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# The Caballo Blanco Biface Cache, Mendocino County, California (CA-MEN-1608)

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**D**URING September 1988 the authors discovered five large Mount Konocti obsidian bifacial blanks on the surface of an archaeological site, CA-MEN-1608. The site, previously recorded by Soule and Sheeders (1978), is located on Robinson Creek, a tributary of the Russian River, approximately 8 km. (5 mi.) southwest of Ukiah, Mendocino County, California (Fig. 1). The clustering of the bifaces, within an area 2 m. in diameter, suggested the presence of a cache partially exposed by ploughing of a vineyard. We marked the locations of the bifaces and requested permission of the owners, Caballo Blanco Vineyards, to conduct an excavation to determine the subsurface extent of the cache.

## THE SITE AND THE EXCAVATIONS

In October 1988 we returned to Caballo Blanco for mapping and investigation of the site. The deposit appeared to be a moderate lithic scatter of ground-stone tools and implements and flaked-stone tools and implements and debitage, roughly 100 m. (328 ft.) N-S by 70 m. (230 ft.) E-W (Fig. 2). The bifaces were recovered at the extreme southern edge of the deposit. The site is situated in what is believed to have been a mixed oak woodland at an elevation of 213 m. (700 ft.) on an alluvial bench about 50 m. (164 ft.) south of Robinson Creek.

At the location of the original discovery we began field investigations by excavating units 1 and 2 (Fig. 3), each 1.5 m. square, in arbitrary 10-cm. levels through hard-packed

clay to culturally sterile subsoil at a depth of 40 cm. We recovered five more Mount Konocti obsidian bifaces *in situ*, tightly clustered within an area measuring less than 20 cm. in diameter. We interpreted this cluster to be the undisturbed remnant of the original cache. The bottom of the undisturbed remnant of the cache was 30 cm. beneath the present ground surface. We excavated four more Mount Konocti obsidian bifaces scattered along a straight line parallel to, and between, the rows of vines for a distance of 1.75 meters north of the cache. We interpreted this to be the result of recent deep ploughing between the rows, directly through the cache.

To ensure that all bifaces ploughed from the original cache were recovered, we excavated six additional units surrounding the major concentration of bifaces (Fig. 3). These excavation units produced additional biface fragments, 19 of which were determined to be parts of bifaces already recovered. The remaining fragments included portions of at least two highly damaged bifaces not previously identified. Interviews with the property owners confirmed that one large biface was independently collected and removed from the site several years ago. Since this specimen may be the major portion of one of the two fragments counted above, it is not considered an addition to the total. Thus, we judge that the Caballo Blanco cache contained a minimum of 16 Mount Konocti obsidian bifaces prior to its disturbance by agricultural

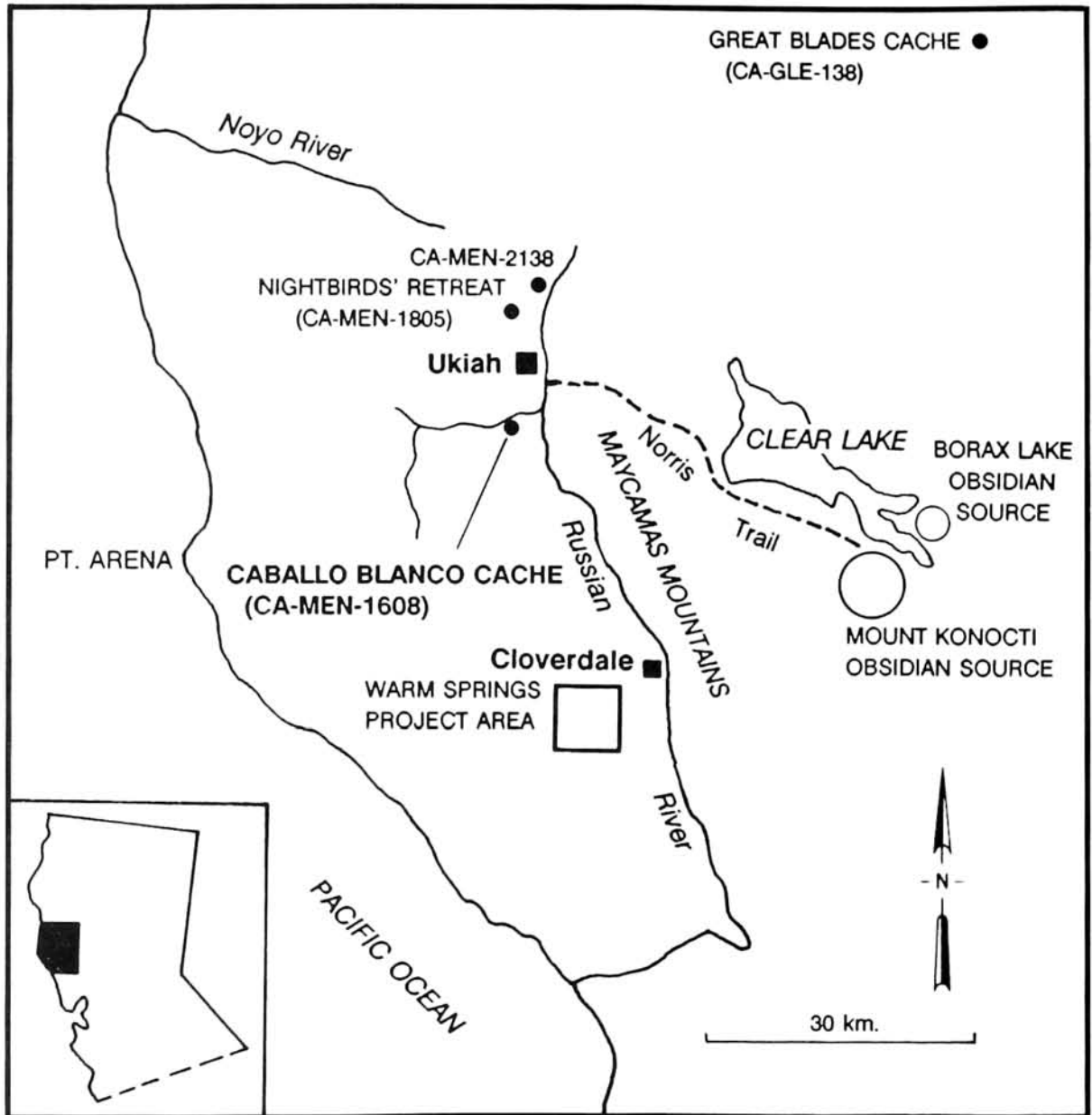


Fig. 1. Location of Caballo Blanco biface cache (CA-MEN-1608) and vicinity.

disking and recent deep ploughing.

The remainder of the cultural materials recovered during excavation included 241 obsidian flakes (239 Mount Konocti, 2 Napa), 323 chert flakes, and 12 chert artifacts (five scrapers, four edge-modified flakes, one small biface midsection, and two cores). The vast majority of the excavated 239 Mount Konocti

flakes show color and banding similar to the 16 bifaces recovered. Some of these flakes clearly are fragments of plough-damaged bifaces. We have not yet determined whether any of the remainder represents deliberate reduction of additional bifaces during antiquity, dating to the time of the original placement of the cache.

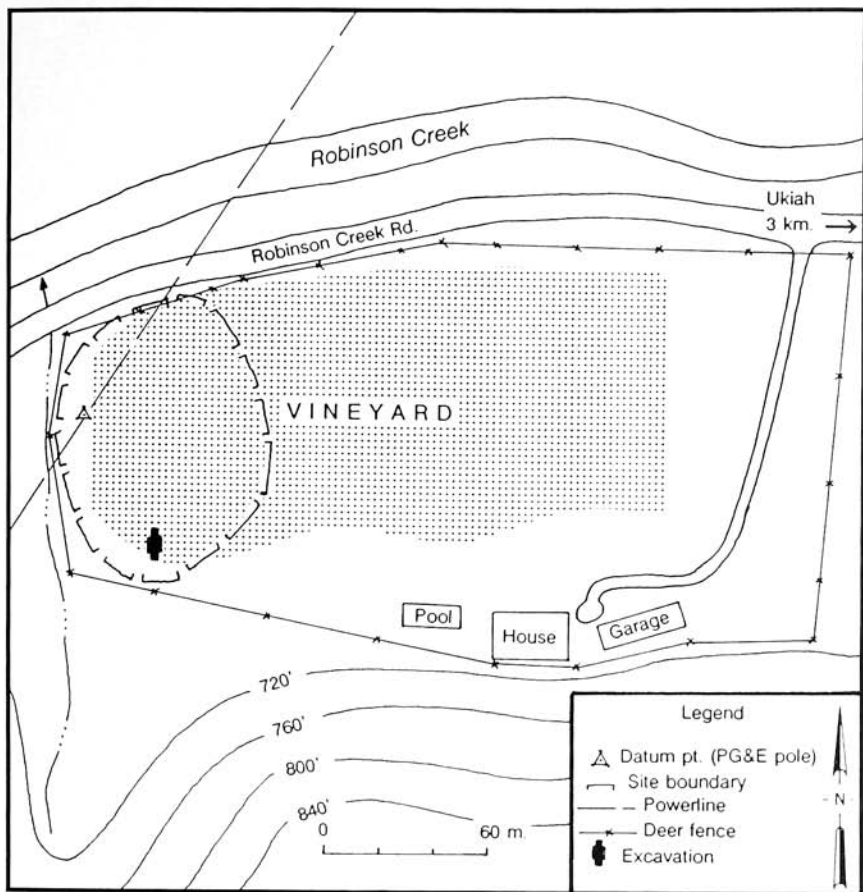


Fig. 2. Archaeological site sketch map for CA-MEN-1608.

### THE BIFACES

The condition of the bifaces is, in general, excellent, considering the vineyard has been disked several times a year for 30 years and recently deep-ploughed. Less than 25% of the entire edge of each of 11 specimens is

damaged, two have between 25% and 50% edge damage, and one biface received a direct hit and broke into more than a dozen pieces. Nineteen biface fragments, recovered in screens from various units, were identified as parts of the original 16. A comparison of the provenience of the bifaces and their fragments

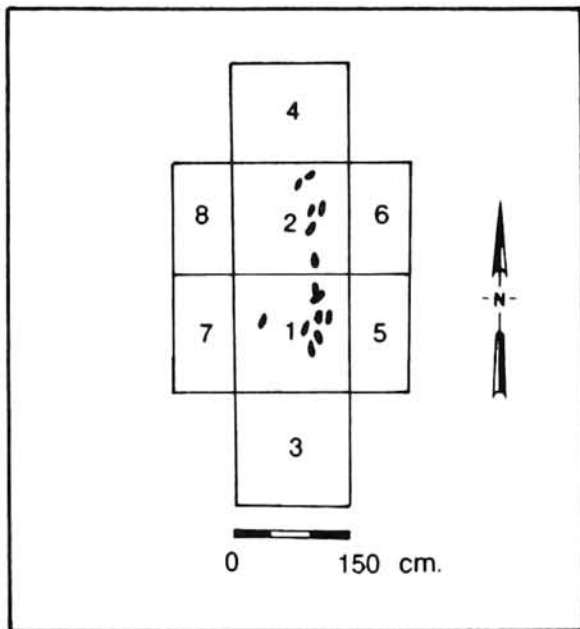


Fig. 3. Excavation units and biface locations.

indicates that the agricultural drift was taking the cache northward and slowly to the surface.

Of the 16 bifaces collected, 13 were sufficiently complete to allow measurement. Lengths ranged from 14.5 to 19.7 cm., averaging 17.1 cm. Weights ranged from 340 to 1,133 g., averaging 695 g. Individual specimen attributes are listed in Table 1. The authors visually identified all of the bifaces as having originated at the Mount Konocti source, a very distinct obsidian of the North Coast Ranges. The Mount Konocti obsidian source covers an area of more than 31.2 km.<sup>2</sup> (12 mi.<sup>2</sup>) immediately to the south of Clear Lake in Lake County (Fig. 1). Our visual sourcing was confirmed by Thomas Origer, Director of the Sonoma State University Obsidian Hydration Laboratory. The bifaces are of two colors: six are mostly black with grey banding, and 10 are mostly grey with tight black banding. Twelve exhibit patina.

The bifaces, generally ovoid in shape (Fig. 4), represent an early stage of reduction, by percussion. Eight specimens retain patches of cortex, and three possess the remnant of the



Fig. 4. Obsidian biface from the Caballo Blanco cache.

original striking platform by which the biface blank was removed from a boulder-like core. Fourteen of the 16 bifaces recovered are sufficiently complete to allow illustration (Fig. 5).

One unusual attribute of the Caballo Blanco bifaces is that all exhibit heavy wear on the edges, faces, and arrises (ridges formed by intersection of flake scars). Consequently we undertook an ancillary study to determine if the edge and facial wear exhibited on the artifacts was a direct result of their having rubbed against each other while being transported 80 km. (50 mi.) across the Mayacamas Mountains from the Mount Konocti obsidian field to the Caballo Blanco cache locality. This study involved a trip to the Mount Konocti obsidian field to locate

Table 1  
MEASUREMENTS AND ATTRIBUTES OF CACHED BIFACES FROM CA-MEN-1608

Fig. Number	Catalog Number	Unit	Depth cm.	Length cm.	Width cm.	Thickness cm.	Weight g.	Hydration Microns	1	2	3	4	5	6
Sa	12-1	1	30	16.6	11.7	4.4	757	3.7	+	0	1	1F/1L	+	-
Sb	12-2	1	30	15.4	10.9	3.4	531	4.0	+	6	1	-	-	-
Sc	2-1	1	20	18.2	10.7	4.5	808	3.7	+	16	2	1L	-	+
Sd	2-2	1	20	14.5	9.6	3.9	526	3.6	+	32	1	-	-	-
Se	2-3	1	20	12.9	10.0	3.3	394	3.6	-	0	2	1W/2L	-	+
Sf	4-1	2	20	19.0	13.6	4.6	1,040	3.6	-	19	2	-	-	+
Sg	3-1	2	10	14.9	11.4	4.0	629	3.7	-	22	2	1W/1F	-	+
Sh	1-1	1	10	16.7	9.7	3.6	544	3.5	-	18	1	-	-	+
Si	1-2	1	10	12.5	8.0	3.0	310	3.4	-	66	2	1F/1L	-	+
Sj	17-1	2	Surface	19.7	13.1	5.0	1,133	4.9	-	43	2	2F/1L	-	+
Sk	17-2	2	Surface	19.7	13.1	4.5	1,054	3.3	-	24	2	1W	+	+
Sl	17-3	2	Surface	18.0	12.3	4.0	758	3.8	-	0	1	-	-	-
Sm	17-4	2	Surface	15.4	9.3	3.9	518	3.9	-	9	2	1W	+	+
Sn	17-5	1	Surface	15.0	8.0	3.1	340	?	-	17	2	-	-	+
So <sup>b</sup>	7-2	4	10	?	?	?	?	?	-	90	1	-	-	+
Sp <sup>b</sup>	5-1	3	10	?	?	?	?	3.3	-	90	2	-	-	+

<sup>a</sup> Key to attributes: + = attribute present; - = attribute absent.

1. Intact Cache Remnant.

2. Damage as percent of circumference.

3. Color: 1 = black/grey banding; 2 = grey/black banding.

4. Cortex: 1 = one; 2 = two; L = length; W = width; F = face.

5. Striking platform.

6. Patina.

<sup>b</sup> Biface fragment.

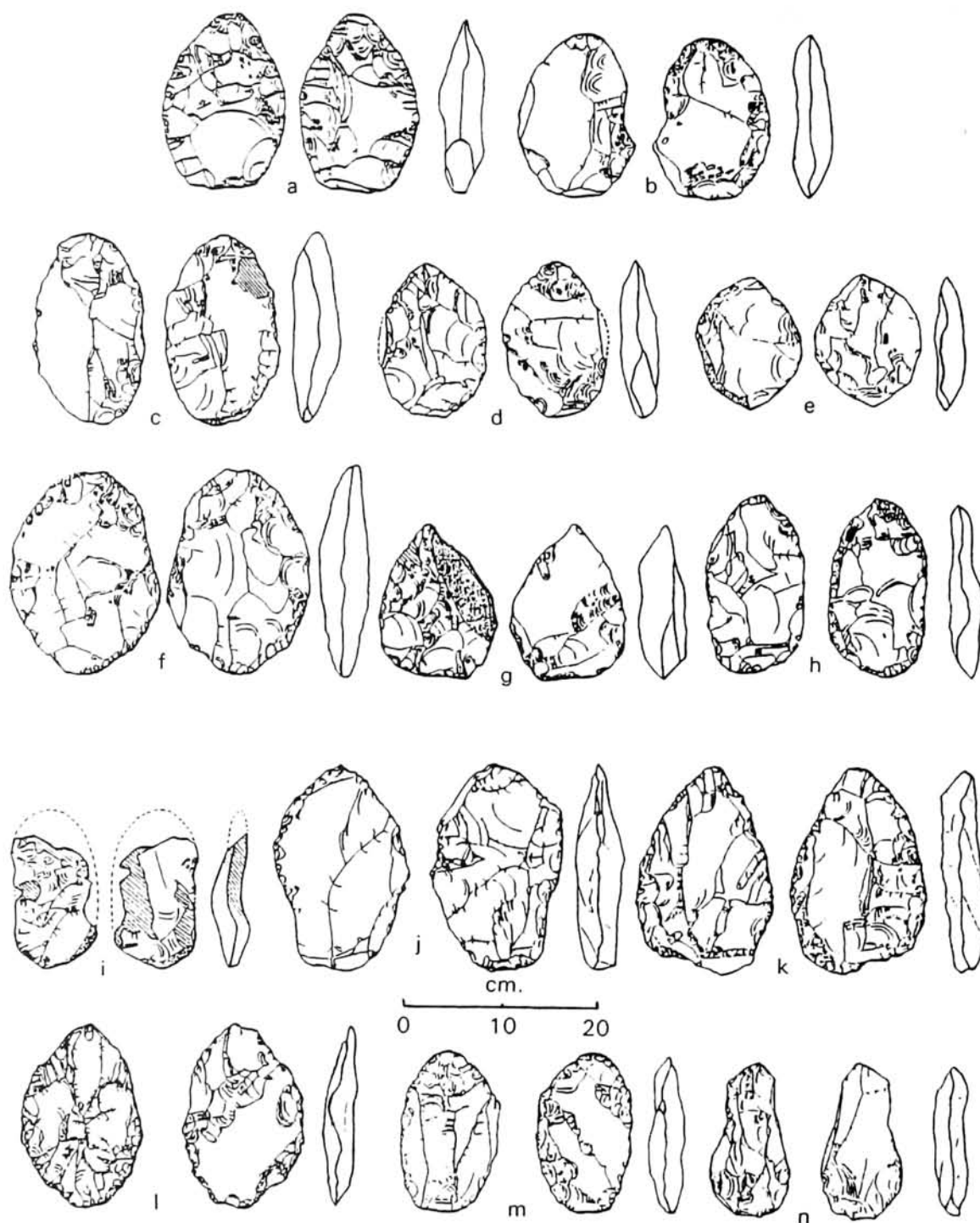


Fig. 5. Caballo Blanco bifaces. The specimen in the lower left corner (1) is 18.0 cm. in length.

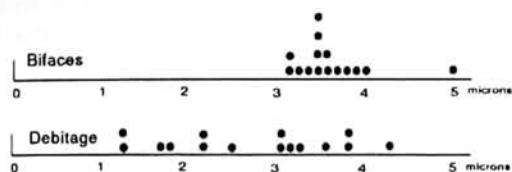


Fig. 6. Obsidian hydration measurements from CA-MEN-1608. All specimens are Mount Konocti source.

material that resembled the Caballo Blanco bifaces. At the intersection of Highways 29 and 281, at the northern end of the field, we found blocks of a matching material. At this location we produced 16 bifaces similar in size to those recovered in the cache. A 5x5-cm. area on each biface surface was photographed prior to departure. The bifaces were then placed in such a way that they would constantly rub against each other during the 80 km. walking journey.

The trek began 8 km. (5 mi.) west of Lower Lake, California (Fig. 1). The first 40 km. (25 mi.) of the trail followed Highway 29 northwest to Scotts Creek. This was the former stage route and quite possibly the prehistoric trail. Leaving the Clear Lake Basin at Scotts Creek, the next 20 km. (12.5 mi.) section was a 4-wheel drive track that closely parallels the Norris Trail. The Norris Trail, recorded by Parker (1976), is believed to have been the major prehistoric trade route between the Clear Lake Basin and the Ukiah area of the Russian River Valley. The final 20-km. leg of the hike crossed the Russian River at the south end of Ukiah and reached Caballo Blanco along Robinson Creek 4 km. (2.5 mi.) west of the Russian River.

The results of the wear pattern study showed that significant wear patterns like those present on the bifaces from Caballo Blanco could not occur merely by carrying them. This suggests that the razor sharp bifaces were intentionally dulled to facilitate handling during transport.

## DATING

Obsidian hydration measurements of the 16 bifaces recovered at Caballo Blanco were performed by Thomas Origer at the Obsidian Hydration Laboratory, Sonoma State University. Of the 16 microslides prepared by the authors, Origer found two slides unreadable. Thirteen clustered measurements (Fig. 6) averaged 3.6 microns of hydration (S.D. = 0.55). The one remaining hydration measurement of 4.9 microns is believed to have been derived from an old quarry surface predating biface manufacture.

The Caballo Blanco biface cache was recovered at the southern edge of site CA-MEN-1608. The site extends 100 meters to the north. In order to determine the relative date of the cache within the duration of occupation at this site, we collected 15 of the visually distinct Mount Konocti obsidian flakes from 75 to 100 m. north of the cache. This was done to avoid collection of plough-damaged fragments from the original cache. The 15 surface-collected Mount Konocti obsidian flakes were shown to have from 1.3 to 3.8 microns of hydration (Fig. 6). The biface cache thus appears to be a single event dating to the beginning of obsidian use at this site.

## DISCUSSION

The most current and widely used archaeological sequence of the western side of the Russian River Valley is that of Basgall (1986) for the Warm Springs area 60 km. (37.3 mi.) south of Caballo Blanco. Basgall reported that obsidian (predominantly from the Mount Konocti source) first arrived in abundance at Warm Springs at a time represented by 3.3 microns of hydration on obsidian of the Mount Konocti source. He characterized this period as a transition from the Skaggs Phase to the Dry Creek Phase, circa 2,500 B.P.



At that juncture Basgall recognized a shift from the large concave-based and side-notched points to leaf-shaped or Excelsior points; a shift in grinding technology from mano/metate to bowl mortar/pestle; a shift from low site density to moderate site density; a shift from low to high tool kit variability; and a shift in dominant chipped-stone tool material from chert to obsidian. Basgall interpreted this shift in the cultural pattern about 2,500 B.P. to mark the arrival of the ancestral Pomoan people in the Warm Springs Project area. With Mount Konocti obsidian hydration measurements clustering at about 3.6 microns, the Caballo Blanco biface cache can be placed at a time equivalent to the very beginning of the Dry Creek Phase, perhaps marking the arrival of the Pomoan people who brought with them into the upper Russian River Valley ties allowing continued participation in the Clear Lake Basin obsidian exchange system.

Recently, excavations have been conducted at two archaeological sites on the west side of the Russian River Valley approximately 20 to 25 km. (12.5 to 15.5 mi.) north of Caballo Blanco (Fig. 1). At the White Eagle site (CA-MEN-1932) Mount Konocti obsidian first appears in abundance at a time represented by 3.6 microns of hydration on obsidian from the Mount Konocti source (Gary and McLearn-Gary 1986). Again, at CA-MEN-2138 Maniery (1990) reported the abrupt arrival of abundant Mount Konocti obsidian at a time represented by obsidian hydration measurements of 3.6 microns. The Caballo Blanco cache of Mount Konocti obsidian bifaces, likewise averaging 3.6 microns of hydration, appears to present a rare view of the Mount Konocti obsidian exchange system, at an instant in time, as it first appears west of the Russian River Valley.

Given the vast amount of obsidian transported throughout the North Coast

Ranges during antiquity, caches of implements representing this commerce are extremely rare. The only published report describing a cache of obsidian blades from the North Coast Ranges is the "Great Blades Cache" (CA-GLE-138). This cache (Rick and Jackson 1985) represents an isolated event during which 69 early-stage bifaces of Borax Lake obsidian were buried near the intersection of two trails 60 km. (37.3 mi.) north of the Borax Lake obsidian source (Fig. 1). The Great Blades Cache specimens were considerably smaller than the Caballo Blanco specimens, averaging 11 cm. in length and 62 g. in weight. The smaller sizes may be the result of generally smaller cobbles of raw material at the Borax Lake source. The Great Blades Cache specimens bear an average of 3.5 microns of hydration (Borax Lake source).

In this paper we have reported upon the discovery of a cache of 16 obsidian bifaces derived from the Mount Konocti obsidian source. We have suggested that this cache dates to the start of the Dry Creek Phase thought to mark the arrival of the ancestral Pomoan people west of the Russian River Valley. The Caballo Blanco Biface Cache provides a rare view into the Mount Konocti obsidian exchange system just as it began a rapid expansion roughly 2,500 B.P. Single events are rarely documented archaeologically in the North Coast Ranges and, generally, obsidian chipping debris represents patterned behavior by numerous individuals over long periods of time. The Caballo Blanco Biface Cache represents specific behavior culminating at an instant in time.

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