

Archaeological Survey along Keystone Drive near Soldotna, Alaska

Report
To

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The Kenai Peninsula Borough plans to improve 3.2 miles of Keystone Drive off the end of East Redoubt Avenue near Soldotna and as part of environmental considerations provided that an archaeological survey be accomplished. Keystone Drive already exists as a gravel surface road, with a 25 feet wide driving surface and adjacent drainage ditches (Figure 1). The scope of work for the survey dictated restriction to a maximum 60 feet wide right-of-way.

The general project area is low elevation terrain with several low river terraces that the road crosses or follows. Much of the road length, more than half, is either developed in prior construction or is wetland with little site potential.

Methodology

The minimal corridor width imposed restrictions on the usual survey technique of widening the survey corridor where site potential is high and sub-surface testing. The road margin was walked and in areas where higher terrace surfaces occur, the limit of present clearing was walked. In that manner, private property could be observed even if not tested. The 15 to 20 feet corridor of private property beside the road could thus be examined for surface features such as sub-surface cache pits or house pits. Back slopes and drainage ditch margins allowed a look at the subsurface soil in areas where the existing road cut through higher terraces.

No sites are listed on the Alaska Heritage Resources Survey (AHRs) for the project area. Interviews with local people revealed a report of “pits” along the river bank near the east end of the project but that could not be confirmed. The pits were reported in the Moose Range Meadows, Castaway Addition, a private area where much of the ground surface has been significantly changed (Figure 1).

A number of attempts were made to contact the Kenaitze Tribe in order to answer their stated concern about the project (Wirz 2006). The contact person, Alexandra Lindgren, responded to an e-mail from me inquiring about any tribal knowledge about project area sites (Lindgren 2006). She “did not know of any sites along the route”. She stated she would recommend my e-mail as consultation and that the Kenaitze Executive Council accept my finding of no sites in the project area. The proviso was made that the Tribe should be notified if sites or human graves were encountered. Another staff person Mike Bernard was also contacted but had no knowledge about the project area. Native place names for this part of the Kenai River are listed in a compilation by Kari and Kari (1982). They include Ts’eldatnu- mouth of Soldotna Creek, and Kitilent- Customhouse, reported but exact location unknown. An archaeological site has been documented at the mouth of Soldotna Creek, KEN-021.

Area Prehistory

Investigations of the archaeological remains on the Kenai Peninsula began with the pioneering work of Frederica de Laguna during the 1930's. She examined sites along the coast of Cook Inlet and several localities at the mouth of the Kasilof River (1975). The next major effort to locate sites on the northern Peninsula was in 1961 during construction of a natural gas pipeline from the Kenai gas field to Anchorage (Kent, et.al,

1964). Since the 1970's sporadic investigations on the northern Kenai Peninsula have yielded enough data to establish a preliminary framework of cultural events.

The earliest documented presence of man in the upper Cook Inlet area occurs in two areas, Turnagain Arm and in the Kenai Mountains near the source of the Kenai River. The Beluga Point Site is a multicomponent site on the north shore of Turnagain Arm which yielded evidence of core and blade technology (Reger, 1998). A broken biface, core fragments, plus complete and fragmentary microblades were recovered from the north end of the site. Although not dated by radiocarbon, the component, BPN- 1, is technologically equivalent to widespread Alaskan core and blade technologies from the early Holocene period.

Core and blade collections also have been excavated at several sites along the upper reaches of the Kenai River. The most significant collection is that from the Round Mountain microblade locality (Pipkin, 1989). The collection contains a complete microblade core, core blanks, platform rejuvenation debris, microblades, several transverse burins and secondary burin spalls among the more diagnostic items. The technology and forms mirror other early Holocene core and blade collections around interior southern and southwestern Alaska. The best estimate for aging the Round Mountain microblade locality suggests an early Holocene age for the occupation.

The next cultural stage on the central Kenai Peninsula appears to be an occupation of side notched projectile point bearers. The points from a site at the Kenai River-Russian River confluence have shallow notches and straight bases (McMahan 1985: 197). The occupation was situated directly above a horizon dated at 3564 B.C. and 3373 B.C. (Holmes 1985: 248).

Evidence from Kachemak Bay and from the Turnagain Arm area indicates that cultures related to the Ocean Bay Culture should also occur on the central Kenai Peninsula. That culture is characterized by sea mammal hunting and probably fishing with ground stone and chipped stone tools. Early Ocean Bay occupations date to about 6,000 years ago on Kodiak Island. Later Ocean Bay people developed slate grinding into highly sophisticated technology by 4500 years ago. To date, no clearly defined Ocean Bay Culture sites have been located in the Kenai or Kasilof areas but do appear to the south and north.

A considerable gap exists between the early and middle Holocene collections in the central Kenai Peninsula area and later cultures of the same area. The Kenai River is the focus for the majority of activity for the next period. A series of sites along the lower Kenai River have yielded materials which show close correlations with Kachemak Culture of the lower Cook Inlet and Kodiak. Riverine Kachemak sites at the mouth of Soldotna Creek, another just opposite and down from Soldotna Creek and just downstream from Soldotna are sites of this stage closest to the Keystone Drive project area. The sites at the mouth of Soldotna Creek, 2 miles from the Keystone Drive project, are the sites closest to the project. Specific artifacts and traits also indicate apparently strong ties to the Norton Culture in the Bristol Bay area. Recently, Reger and Boraas (1993) coined the term "Riverine Kachemak" to distinguish the remains along the Kenai River and Kasilof River from similar collections in the Kachemak Bay (and Kodiak) area.

Artifacts characteristic of the Riverine Kachemak period include ground slate ulus which have a straight or very slightly curved cutting edge and a form which may be roughly triangular or rectangular. The general manufacturing process for ulus involves

chipping of blanks, occasional scraping to form, and grinding to final form and edge. Hafting of some ulus was aided by lashing holes drilled in the ulu. Pumice abraders, stone saws, and whetstones complete the elements of the ground slate knife complex.

Fragments of a very few ground slate points were recovered from Riverine Kachemak sites. All ground slate blades have a flattened cross-section, most have stems, and all are bifacially ground. Long, ground slate scrapers with a narrow working edge, ovoid scrapers, and long, slender "awls" complete the list of ground slate artifacts from the period, 900 B.C. to A.D. 1000. Ground slate tools comprise approximately half of the cutting, scraping and piercing implements from that time.

Small planing adze bits occur through the latter half of the period. Most of the complete adze bits are thin and have a cutting edge with a very acute angle. A partially completed adze bit from the Moose River Site was chipped to form but has not been polished.

The most common form of chipped stone projectile point from that time is a small bi-point. That form occurs predominately in the early and middle parts of the period. Stemmed forms commence in the latter half of the period. Lanceolate forms with rounded or straight bases occur throughout the period. Large bifacially chipped knives occur infrequently throughout the period.

Side scrapers manufactured from thick flakes by edge retouch and long narrow side scrapers similar to flake knives of the Norton Culture in western Alaska occur during the entire period. End scrapers also occur throughout the period. The most common scraper is the boulder chip scraper struck from large ovoid and usually flat river cobbles.

Stone lamps were found in several Kenai River sites and a very well finished stone bowl or pigment mortar was recovered from the Nilnunqa Site. Red ochre pigment is commonly encountered in Riverine Kachemak sites and limonite nodules presumably used for yellow pigment less common.

Small pebbles (ca. 5cm long) notched on each end by removal of small flakes are the most common single artifact class throughout the period. Pebbles too thick for flake removal frequently had the notches formed by pecking and grinding.

A major distinguishing trait for the period is the house structure complex. The house forms tested thus far are large rectangular single rooms averaging about 6m by 8m. Hearths in every house were paved with fist sized or smaller stones. Three houses from two sites had distinctive central hearths constructed in a shallow, 2m by 1m oblong depression lined with stones, then birch bark, more stones, filled with gravel and then a fire was built.

The Riverine Kachemak house pit sites do not appear to have underground caches interspersed between the houses. That may be due to the age of the occupation and leveling effects of seasonal freezing cycles but several houses have apparent interior storage pits.

Radiocarbon dating of the Riverine Kacemak occupations is based on Kenai River sites except for a single date on the Kasilof River. The Kasilof date comes from a large site near the source of the river but at least two more Riverine Kachemak sites are located downstream near the upper limit of tidal influence. The 23 Kenai River dates, mostly from three sites along the lower reaches, cluster between 800-900 B.C. and A.D. 1000 (Reger and Boraas, 1993). That age mirrors radiocarbon date ranges from the Marine Kachemak occupations around lower Cook Inlet.

Late Prehistoric sites are numerous and scattered widely over the area. At contact, the Dena'ina Athapaskans ranged the middle and upper Cook Inlet area, a departure from the preceding distribution of the Kachemak population.

A summary of traits provisionally considered diagnostic of the Late Prehistoric period of the central Kenai Peninsula would include grooved splitting adzes or narrow chisel-like adzes, tabular whetstones, the occurrence of marine shell, interior hearths with no structure restricting the spread of the ashes, and large amounts of fire cracked rocks. Less common would be copper artifacts (points and pins), ground slate points with flattened diamond cross-section, multi-roomed house pits, entry tunnels.

Several collections from the Kenai River interpreted as Dena'ina Athapaskan occupations contribute to a possible definition of that group in the archaeological record. The upper levels of House 7 at the Moose River Site, KEN-043, are thought to be Dena'ina. The occupation yielded the top part of a grooved splitting adze, several pieces of carved bone including a tube fragment with a raised lip, and a hearth which spread over the center of the structure without apparent effort at containment. Some structural wood in very poor condition was found and birch bark from the house covering. The Dena'ina occupants of the structure seem to have taken advantage of an existing house depression when building their own dwelling.

The other major collection thought to be Dena'ina, came from the upper levels of the Nilnunqa Site, KEN-066. The upper levels of Features 33 and 36 contained among stone and bone items, copper implements: a tanged, tear drop shaped, copper point, a bipointed copper pin wrapped with an unidentified fiber, and a thin, crescent shaped copper ulu blade. The copper in the pin and ulu blade is probably from Copper River.

Ground slate ulus were not common and most frequently were formed by grinding an edge on an otherwise unaltered fragment. Workmanship of late prehistoric ground slate points usually display a less sophisticated degree of finish than ground slate items from earlier collections.

Splitting adzes were grooved over the top and the one complete tool was pointed at both ends. The adzes were not polished except at the cutting edge.

Late Prehistoric bone points are usually barbed along one side of the point. Other organic artifacts include shell labrets and beads, grooved bone fragments and bone pieces decorated with a circle and dot motif. A bone, toggling harpoon with a closed socket, multiple barbs, and a line hole perpendicular to the blade slot has been found also.

Along the Kenai River, near its confluence with the Russian River, several dated sites with house pits provided artifacts which have been variously attributed to Dena'ina or Eskimo occupations (Holmes 1985). The occupations are radiocarbon dated to the very late prehistoric period (Holmes, 1988). The excavated houses are multi-roomed structures with entry tunnels and a single central hearth in the main room. The hearths have diffuse edges, not defined by stone lining or border. The walls of the houses rise above the surrounding ground surface. Cache pits are located outside house limits; are 1m wide depressions, 0.5 -1m deep and usually lined with birch bark. Many house pits the Kenai vicinity match that description and have been radiocarbon dated between A.D. 1200 and European contact.

The Late Prehistoric period (A.D. 1000 - ca. 1778) on the western Kenai Peninsula and upper Cook Inlet represents a series of widely disparate collections. Many house pit sites along the Kenai River share enough similarities to consider designation as

a Dena'ina occupation. The common presence of coastal products suggests frequent contact with coastal neighbors. The overall picture gained is a lack of region wide coherence and probable use of the area by both Eskimo and Dena'ina.

Area History

Euro-American history in the Soldotna area began very recently. The first documented European visitors to the central Cook Inlet area were the Captain James Cook expedition in 1778. A fort was established nearby, at Kenai, by Russian explorers and fur traders in 1791. During the Nineteenth Century, fur traders and prospectors traveled through the general Soldotna area but none settled close by the project area. A history of Soldotna, reconstructed in 2002, placed the first non-Native residences in the area during the latter 1940s (Parker 2004:89). The Sterling Highway was built by 1950 and much of the initial activity in the Soldotna area centered between the junction of the highway with a spur road to Kenai and the Sterling Highway crossing of the Kenai River. Access to the project area was created only recently.

Findings and Discussion

Along much of its length, the Kenai River has in the past several thousand years moved laterally in its drainage valley creating side channels and depositional levees on which prehistoric sites frequently occur. The section of river adjacent to the Keystone Drive upgrade project is entrenched into the Soldotna Terrace and the river bed is generally well armored (Scott 1982: 29). Thus, any terrace edges or levees might be expected to contain sites from historic Denaina to older sites several thousand years old. Keystone Drive follows along the edge of such older river terrace near the middle and near the far end of the project. Those features were given particularly close inspection where possible but no cultural features or remains were found.

As mentioned earlier in this report, local people reported possible cultural pits between the road and the Kenai River bank. That could not be confirmed because the location is on private land and outside the scope of this project. Sites may occur in the vicinity of the project but probably not within the current right-of-way. Prior construction and adjacent lot development will have destroyed any remains that may have been in the roadway. No material source for the proposed upgrade was identified and thus could not be examined.

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Wirz, Connie

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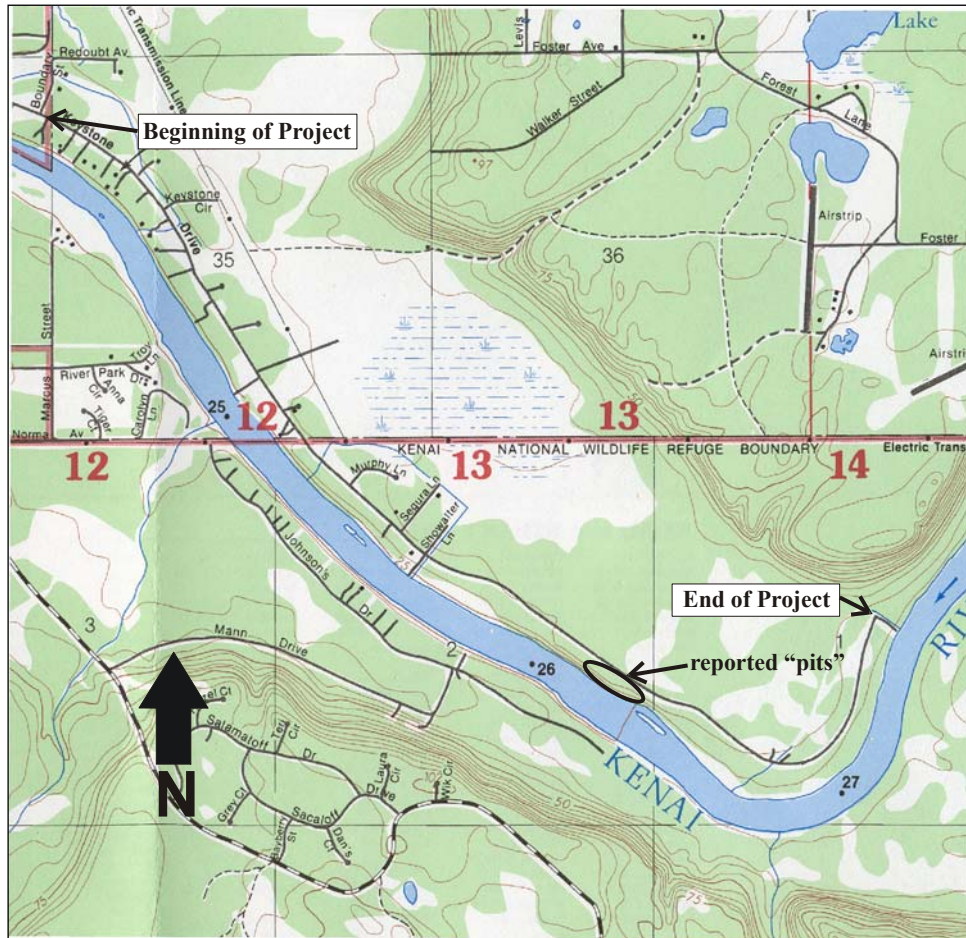


Figure 1. Map showing the Keystone Drive project limits and reported features. Adapted from Kenai River recreational map.