light gray chert. A single shallow 15 cm² test excavation was made which yielded similar flakes of a dark gray chert at 2-3 cm. below surface.

The significance of the site appears to be relatively low and very likely represents a briefly occupied game lookout. Other than that little more can be said.

This site lies outside the boundaries of the park and preserve.

SUMMARY/CONCLUSIONS

In the Research Design for Phase II of this project, a number of regional/areal research problems were presented. These problems or research concerns were addressed by the fieldwork to the degree or level possible through reconnaissance level survey methodology and available project resources.

In the following pages, these research concerns will be briefly stated and the degree to which these concerns were addressed by the fieldwork will be explained. The data relating to these research concerns, obtained as a result of the fieldwork, will be presented, as will the implications suggested by, or the conclusions drawn from, the data.

1. Within this geographic section were there preferences, by prehistoric peoples for site location based upon the local geomorphology?

The data suggests that the answer to this question is an unqualified "Yes". This is hardly surprising, as most archeologists who have worked in glaciated areas of Northern Interior and Northern Alaska have realized that such is the case after a single season of fieldwork.

Due to the nearness of the ground surface to the upper limit of the permafrost in most of this region of Alaska, much of the surface of the ground is poorly drained. This results in the formation of numerous shallow ponds, swamp-bog-muskeg areas, and wet sedge/cotton grass meadows. These poorly drained areas cover much of the lands's surface where slope gradients are not somewhat steep and/or where bedrock is not at or near surface. Therefore, areas of dry or stable ground are, for the most part, limited to steep and often rocky mountain or hillsides, old beach ridges and river terraces, or stagnant ice (depositional) glacial features. Mountains and hillsides, usually, do not offer good camping locales although, such locations are used, to some extent, as hunting lookouts and for hunting areas. On the other hand, glacial features, especially those of depositional origin such as kames, kame terraces, and eskers, offer excellent camping and/or operational base locales as do the less common beach ridges and river terraces. Terminal moraine, and to a lesser degree, lateral moraine complexes also offer excellent camping locales. However, these features occur less frequently and are often not as strategically located as are the smaller and more numerous valley-floor stagnant ice glacial features.

Due to their physical structure, gravel, sand, cobbles, and boulders mantled by a thin layer, 10-25 cm., of well developed soil, glacial features are well drained and therefore, relatively dry. These features, due to the conditions necessary for their formation, are usually scattered about the valley floor, and become less common near the valley walls as the slope gradient increases.

Morphologically, the kames usually resemble gently rounded, somewhat linear, hillocks rising from five to twenty meters above the surrounding landscape. Kame terraces usually occur closer to the valley walls than do the kames. Morphologically, kame terraces are linear in orientation, usually paralleling the valley walls. They are somewhat undulating in surface character, and because they often occur at the higher valley edge altitudes, lie fifty to seventy meters above the valley floor. Eskers are usually serpentine in physical character, less common than are kames and kame terraces, and when present often occur in close proximity to the active flood plain of the valley floor. In some cases, an esker may be a determining factor in the orientation of the valley floor stream channel. Eskers in this area rarely attain elevations in excess of ten meters above the valley floor. Distinctive lateral moraines are uncommon due to the nature of the montaine glaciations and the geomorphology of this region. Terminal moraine complexes usually occur at or near valley mouths, and in most cases traverse the width of the valley. Terminal moraine complexes appear as a chaotic jumble of hills and ridges, which may attain elevations up to 100 meters above the valley floor. Terminal moraines often have a damming effect on valley streams, and as a result are commonly associated with extant lakes or older semidraind lake basins which are presently pond-dotted, wet lowlands.

The preceding description of the regional valley floor topography is generalized. Specific areas may vary significantly depending upon the age of past glacial activity, local bedrock structures, and valley width. Regardless of local variations, glacial features would appear to be the most likely localities for pre-historic human activity to take place, as they, more than most other land forms, exhibit the necessary criteria for good camping locales.

Our investigations during the 1984 field season revealed that the vast majority, of the prehistoric sites, were located on stagnant ice glacial features, glacially altered bedrock features, or old beach ridges or river terraces. The reasons for the extensive use of these geological features for almost any type of prehistoric cultural activity are easily seen. These features offer a firm, dry camping locale which is elevated enough above the surrounding local landscape to offer a view potential and be slightly more mosquito free. In the spring these features usually become snow-free and dry before the surrounding lower ground.

Old river and lake terraces, because of their physical nature are also well drained and therefore relatively dry. These features commonly have archeological sites associated with them for the same reasons that glacial features do. However, beach ridges and river terraces are far less numerous than glacial features.

The fact that these features occur on or near the valley floor where the majority of the subsistence resources are located, lends yet another aspect to their attractiveness. Many valley floor glacial features have well established and often used game trails traversing them. Regular game movement allows a solitary hunter to employ ambush techniques and have relatively reliable food source always near at hand. Additionally,

emergency rations are always present in the form of ground squirrels which are almost always present on well drained ground.

In terms of site location, in most cases, irrespective of size, the 1984 fieldwork data strongly suggests that the vast majority of prehistoric sites in this region of Arctic Alaska will occur on glacial features or features of similar composition. The strength of association between glacial features and human exploitation is strong enough to be reliably predictable.

The exception to this near-axiom is the location of special use sites such as fish camps, winter camps, or quarry sites.

Artifactual remains on glacial feature sites generally indicate hunting as the activity engaged in. It is inferred, therefore, that the majority of archeological sites found on glacial features were occupied during the spring, summer and fall, as these locations are, in most cases, too exposed for prolonged winter occupation.

In summation, evidence suggests that any river valley or lakeshore where glacial features are present will contain a ratio of archeological sites to glacial features on an order of about 0.8:1.0.

2. Is seasonal occupation reflected in site location?

At the level of data collection of a reconnaissance survey, this is a difficult question to answer except in very general terms.

As previously mentioned, most "glacial feature sites" were probably occupied during the spring, summer, or fall. However, without associated faunal material or other data, the specific season of occupation is impossible to determine. Additionally, sites which include, or are associated with, inuksuk are assumed to be caribou hunting locales. Mass caribou movements, through this region of Alaska, occur in the spring and fall and therefore, would suggest site occupation during either or both of those seasons. During the 1984 field season, we located a number of inuksuk sites, all north of tree line. This data suggests that the inuksuk method of hunting caribou was not widely practiced in the northern limits of the boreal forest.

Seasonality of site occupation is more clearly represented by sites containing semisubterranean house remains and cache pits. Such sites are usually located on the shores or islands of large lakes. This type of site usually reflects winter occupation. No sites of this type were located during the 1984 field season, although some had been found in the Itkillik Lake area previously. However, an ivrulik or moss house village was located in the Itkillik drainage. An ivrulik village is the traditional overwintering method of the Nunamiut Eskimo. Additionally, numerous tent ring sites were found in the northern portion of the study area. Tent ring sites reflect occupation during non-snow months.

3. Are there varying levels of population density through time in the area?

This can be determined only on the most general level by a reconnaissance level survey unless circumstances fortuitously favor the investigators.

Some artifacts are diagnostic of a temporal span. In a reconnaissance level survey, if such diagnostic artifacts do not appear on the surface of an archeological site or are not fortuitously excavated in a test pit, little temporal information can be obtained. Additionally, if all sites that are located do not exhibit temporally diagnostic artifacts, population densities through time can be little more than guessed at.

However, the data collected as a result of the 1983 and 1984 fieldwork does allow some general comments concerning population density through time.

The obsidian hydration chronology, which is in the process of being developed for the study region, does hint at prehistoric population levels over the last 10,000 years. This has been discussed in the obsidian hydration chronology chapter of this report and need not be dealt with here. Additionally, some radio active carbon dates have also yielded some useful chronological data.

The data collected for the study area suggests the region has been used by humans for the last 10,000 years. Due to the fact that the boreal forest, which now covers the southern portion of the area, was not established until roughly 5500 years B.P. (see Introduction), it is suggested that the region was exploited quite differently by human populations in the time period between 10,000-5500 B.P. than it was after 5500 B.P. Information concerning such differences is difficult to obtain from lithic artifacts. The tundra versus boreal forest environment very possibly affected human population levels in the region.

Much of the data regarding human population levels in the study area is based on artifact typology. Based on the observed diagnostic artifacts at the 180 sites which were located, the following, very general, statements can be made. There is little evidence for high levels of use or population density prior to ca. 4000 years ago. This, however, is not uncommon when compared to other areas of Arctic Alaska. Additionally, sites which are older than 4000 years are more difficult to recognize as the diagnostic or "hallmark" artifacts are fewer in number and less commonly found than in more recent sites. Use of the area both north and south of the Brooks Range, appears to begin to increase about ca. 4000 years B.P. and continues to increase until roughly 1000 years B.P. After 1000 years B.P., population or use levels appear to stabilize or perhaps decline slightly. Again, it must be pointed out that these conclusions, or inferences, are based upon a meager data base.

During the course of the fieldwork, a single natural function of the regional environment became quite obvious. Observations, both surface and subsurface, indicate that the forested portion of the region is cyclically burned over by wildfire approximately every 150-250 years.

During the course of the fieldwork, "burn" areas were encountered that ranged in age from 10 years to over 100 years. These age determinations were based on observable surface indications and from coring living trees. In a few areas, no surficial evidence of wildfire was noted. However, test excavations in these areas revealed that bands of charcoal existed in the soil profile and probably indicate, that the area had been burned, and that the responsible wildfire event was in excess of 150 years in age. In areas where no visible (surface) evidence of wildfire existed, vegetation conditions were approaching that of a climax forest. This condition was represented by large spruce, birch, and poplar of trunk diameters exceeding 60 cm. and heights up to 30 meters. Dense brush (alder, willow, and shrub birch) often accompanied the large trees on hillsides and poorly drained areas. Vegetation such as this was quite difficult to travel through and in some localities was almost impenetrable. Additionally, visibility in these areas was so limited as to be non-existent.

Areas when vegetated to this degree, in Arctic Alaska, are not easily exploitable. Travel and game procurement, as well as the abundance of game, are adversely affected by conditions of heavy, near-climax, vegetation. Such observations, over the course of the 1983 and 1984 field seasons suggest that there may be a definite link between human exploitation (increased areal population density) of an area and the occurrence of wildfire. Recently burned (10-40 years) areas allow for greater ease of travel and better visibility, which allows more efficient game procurement. While the plant species diversification and population percentage changes that follow a wildfire, cause an increase in area subsistence fauna.

It is hypothesized, therefore, that human population density in the forested region, post ca. 5500 years B.P. is directly linked to wildfire episodes. Additional in-depth work will have to be done before it can be determined if this hypothesis is testable, let alone whether it can be proved or disproved.

4. This geographic section of the park, in genral, overlays both Indian and Eskimo territories. Due to the fact that both cultural groups exploited the area, is it possible to distinguish between Indian and Eskimo sites and as a result determine which group (if one) was the basic user of the region?

The fieldwork in the Phase II study area is somewhat conclusive in regard to this research question. Many of the artifacts observed at the various sites were not of a diagnostic nature and therefore, cultural assignment was difficult. However, most all of the diagnostic artifacts appeared to reflect Eskimo use of the region. Eskimos were certainly the main users of the Itkillik drainage, at least over the past 4000 years, and the North Fork Koyukuk, at least as far south as the Glacier River, definitely has an Eskimo flavor about it.

5. Site density and population distribution.

On the maps in this report which depict the areas surveyed, only the intensively surveyed areas are shaded in. Much surveying of a cursory

nature was conducted during our float and helicopter trips between camp locations so that all of the area received some coverage. Therefore, even through the locations of the sites seem to roughly correlate with the areas intensively surveyed, the correlation lies more with the area surveyed than the intensity of the survey itself. Most of the areas not depicted as intensively surveyed were low and wet or so intensively overgrown with brush and trees as to be almost impenetrable.

In the valley of the North Fork Koyukuk enough work was done to at least hint at prehistoric site density and population distribution.

Along the North Fork sites appear to be concentrated according to the local topography and availability of subsistence resources. A good example is the area surrounding the confluence of Ernie Creek and the North Fork. Roughly 8 square miles were intensively surveyed in this area, however, almost all the sites occurred in a 1 square mile area. The reason for this site density appears to be that both excellent site locales and concentrated subsistence resources occur in this small area. This appears to be the case throughout the North Fork Valley, at least as far south as the mouth of the Glacier River: good site locales plus concentrated subsistence resources result in site density and temporarily high population levels. It should be noted that the criteria for good site locales appears to be as much appreciated by animals as by humans. Often game populations are higher in these areas.

One area in the North Fork Valley did not fit this scenerio. We were quite surprised by the paucity of sites around Long Lake. The area seemed to have all the required criteria yet only two sites were located there.

On the other hand sites in the Itkillik River drainage seem to be reasonably well dispersed along the valley. Evidence suggests there are two reasons for this. Because this area is beyond tree line there are no forests to obscure long range views. Therefore almost any little bump or rise can serve as a reasonable hunting lookout/camp. Caribou numbers are much greater along the Itkillik than they are along the North Fork. Because the Itkillik country is open the caribou and other game animals are less confined in their movements and tend to wander about. While strategic hunting locations are important in this area they are less so than in the forested regions. For these reasons archeological sites north of the Brooks Range, in this case particularly the area along the Itkillik River, appear to be less clustered or concentrated at special locations than in the forested areas to the south.

Ancillary to site density is the use of known or suspected prehistoric travel routes. Our work during the summer of 1984 allowed us to make some limited investigations of some of these routes. The presence of archeological sites at the approaches to or along the routes were considered as evidence of the degree of use.

1. Anaktuvuk River-Ernie Pass-Ernie Creek-North Fork Koyukuk River.

Evidence suggests that while this route was used it was not heavily used and probably only seasonally. There are several difficult terrain

areas along this route and the Ernie Creek Valley is known for extremely strong winds, in excess of 40 kts., and of long duration.

2. Itkillik River-North Fork Koyukuk River.

This route/pass was used but was very trecherous in the snow months and a difficult assent/decent at any time of the year.

3. Itkillik River-Oolah Pass-Kuyuktuvuk Creek-Dietrich River-Middle Fork Koyukuk River.

This route has the greatest amount of evidence, both archeological and ethnographic, for continued use and appears to have been the main all season route through the Brooks Range in the study area.

6. Is past regional subsistence potential, through time, indicated by site density?

Data regarding this question is difficult to obtain from a reconnaissance level survey. However, some general observations can be enumerated as a result of the 1984 fieldwork.

The density of prehistoric sites in any environment will almost always be linked to the area subsistence potential. Therefore, a basic correlate might be stated thusly: if area subsistence resource potential is high (all other factors being equal) the area should exhibit high site density or a number of large, often used sites. If area subsistence resources fluctuate through time, then this fact should be reflected in the archeological record by temporal fluctions in site size, use, or density.

Little information regarding site age, prior to 4000 B.P., was obtained during the course of the fieldwork. Therefore, information regarding regional subsistence potential through time is speculative at best. This circumstance, coupled with the fact that a relatively major environmental change (the establishment of the boreal forest) occurred over much of the area ca. 5500 years ago, creates problems in establishing a clear picture of the ebb and flow of subsistence resources.

While sites assumed to be older than ca. 4000 years B.P. are numerically in the minority, due to the limited data, this cannot be accepted as criteria for low subsistence potential. However, in contrast, the site density maximum, which site data indicates occurred between 2000-1000 years ago may, in fact, indicate the upper limit of subsistence resources for the area.

Although it is difficult to chart subsistence fluctuations through time in the region, the data base may more readily allow a seasonal comparison.

Such inferences are based upon site type and suggest the following:

1) There was virtually no evidence of inuksuk or caribou fences in the forest portion of the surveyed area. This may indicate that caribou

were not a major subsistence resource in the area. However, this may also reflect the fact that for the last 5500 years, the environment has been that of the boreal forest and that frequent wildfire may have obliterated most of the caribou fence evidence. 2) As previously mentioned, the vast majority of the archeological sites are located on somewhat exposed glacial features. Such site locales are, in most cases, not suitable for typical winter habitation. This may indicate that, in general, the region possessed a low winter subsistence potential, or that overwintering sites away from large lakes are difficult to find.

In general agreement with this circumstance is that the collected data indicates the presence of only a low number, proportionally, of large sites (major or long term habitation sites) in the region. While conversely, there is a high number of small, short-term, hunting oriented sites.

This data suggests that the region was most heavily used as a hunting area during the spring, summer, and fall. Summer fish camps may have existed at some of the northern lakes but there is no indication of this in the southern portion of the surveyed area.

In summation, the data collected during the 1984 field season suggests that resource potential, probably caribou, moose, sheep, and fish, was reasonably good during the spring, summer, and fall, but during the winter subsistence resources with the possible exception of fish, were low. Therefore, the prehistoric population densities in a given area were probably highest during the warmer months.

OBSIDIAN HYDRATION CHRONOLOGY

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Introduction

A large majority of archeological sites recorded by the Gates of the Arctic National Park and Preserve Cultural Resource Inventory Project are shallow surface sites without associated radiocarbon-datable organic materials. Estimates of site age can be made by typological comparisons with other dated assemblages, but sites often lack suitable diagnostic materials. At the inception of this project we realized that the common occurrence of obsidian in Brooks Range sites made it feasible to use obsidian hydration dating to gain chronological control over many of the sites independent of typological comparisons.

In this project's first report, "Upper Kobuk River Drainage Archeology", a number of hydration measurements were given and a hydration rate for the South-central Brooks Range was developed. Since the 1983 report was released a number of revisions have been made as new data has become available. These revisions deal mainly with effective hydration temperatures and recalculation of the hydration rate. Additionally, some of the hydration rind measurements were in error. Therefore, we suggest that the information in the original report be disregarded. The data in this chapter reflects our new calculations and should be substituted for the order dates.

The Dating Method

The obsidian hydration dating method is based on the phenomenon that freshly exposed glass surfaces become coated with a thin layer of water which then begins to diffuse into the glass surface. In optical thin section the thickness of the hydration rind is visible under crossed polarization as a bright birefringent band produced by strain resulting from incorporation of water into the glass. In plain light the inner boundary of the hydration rind is marked by a thin dark line indicating a change in the refractive index of the glass. Under high magnification the thickness of the hydration rind can be measured with various kinds of ocular micrometers. Since the thickness of the hydration rind increases with age, suitable calibration of the rate of hydration results in a means of determining the age of manufacture of a given artifact, the time since the fresh obsidian surface was exposed.

Obsidian hydration dating became a useable archeological dating technique with the publication of Friedman and Smith's classic 1960 paper in *American Antiquity*. Earlier, Ross and Smith (1955) reported hydration rinds on natural obsidian surfaces. Friedman and Smith (1958) later observed that deuterium levels in hydrated volcanic glass were similar to that of meteoric water, whereas levels in unhydrated glass resembled those of the original magma. This demonstrated that water in hydration rinds came from the local surface environment. In the 1960 paper, Friedman and

Smith first determined that dated archeological obsidian samples had hydration rinds and that their rind thicknesses increased with age. They examined variables that potentially controlled rates of hydration and concluded that relative humidity is not important; the strong affinity of glass surfaces for water results in a thin layer of water on glass surfaces even at low humidity levels. Temperature is important because hydration is a diffusion process, and rates of diffusion are temperature dependent. Importantly, Friedman and Smith recognized it was necessary to know the soil temperature regime, and not simply air temperature. The chemical composition of obsidian also proved to be an important variable, with obsidian from different source areas hydrating at different rates.

There are two basic approaches to the creation of an obsidian hydration chronology. One approach is to measure hydration rinds on a number of obsidian artifacts that have associated radiocarbon dates, and create calibration curves that can be used to date other obsidian artifacts. Another approach is to measure the physical variables that control hydration rates, and to directly calculate rates of hydration from these variables. The second approach has the obvious advantage of being independent of the radiocarbon dating method. This project has used both approaches in the development of a chronology, with the ultimate goal of using only the second approach when sufficient soil temperature data becomes available.

Because the chemical composition of obsidian influences the rate at which the glass hydrates, measurements of the physical constants controlling hydration rates must be done for each obsidian source. Most of the obsidian encountered by this project is from the Batza Tena source in the Koyukuk River Valley (Patton and Miller 1970). Michels et al. (1983) have experimentally determined hydration rate constants for a number of obsidian sources worldwide, including the Batza Tena source (Michels 1981), by means of induced hydration. In this technique samples of obsidian are hydrated at elevated temperatures in the laboratory for varying periods of time, the induced hydration rinds are measured, and the hydration rate constants are calculated from these data.

Since the hydration of obsidian is a diffusion process (Friedman and Smith 1960) it follows a second order reaction equation:

$$x^2 = kt \quad (1)$$

where x is the depth to which hydration has progressed in time t , and k is the rate of hydration. Solving for time produces the means of determining the age of an artifact:

$$t = \frac{x^2}{k} \quad (2)$$

The rate of hydration, k , is given by the Arrhenius equation:

$$k = Ae^{-E/RT} \quad (3)$$

where A is a hydration constant, E is the activation energy, R is the universal gas constant, and T is the absolute temperature. From the induced hydration experiments of Michels (1981) we know that Batza Tena obsidian hydrates at $7.99 \mu^2/\text{day}$ at 473.16°K (200°C) and the activation energy of this obsidian is $79,024 \text{ J/mol}$. However, we need some way to determine the hydration constant, k , at lower environmental temperatures actually experienced by the obsidian. Let k' equal the hydration rate at the lower temperature T' :

$$k' = Ae^{-E/RT'} \quad (4)$$

dividing equation 4 by equation 3 and cancelling:

$$\frac{k'}{k} = \frac{e^{-E/RT'}}{e^{-E/RT}}$$

$$\frac{k'}{k} = e^{-E/RT'} - e^{-E/RT}$$

$$\frac{k'}{k} = e^{E/RT - (E/RT')}$$

$$\frac{k'}{k} = e^{E/R \left(\frac{1}{T} - \frac{1}{T'} \right)}$$

$$k' = ke^{E/R \left(\frac{1}{T} - \frac{1}{T'} \right)} \quad (5)$$

Knowing the experimental rate of hydration at a given temperature, the activation energy, and the environmental temperature at which the obsidian artifact has hydrated, we can use equation 5 to determine the rate of hydration of the artifact. Using the experimental Batza Tena data of Michels (1981) where:

$$k = 7.99 \mu^2 \text{ day}^{-1}$$

$$k' = \text{unknown hydration rate of artifact}$$

$$E = 79,024 \text{ J/mol}$$

$$R = 8.317 \text{ J/mol}^{-1}\text{C}^{-1}$$

$$T = 473.16^{\circ}\text{K}$$

T' = temperature at which the artifact hydrated, $^{\circ}\text{K}$

and substituting into equation 5, we have:

$$k' = 7.99 e^{\frac{79024}{8.317} \left(\frac{1}{473.16} - \frac{1}{T'} \right)} \quad (6)$$

It is conventional to express hydration rates in μ^2 per thousand years, k'' :

$$k'' = k' (365.26 \times 10^3) \quad (7)$$

Equations 6 and 7 are the means of calculating hydration rates from temperature data in this report.

Using these equations it is possible to examine the relationship between hydration rate and temperature. Figure 1 shows the exponential nature of this relationship, with hydration rate increasing more rapidly than temperature as temperature rises. There are several implications from this relationship. It is clearly necessary to know temperature precisely, especially at higher temperatures. Errors in temperature estimation will produce a much larger resultant error in hydration rate at high temperatures than at low temperatures. Figure 2 shows the relationship between hydration rind thickness and age for three different effective hydration temperatures. Here again we see that the nonlinear relationship implies that errors in measurement of the hydration rind will cause much greater resultant error in the date, especially at lower temperatures where the slope of the curve increases. The effect of inaccurate temperature estimates is emphasized in this figure; a 2u thick rind indicates an age of about 1800 years at 5°C and 6300 years at -5°C .

Errors in measurement of the hydration rind can cause serious error in the resultant dates, and such errors appear to be disturbingly common. Figure 3 shows the result of re-measuring 20 hydration rinds on thin section slides prepared and measured earlier by a commercial laboratory (Lab 1). Only 1 of the measurements was replicated, and the cause of the discrepancy has not yet been determined. In practice, these potential errors in measurement seem to overshadow other sources of error in the dating method; they severely limit the usefulness of the technique.

The temperature at which an obsidian artifact hydrates is a particularly difficult variable to control. Seasonal temperatures vary, and so the artifact experiences not one temperature but both annual and diurnal fluctuations. The relationship between temperature and hydration rate is nonlinear, so that simple averages of temperature cannot be used. The temperature value required is often referred to as the effective hydration temperature, or EHT. This is an hypothetical constant

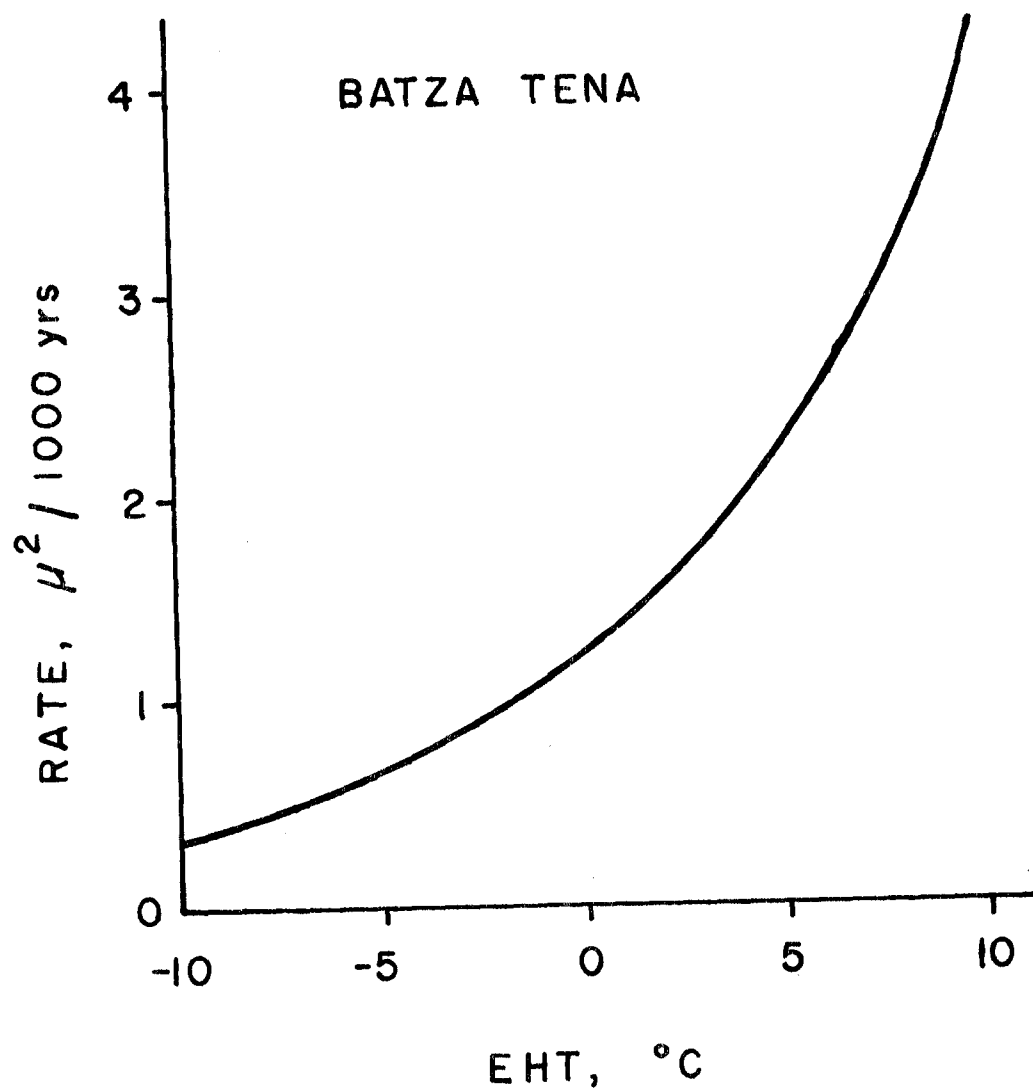


Figure 1. Relationship of EHT and hydration rate.

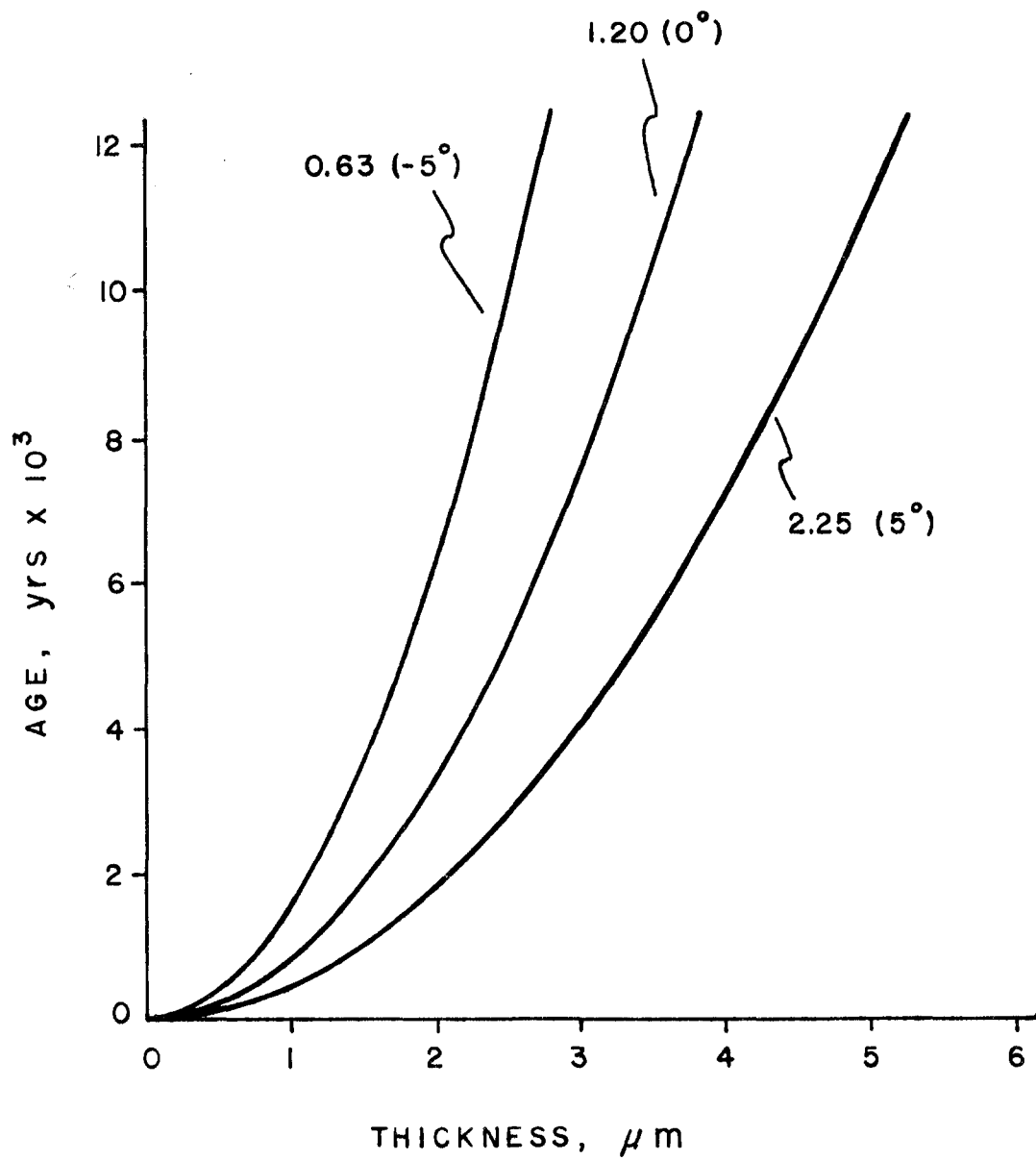


Figure 2. Relationship of hydration rind thickness to age at selected temperatures.

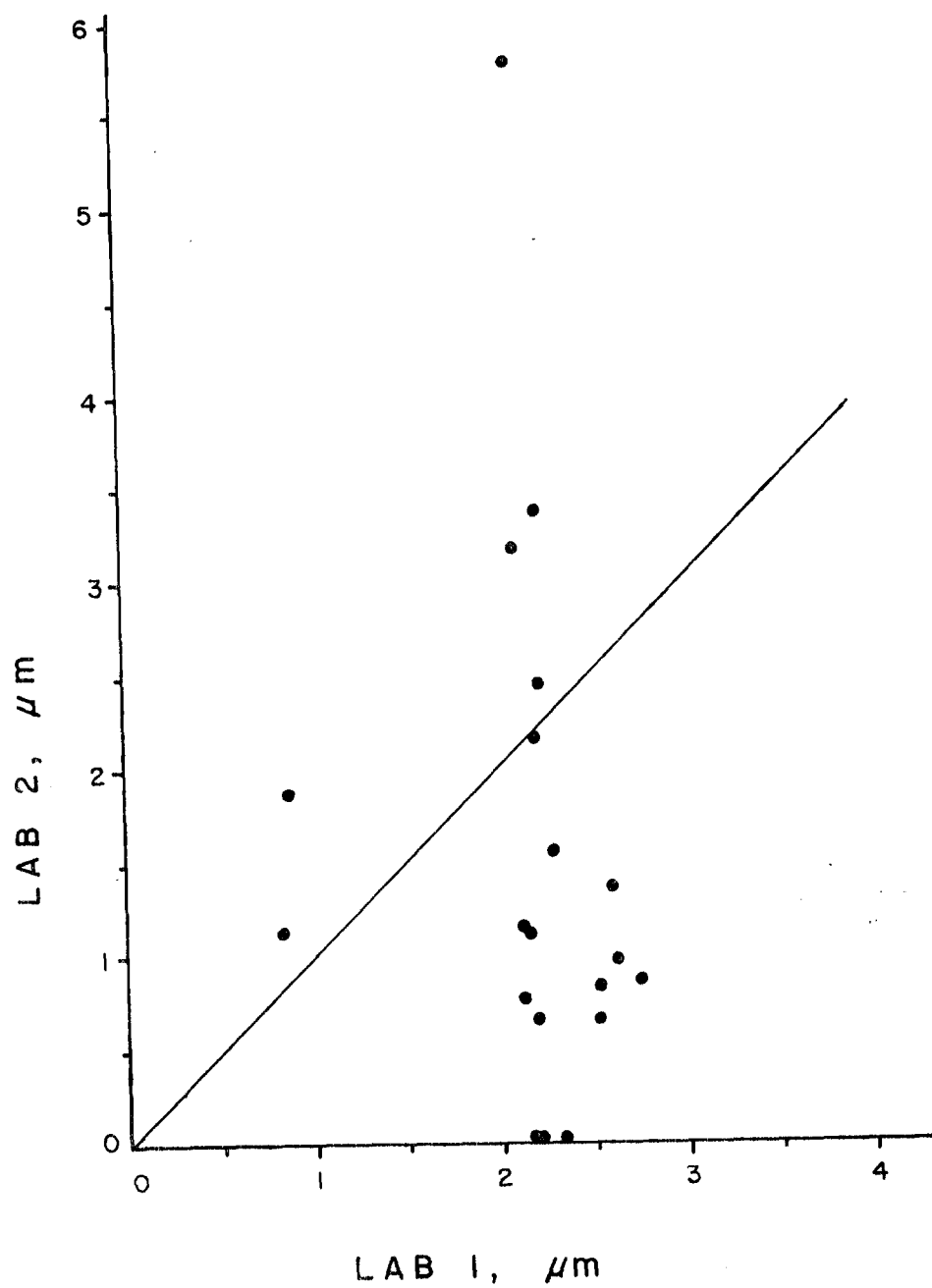


Figure 3. Measurement discrepancy between two separate laboratories.

temperature that would have produced the same amount of hydration as was produced by the varying temperature regime actually experienced by the artifact. EHT can be obtained by integrating annual temperature records, but often temperature records are unavailable for remote site locations.

Simple sensors that can be placed in remote locations are available to measure EHT, and will be discussed later in this report. Where annual temperature records are available an equation derived by Lee (1969) that relates effective temperatures to average temperatures can be used to estimate EHT. This equation is based on effective temperature measurements made by the Pallman technique which uses the temperature dependent sucrose hydrolysis reaction. This reaction has a different activation energy than the obsidian hydration reaction, but the resulting error is negligible (Michels 1983). The equation as reported by Lee (1969) uses effective temperature (T_e) and temperature range (R_T) to predict average temperature (T_a):

$$T_a = -1.2316 + 1.0645T_e - 0.1607R_T \quad (8)$$

Lee reported the estimate to have a standard error of 1.00°C . Solving the equation for T_e allows us a means to estimate effective hydration temperature given T_a and R_T :

$$T_e = \frac{(T_a + 1.2316) + (0.1607R_T)}{1.0645} \quad (9)$$

Friedman and Smith (1960) observed that soil temperature rather than air temperature data are necessary for use in obsidian hydration dating. Temperature data from Bettles, Alaska, just south of the Park, show the reason for this rather clearly. Table 1 shows the long-term, average air temperatures from Bettles and soil temperatures from various depths for the period 1947 to 1959 collected by the U.S. Army Engineering Office. One striking observation is that because of the insulating effect of snowcover, soil temperatures never reach the extreme cold of air temperatures in winter. In cold northern latitudes temperature estimates for obsidian hydration based on air temperature will be far too cold. This is illustrated by the mean and EHT values. Mean annual air temperature at Bettles is -6.0°C but the EHT calculated with equation 9 is 1.6°C . The mean temperature at the surface of the ground at Bettles is 1.7°C , while the EHT is 5.4°C . EHT is consistently warmer than the mean because of the logarithmic relationship of temperature to rate of hydration. These same data portrayed graphically in Figure 4 show the drastic insulating effect of snow and the characteristic lag of soil temperature annual fluctuations behind those of air temperature. It seems apparent from these data that obsidian artifacts in or on the ground simply never experience the extremes of winter temperature recorded by air temperatures.

BETTLES TEMPERATURE DATA

DEPTH, cm	AIR	0	15	30	60
JAN	-25.8	-4.0	-2.4	-1.6	-0.5
FEB	-23.2	-4.5	-2.9	-2.2	-1.0
MAR	-17.3	-4.2	-3.1	-2.4	-1.6
APR	-6.5	-3.3	-3.3	-2.3	-1.6
MAY	6.0	-0.2	-0.2	-1.2	-1.0
JUN	13.8	7.7	3.6	2.3	0.8
JUL	14.8	12.1	9.7	9.6	7.9
AUG	11.8	13.0	10.7	11.4	10.1
SEP	4.7	7.2	7.9	8.2	8.2
OCT	-7.3	0.5	2.1	2.0	3.3
NOV	-18.3	-1.3	-0.6	0.4	1.0
DEC	-24.7	-2.6	-0.6	-0.9	-0.2
MEAN	-6.0	1.7	1.7	1.9	2.1
EHT	1.6	5.4	4.9	5.1	4.9

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Table 1. Temperature data for Bettles, Alaska. Air temperature data from National Weather Service records. Soil temperature data from U.S. Army Engineering Office records. Values in °C.

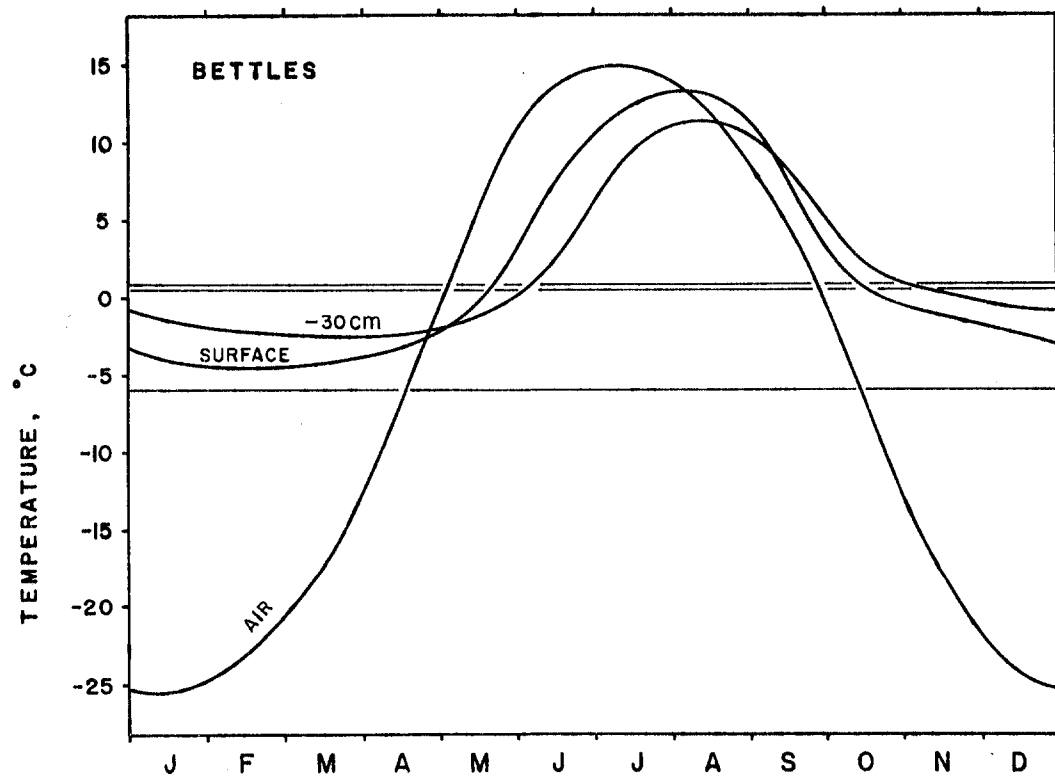


Figure 4. Bettles soil and air temperature data

Application of the Dating Method

With the use of equations 2, 6, and 7 we can examine the relationships found in this project among temperature, hydration rate, and associated radiocarbon dates. At HUG-059 located at Selby Lake in the south central Brooks Range we recovered obsidian flakes associated with charcoal during the 1983 field season (Kunz 1984) (Table 2). The two associated radiocarbon dates are 1740 ± 100 B.P. and 1720 ± 70 B.P. respectively, averaging 1730 ± 120 B.P. Applying the dendrochronological correction of Stuiver (1982) the resulting age is 1685 B.P. Average hydration rind thickness on the flakes was 1.56 ± 0.05 u resulting in a hydration rate based on the radiocarbon calibration of $1.44 \text{ u}^2/1000$ years. Using this value and equations 2, 6, and 7 we can calculate the EHT required to produce this rate of hydration, in this case 1.4°C . Referring to the Bettles temperature data, 1.4°C is close to the Bettles air EHT of 1.6°C , but 4°C colder than the EHT at the ground surface at Bettles. This discrepancy cannot be resolved at present. The EHT at Selby Lake should be close to that at Bettles, because the insulating effect of snow at both locations should be similar. These results underscore the need for more precise temperature data.

At the Bateman site (PSM-138) on the west shore of Itkillik Lake located at northern range front of the Brooks Range (Kunz 1976) additional testing was undertaken in 1984 to recover associated obsidian and charcoal samples. Table 2 shows the hydration rate calibrations at this site. An average of 23 hydration rind measurements from several obsidian flakes is 1.01 ± 0.14 u. Two different radiocarbon dates from the site allow two possible hydration rates; 1290 ± 80 B.P. and 1510 ± 90 B.P. Dendrochronological correction of these dates results in ages of 1250 and 1435 years ago respectively (Stuiver 1982). These ages produce hydration rates of $0.82 \text{ u}^2/1000$ years and $0.71 \text{ u}^2/1000$ years respectively. When equations 2, 6, and 7 are used to calculate the EHT required for these hydration rates, the results, -3°C and -4°C respectively, are reasonable when compared with temperature records from Galbraith Lake, located 20 km to the east. Mean annual air temperature at Galbraith Lake is -9.5°C and the calculated air EHT is -2.2°C . Soil EHT may be slightly colder than air EHT at this site because of permafrost which prevents buried obsidian artifacts from experiencing the relatively warm summer temperatures.

A final example comes from WIS-076, a site located in the valley of the North Fork of the Koyukuk River (Table 3). No charcoal samples from this site were associated with the obsidian surface finds, a fluted projectile point base and a collaterally flaked projectile point base. In this case, an hydration rate was calculated directly from equation 6 and 7 using air temperature data from Chandalar Shelf. At this station mean annual temperature is -6.6°C and the annual range of temperature is 32.5°C . Using equation 8 results in an EHT of -0.14°C . The resulting hydration rate is $1.18 \text{ u}^2/1000$ years. The fluted point has a hydration rind thickness of 3.75 ± 0.26 u which results in an age of $11,900 \pm 1650$ years. The rind thickness of this fluted point is similar to rind thicknesses on fluted points and associated artifacts from the Batza Tena locality reported by Clark (1984). The collaterally flaked projectile point has a rind thickness of 2.38 ± 0.07 u which results in an age of 4800 ± 280 years.

HUG-059

Obsidian flakes 20-30 cm below the surface

Hydration Rind Thickness: 1.56 ± 0.05 u

Age: 1685 years

Hydration Rate: $1.44 \text{ u}^2/1000 \text{ years}$

Required Effective Hydration Temperature: 1.4°C

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BATEMAN SITE PSM-138

Obsidian flakes 50 cm below the surface

Hydration Rind Thickness: 1.01 ± 0.14 u

Age: 1230 or 1400 years

Hydration Rates: $0.82 \text{ u}^2/1000 \text{ years}$ (1250 years)
 $0.71 \text{ u}^2/1000 \text{ years}$ (1435 years)

Required Effective Hydration Temperatures: -3.0°C (1250 years)
 -4.0°C (1435 years)

Table 2. Obsidian hydration rate calibrations from HUG-059 and the Bateman Site, PSM-138.

WIS-076

Obsidian projectile points on the surface

Hydration Rind Thickness: Fluted point 3.75 ± 0.26 u

Collaterally flaked point 2.38 ± 0.07 u

Effective Hydration Temperature: -0.14°C

Hydration Rate: $1.18 \text{ u}^2/1000 \text{ years}$

Age: Fluted point: $11,900 \pm 1650$

Collaterally flaked point: 4800 ± 280

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Table 3. Age calculations for WIS-076 from based on EHT.

Because of the lack of temperature estimates for most of the localities from which obsidian was recovered during this project, we have chosen to use the radiocarbon calibrated hydration rates for estimates of site age in this report. In order to obtain better estimates of soil temperature, we have emplaced thermal diffusion cells in the ground at HUG-059, PSM-138, and WIS-076. When these results are available, we will be able to provide more precise estimates of EHT and hydration rates.

Conclusions

The process of developing an obsidian hydration chronology for the southern Brooks Range has pointed out to us several serious problems with the dating method. Errors in the measurement of hydration rind thickness evidently occur more frequently than most investigators have suspected, making verification and re-measurement of suspect measurements a necessary part of the process. Temperature has proven a very difficult variable to control because of the lack of weather records for the Brooks Range, making the use of thermal sensors necessary for each site where accurate results are needed. The effects on the soil thermal regime from wildfire are at present unknown, and may be impossible to document for a particular site. Therefore the precise thermal history of an artifact may be impossible to ascertain, a fact that limits the precision of the obsidian hydration dating method. However, careful use of the method certainly can produce useful chronological information where organic samples for radiocarbon dating are unavailable.