DISCOVERING ETHNOGRAPHIC ROCK ART IN THE CLEAR LAKE BASIN

Paul A. Peterson
724 Sartori Drive
Petaluma, California 94954

ABSTRACT

Previously unrecorded incised line and cupule rock art in the Clear Lake basin was located by ethnographic references to site-specific features. Young boys, for possibly ritualistic or ceremonial reasons, used obsidian tools to incise lines on a boulder outside the Southeastern Pomo village of Koi (CA-LAK-29). Two edge-worn obsidian flakes believed to be discarded incising tools were found at the base of this boulder and hydration rim readings of these specimens indirectly dates the rock art to the last 500 years. Cupule boulders at the Northern Pomo village of Mayi (CA-LAK-825/H) are the subject of two myths, neither one attributing the manufacture or use of these petroglyphs to the Pomo themselves, but relating them to creation and the supernatural.

Introduction

The Clear Lake basin lies in the southern North Coast Ranges of California, within the North Coast petroglyph style area (Heizer and Clewlow 1973:29-31). This style area was originally characterized as lacking any human or animal elements and typically taking the form of angular incisions or random scratches (Clewlow 1978:622). Research over the past couple of decades has greatly expanded our knowledge of the region's rock art, which is more abundant and varied than originally thought (Parkman 1989:69-71). The Clear Lake basin was occupied largely by Pomo groups at the time of Euro-American contact (Figure 1). The most common types of rock art around the lake are incised lines and cupules, both in terms of frequency of occurrence and total number of elements (Peterson and Peterson 1987). Incised lines and cupules occur on boulders known to have been used in Pomoan fertility rituals, and seven of these "baby rocks" are reported from Lake and Mendocino counties (Loeb 1926:246-247; Barrett 1952:385-387; Hedges 1983a:12). While some of the rock art is historically linked, direct dating of features has not been attempted and indirect dating methods are only beginning to be employed. Even though more than 200 Pomoan rock art sites are known, few have been subjected to rigorous archaeological investigation (Parkman 1994:34-35).

In an effort to learn more about rock art of the Clear Lake basin, I searched the published and unpublished ethnographic literature for mention of unrecorded features, looking especially for descriptions keyed to recognizable landmarks that might allow me to find them in the field. This paper discusses two examples of hitherto unrecorded rock art located in this manner, an incised-line boulder at the village site of Koi in Southeastern Pomo territory and cupule boulders at the village site of Mayi in Northern Pomo territory (Figure 1). Hydration rim readings of obsidian specimens collected from the vicinity of these features provide time frames for the surrounding deposits and, provisionally, the rock art itself.

Indian Island Site (CA-LAK-29)

Koi was one of three main Southeastern Pomo villages situated on islands in Clear Lake (McLendon and Lowy 1978:306). The village was located at the southern end of 10.6-acre Indian Island (Lower Lake Island), across from the Cache Creek outlet to the lake. Barrett (1908:207) described this as a large village. Cook (1956:112) estimated the population of Koi at 228, based on the number of families reported by Gifford (1923:80) and using a factor of 6 persons per family. Koi was abandoned in 1868, when its inhabitants moved to mainland villages (Barrett 1952:413-414). Today, Koi is marked by dark midden soil and associated housepits, including the subterranean remains of a large ceremonial roundhouse. The site has not been excavated.

Tom Johnson, a Southeastern Pomo born at Koi around 1858, spent his early childhood on Indian Island (Barrett 1952:17,403; Gifford and Kroeber 1937:123). According to this Native American:

> On top of Lower Lake id. (Koi) was smooth rock several feet in diameter. Young boys (10 to 12 years old) of "each generation" went there and made lines with obsidian pick [Gifford and Kroeber 1937:186].

This was a clear reference to an incised line boulder that had never been recorded before, judging by a review of archaeological site records and the published literature. Barrett considered Tom Johnson to be a very reliable informant who was,

> [A]ctuated by a genuine desire to leave an accurate record of his people...showing things as they were in his part of the lake area when he was a boy or a young man, or as he heard of them from his elders in those days [Barrett 1952:13].

Barrett's favorable opinion of Tom Johnson's veracity strengthened my belief that this particular feature was real.

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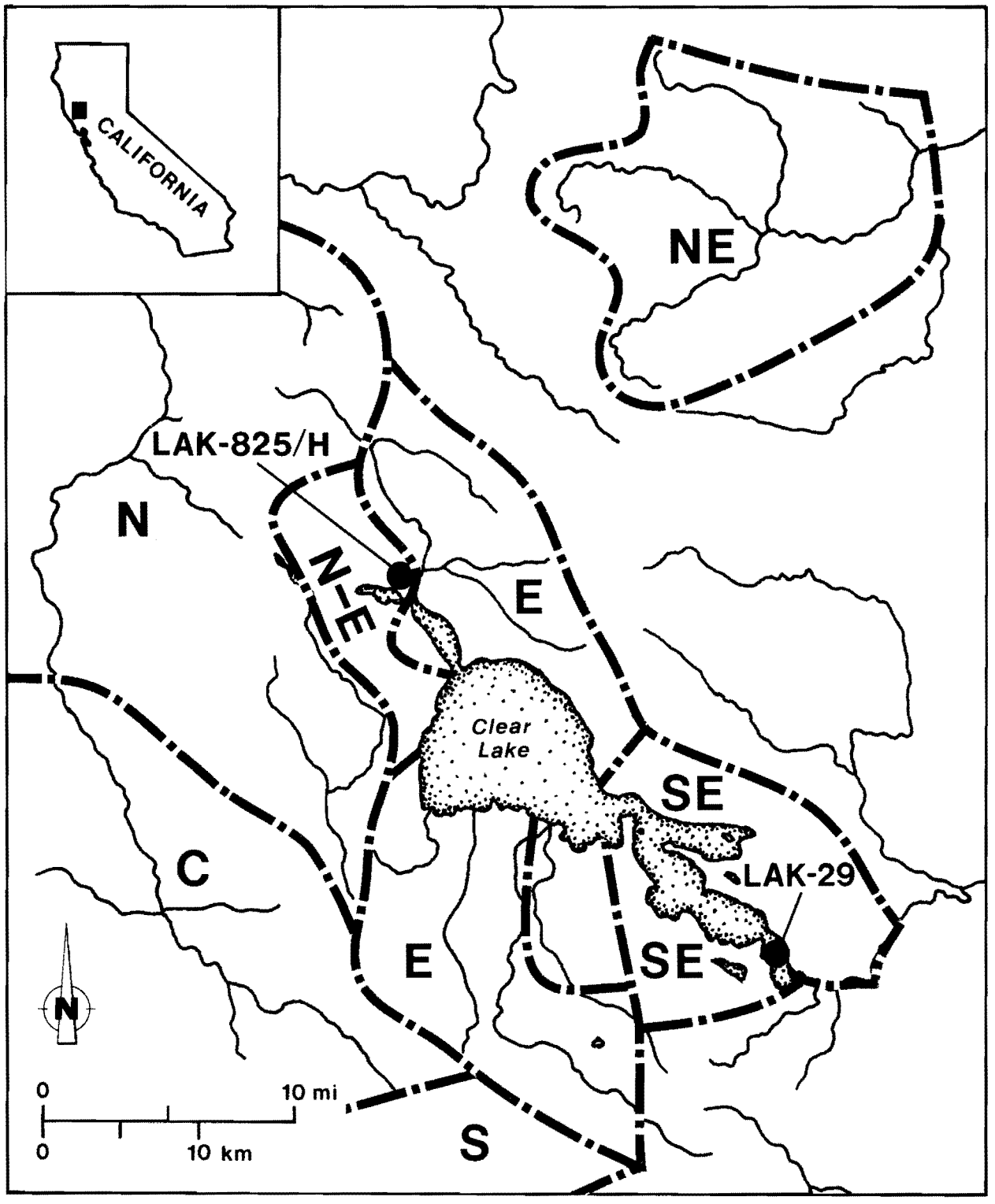

Figure 1. Map showing location of sites mentioned in text, and Pomo territories. C, Central; E, Eastern; N, Northern; NE, Northeastern; N-E, Northern and Eastern amalgamation; S, Southern; and SE, Southeastern.

I found an incised line boulder matching the above description on top of the island (Figure 2). Altogether, during a brief survey I recorded incised lines and/or cupules on 9 boulders within the village of Koi and on 7 boulders at other places on the island. The nearest incised lines to those referred to by the informant occur on the island's eastern side, approximately 65 m distant.

The boulder of interest is dacite and measures 280 cm in length, 200 cm in width, and 136 cm in height, with its smooth upper surface inclined 25 degrees from the horizontal, facing northwest. It bears 256 incised lines ranging in length from 1.0 cm to 51.5 cm (mean = 7.1 cm), in width from 0.5 mm to 3.0 mm, and in depth from a fraction of a mm to 2.0 mm. Three sets of closely spaced short lines form motifs in the shapes of a triangle, an hourglass, and a Roman numeral II with a horizontal line through it. The majority of the lines are arranged in a seemingly haphazard fashion.

To the west of the boulder is an area relatively free of other boulders, and I cleared away an accumulation of leaf litter out a distance of 1-2 m to examine the ground surface for discarded obsidian incising tools. Sixteen pieces of obsidian were exposed, including 2 edge-worn flakes and a non-temporally diagnostic, leaf-shaped biface. The latter 3 specimens, plus 1 debitage flake, were collected, visually sourced, and submitted for hydration analysis.

Edge wear on the two obsidian flakes was immediately obvious by unaided examination. Stone-on-stone cutting/sawing action results in a very distinctive wear pattern on a flake tool used against rock. The damage has characteristics of abrasive grinding, with the rounded edge possessing a frosted or matte appearance when viewed under low power magnification (Kamminga 1979:153-154). The edge-worn specimens are shown in Figure 3. Catalog No. 29-1, is a backed blade of Mt. Konocti obsidian 32.4 mm long, 12.2 mm wide, and 5.6 mm thick, worn all along its convex edge (Figure 3a). Catalog No. 29-2 is a cortical flake of Borax Lake obsidian 23.8 mm long, 12.0 mm wide, and 3.8 mm thick, worn along both lateral edges (Figure 3b). Hydration rim readings were 1.1 and 1.2 microns for Catalog Nos. 29-1 and 29-2, respectively. Hydration rim readings for the other 2 Borax Lake obsidian specimens were 1.2 and 1.5 microns for the biface and the debitage flake, respectively, for an overall mean (n = 4) of 1.25 microns.

Origer (1989:76) showed that detectable and measurable hydration bands form on some obsidian artifacts in less than 100 years. The hydration bands on the two edge-worn flakes recovered from the base of the incised boulder probably reflect an age of less than 500 years before present based on current hydration rate models. If the last of the incised lines were added at the time of the island's abandonment in 1868, the tools used to make them would now be 127 years old and be expected to have at least a micron of hydration on them. These limited hydration data suggest that at least some of the lines were incised during the Emergent Period, represented archaeologically in this area by the Clear Lake Aspect of the Augustine Pattern (Fredrickson 1984:523).

In an experiment designed to duplicate the rock art, I used replicate obsidian flake tools to incise lines on samples of volcanic rock collected from the site vicinity. Two such specimens, 1 of Mt. Konocti obsidian and the other of Borax Lake obsidian, were each used to incise a 6.0-cm long, 1.0-mm wide, and 1.0-mm deep line, and these were then submitted to the obsidian hydration laboratory along with the 2 edge-worn archaeological specimens. The analyst, who was asked to compare the 4 specimens, looked at the edge wear with a 10 to 30 power binocular microscope and noted that the damage to the specimens within and between pairs was very similar, if not identical, which agreed with my own observations. Scanning electron micrographs of the edge wear on the archaeological and replicate specimens taken at 40 to 200 power (Figure 4) show a flat, granular topography in which macroscopic surface protrusions have been leveled.

To counter an argument raised earlier that Pomoan children would not likely be involved in the creation of rock art (Hedges 1983b:58), I had my 9-year-old nephew incise a line on a piece of Indian Island dacite using an obsidian flake, after first demonstrating to him my own technique for performing this task. He was able to produce an incised line resembling archaeological ones on his first attempt. Thus, boys of this age are certainly capable of manufacturing this type of rock art.

In the ethnographic account it is emphasized that members of "each generation" made incised lines on the feature, but there is no meaning or purpose ascribed to this activity. A traditional practice is implied by this wording, and based on the age of the participants, a relationship to male puberty rites seems a possibility. The incised boulder, located approximately 110 m from the center of Koi, is in the village fringe, an area that provided the liminal setting necessary for acts of transformation in Pomo society, where ceremonial participants were taken for preparation and to which initiates were taken for instruction (Parkman 1994:21-22). The Southeastern Pomo practiced a form of religion known as the Kuksu cult. Boys who were destined to play a role in the secret society were cut on their backs with shells by the society members in a 4-day ceremony held in a special brush house erected the day before the ceremony (Loeb 1932:127-128). Loeb (1926:382) believed that the cutting was a blood sacrificial custom and extremely ancient among the Pomo. Perhaps the incising of rocks may have in some way been imitative of the cutting the boys experienced during the Kuksu ceremony, with a connection simply not recorded in the ethnographic literature.

Sleeper Ranch Site (CA-LAK-825/H)

This site corresponds to the old Northern Pomo village of Mayi (Maiyi), which Barrett (1908:155) placed at the foot of the hills on the extreme western side of Upper Lake Valley, just east of the residence of a Mr. Sleeper. Kniffen (1939:368) reported Mayi as the older of two principal villages in the area and one that had long been unoccupied. This site also has not been excavated. Although no rock art had ever been recorded at the site, my interest was piqued by an ethnographic reference to

what sounded like cupules, as told by Emily Seegel, an Eastern Pomo born in 1855:

> There was a hill in Upper Lake that looked as if it was built on a rock foundation. At the foot of the hill you could see rock formation and all over the rock there were holes about the size of a silver dollar. These looked as tho they had been scooped out with something and the Indians never liked to go to the hill to hunt. They believed some evil spirit was there making these holes. But there were other people who said that a long time ago. A tribe of Indians lived there. They were very small. The grown men were only about the size of a two year old child. Whatever became of the tribe no one knows. There was a white man by the name of MacSleeper who made a settlement there. It was said that on a still night the sound of someone pounding on the rocks could be heard. People have gone out on Moonlight nights to see if they could see anything. There was a couple who said they saw the people. The Indians however claim this couple had gone bad and that was why they saw the small people [Essene 1935].

Two cupule boulders were found at the base of the hill, adjacent to a midden marking the presumed location of the former village. This rock art sits in relative isolation, with its closest recorded neighbor being the Bachelor Valley Baby Rock site (CA-LAK-34) located approximately 4.2 km to the northwest.

The boulders are part of a fractured sandstone outcrop, with the main rock mass measuring 300 cm long, 115 cm wide, and 200 cm high and bearing 135 cupules spread across the top and down the side (Figure 5). These cupules range in diameter from 1.5 cm to 5.0 cm (mean = 2.8 cm) and in depth from 2.0 mm to 17.0 mm (mean = 6.2 mm). A smaller boulder, measuring 82 cm long, 35 cm wide, and 38 cm high, bears 37 cupules, ranging in diameter from 2.0 cm to 7.0 cm (mean = 3.8 cm) and in depth from 2.0 mm to 23.0 mm (mean = 8.9 mm).

The site has been badly disturbed by agricultural activity. Around 1914, a house was built over the midden. This is now the residence of Madge G. Ish, granddaughter of Jerome Mac Sleeper, the white settler mentioned by the ethnographers. Ms. Ish was familiar with the cupules and referred me to her cousin, Patricia Moorhead, for details of an Indian legend surrounding them. Ms. Moorhead's father, Ned Sleeper, who was born in 1894 and raised on the property, heard a story about these rocks from Pomo children his own age. The story was that it was here where the first Indian was created from three things—tule root for usefulness, rattlesnake for defensiveness, and coyote for intelligence.

The myths for this feature are quite dissimilar, one explaining the cupules as the product of some evil spirit or a tribe of little people, and the other associating them with the creation of humans. Barrett (1908:155) pointed out how many Pomo myths of the region mention Mayi, with some of the characters of the myths originating here. One such myth has to do with the creation of Clear Lake by Coyote (Barrett 1933:122).

The fact that these Pomo informants living at the end of the nineteenth century and the first half of the twentieth century did not ascribe the making of cupules at this old village site to their own ancestors, might indicate knowledge lost or inaccurately transmitted as a result of acculturation. It could also mean that these cupules were the product of much earlier inhabitants, possibly even Pre-Proto-Pomoans, with relatively recent myths arising to explain these marks.

To assess the site's age, I collected 5 obsidian artifacts from the surface, visually sourced them, and submitted them for hydration analysis. Four Borax Lake specimens all had readable hydration rims, which were 1.8 microns on a Rattlesnake series side-notched point, 1.5 microns and 2.0 microns on two Rattlesnake series corner-notched points, and 3.0 microns on an Excelsior-like point base. I also augered the midden at a point approximately 37 m southeast of the rock art, which revealed obsidian debitage, charcoal, and bone extending to a depth of about 210 cm. Five visually-sourced Borax obsidian debitage flakes taken from this auger sample returned obsidian hydration rim readings of diffuse hydration from a depth of 30-43 cm, 2.4 microns from a depth of 87-97 cm, 1.5 microns from a depth of 130-139 cm, 1.8 microns from a depth of 182-194 microns, and diffuse hydration from a depth of 201-210 cm. The mean hydration value for all readable specimens (n = 7) was 2.0 microns. These data suggest a well mixed deposit containing late period components, somewhat older than the previously discussed site.

Conclusions

Ethnographic accounts of rock art are important for their ability to sometimes reveal how petroglyphs and pictographs were viewed by native peoples. In this way silent stones may begin to speak to us. By ethnographic analogy, such accounts can help explain similar features in the landscape that are otherwise frustratingly difficult for archaeologists to understand.

Indirect dating methods for rock art, however problematic, can provide estimates of the age of such features when more reliable chronometric data are lacking. The present study, using an ethnographically known feature as a test case, demonstrates the potential value of obsidian hydration analysis in indirectly dating incised rock art where edge-worn obsidian tools can be found in close association with incised lines. The existence of two large obsidian sources in the Clear Lake basin and their exploitation throughout the region's prehistory, hints that this lithic material may have been employed to make incised-line rock art at other sites besides the one discussed in this paper. Excavating deposits surrounding carefully selected features may yield more discarded obsidian tools for similar analysis and could begin to answer the question of how far back in time the incised rock art tradition extends.

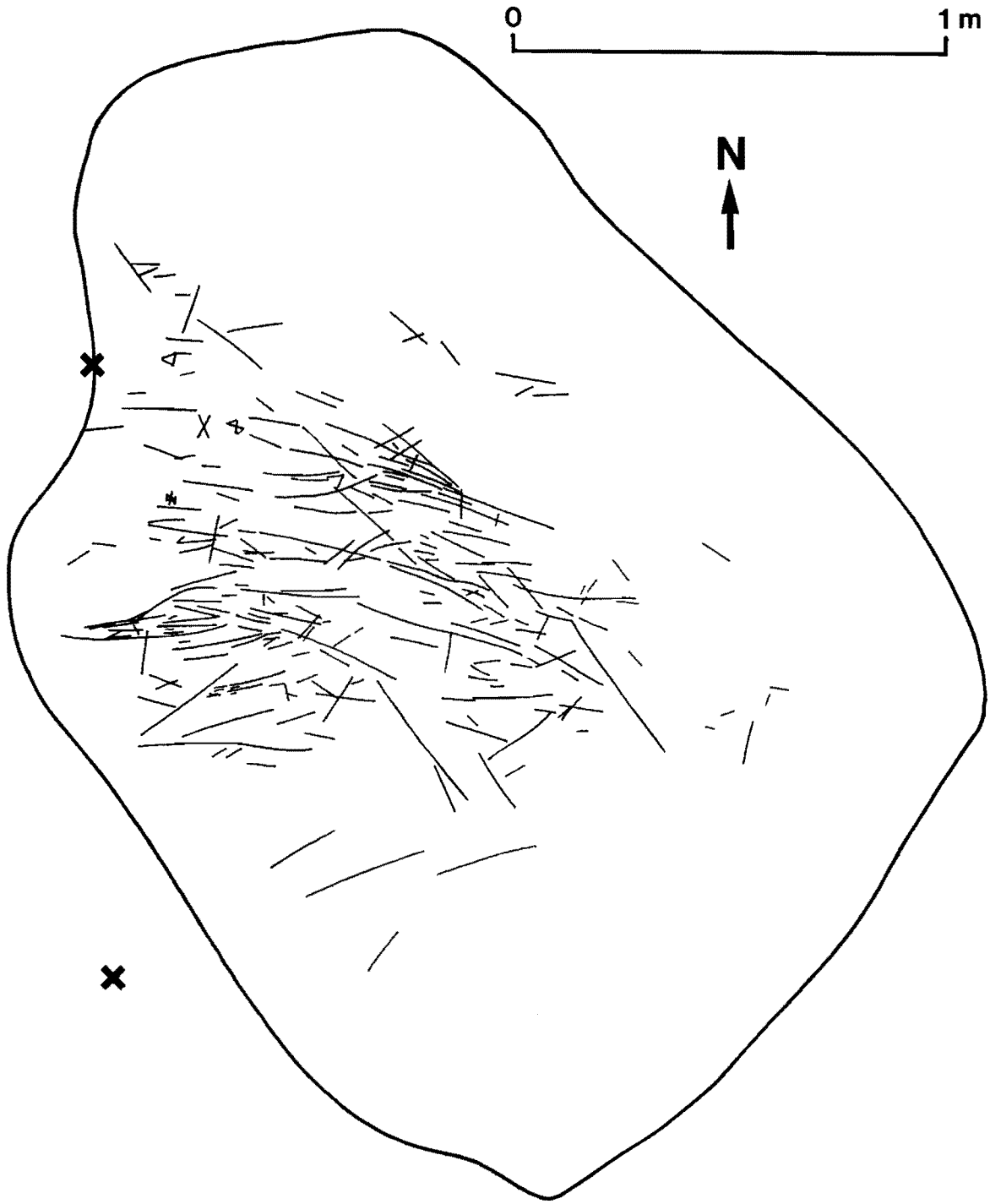

Figure 2. Plan view of incised boulder at CA-LAK-29. The Xs mark find spots on ground surface of two edge-worn obsidian flakes (top, Catalog No. 29-1; and bottom, Catalog No. 29-2).

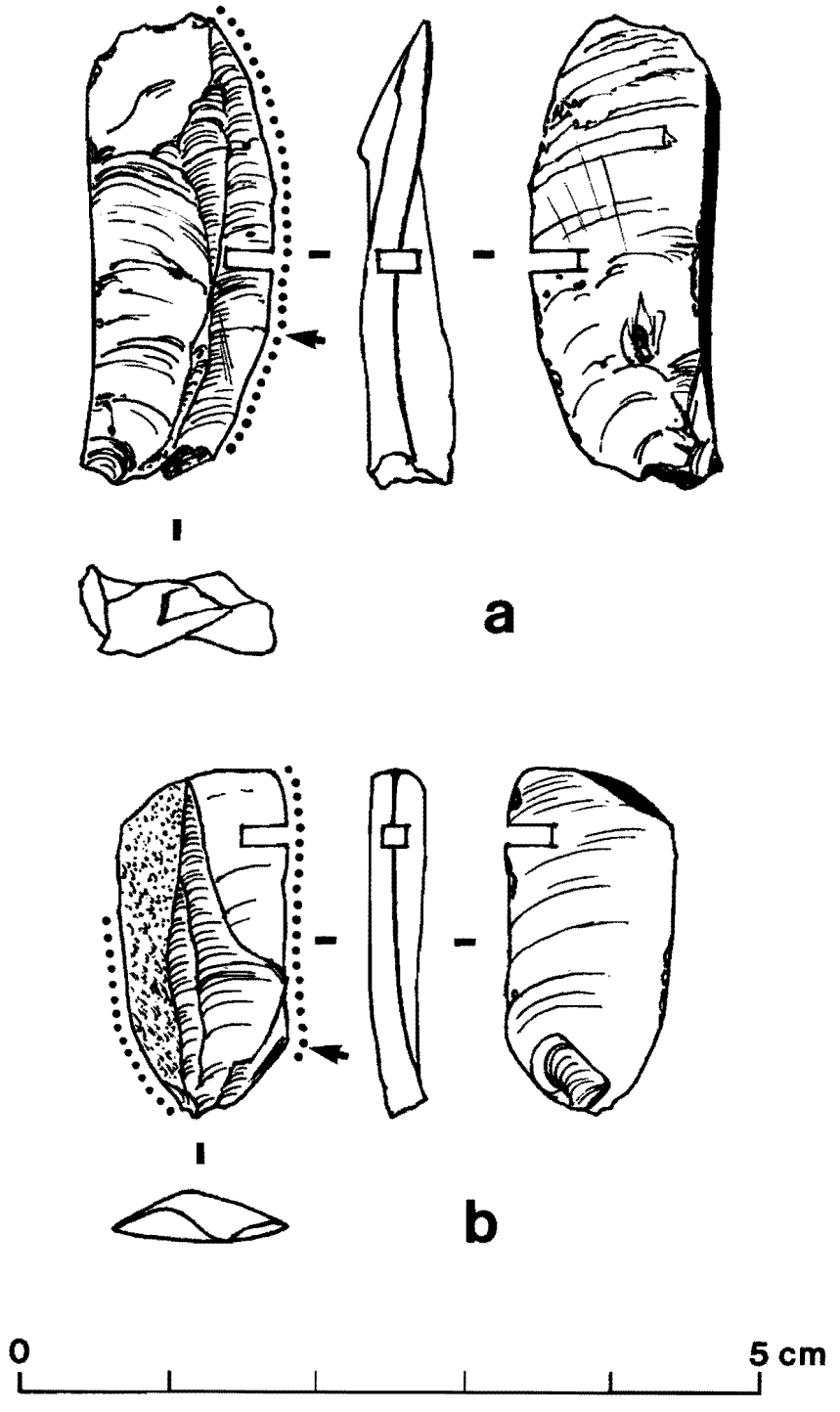

Figure 3. Edge-worn obsidian flakes collected from base of incised boulder shown in Figure 2. (a) Catalog No. 29-1. (b) Catalog No. 29-2. Edge wear is indicated in dorsal views by dotted lines. Arrows point to location of scanning electron micrographs shown in Figure 4.

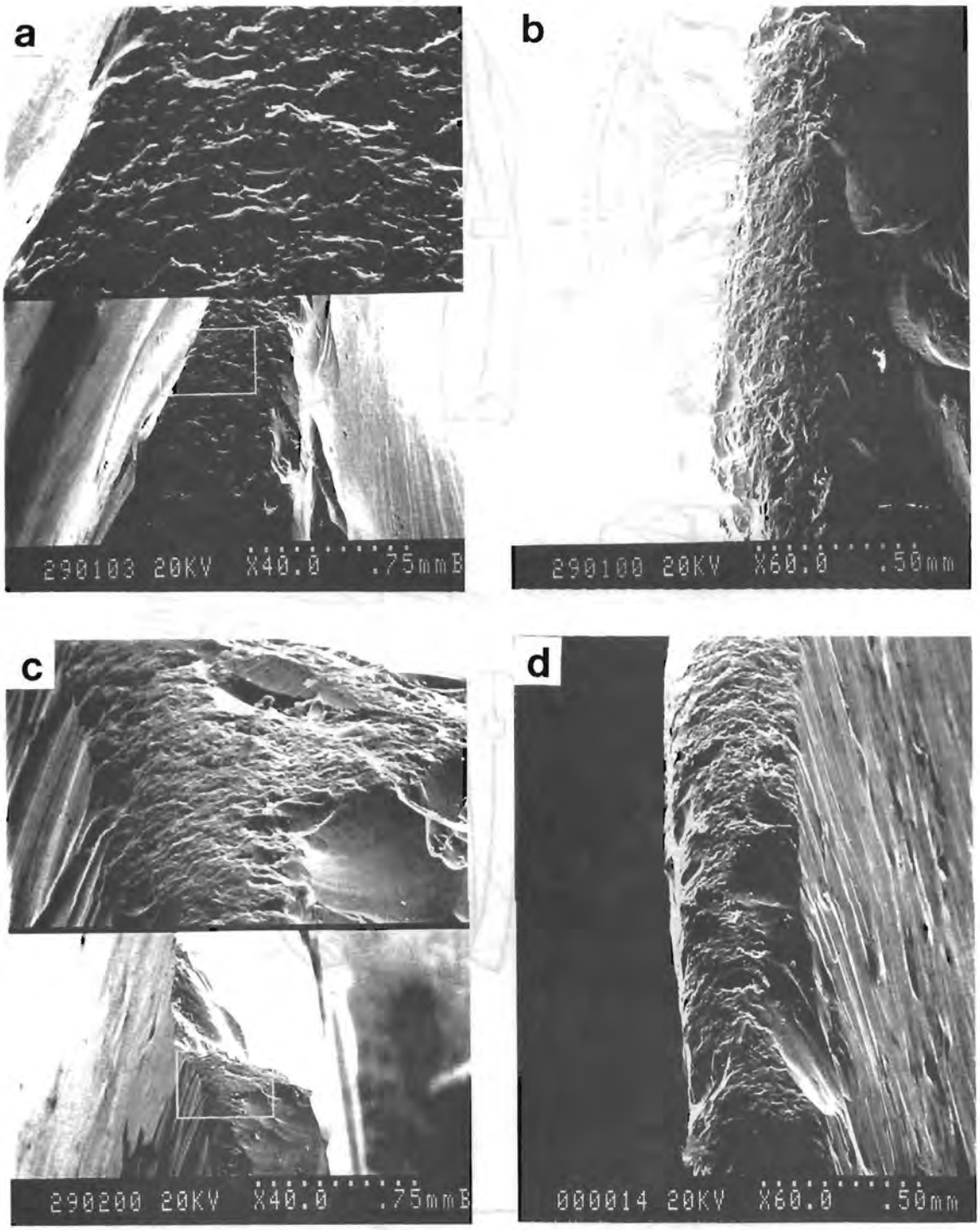

Figure 4. Scanning electron micrographs of edge wear on obsidian flakes. (a) Catalog No. 29-1; split-frame (top, 200X; and bottom, 40X). (b) Catalog No. 29-1 (60X). (c) Catalog No. 29-2; split-frame (top, 200X; and bottom, 40X). (d) Replicate tool used in incised-line making experiment (60X).

Note

I thank Patrick R. Peterson and Manuel M. Garza for their assistance in recording the rock art. Paul M. Peterson patiently cooperated in an incised-line making experiment, for which I am grateful. Madge G. Ish kindly granted me access to her property to study one of the sites. I thank Patricia Moorhead for sharing the Indian legend passed down to her from her father. Thomas M. Origer of Sonoma State University performed the obsidian hydration analysis. J. Jeffrey Flenniken of Lithic Analysts took the scanning electron micrographs.

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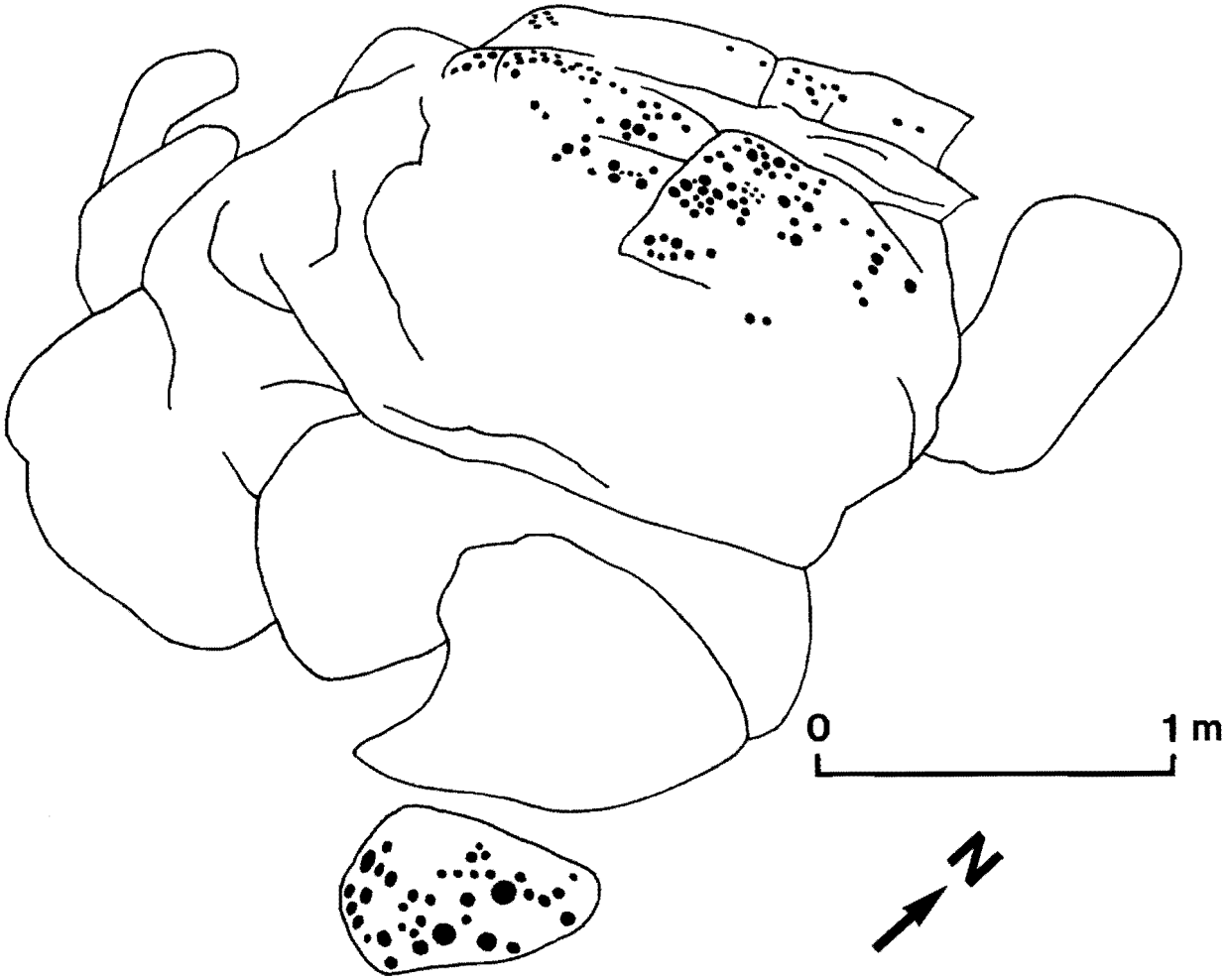

Figure 5. Oblique view of cupule boulders at CA-LAK-825/H.