

## Validation Terrace PET-650

The Validation site (PET-650) rests above the present shoreline on a terrace which would have been beach front during the early Holocene when sea level was at its highest. It was the first archaeological site found using the “new” paleoshoreline predictive model developed by Carlson & Baichtal in 2009 to find early Holocene sites in Southeast Alaska. The age and elevation of *Saxidomus giganteus* clam shells found in the old beaches stranded above present high tide were used to produce a relative sea level curve spanning the Holocene. Surveying above the old shorelines has resulted in the discovery of new archaeological sites dating to the same age as the paleo-beaches, 7,000 to 9,300 radiocarbon years before present, approximately 8,000 to 10,000 calendar years ago.

The Validation site is located on an outer island in the southern Alexander Archipelago in what was once an expansive paleo-estuary. Today there are a series of narrow terraces along the south facing shore and creek bank, backed by heavily forested limestone hills facing an extensive muskeg (Figure 1). In the past, when sea level was at its highest transgression, the lower-lying elevations would have been flooded by salt water, forming a large protected bay (Figure 2). The bay had two outlets and an island separating it from the straits to the west. This estuary would have been a safe, sheltered harbor, while at the same time providing locations with good visibility for potential threats from the sea. Consistent and reliable intertidal subsistence resources would have been found there, such as clams, mussels, gastropods, sea urchins, and crabs; as well as water fowl and migrating salmon prior to the spawning season.

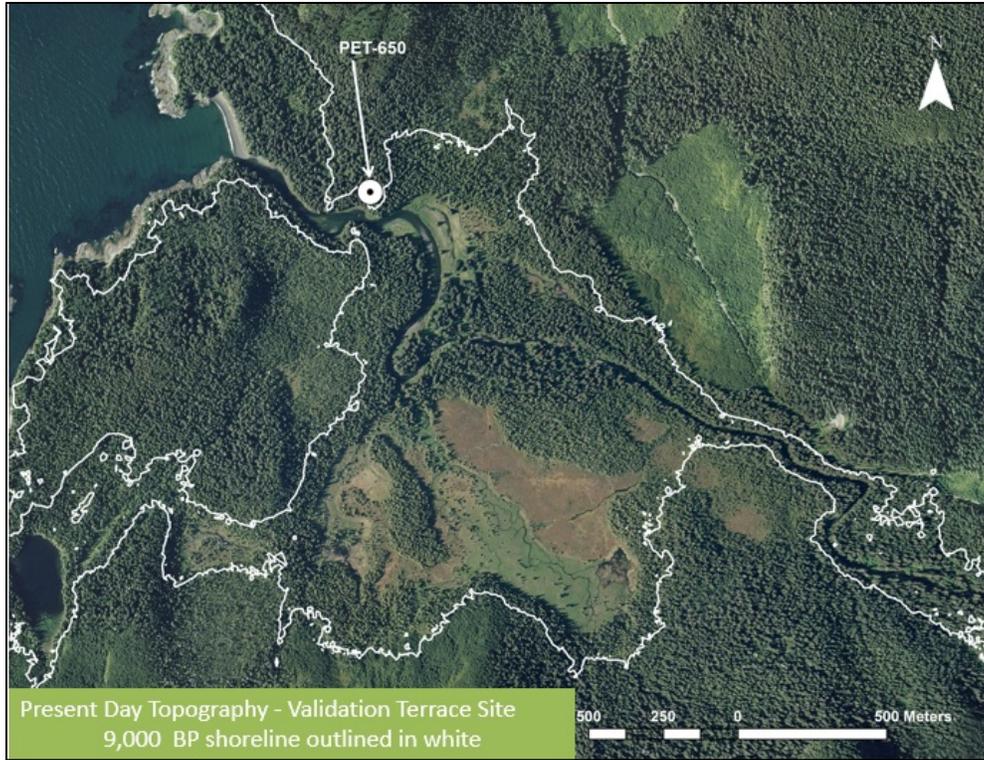


Figure 1. An Aerial photo shows the present-day coastline and creek at the Validation site. The 9,000 B.P. shoreline is shown in white (Map - J. Baichtal).

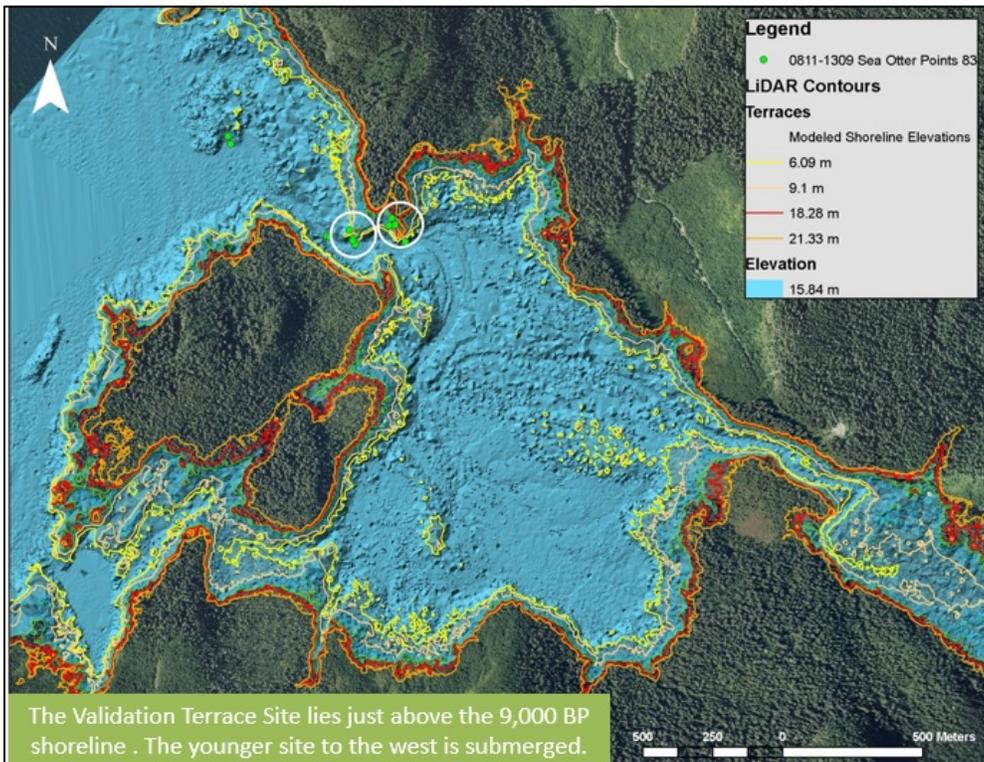


Figure 2. The hypothesized shoreline at the Validation site 10,000 calendar years ago (Carlson 2012).

Only limited testing has taken place at the site but at least two activity areas have been identified. Today the site is situated on a terrace overlooking the creek below (Figure 3). The setting is remote and the landscape is teeming with wildlife; black bear, wolves, and Sitka black-tail deer on land, and seals and sea lions in the creek when the tide comes in (Figure 4). Five contiguous 50 x 50 cm test pits have been excavated through deep cultural deposits which begin 20 to 25 cm below overlying forest soils. The upper cultural sediments are extremely carbonaceous rocky soils which follow the natural slope of the terrace, gradually shifting to cleaner, lighter-colored cultural deposits in beach sands which terminate at a depth of approximately 125 cm (Figure 5). Eight radiocarbon dates on charcoal group tightly between 9,130 (Beta-288620) and 8,730 <sup>14</sup>C yr BP (Beta-264082), suggesting a single continuous occupation.

Microblade, biface, and flake tool technologies were unearthed in a thick hearth deposit resting over beach sands. The microblade cores are Northwest Coast Microblade Tradition/Northwest Coast Variant forms made primarily from obsidian, chert, or rhyolite (Figure 6). Flake cores display both unidirectional and bidirectional removals.

Many microblades have been utilized, and some are notched -- presumably for end-hafting onto shafts of bone, antler, or ivory (Figure 7). Quartz crystal microblades, a burin spall, and possibly burinated microblades have also been found at the site (Figure 8). Micro-tools and microblade cores made of obsidian have been provisionally sourced to Suemez Island by XRF analysis. The small unifacial tools and microblades made from obsidian (Figures 9) and quartz crystal, contrast sharply with the abundant large unifacial flake or pebble tools made primarily from argillite or other coarse raw materials (Figure 10).



Figure 3. Look out from the Validation Terrace site to the creek below (Photo- R. Carlson).



Figure 4. The creek below the site fills with salt water as the tide comes in (Photo-R. Carlson).

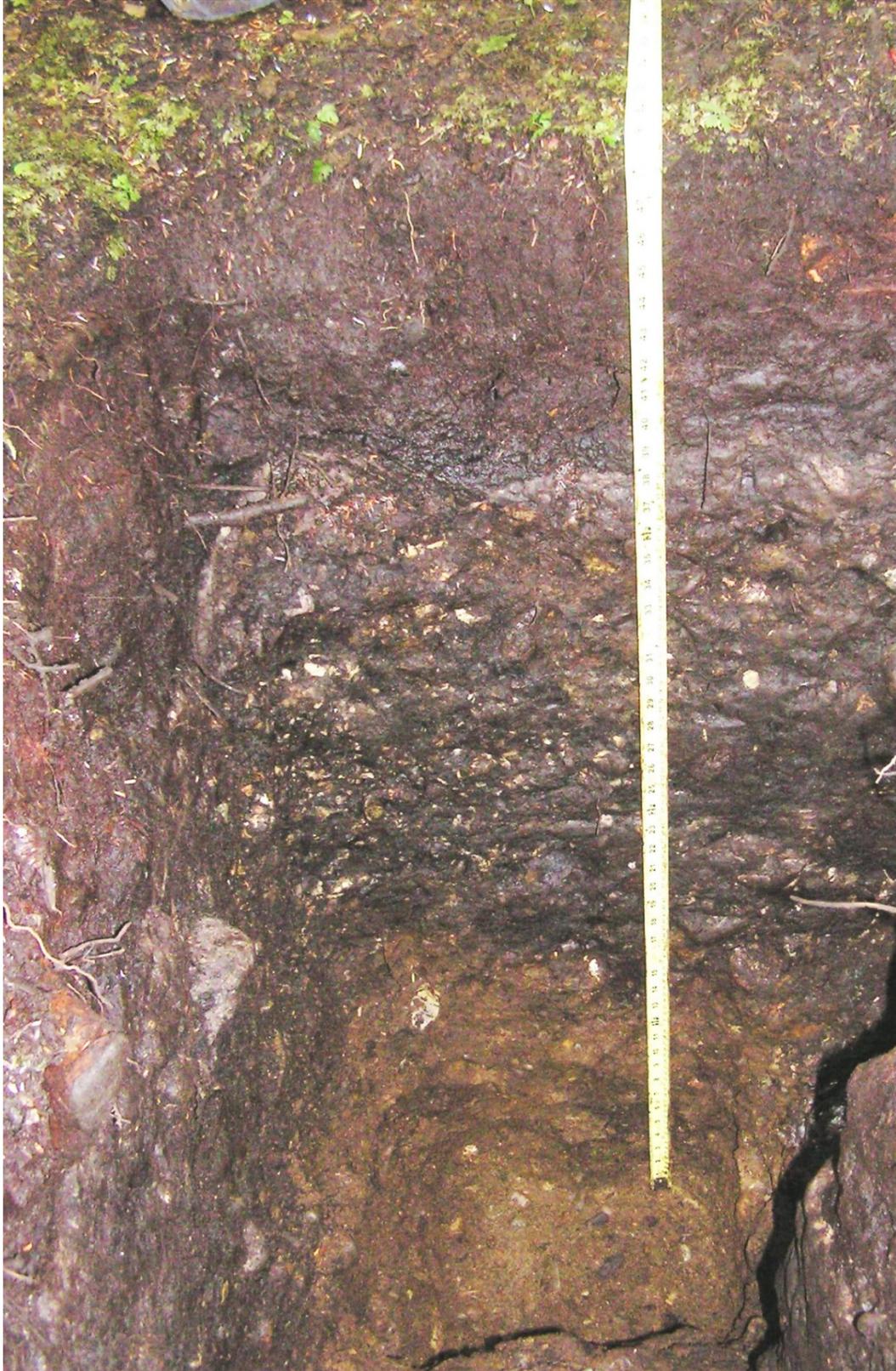


Figure 5. The cultural material in Test Pit 2 at the Validation site bottoms out at 130 cm below Datum. The reddish sand contains as many artifacts as the dark carbonaceous, rocky soils above it (Photo - R. Carlson).

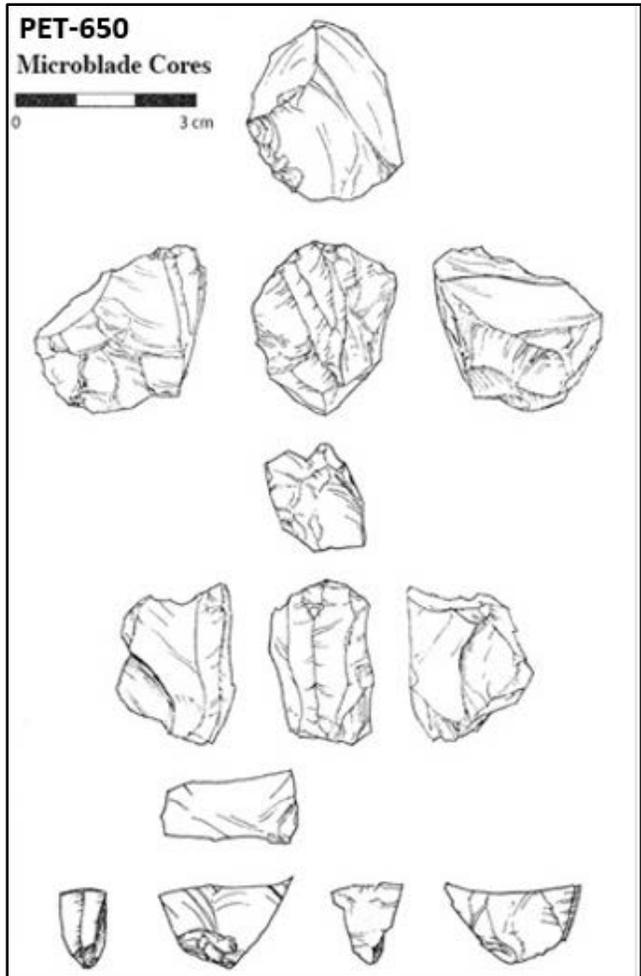


Figure 6. Microblade cores (Drawing – E. Parrish).

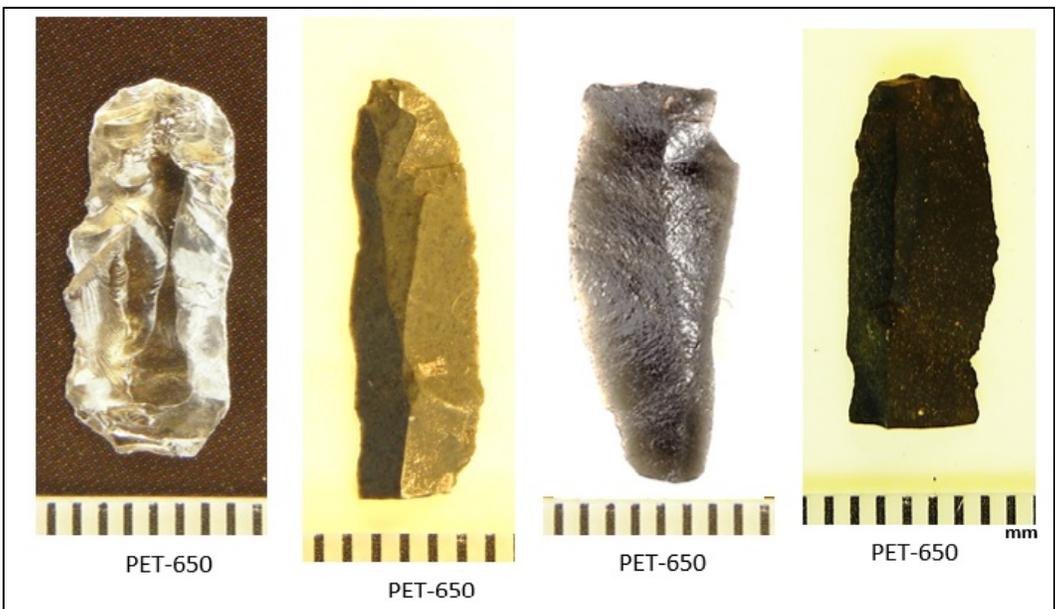


Figure 7. Microblades and a biface thinning flake (3<sup>rd</sup> from l.) from PET-650 (Photos-R. Carlson).



Figure 8. Quartz crystal microblades, burins, and a burin spall from PET-650 (Photo-R. Carlson).



Figure 9. Small unifacial obsidian tools from PET-650. (Photos-R. Carlson).

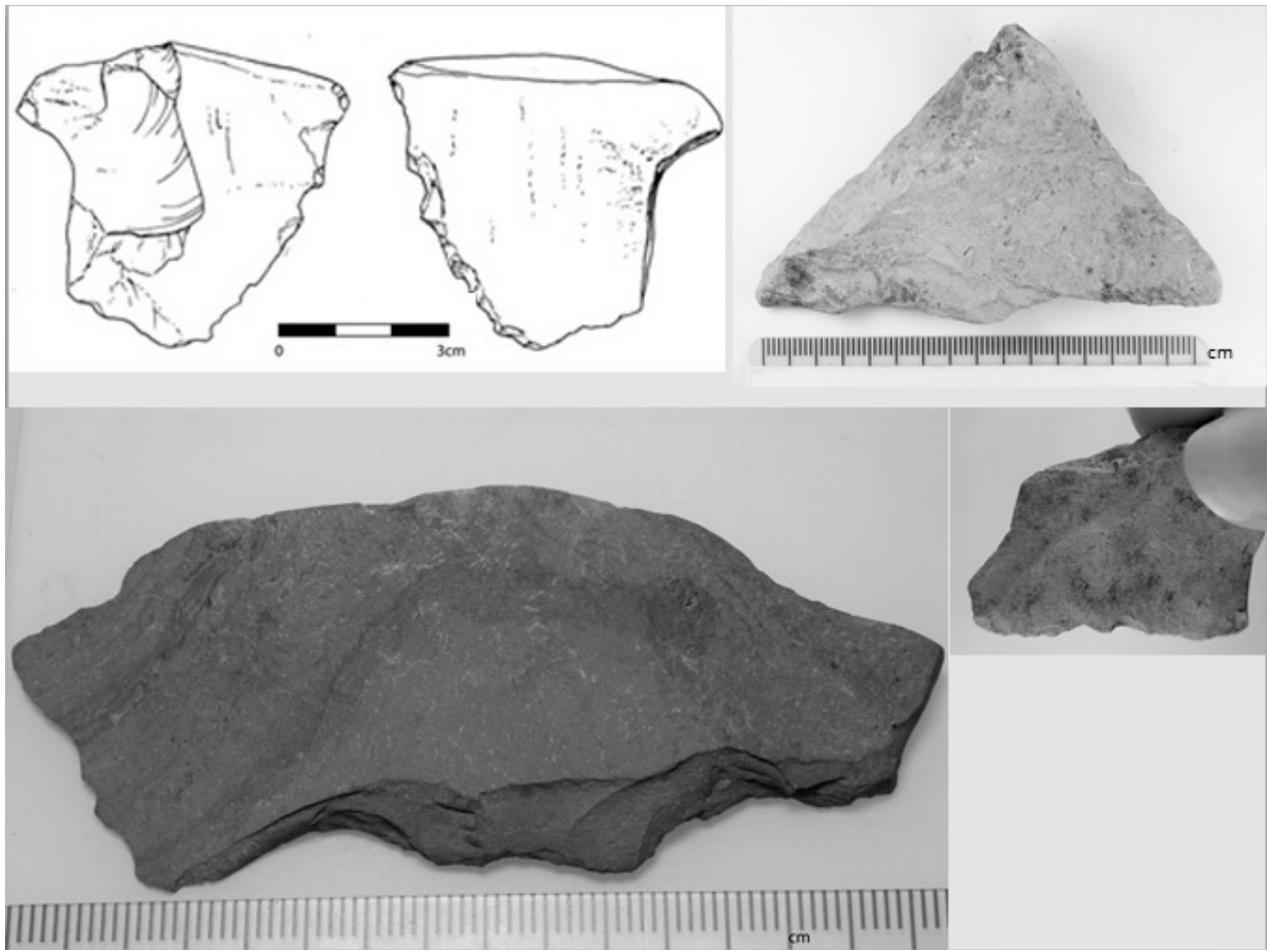


Figure 10. Argillite and rhyolite flake/pebble tools from PET-650 (Photos-R. Carlson; Drawing E. Parrish).

Biface technology is represented thus far by biface thinning flakes (Figure 7) and the initial flake from the face of a bifacially prepared microblade core (Figure 11). Core tablets and rejuvenation flakes indicate all stages of microblade production took place at the site (Figure 11). Tiny fragments of bone and shell fragments were found among the hearth stones.

The hundreds of stone tools, shell, and bone fragments from the small test pits excavated at the site indicate that tools were being made and repaired around a hearth while food was being prepared and eaten by some of the earliest inhabitants of Southeast Alaska. Plans are being made for further investigations at the site.



Figure 11. Three views of an obsidian initial flake off a bifacially prepared microblade core (left), and an obsidian core tablet from PET-650 (Photos-R. Carlson).