AN ABSTRACT OF THE THESIS OF

Lucille Tisdale for the degree of Master of Arts in Interdisciplinary Studies in co-fields of Anthropology, Geography and History presented on June 6, 1986.

Title: The Tlegetlinten Site (35CU59) and its Place in Southwest Oregon Prehistory.

Abstract approved: David R. Brauner

David R. Brauner

Archaeological research in the lower Rogue River Basin between Galice Creek on the middle Rogue River and Gold Beach at the mouth of the Rogue has been minimal. Tlegetlinten (35CU59), a site located at the confluence of the Rogue and Illinois rivers is one of only three sites that have been investigated in the lower Rogue River Basin. Historically, Tlegetlinten was a village occupied by the Shasta Costa band of Athapaskans and was later occupied by some of the first

Euro-American settlers to enter the lower Rogue River region. Lanceolate style projectile points recovered from Tlegetlinten have been shown to play an important role in southwest Oregon prehistory. A model has been developed demonstrating stylistic diffusion along the Rogue River corridor and can be useful in determining interior-coastal relationships.

The Tlegetlinten Site (35CU59) and its Place in Southwest Oregon Prehistory

by

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CHAPTER I

Introduction

Archaeological field work along the southern coast of Oregon from the Coquille River south to the California border has been taking place since the late 1800's. Interior Oregon archaeology along the upper Rogue River and its upper tributaries has been taking place for over two decades but very little archaeological research has been focused on the region between the southern Oregon coast range and the middle reaches of the Rogue River at Galice Creek (see Figure 1).

The Rogue River is a major drainage system located in southwestern Oregon which flows westerly from its headwaters near Crater Lake in the Cascade Range to the town of Gold Beach on the Pacific Ocean and provides archaeologists with the opportunity for comparative studies on interior-coastal connections.

The Rogue River Basin comprises about 5,060 square miles

Figure 1. Rogue River Basin (from U.S.A.C. 1961)(1. Marial 35CU84 and 2. Applegate 35JA52).

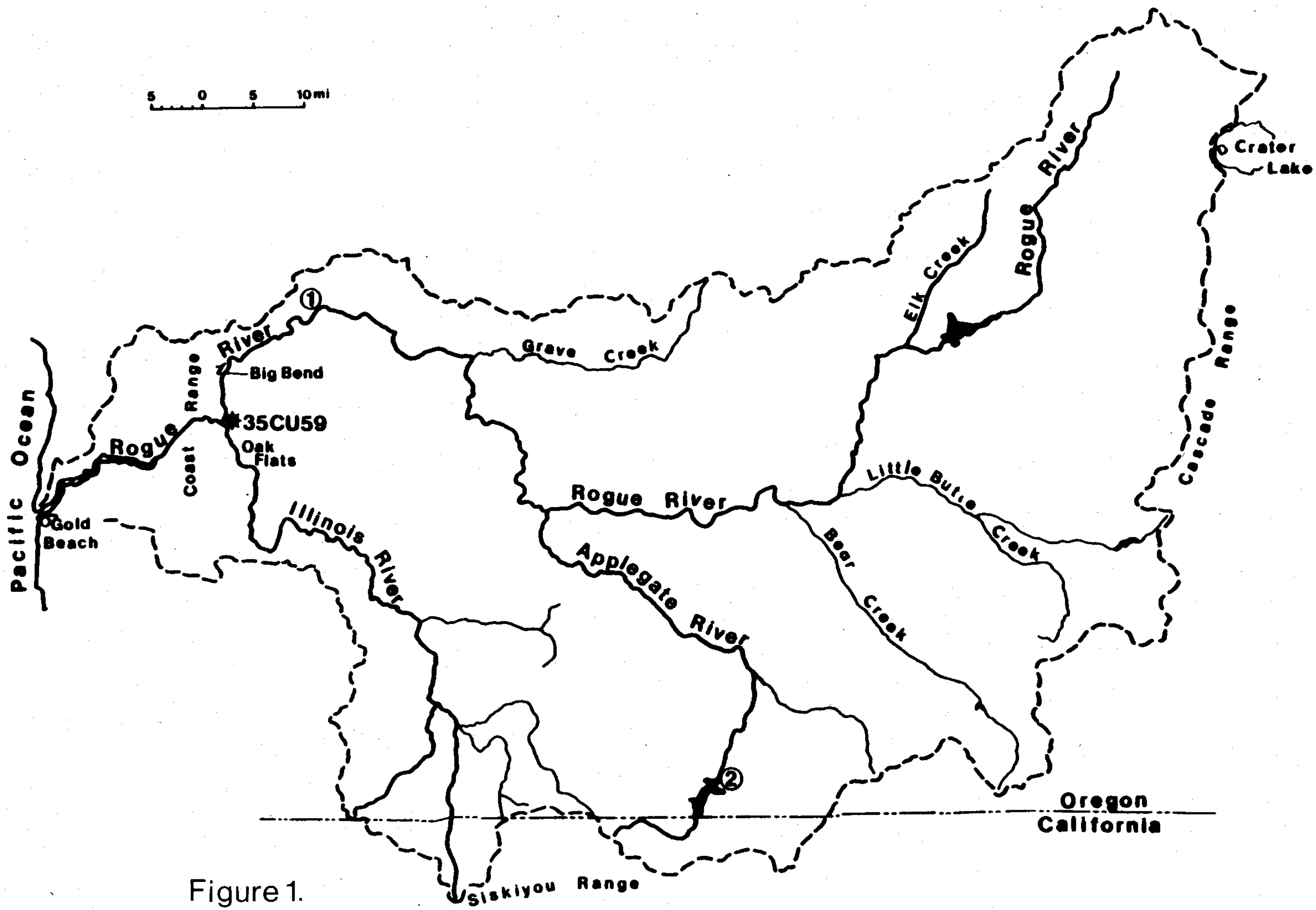

5 0 5 10mi
Crater Lake
Rogue River
Elk Creek
Cascade Range
Grave Creek
Big Bend
35CU59
Oak Flats
Coast Range
Rogue River
Pacific Ocean
Gold Beach
Illinois River
Rogue River
Applegate River
Little Butte Creek
Bear Creek
1
2
Oregon
California
Siskiyou Range

Figure 1.

and lies between the crest of the Cascade Range to the east, the Siskiyou Mountains to the south, the Umpqua and Coquille River Basins to the north and the Coast Range and Pacific Ocean to the west. Some of the principal tributaries of the Rogue River are the Elk Creek, Little Butte Creek, Bear Creek, Applegate River, and Illinois River.

The Illinois River is the lower Rogue's major tributary draining lands to the south. It flows through some of the most rugged undeveloped land in southwestern Oregon, land that has been virtually undisturbed by man's activities or natural catastrophies (USDA n.d.). During the summer of 1982, Oregon State University conducted an eight week archaeological field school at the confluence of the Rogue and Illinois rivers and tested the Tlegetlinten site (35CU59) (Figure 2). The test excavation was conducted under the guidance of Dr. Richard E. Ross. Eight students and various volunteers participated in the field school. A total of 27, 525 lithic tools and debitage, 132 faunal remains and 261 historic artifacts were recovered.

Tlegetlinten is situated on an alluvial terrace on the south bank of the Rogue River near the town of Agness, Oregon. The

Figure 2. General view of site 35CU59, view to the southeast.

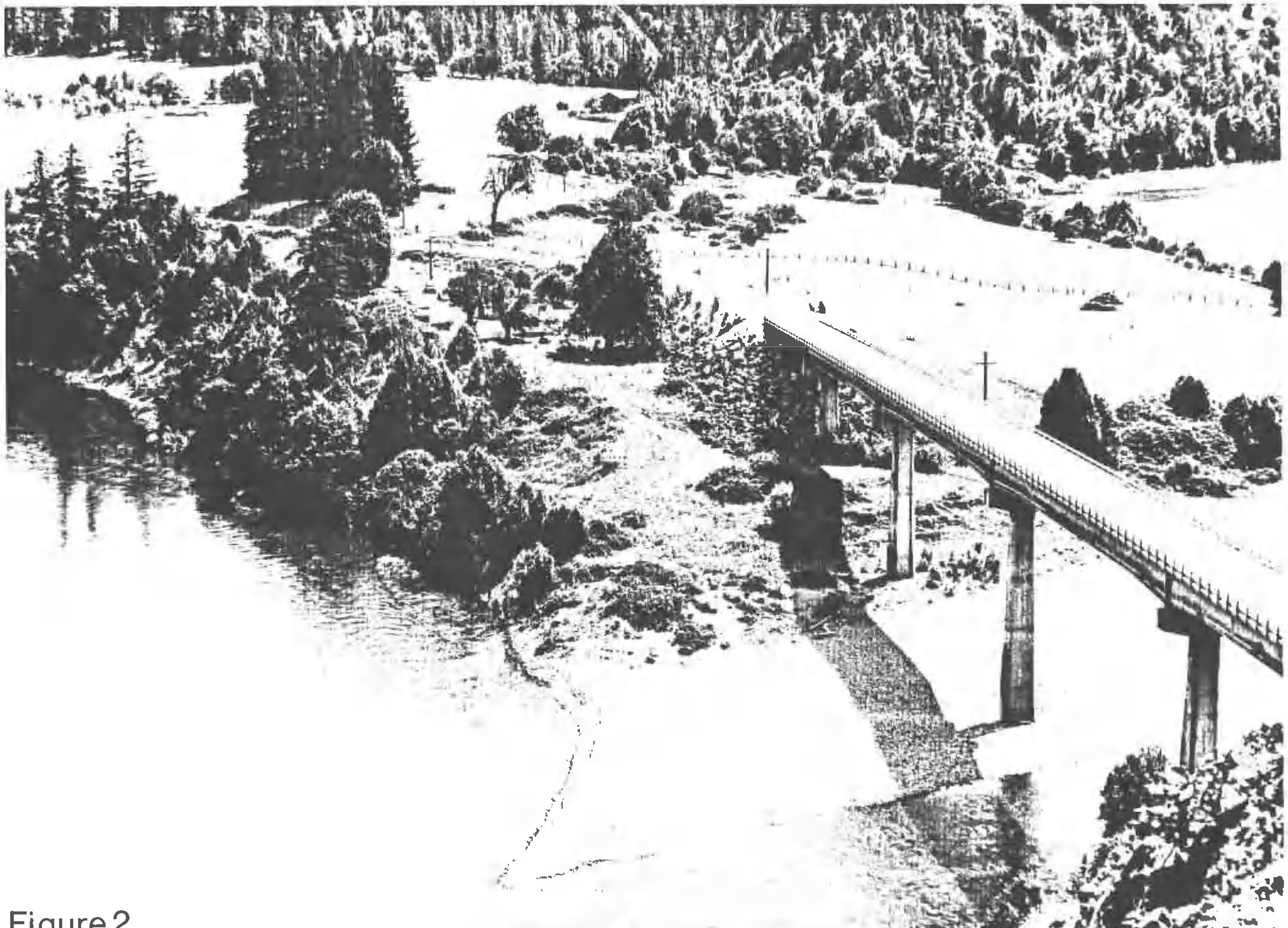


Figure 2.

terrain around Tlegetlinten can be described as north-south oriented ridges containing several terraces that slope down toward the Rogue and Illinois rivers. The higher elevations are covered with hardwood forests while the alluvial terraces are usually grass covered (USDA n.d.).

Historically, Tlegetlinten was a major village occupied by the Shasta Costa band of Athapaskans (Waterman 1925) and recorded by Berreman (1935). The site was later occupied by some of the first Euro-American settlers entering the lower Rogue River region (Atwood 1978).

Prior archaeological research in the lower Rogue River area has been minimal. From Galice Creek on the middle Rogue River to Gold Beach at the mouth of the Rogue River, approximately 65 river miles, only twenty archaeological sites have been recorded and only three have been examined (Ross et al. 1982; Griffin 1983; Griffin and Schriendorfer 1984; Schriendorfer 1985). Research questions pertaining to Tlegetlinten must, therefore, be basic ones. The first three research problems I address are site specific and involve determining site boundaries, site age and site function. The primary focus of the testing at Tlegetlinten was determining horizontal and vertical site boundaries. This was accomplished by placing test units arbritarily across the site and excavating each unit by 20 centimeter levels. The secondary focus of the testing was to determine site function and site age. Site function is determined in this thesis by examining intra-site patterning and drawing functional interpretations from the recovered cultural material. I determined the site age by typologically cross dating a projectile point style from Tlegetlinten with a morphometrically similar style from two southwestern Oregon sites.

The last research problem I address concerns the possibility of intra-regional relationships; that is, a model for determining whether or not the Rogue River served as a corridor for stylistic diffusion is developed and preliminary tests of the model are discussed. The model assumes that if a particular style occurs at more than one location it can be interpreted as evidence of movement of a stylistic proclivity. Statistical comparisons of morphometric attributes of the lanceolate style projectile points from Tlegetlinten and two other sites indicate contemporaneity and diffusion. These statistical comparisons indicate a relationship similar to a biological cline. That is, the greatest morphometric differences are seen in those samples that are the farthest apart geographically and the greatest morphometric similarities are seen in those samples that are geographically closest.

CHAPTER II

Physical Setting

Tlegetlinten is located near the town of Agness, Oregon on the Rogue River, approximately thirty miles inland from the Pacific Ocean. The site is approximately four acres in size and is located on several alluvial terraces, at an elevation of approximately 400 feet and overlooks the confluence of the Rogue and Illinois rivers (Figure 3). The legal description of the site location is the NW 1/4 of Section 18, T 34 S, R 11 W.

The site is on private land and is bisected by a county road. The Illinois River forms the site's west boundary and the Rogue River defines the site's north boundary. A lower, late prehistoric period terrace flanks the east bank of the Illinois River and a higher, early period terrace borders the lower terrace (see Figure 17). It is on this higher second terrace that the majority of the site is located. A considerable amount of the lower terrace washed away during the 1964 flood that also washed out the Illinois River bridge.

Tlegetlinten is situated in the Klamath Mountain

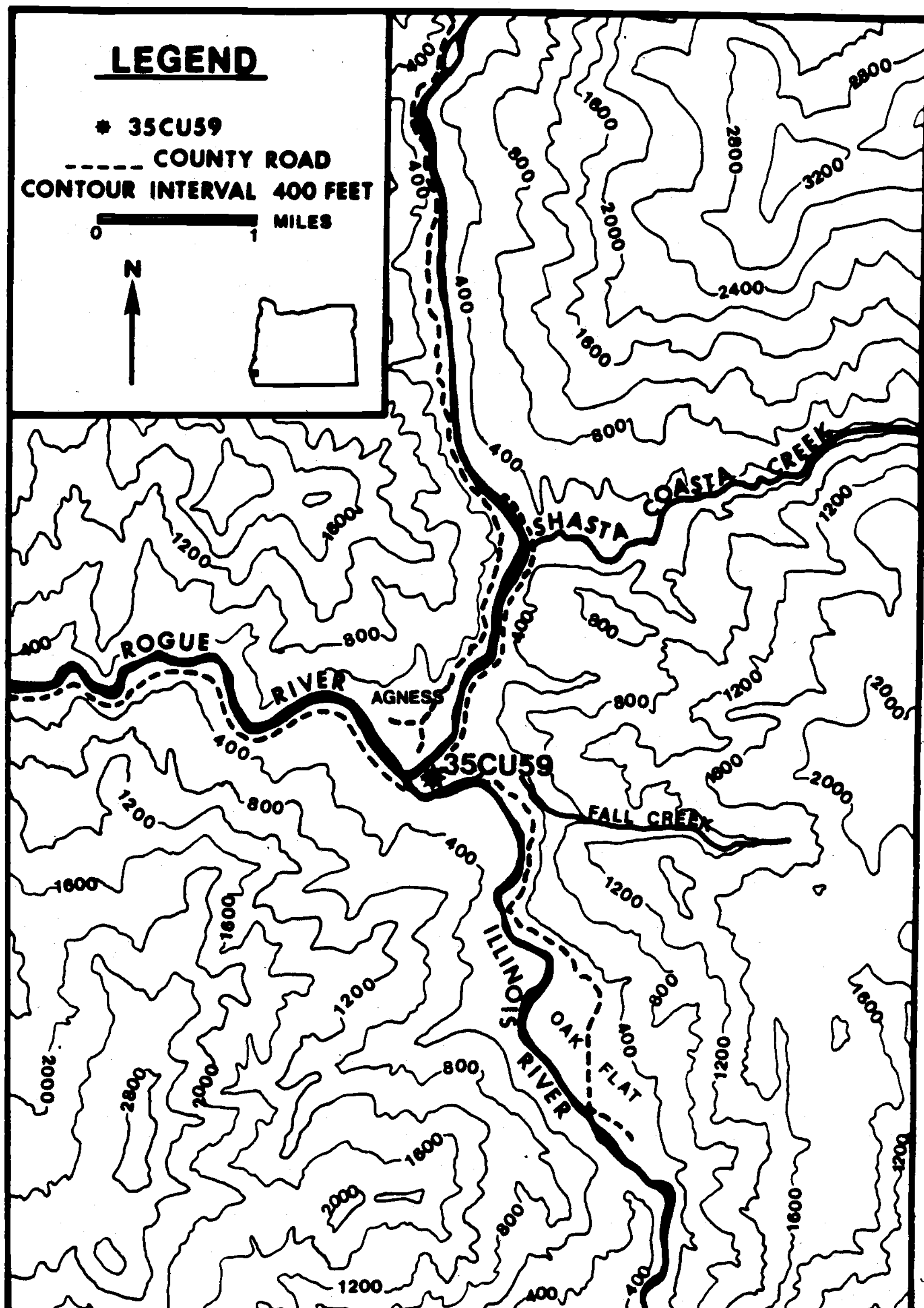


Figure 3. Location of 35CU59 on the Rogue and Illinois rivers (from U.S.G.S. Agness Quad 1956).

Physiographic Province of southwestern Oregon (Franklin and Dyrness 1973; Loy 1976; Baldwin 1981). The Klamath Mountain province is described by Baldwin as "occupying the southwestern corner of Oregon south of the Coast Range and west of the Cascade Range" (1981: 81) and extends into northwestern California (see Figure 4).

The Klamath Mountain Province is geologically older than any other region of western Oregon. The underlying geologic formations date to the Paleozoic era and are composed of volcanic tuffs and sedimentary rocks that eventually metamorphosed into schists (Franklin and Dyrness 1973). Tlegetlinten lies in an area that is a relatively young (Jurassic) geologic formation consisting of sedimentary rocks called the Myrtle Group. (Baldwin 1981).

The Myrtle Group includes the Riddle and Days Creek Formations, the Humbug Mountain Conglomerate and the Rocky Point Formation. The Riddle Formation and Humbug Mountain Conglomerate are composed of "well rounded chert-pebble conglomerate, dark siltstone and sandstone" (Baldwin 1981: 91). These formations are considered to be late Jurassic or early

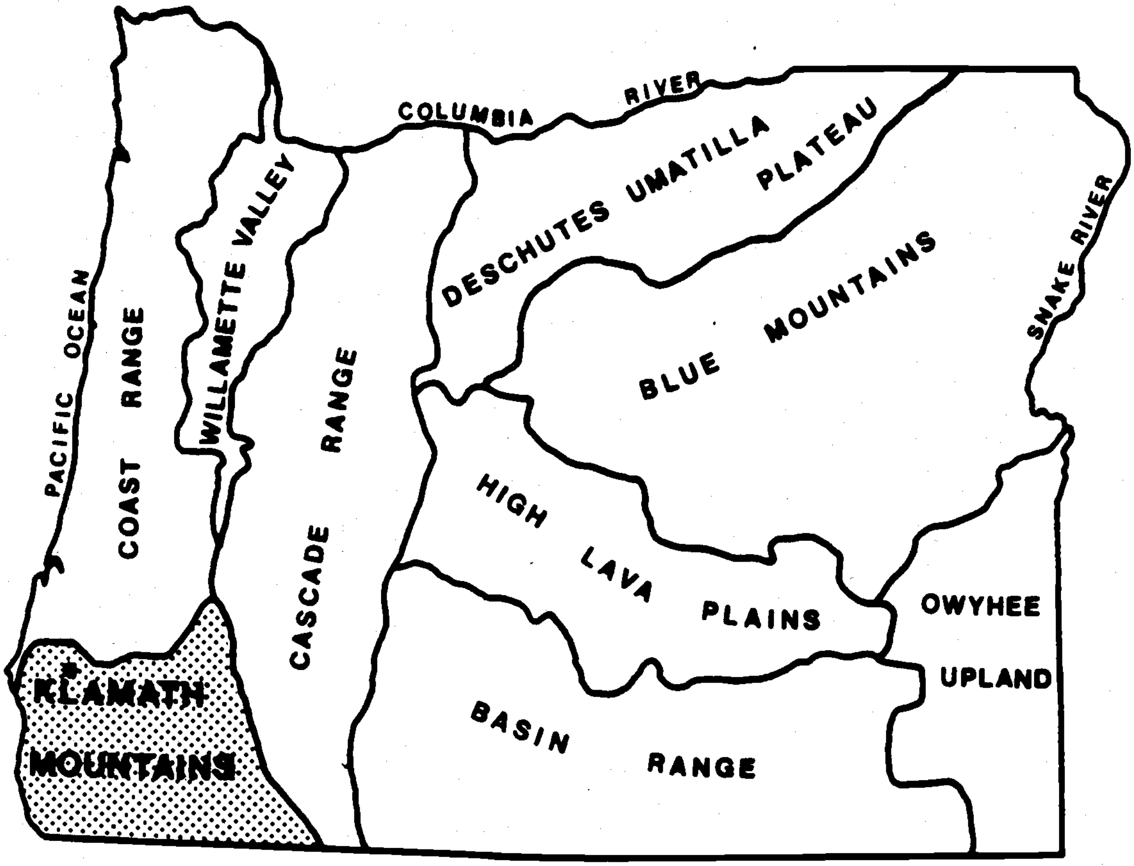


Figure 4. Physiographic regions of Oregon (from Baldwin 1981)
(* approximate location of site 35CU59).

Cretaceous. The Days Creek and Rocky Point Formations overlie the Riddle Formation. The Days Creek Formation is composed mainly of alternating sandstone and siltstone. The Rocky Point Formation is considered to be deformed and incomplete (Baldwin 1981).

Soils in the Klamath Mountain Province are varied and divided into east and west groups. The east and west soils are further divided topographically by uplands and valleys. Since Tlegetlinten is located on an old alluvial terrace in a small valley that is an erosional feature of the Illinois River, only soils in the valley areas of the west section of the province are described. The soils in the valley areas are usually well drained, derived from alluvium on terrace landforms, and composed of a silt loam surface horizon underlain by a silty clay loam subsoil (Franklin and Dyrness 1973).

The soils at Tlegetlinten are also well drained, being formed from sediments deposited by the Illinois River. The surface horizon is a loamy sand underlain by a sandy loam. Three stratigraphic units (excluding the plowzone) were identified at the site. Not all the excavated units exhibited the three distinct strata and not all the units were uniform in color. Units 199/180 and 208/200 (Figures 5 and 7) exhibit the three typical stratigraphic levels. Stratum A is a 10 YR 5/4, yellow brown loamy sand, Stratum B is a 10 YR 4/4, dark yellow brown silt loam and Stratum C is a 10 YR 5/3, brown sandy loam. Unit B (Figure 6) is similar in soil composition to Units 199/180 and 208/200 but shows a slight color difference in Stratum B; sub-Strata 1B and 2B were designated to denote this color change. Some of the other units also show this division. Unit 100/200 (see Figure 8) is an example of the stratigraphic profile of the lower terrace at Tlegetlinten. This unit exhibits a small lense of sand near the surface. Whether this is from the most recent flood of 1964 is unknown. All other strata in this unit are similar in composition to those on the upper terrace.

The climate in the Klamath Mountain Province is usually moderate year round. The average winter precipition in this area is approximately 20 inches, with a minimum January temperature of 30 degrees F and a maximum of 40 to 50 degrees F. The average summer precipition is approximately 2 inches with an average minimum temperature of 50 degrees F and an

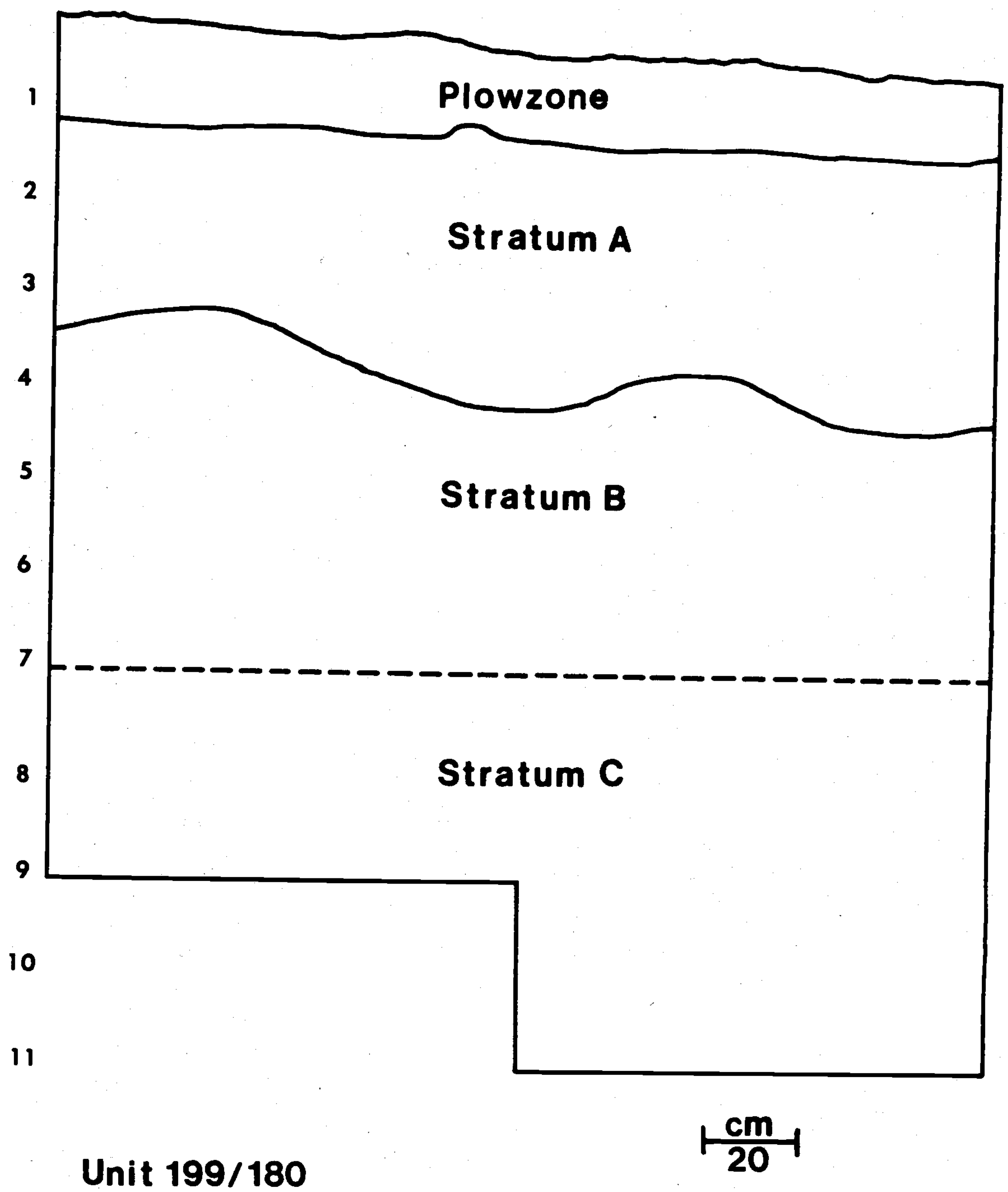


Figure 5. Unit 199/180 soil profile, north wall.

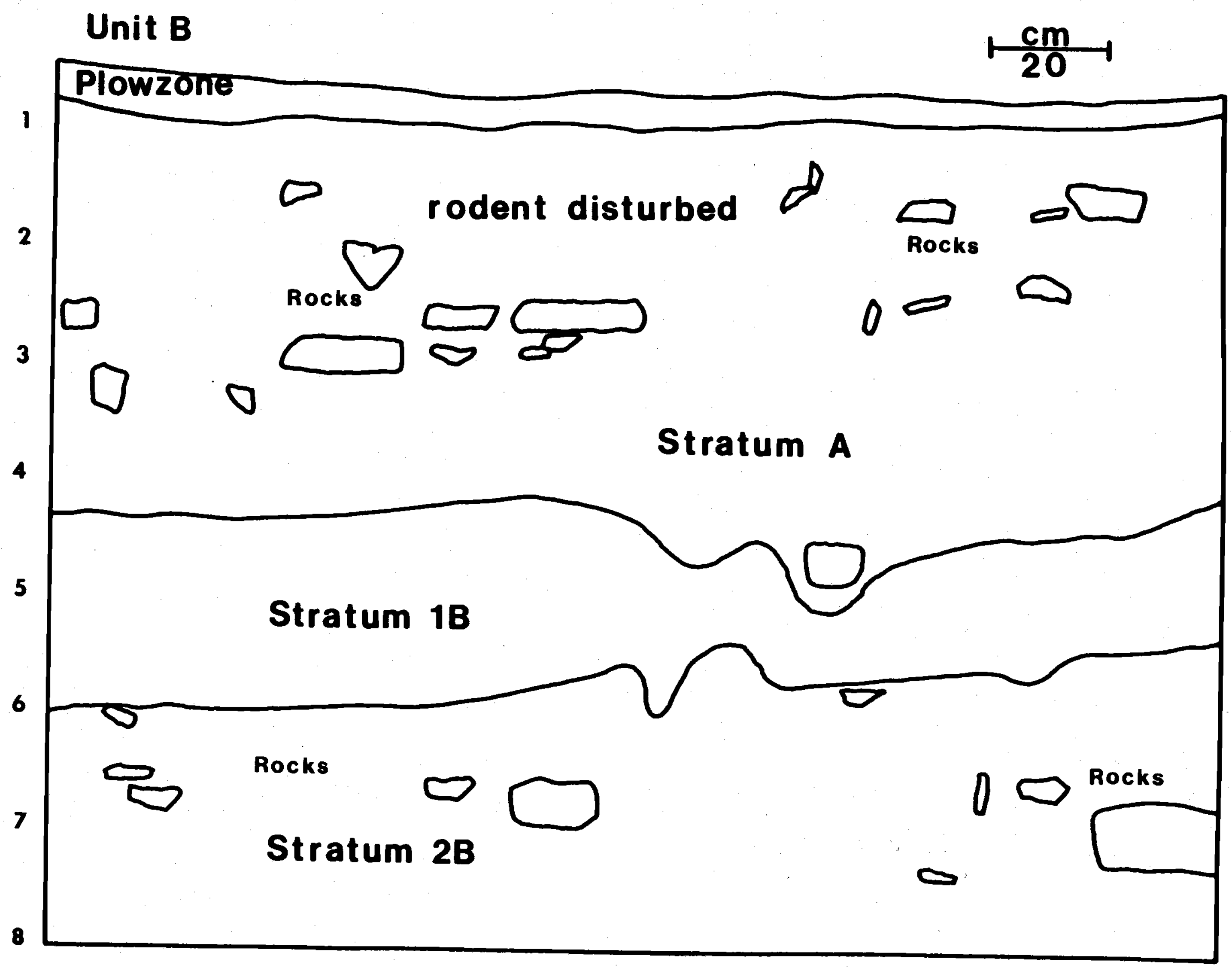


Figure 6. Unit B soil profile, north wall.

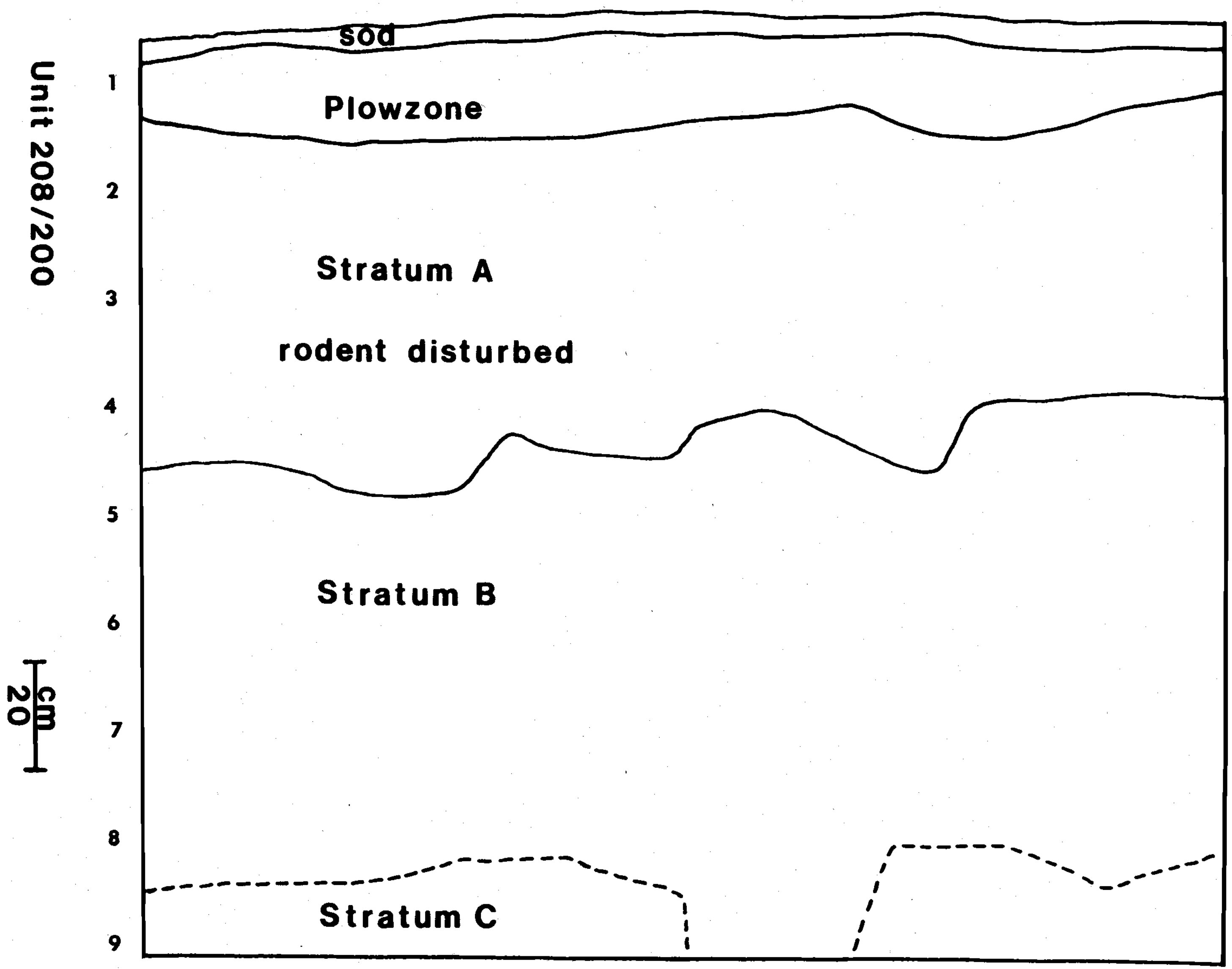


Figure 7. Unit 208/200 soil profile, north wall.

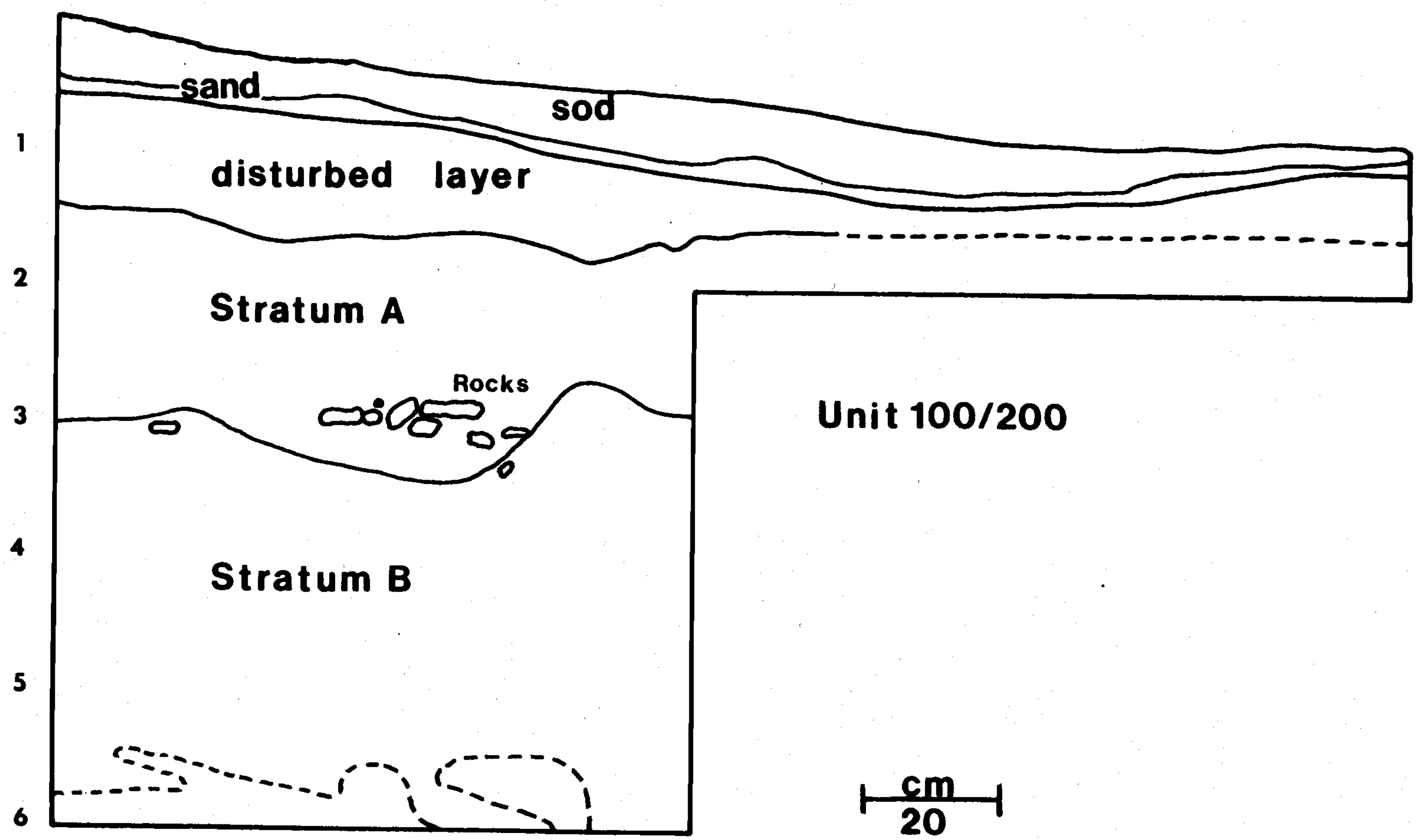


Figure 8. Unit 100/200 soil profile, east wall; unit located on lower terrace.

average maximum temperature of 80 degrees F (Highsmith and Kimerling 1979). There are some days that reach over 100 degree F (Franklin and Dyrness 1973).

Franklin and Dyrness (1973) divide the vegetative areas of southwestern Oregon into four zones: 1) Interior Valley Zone, 2) Mixed-Evergreen Zone, 3) *Abies concolor* Zone, 4) *Abies magnifica shastensis* Zone. These vegetative zones are distinguished by dominant tree species and elevation.

According to Franklin and Dyrness (1973) Tlegetlinten and the Illinois River area are within the typical Mixed-Evergreen Zone containing Douglas-fir (*Pseudosuga menziesii*), tanoak (*Lithocarpus densiflorus*), and canyon live oak (*Quercus chrysolepis*). Less abundant tree species are the sugar pine (*Pinus lambertiana*) and the ponderosa pine (*Pinus ponderosa*). Poison oak (*Rhus diversiloba*) is the major shrub with sporadic occurrences of Oregongrape (*Berberis nervosa*), wild rose (*Rosa* sp.), California hazel (*Corylus cornuta* var. *californica*), California honeysuckle (*Lonicera hispidula*), and western mockorange (*Philadelphus gordonianus*). The herb cover is sparse but some of the more important species are the deerfoot vanillaleaf (*Achlys triphylla*), dogbane (*Apocynum* sp.), harebell (*Campanula* sp.), Hooker's fairybells (*Disporum hookie*), rattlesnake plantain (*Goodyeara oblongifolia*), imbricated swordfern (*Polystichum munitum* var. *imbricans*), braken fern (*Pteridium aquilinum*), white hawkweed (*Hieracium albiflorum*), beargrass (*Xerophyllum tenax*), and various grasses.

The site itself is presently covered in various grasses and was used as a pasture and field in the past. Domestic fruit trees and big leaf maples are scattered about the site (Figure 2).

Some of the game mammals, fowl and fish that could have been exploited by the peoples of Tlegetlinten are listed in Table 1.

Table 1. Wildlife of Southwestern Oregon.

Large mammals:	
Elk or Wapiti	*Cervus elaphus*
Black tailed deer	*Odocoileus columbianus*
White tailed deer	*O. virginianus*
Black bear	*Ursus americanus*
Mountain lion	*Felis concolor*
Coyote	*Canis latrans*
Beaver	*Castor canadensis*
River otter	*Lutra canadensis*

Table 1 continued.

<u>Small mammals:</u>	
Brush rabbit	*Sylvilagus bachmani*
California Ground Squirrel	*Spermophilus beecheyi*
Western Gray Squirrel	*Sciurus griseus*
Douglas Squirrel	*Tamiasciurus douglasii*
Northern Flying Squirrel	*Glaucomus sabrinus*
Western Pocket Gopher	*Thomomys mazama*
Dusky-footed Woodrat	*Neotoma fuscipes*
Western red-backed mouse	*Clethrionomys occidentalis*
<u>Fowl</u>:	
Ruffled Grouse	*Bonasa umbellus*
California Quail	*Lophortyx californicus*
<u>Fish</u>:	
Coho salmon	*Onocorhynchus kisutch*
Chinook	*O. tshawytscha*
Chum	*O. keta*
Various trout	*Salmo gaidneri*
	Salmo clarki clarki

CHAPTER III

Ethnographic Background

By the time ethnographers began their studies of the Native Americans in southwestern Oregon, very few informants were left. Most of the native populations of Oregon were slowly dwindling from disease introduced by contact with Euro-Americans. During the 1850's gold was discovered in the Rogue River Valley and the push by miners to exploit the land of the natives brought about violence and the Rogue River Wars (Beckham 1977)(see Historic Background [pp.31-39] for detailed information). In 1884 when J.O. Dorsey visited the Siletz Reservation he found "that the Indians dwelling there had come from different parts of the Pacific coast region, beginning on the north with the Nestucca River, in Tillamook County, Oregon, and extending as far south as the Klamath River, California" (1884: 227). Therefore, questions concerning territorial boundaries and past lifeways of the aboriginals of southwestern Oregon tended to be confusing and debatable (Gray 1985).

The territorial boundaries of the Indians of southwestern Oregon were either lingustically or ethnically determined (Dorsey 1890; Sapir 1907; Kroeber 1920; Waterman 1925; Berreman 1935 and 1937; Drucker 1936; Beckham and Hartmann 1978; Gray 1985). As an example, Kroeber (1920) placed a large portion of southwestern Oregon into his Northwestern California Culture Area whereas Beckham (1978) has divided the area linguistically (Figures 9 and 10). Whether Kroeber or Beckham are correct or incorrect is not the point. The point to remember is that the area from the Coquille River south to the Klamath River in northwestern California and from the Pacific Ocean east to the Cascade Divide is all within the same physiographic area. Although dialects and language may have been different, all groups within southwestern Oregon lived in similar environments and, hence, shared cultural traits (Kroeber 1920; Drucker 1936; Gray 1985).

Kroeber (1920:156) believed that the various ethnic groups of southwestern Oregon were culturally similar to the ethnic groups of northwestern California, "so much so, in fact, as to constitute but a single area". Drucker (1936:222) agreed,

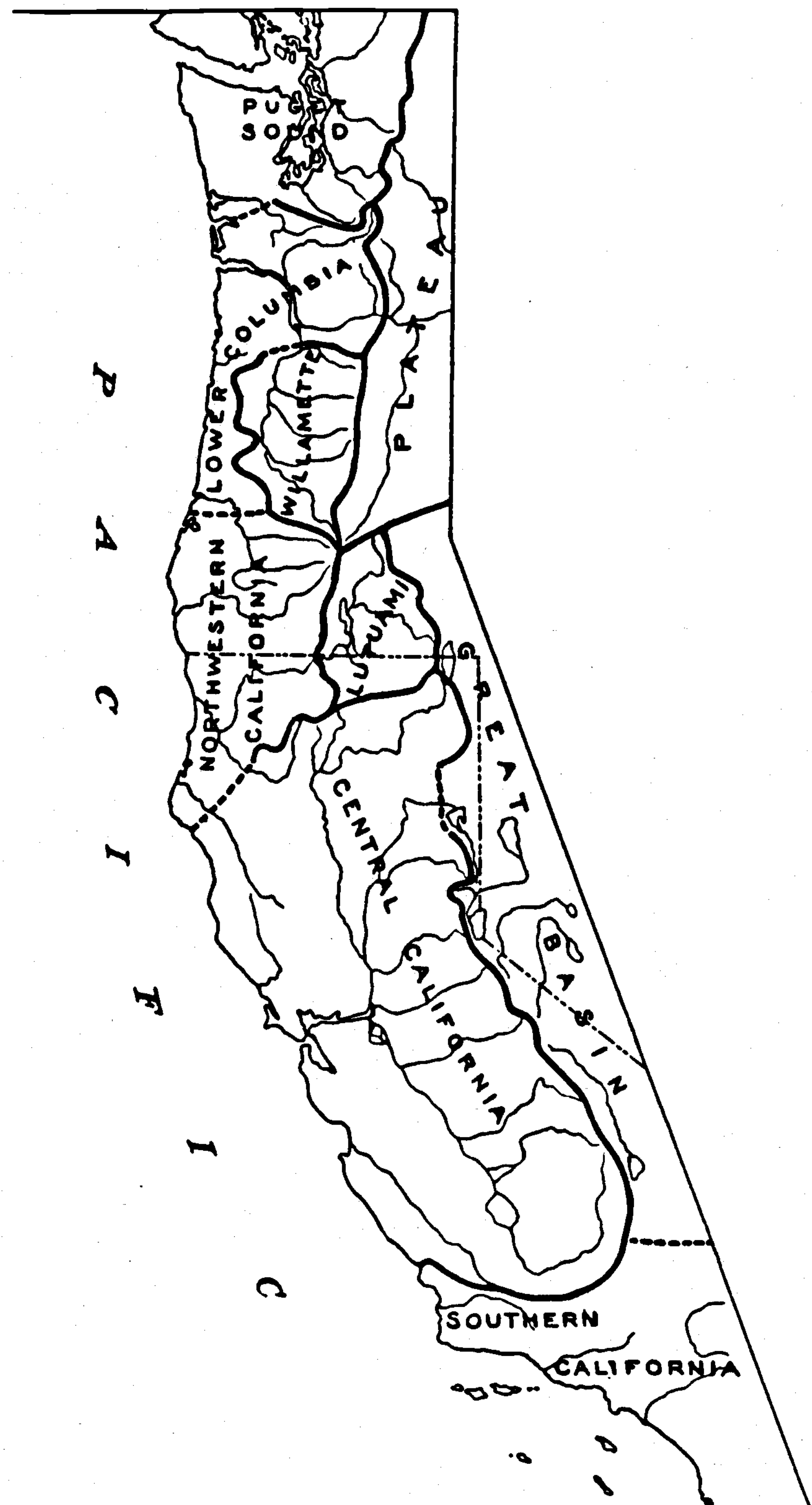


Figure 9. Northwestern California Culture Area (from Kroeber 1920).

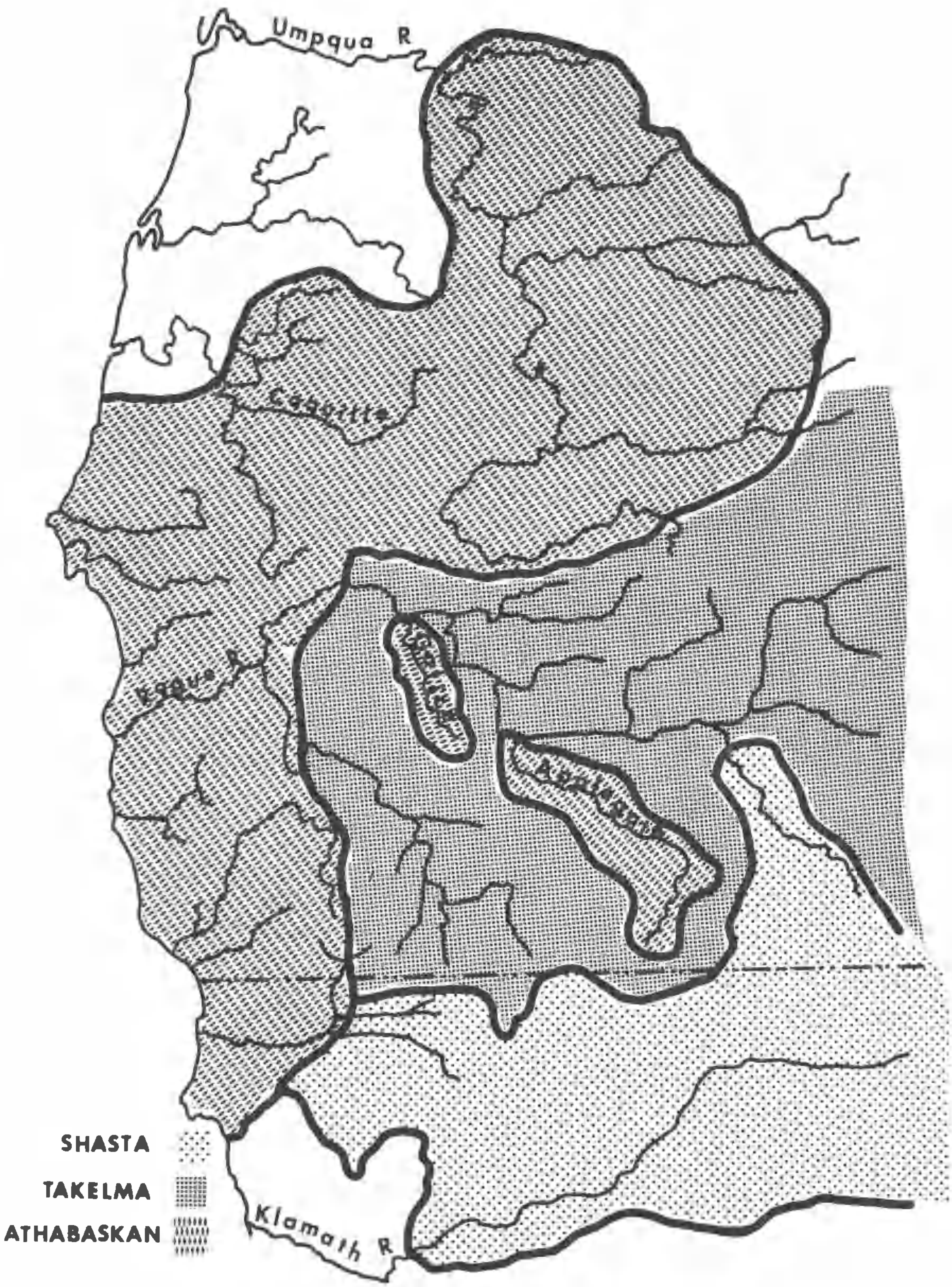


Figure 10. Linguistic distribution in southwestern Oregon (from Beckham 1978).

suggesting that, "in southwestern Oregon and the northwestern most tip of California lived a people speaking an Athabascan language and sharing in an essentially common culture".

Southwestern Oregon is divided into three linguistic groups: the Shasta, the Takelma and the Athapaskans. The Athapaskans are further divided by dialects: Chetco, Kwaishtunnetunne, Chetleshin (Pistol River), Chemetunne, Tututni, Mikonotunne, Shasta Costa, Yukichetunne (Euchre Creek), Quotomah; groups from the Upper Coquille, Upper Umpqua, Dakubetede (Appelgate River), and Taltushtuntede (Galice Creek)(Beckham and Hartmann 1978)(Figure 11).

Tlegetlinten is in Athapaskan territory, specifically, Shasta Costa territory. T.T. Waterman's (1925:541) study of Tolowa (an Athapaskan speaking group) villages in northwestern California and their neighbors to the north in southwestern Oregon notes "a village-site in the point of land between two streams, where the Illinois river joins the Rogue river " called "Tlegetlinten", which literally means "confluence flows" (1925:541). Berreman (1935:71) in surveying shell mounds and other sites along the coast of Oregon and California, also made note of

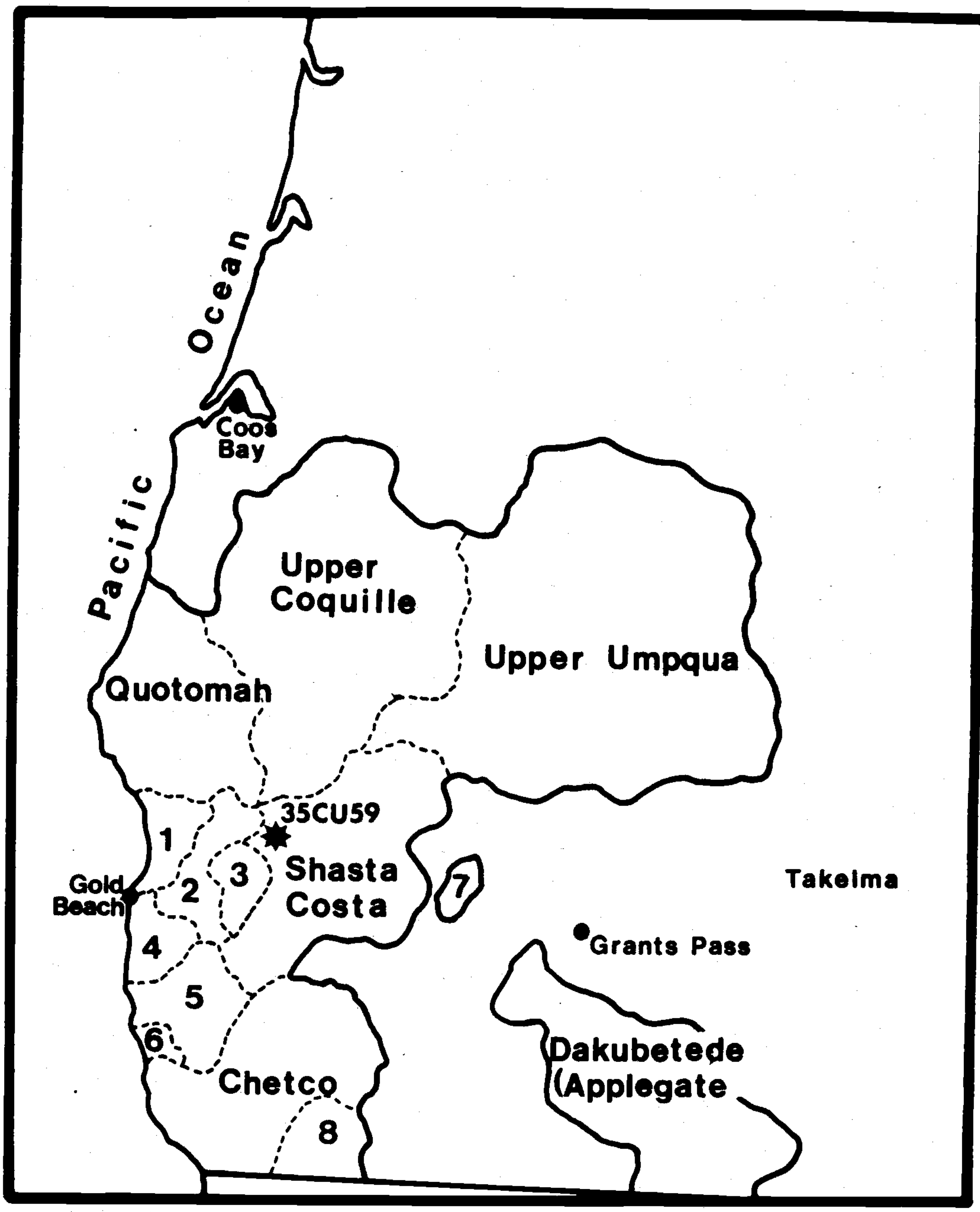


Figure 11. Athapaskan dialects of southwestern Oregon (from Loy 1976).

Tlegetlinten: "Housepits said to have once been numerous, now obliterated by cultivation. Dark soil and firebroken stone marks the [former] site, and numerous points, etc. have been found there".

Historically, the Shasta Costa band claimed the territory from the confluence of the Rogue and Illinois rivers eastward to an area around Big Bend on the middle Rogue River and as far south as the middle Illinois River (Dorsey 1890; Waterman 1925). The western boundary probably extended westward to an area downriver from the confluence but is not definitely known (Berreman 1937). Dorsey (1890) lists thirty-three Shasta Costa villages in this area.

The following discussion on the Shasta Costa is a generalization using ethnographic information from the Takelma, Tolowa, and various Athapaskan groups because all the ethnic groups of southwestern Oregon were culturally similar and no specific information on the Shasta Costa exists.

Salmon and various other fish species were an important dietary staple for the people of Tlegetlinten, as well as other Athapaskan groups (Drucker 1936). The interior Athapaskan groups relied on riverine and terrestrial resources. Other seasonal dietary resources for the Athapaskans were acorns and camas. Acorns would be ground and cooked into a gruel or mush. Camas roots would be baked in a pit oven. Pine nuts, huckleberry, wild sunflower and various seeds and bulbs were also available for exploitation. Elk, deer, various small mammals, birds, eggs, grasshoppers and yellowjacket larvae would round out the diet (Sapir 1907; Drucker 1936; Beckham 1978). The bones of large game mammals and salmon were cooked and ground to make a bone grease for soup. The marrow from the deer's upper leg was also eaten (Holt 1946:309).

The food quest would begin in early summer with the gathering of ripe roots and berries by the women. In the late spring, early summer salmon would be caught by the men. When the fall salmon entered the rivers in late summer, the men would gather by their weirs or nets to catch and dry the winter's supply. Acorns would be gathered and deer would be hunted during the fall. During the winter, when the rain was falling, most of the people would be repairing and making gear. Deer and elk would wander into the lower elevations and steelhead would be running the rivers. Although fresh berries or roots could not be found during the winter, the people of Tlegetlinten could still have fresh meat and fish (Drucker 1936)(Figure 12).

There are several types of houses described in the ethnographic literature: the winter dwelling, the summer brush dwelling and the sweatlodge. The largest dwelling was the winter plank house. These houses were considered permanent and probably contained a household related by birth or marriage (Zucker et al. 1983). They were semi-subterranean plank houses, rectangular in shape with a pitched roof. Four corner posts with supporting crossbeams formed the basic structure. Two forked poles situated on the longitudinal axis of the structure held the ridge beam in place. Planks or thatch were secured to the ridge beam to create a roof. Vertically placed planks between the cross beams and floor made up the walls (Sapir 1907; Drucker 1936). Floors were "nothing more than the earth stamped smooth" (Sapir 1907: 262).

Some summer dwellings were temporary brush huts. Drucker (1936: 272) describes these dwellings as "rude windbreaks of

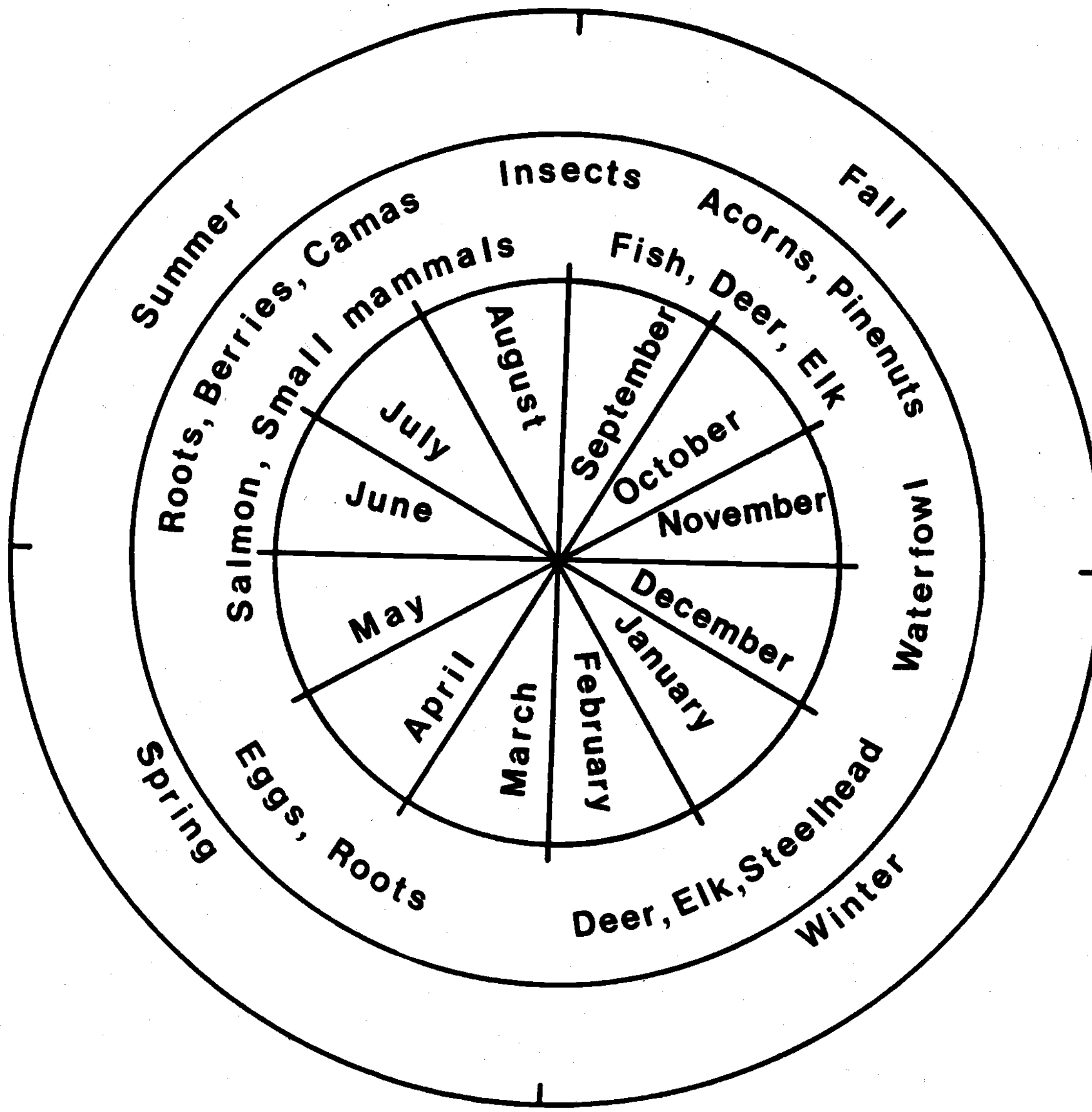


Figure 12. Seasonal round for the Athaspaskans of southwestern Oregon.

brush". Sapir (1907: 262) describes the summer dwellings as "a brush shelter built around a central fire". Drucker (1936:272) also describes a summer dwelling used "at more or less permanent camps". These are described as being rectangular and gabled but covered in thatch instead of wood planks. The thatch was made of grass or fern bound between long poles used to cover the roof and sides of the structure.

The sweat lodge used by the men also was rectangular and semi-subterranean but was earth covered. "There was generally room enough in one of these sweat-houses for six men, who often slept the whole night therein and then plunged into the cold river water in the morning" (Sapir 1907: 263). The women also had their sweat lodges but these were usually a smaller stick structure covered with blankets and were dismantled when not in use (Sapir 1907).

Baskets for storage and food preparations as well as clothing were made from locally available plants and tree bark (Beckham and Hartmann 1978). Clothing also was made from deerskin and at times, elk-skin (Sapir 1907). Tools were made from stone, bone, wood and shell. Dentalia shells traded from

Vancouver Island were used for personal adornment and as a form of money. Another favorite adornment was the scalp of the red woodpecker (Sapir 1907; Drucker 1936).

The social organization of the Athapaskans consisted of a village group related paternally. Those people who that inhabited a village "shared in the right to exploit the food resources of the surrounding territory" (Drucker 1936:243). Wives were usually bought from the neighboring or kin groups. Marriage to a "neighboring tribe of alien speech" (Sapir 1907:268), such as the Takelma or Shasta, was common even though at times the tribes fought against each other (Gray 1985).

Historic Background

Fur traders, trappers and explorers from the Hudson Bay Company began penetrating southwestern Oregon in the 1820's but, because of its ruggedness and inaccessibility, the middle and lower Rogue River, the Coast Range of Curry County, or the Siskiyous along the border of Del Norte and Curry counties, remained virtually untouched by white man for many years. In 1848, gold discovered in California brought overland travel from the Willamette Valley in Oregon down into the Sacremento Valley of California. With this increase in overland travel by miners, traders and travelers came an increase in hostilities between whites and Indians.

> What had been a seasonal route used by fur seekers, emigrants on the Applegate Trail, or disenchanted Oregon residents heading south to find a warmer and more salubrious climate, became, instead, a major thoroughfare (Beckham and Hartmann 1978:68).

The discovery of gold in 1852 in the Rogue River Valley was the turning point in the fate of the Indians of the region. Within months, miners staked claims along the Rogue and Illinois rivers. Boom towns grew as more and more eager miners moved into the area. The once sparkling streams, which annually filled with salmon and steelhead, now became brown with mud and debris from the placer mining. The pioneers and settlers put up fences and denied the Indians the right to gather their annual harvest of acorns or camas. The Indians were further pushed off their lands as farmers moved in and claimed land under the Donation Land Act of 1850. Tensions mounted between the Indians and whites and culminated in the Rogue River Wars of 1855 (Dodge 1898; Beckham 1971; Beckham and Hartmann 1978).

By the end of 1855, Indians of the Rogue River Valley were being pushed further down the canyons toward the coast. The coastal Indians were experiencing a relative calm compared to their interior kin. In January 1856, two miners near the junction of the Illinois and Rogue rivers were killed. It was never known if the miners were killed by the Indians living in the area or if they were killed by other miners in the area. The military sent Lieutenants John Chandler and John Drysdale with seventeen men to the fork of the Illinois and Rogue rivers to persuade the "Shis-ta-koos-tee" (Beckham 1977:136) band to leave their settlement and move to the coast to avoid further disruptions between the miners and Indians (Beckham 1971). According to Beckham, "When the young lieutenants were not able to induce the peaceful bands to leave their plank houses for the uncertainties of life near the [white] settlements, the troops fell back to the towns at the mouth of the [Rogue] river" (1971:173).

Peace lasted through the winter months of 1856, until one night in February the Tutuni decided to attack their white neighbors of Gold Beach. The Tutuni had grown restless and uneasy with the presence of armed volunteers and reports of brutality and massacre from up the river, so they decided to strike first. In March, Colonel Robert Buchanan, "ordered his forces to converge on the Indian stronghold near the junction of the Illinois and Rogue rivers" (Beckham 1971:181). Five Indian men were killed and Buchanan's men moved back down the Rogue River to its mouth. Disputes between Indians and whites were happening up and down the southern coast mountains and watersheds. By spring, Buchanan's men again made the journey up the Rogue River to Oak Flats on the Illinois River, a couple of miles south of the confluence (Figure 13).

> Here the colonel conferred with several Indian leaders whose people were hiding in the area. They were more than ready to stop fighting but did not want to leave their homeland for the coast reservation as the army leader demanded. However, the two leaders finally capitulated and agreed to assemble their people in seven days at the "Meadows" at the Big Bend of the Rogue (Beckham

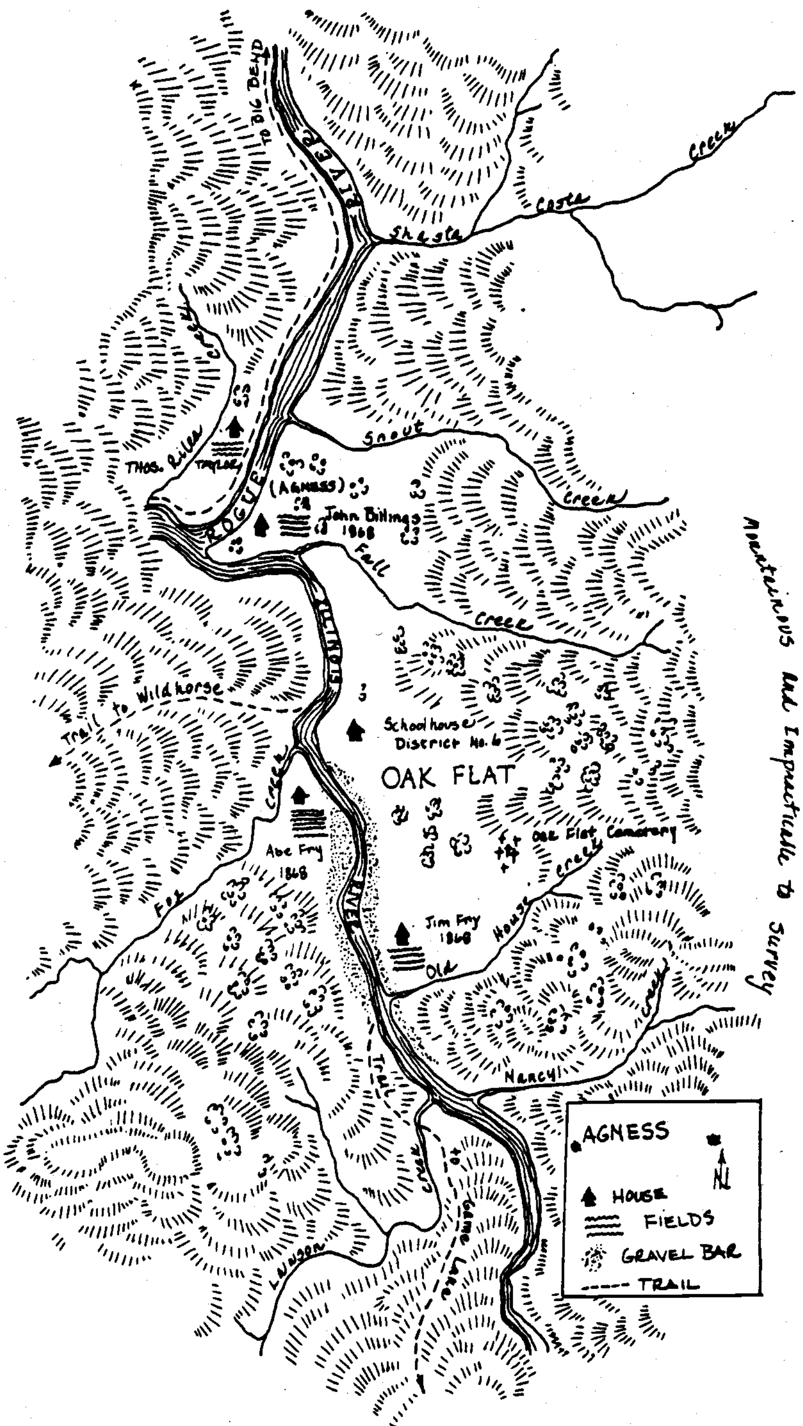


Figure 13. Oak Flats, John Wesley Billings homestead and town of Agness (from Atwood 1978).

1971:185).

The Indians were upset but willing to give in to the demands of the whites. As the different bands gathered at the Big Bend on the Rogue, volunteer soldiers attacked (Figure 14). The Indians suspected they were being gathered for a final execution. A battle broke out but didn't last long because both Indians and whites were exhausted. When fresh troops were brought in to control the situation, the Indians surrendered. By the end of June 1856, the Indians of the lower Rogue River were being moved to the Siletz Reservation (Beckham 1971, 1977; Beckham and Hartmann 1978).

Tlegetlinten, once a thriving village with 153 men, women, and children (Beckham 1977:136),grew quiet as the years passed. By 1868, almost twelve years after the conflict and removal of the native inhabitants of Tlegetlinten, a small mule train of twenty people, cattle and supplies were making their way up the Illinois River. The women were members of the Karok tribe of northwestern California and the men were miners dissatisfied with the declining activity on the Klamath

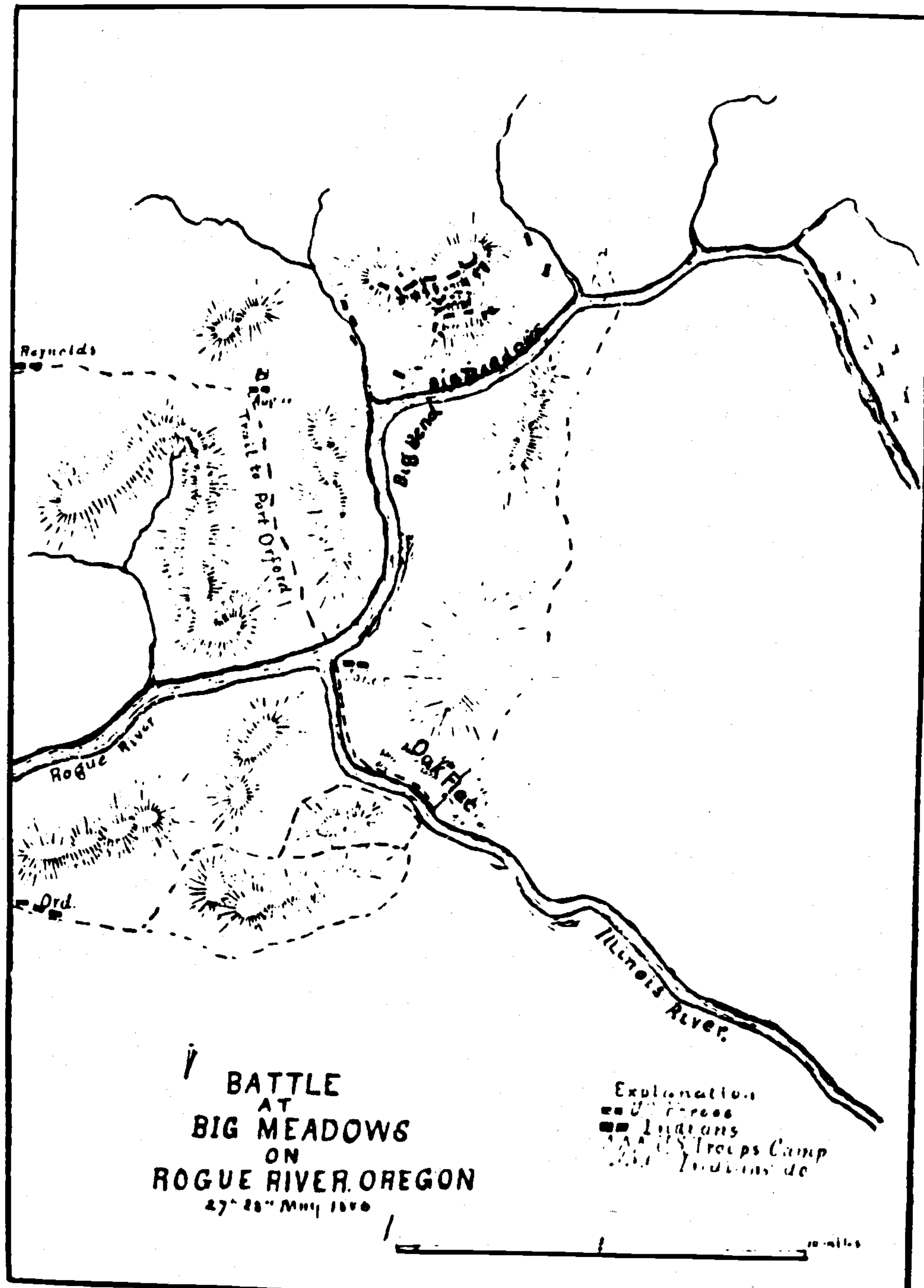


Figure 14. 1856 map of Battle at Big Bend on the Rogue River (from Beckham 1971).

River (Atwood 1978).

John Wesley Billings and his wife Adeline and their three children were members of the train. They chose to settle at the mouth of the Illinois River where the Shis-ta-koos-tee band at Tlegetlinten once lived (Figure 13). Elwin Frye, a relative of one of the first settlers of this mule train, recalled, "you find little Indian villages in places with some of the finest climate in the country. They selected these places where there was warm winters, early sunshine in the spring. That's the places where the settlers settled; old Indian camps" (Atwood 1978: 26).

The Billings family eventually moved up the Rogue River to the Big Bend area and claimed a piece of land. Tlegetlinten subsequently went through several owners. In 1935, when Berreman visited the area "a Mr. Blondell" (p.71) owned the property. Blondell bought the property from a Mr. Miller in 1916. Miller owned and ran a store on the property (Lee 1982). Blondell is the grandfather to Hugh McGinnis and McGinnis, who owns the property adjacent to Tlegetlinten, has the largest collection of artifacts from around the Agness area (Lee 1982).

In 1982, permission to excavate the site was given by the present owners, Lewis Giottonini, M. John Spicer and Alan Corbin, real estate developers from Gold Beach.

CHAPTER IV

Previous Archaeology

Numerous reports have been written about archaeological research conducted along the coast and upper Rogue River of southwestern Oregon . Southern Oregon coastal archaeology began in the 1870's when H.A. Chase gave the first detailed description of a shell midden at the mouth of the Chetco River (Beckham and Hartmann 1978). Sites along the upper Rogue River have been investigated since the 1930's when L. S. Cressman (1933) excavated a site near the town of Gold Hill, Oregon. Although much has been written on the prehistory of the southern coast and the upper Rogue River area, very little archaeological research has taken place between these two regions. Along the Rogue River from Galice Creek to Gold Beach on the coast, a distance of sixty-five river miles, about twenty archaeological sites have been recorded but only three sites have been examined (Ross et al. 1982; Griffin 1983; Schriendorfer 1985). Tlegetlinten is one of these sites.

Pullen (1982) and Minor and Toepel (1983) have synthesized the archaeological research along the southern coast of Oregon from the Coquille River south to the California border (for a comprehensive list of examined sites on the coast see Table 2). Previous archaeology on the upper Rogue River and northwestern California has been discussed in detail by Nisbet (1981), Brauner and Nisbet (1983) and Lyman (1985)(for a comprehensive list of examined sites on the upper Rogue River see Table 3). I will only review here two sites on the Rogue River that I feel will add information to the prehistory of Tlegetlinten.

Marial, 35CU84, is a site located at the confluence of Mule Creek and the Rogue River. The site is located on the north bank of the Rogue River about 50 miles upstream from Gold Beach and about 20 miles upstream from Tlegetlinten. The Marial site had been tested in 1978 and 1982 by the Bureau of Land Management. In 1982, a carbon sample was recovered from a depth of 250 cm which yielded a date of 6,485 $\pm$ 80 years B.P. (WSU 2731), making the Marial site one of the oldest dated sites in southwestern Oregon at the time.

In 1983 and 1984 the Bureau of Land Management contracted

Table 2: Coastal sites excavated and analyzed (from Minor and Toepel 1983).

Site Number	Project Name	Reference(s)
35CS3	Bullards Beach	Leatherman and Krieger 1940 Ross 1976
35CS16	Schwenn Site	Leatherman and Kreiger 1940
35CU37	Lone Creek Ranch	Berreman 1944
35CS5	Bandon Site	Collins 1953; Cressman 1952 and1953
35CS23	Coquille Mill	Cressman 1952
35CU47	Strain Site	Newman 1959
35CU61 35CU62	Pistol River	Heflin 1966
35CU9	Port Orfords Head	Ross 1977
35CS43	Coquille River	Draper and Barner 1978
35CS1	Philpott	Draper 1980
35CU106	Blundon Site	Minor, Beckham and Greenspan 1980
35CU75	Blacklock Point	Ross 1986

Table 3: Interior sites excavated and analyzed (from Lyman 1985).

Site Number(s)	Project Name	Reference(s)
35JA130	Gold Hill	Cressman 1933
35JA1 35JA2	Emigrant Dam	Newman 1959
Various	Applegate, Lost Creek, Elk Creek	Cole 1966
Various	Elk Creek	Davis 1968a, 1983 Brauner and Honey 1979 Brauner and Lebow 1983
Various	Lost Creek	Davis 1968b, 1970, 1974, 1983
Various	Applegate	Hopkins et al., 1976
35JA53B	Applegate	Brauner 1978
35JA69	Squaw Lake	Brauner and Kindred 1979; Simmons 1979
35JO4	Ritsch	Wilson 1979
Overview	Rogue River Forest	Lalande 1980
35JA48 35JA49	Applegate	Brauner 1981; MacDonald 1981
35CU143	Blossum Bar	Ross et al., 1982

Table 3 continued.

Site Number(s)	Project Name	Reference(s)
35JA52	Applegate	Nisbet 1981 Nisbet and Brauner 1983
35JA53	Applegate	Nisbet and Brauner 1983
35JA42	Applegate	Brauner 1983
35JA47 35JA49	Applegate	Brauner and MacDonald 1983
35CU84	Marial	Griffin 1983; Schriendorfer1985
Various	Applegate Uplands	Nicholls et al., 1983
35JA77	Salt Creek	Satler n.d.
35JO16	Marthaller	Steele 1984

with Oregon State University and Dr. Richard E. Ross to further excavate the site. The 1983 excavation recovered approximately 9,175 tools and debitage from nine test units excavated to a depth of 350 cm (Griffin 1983).

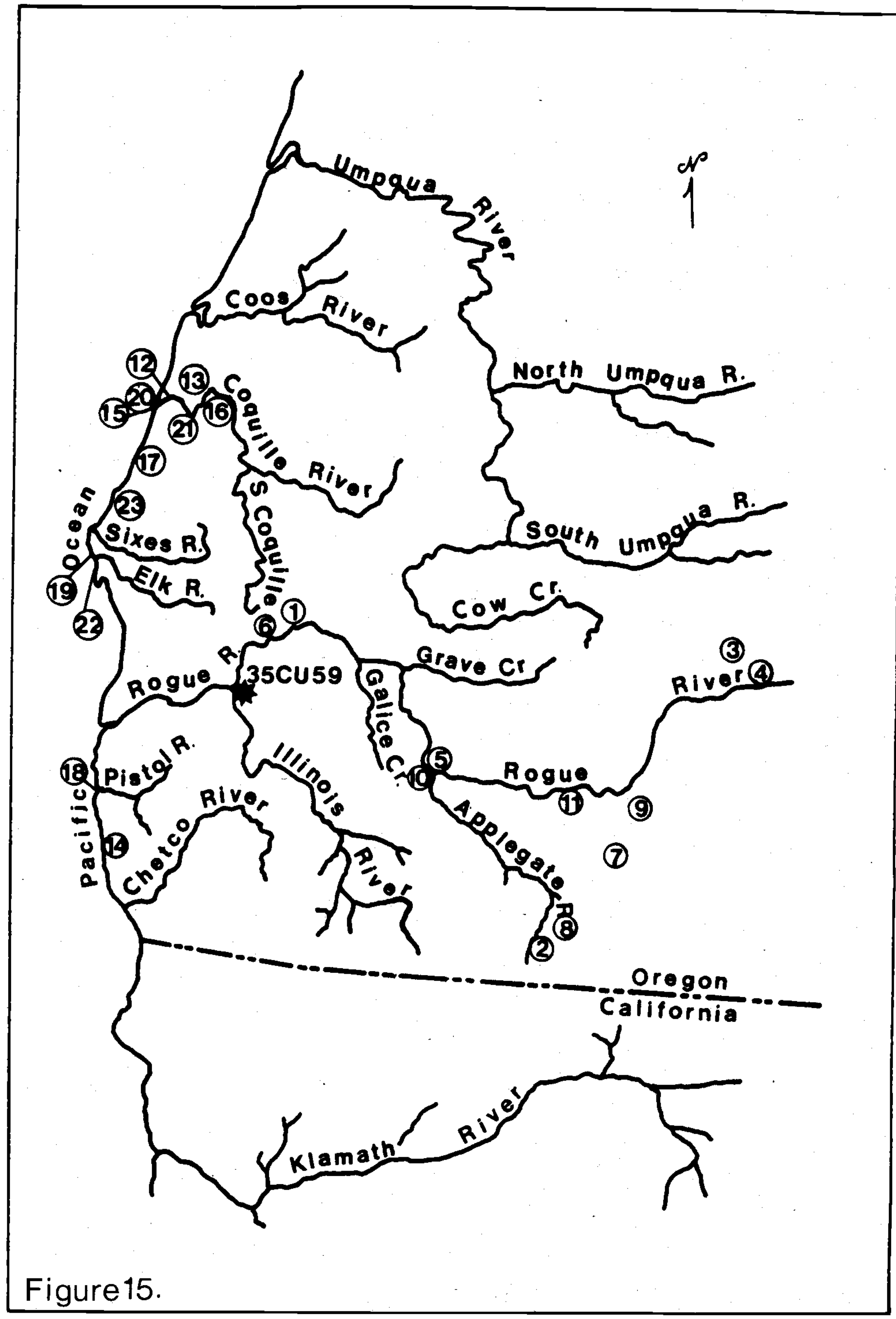
The 1984 excavation at Marial recovered 17,306 tools and debitage. The excavation also revealed six discrete culture bearing strata with C14 dates ranging from 2, 810 years B.P. in the upper cultural zone (Cultural Zone 1)to 8,560 years B.P. in the lowest cultural zone (Cultural Zone 6). The upper cultural zone yielded a variety of projectile points but most are a "Gunther Barbed" style. Cultural zone three yielded two dates, 5,850 ±120 years B.P. and 6,485 ± 80 years B.P. These C14 dates are associated with a lanceolate style similar to those at the Applegate site (35JA52) and Tlegetlinten. The lowest cultural zone yielded a C14 date of 8,560 ± 190 years B.P. This zone also produced a lanceolate or leaf-shaped projectile point (Schriendorfer 1985).

Site 35JA52 on the upper Applegate River was excavated during the summer of 1979. This site is located within a reservoir project conducted by the Portland District of the U.S.

Army Corps of Engineers. An evaluation of cultural resources within the Applegate Lake project area was directed by Dr. David R. Brauner of Oregon State University between 1977 and 1980 (Nisbet 1981). Approximately 120 square meters or 60% of the site was sampled. A total of 5,653 tools was recovered. The predominant projectile point style is the serrated, lanceolate forms (Brauner and Nisbet 1983). No carbon samples were recovered from the site but Nisbet was able to typologically cross date the projectile point style with similar lanceolate styles from the Northwest and propose a tentative date for the projectile point style in southwestern Oregon between 4-6000 years B.P.

Figure 15. Location of sites on southern Oregon coast and the upper Rogue River.

1. Marial - 35CU84
2. Applegate Lake Project - various
3. Elk Creek Lake Project - various
4. Lost Creek Lake Project - various
5. Ritsch site - 35JO4
6. Blossum Bar Encampment - 35CU143
7. Emigrant Dam - 35JA1
   35JA2
8. Squaw Lake - 35JA69
9. Salt Creek - 35JA77
10. Marthaller - 35JO16
11. Gold Hill - 35JA130
12. Bullards Beach - 35CS3
13. Schwenn - 35CS16
14. Lone Creek Ranch - 35CU37
15. Bandon - 35CS5
16. Coquille Mill - 35CS23
17. Strain - 35CU47
18. Pistol River - 35CU61
    35CU62
19. Port Orford - 35CU9
20. Coquille River 35CS43
21. Phillpot - 35CS1
22. Blundon - 35CU106
23. Blacklock Point - 35CU75



Umpqua River
Coos River
North Umpqua R.
Coquille River
S Coquille
South Umpqua R.
Cow Cr.
Ocean
Sixes R.
Elk R.
Rogue R.
35CU59
Grave Cr
River
Galice Cr.
Rogue
Illinois River
Applegate R.
Pistol R.
Chetco River
Pacific
Oregon
California
Klamath River
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Figure 15.

CHAPTER V

Field Methodology

In 1982, Oregon State University, under the direction of Dr. Richard E. Ross, held an eight week archaeological field school at Tlegetlinten. Field methodology to recover cultural remains was typical. To determine horizontal site perimeters, test units were arbitarily placed across the two terraces of the site. For vertical control, all test units were excavated by arbitary 20 centimeter levels. The majority of the test units were located on the upper terrace. This upper terrace was determined to be relatively undisturbed by erosion and deposition of soil by periodic flooding of the Illinois River. The lower terrace had been substantially disturbed by a 1964 flood that also destroyed the Illinois River bridge (Figure16).

A total of thirty-six 1 x 1 meter units (six 2 x 2 meter units and six 1 x 2 meter units) were excavated to an average depth of 200 centimeters. All cultural material was collected within 20 centimeter levels and 1 x 1 meter units. Sediment was

Figure 16. 1964 photograph of Illinois River bridge.

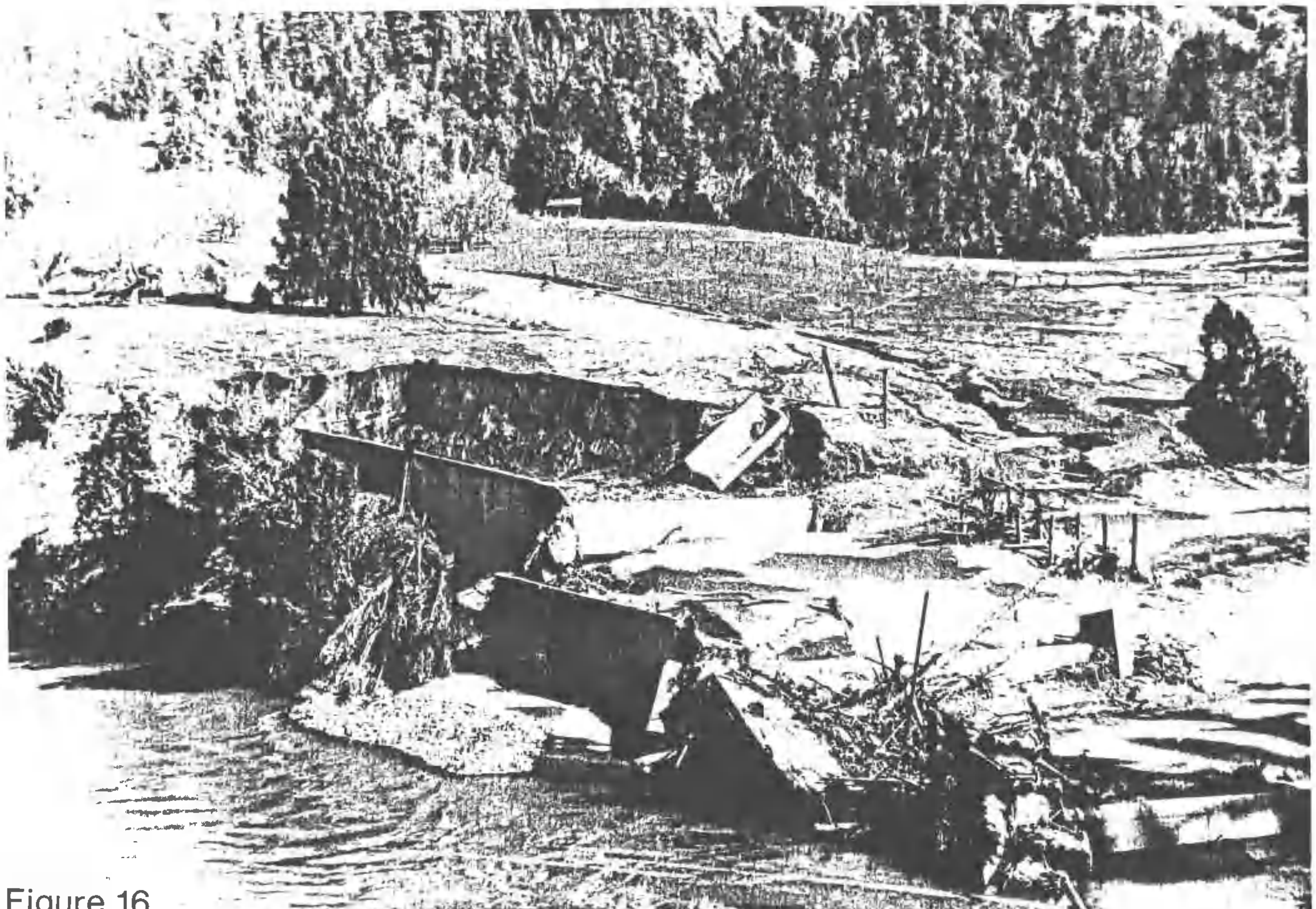

Figure 16.

removed by square nose shovels and trowels and screened through 1/4 inch mesh hardware cloth. All cultural materials recovered from the units, including faunal material, were collected and recorded by the individual student. Each student was responsible for recording information on any changes in soil deposition, sediment disturbance and concentrations of cultural material. Firecracked rock was counted and recorded but not collected. Cultural material was found to a depth of 240 centimeters in Test unit C, the deepest unit.

The site was mapped (Figure 17). All features and soil stratigraphies were mapped and photographed. Artifacts recovered during the excavation were cleaned and catalogued in the field. Later, a detailed analysis and further cataloguing of the artifacts was performed by the author.

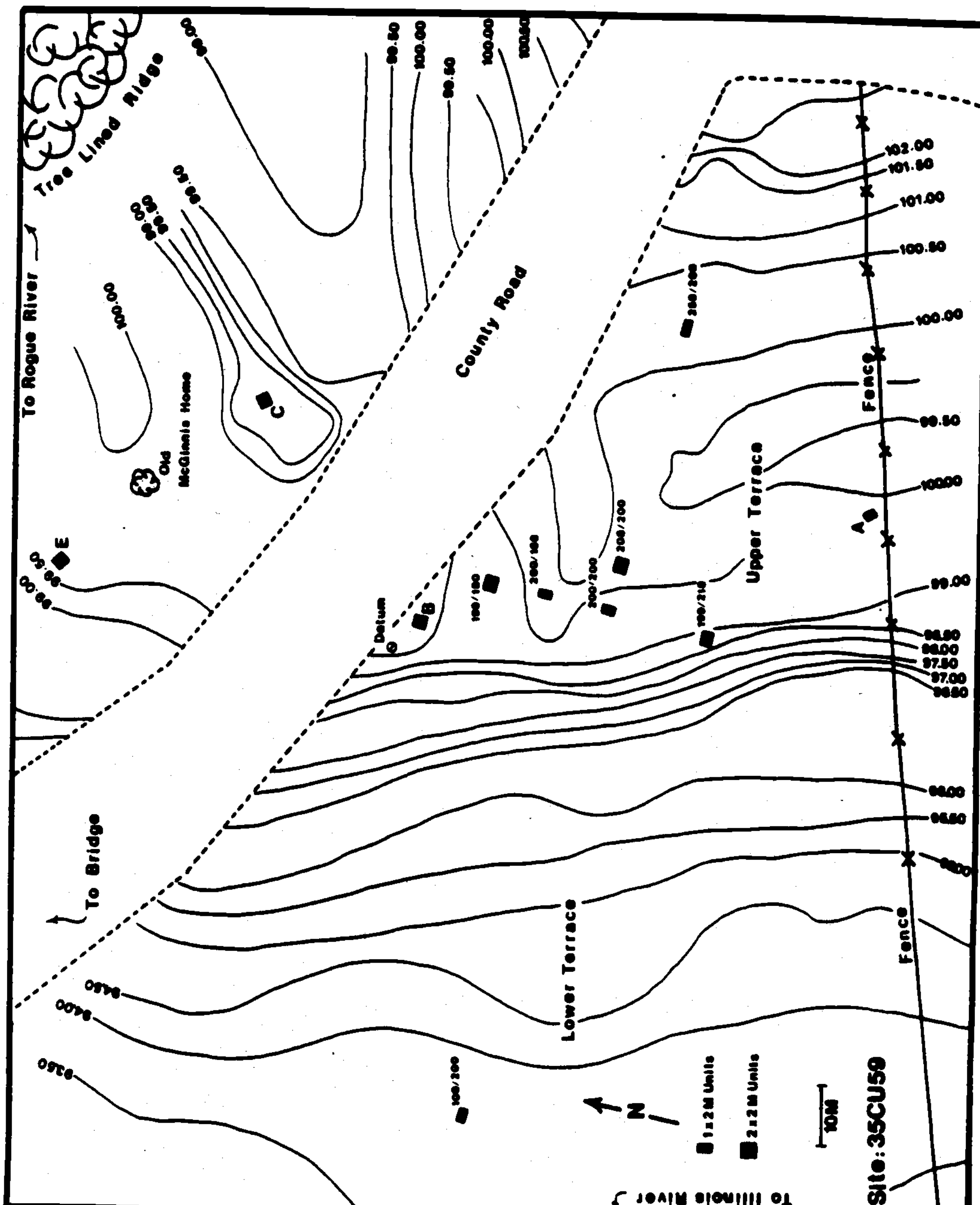

Figure 17. Site map illustrating location of test units.

CHAPTER VI

Artifact Description

A total of 27,525 lithic artifacts (tools and debitage) have been recovered from Tlegetlinten. Of these, 1,497 (5%) are complete and fragmented tools. The remaining 26,027 items are debitage. One hundred and thirty two faunal remains and 261 historic artifacts also have been recovered.

Cryptocrystalline silica is the predominant material type found at Tlegetlinten, making up 76% of the assemblage. Obsidian, basalt and other material types are less abundant. Other material types consist of sandstone, schist and andesite, however, these occur in such small amounts that they were lumped together with the basalt category. Obsidian accounts for 19% of the assemblage and basalt accounts for 5% (Table 4; Figures 18 and 19).

Cryptocrystalline silica can be found in the form of small nodules in the Rogue and Illinois rivers. This accessibility could account for the abundance of cryptocrystalline silica tools and debitage at Tlegetlinten. Natural nodules, as well as

Table 4: Debitage and tool material type frequencies.

	Debitage frequency			**Tool frequency**		
Levels	ccs	obs	basalt	ccs	obs	basalt
1	1502	349	51	91	13	2
2	2297	538	135	166	29	24
3	2254	541	144	126	27	81
4	2473	813	219	154	53	21
5	2504	844	154	156	41	20
6	2132	658	187	123	44	2
7	2571	576	225	152	20	5
8	1950	332	107	95	14	1
9	1332	141	80	43	8	3
10	597	34	18	19	2	-
11	227	20	7	6	1	2
12	11	2	2	-	-	-
Total	19850	4848	1329	1131	253	113
%	76%	19%	5%	75%	17%	8%

ccs = cryptocrystalline silica

obs = obsidian

basalt = basalt and other

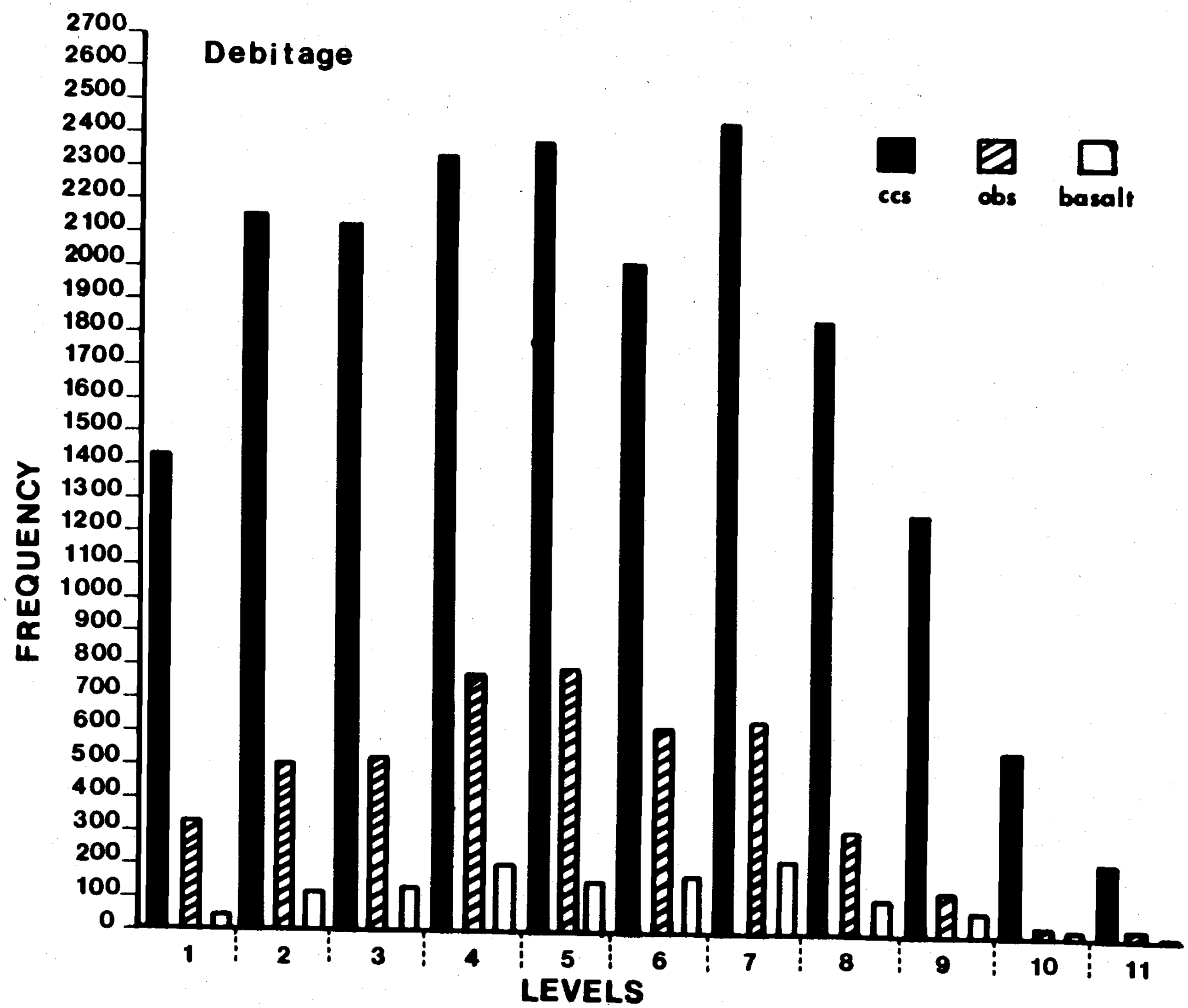

Figure 18. Histogram explaining debitage material type frequency.

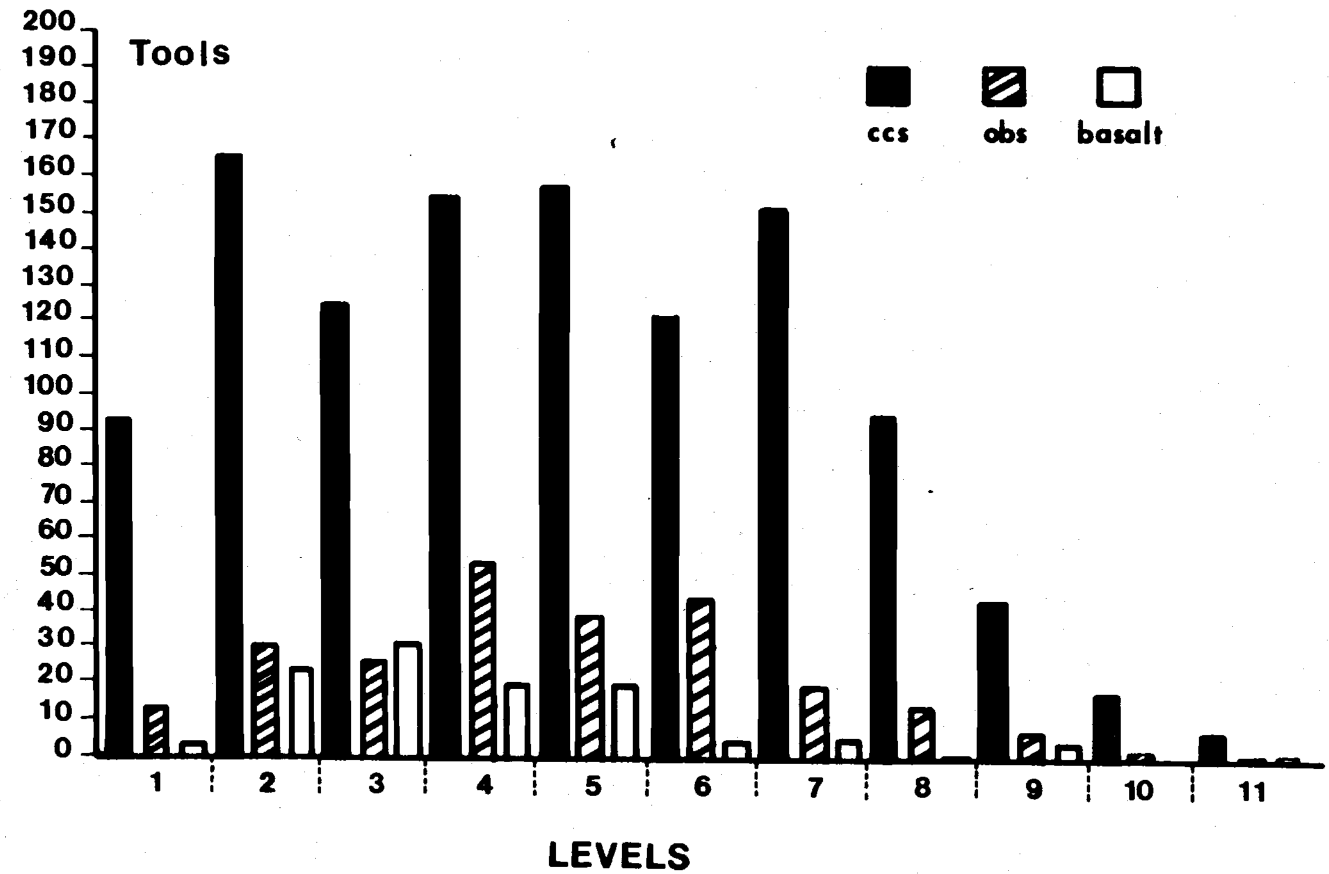

Figure 19. Histogram explaining tool material type frequency.

primary and secondary flakes (flakes with cortex remaining) of cryptocrystalline silica, were also recovered from the site.

Debitage analysis was not attempted in this thesis but preliminary observations indicate that the basalt debitage appears mostly as primary flakes. Basalt can be found in the Rogue and Illinois rivers in the form of river cobbles. Basalt is a material similar to cryptocrystalline in that it is resistant to shock and rigorous use. But, unlike cryptocrystalline silica, it can withstand repeated impact on hard surfaces and needs minimal retouch on the working edge. This could account for the small amount of basalt debitage.

Obsidian, a material not indigineous to the area, was probably brought into the site through trade and/or trips to the source area. The closest source area is Lassen Peak in northwestern California (Griffin 1983). Similar to cryptocrystalline silica in composition except more vitreous, obsidian was often selected for tool manufacturing. Unlike the cryprocrystalline silica debitage, most of the obsidian debitage excavated from Tlegetlinten appears to be small pressure flakes and biface thinning flakes. Obsidian was probably reused often because it was a valuable and rare material type. This could account for the high frequency of the smaller sized obsidian debitage (pressure flakes and biface thinning flakes) relative to the larger sized cryptocrystalline silica and basalt debitage.

Larger hand held tools such as hammerstones, cobble choppers, manos and metates are made of basalt while smaller retouched tools such as scrapers, drills, gravers, unifaces, bifaces, and projectile points are made of obsidian and cryptocrystalline silica.

Tool and debitage frequencies were randomly distributed across the site and there is no apparent horizontal clustering of tools or debitage across the site. Frequencies of material type in both tools and debitage tend to cluster vertically between levels 2 and 7 (see Figures 18 and 19).

A total of 1131 tools (75%) are made of cryptocrystalline silica. Two hundred and fifty-three tools (17%) are made of obsidian and 113 (8%) of basalt.

One hundred and sixty-eight complete and fragmented projectile points have been recovered from the site (Table 6).

Table 5: Material type by tool class.

Class	Total	*Material type* ccs	obs	basalt
01 Projectile points	168	161	7	-
02 Knives	9	8	1	-
03 Drills	12	9	3	-
04 Gravers	7	7	-	-
05 Scrapers	311	254	57	-
06 Utilized flakes	509	380	127	2
07 Unifaces	23	22	1	-
08 Bifaces	337	277	57	3
10 Cores	15	14	-	1
12 Choppers	69	-	-	69
13 Groundstones	19	-	-	20
14 Hammerstones	5	-	-	5
15 Miscellaneous	14	-	-	14
Total	1497	1131	253	113

Table 6: Projectile point types.

Type		Total	
01-01A	Stemmed	1	14
01-01B		2	
01-02A		5	
01-02B		1	
01-02C		5	
01-03A	Side-notched	7	16
01-03B		3	
01-03C		1	
01-03D		1	
01-03E		1	
01-03F		3	
01-04A	Corner-notched	4	6
01-04B		1	
01-04C		1	
01-05A	Basal-notched	1	3
01-05B		2	
01-06A	Lanceolate	28	46

Table 6 continued.

Type		Total	
01-06B		5	
01-06C		10	
01-06D		2	
01-06E		1	
01-07A	Concave Base	1	1
01-10A	Tip fragments	21	82
01-10B	Mid-sections	33	
01-10C	Base fragments	20	
01-10D	Lateral fragments	8	
			168

Of this sample, eighty-five specimens are complete. Fifty-four percent (46 specimens) of the complete projectile points are lanceolate forms. The next major category of projectile points is the side-notched types (16 specimens). Artifact assemblages dominated by the lanceolate style mentioned above usually date between 4000 and 6000 years B.P. (Nisbet 1981;Schriendorfer 1985). This will be discussed in further detail later in this chapter.

Utilized flakes are the most abundant tool type recovered from the site (see Chapter VII). The second most abundant tool type is the biface category. Most of the bifaces are unidentified tool fragments. Both utilized flakes and bifaces were distributed randomly across the site.

Mortars, pestles, metates and manos, tools usually associated with plant processing, were recovered from the site. Eight mortar fragments, seven pestles, one mano and three metates were recovered. Over half of these tools were found in levels two and three.

Faunal remains consist of 127 unidentifiable "deer sized" bone fragments and five identifiable fragments (identified by

Dr. R. Lee Lyman and Dave Shmitt). The identifiable fragments are listed below.

Unit	Depth	Species	Bone Fragment
C	0-20 cm	Sheep (*Ovis aries*)	Molar
199/180	0-20 cm	Cow (*Bos* sp.)	Distal humerus
E	0-20 cm	Pig (c.f. *Sus scrofa*)	canine
E	20-40 cm	Pig (c.f. *Sus scrofa*)	canine
E	20-40 cm	Cougar (*Felis concolar*)	metapodial

Level 2 contained the majority of the bone fragments with a total of twenty seven fragments (21%). Faunal remains were recovered to level 9. Each ensuing level below level 2 yielded relatively fewer fragments. This was probably due to the nature of the preservation of organics at the site.

The upper 20 centimeters of the site had been disturbed by plowing. At one time the southern half of the site (Figure 17) was used for pasture. This probably accounts for finding the domestic sheep, pig and cow fragments. The presence of smaller burned and unburned bone fragments in the lower levels of the site could reflect the practice of pounding deer bones to make a bone grease for soup (Holt 1946)(see also Chapter III).

All the historical artifacts recovered from the site were excavated from the first two levels (Table 7). These artifacts were recovered from units C and E in the northern half of the site (Figure 17) and were associated with the previous owners of the property. The historical artifacts appear to date from the early 20th century to the present.

Artifact Analysis and Discussion

One of the basic goals of archaeology is to define cultural chronologies (Thomas 1981). At present, there is very little information concerning cultural chronologies for southwestern Oregon. Most sites in southwestern Oregon are typified by a single component or few absolute (C14) dates (Lyman 1985). In this section I deal with two research problems: 1) site age and 2) intra-regional relationships. That is, I deal with establishing a period of occupation for Tlegetlinten and also develope a model for stylistic diffusion in the Rogue River Basin. Site age and intra-regional relationships are discussed together here because space and time, along with form, are vital dimensions of archaeology (Deetz 1967).

Table 7: Historic artifacts inventory and description.

Description	Total
<u>Glass</u>	
Window glass fragments	3
Clear bottle glass fragments	41
Green Bottle glass fragments	6
Blue-green glass fragments	25
Amber glass fragments	39
Milky-white glass fragments	2
Clear glass handle fragment	1
<u>Stoneware and Porcelain</u>	
White stoneware fragments	5
White with black transfer fragments	2
<u>Nails, staples, wire, etc</u>.	
Fencing staples	9
Fencing wire	1
Wire springs	3
Wire drawn round nails	70
Machine cut square nails	7
Tin fragments	15

Table 7 continued.

Description	Total
Rolled tin fragments	3
Nails, staples, wire, etc.	
Rivets	2
Faucet	1
Miscellaneous	
Spent .22 caliber cartridge	7
Spent .33 caliber cartridge	1
Spent .35 caliber cartridge "Peter's Remington"	1
Spent .38 caliber cartridge "U.M.C. - S. & W.L."	1
Aluminum foil fragments	6
Leather fragments	3
Leather fragment with rivet	1
Clothing tack	1
Plastic fragments	2
Wax dabbing or beeswax	3

In order to place the site within a temporal framework a stylistic analysis of a selected kind of artifact needs to be performed. There are two common interpretations of stylistic variation (Sackett 1982; Wiessner 1983). The first is to interpret stylistic variation in form to mean that the variables on an item carry a message about social relations. But detecting social/ethnic related attributes on archaeological items has been shown to be difficult (Sackett 1985; Weissner 1983 and 1985). The second manner in which stylistic variation is interpreted involves what Sackett (1982) refers to as the "cultural-historical" context. "Style concerns a highly characteristic manner of doing something that by its very nature is pecular to a specific time and place" (Sackett 1982:64). This second interpretation of stylistic variation is what is desired here, but the first interpretation must somehow be analytically controlled. It is unclear how ethnic variation might be analytically controlled, but I suspect that such variation is minimal between the three sites I discuss below because all are in the same cultural area and all were occupied by closely related ethnic groups. Thus I assume that any analytically detected stylistic differences denote temporal differences and stylistic similarity denotes contemporaneity. I further assume that because the three sites I examine are geographically separate, a minor degree of stylistic variation denotes diffusion from one site to another over time. Because the geographic separation is not great, diffusion should have been relatively rapid, and thus any minor stylistic variation is indicative of a relatively brief time span.

Projectile point forms have long been known to be temporally sensitive. By comparing a morphometrically defined style of projectile points from Tlegetlinten with similar projectile point styles from two southwestern Oregon sites, a time frame for the Tlegetlinten site can be established. The two sites used for this comparative analysis are located along the Rogue and Applegate rivers (Figure 15). The Marial site (35CU84) is used for comparative purposes because the lanceolate style points recovered from the site have absolute (C14) dates associated with them. The Applegate site (35JA52) is used for comparative purposes because the recovered lanceolate style points from the site set the precedent for use of the lanceolate style for typological cross dating in southwestern Oregon (e.g. Nisbet 1981).

There are a total of 168 complete and fragmented projectile points from Tlegetlinten. The most frequent category of projectile points recovered from Tlegetlinten is the large lanceolate type, making up 54% of the total projectile point collection. There are five varieties: 01-06A, 01-06B, 01-06C, 01-06D and 01-06E. The largest group among the varieties is the 06A group with twenty-six specimens. These are lanceolates that are produced on a thick flake with the maximum width located approximately 1/3 to 1/2 the total length from the proximal end of the point. Many exhibit a keel or high dorsal ridge and several exhibit a remnant platform on the proximal end. Some specimens are serrated (see Nesbit 1981 Appendix B, type 06A; Appendix A in this report).

Tlegetlinten and Applegate 06A types are similar in size and morphology to Schriendorfer's (1985) leaf-shaped types C, D and E from Marial. The latter are described as leaf-shaped with rounded bases that are either narrower or wider than the blade (types C and D are narrower than the blade and type E is wider).

There are a total of eighty-two lanceolate projectile points from all three sites. Ninety-four percent are made of cryptocrystalline silica and six percent (five specimens) are made of obsidian.

A statistical comparison of lanceolate point, length, width, thickness and length/width ratio (Table 8) between Tlegetlinten's, Applegate's, and Marial's specimens was accomplished to determine whether the lanceolate projectile points from Tlegetlinten are similar or dissimilar to the lanceolate projectile points from Marial and Applegate. If they are similar then one would assume that they must be contemporary in time (after Thomas 1981).

A total of twenty-seven lanceolate points (types 06A and 06B) from Applegate were compared with twenty-two leaf-shaped points (types C, D and E) from Marial. These types were then compared to projectile point types 06A and 06B from Tlegetlinten. Measurements are given in Appendix B and statistics are summarized in Table 8 (see also Figure 20).

The average lengths, widths and thicknesses of the lanceolate projectile points from Tlegetlinten, Marial and

Table 8: Statistical figures.

Analysis of Variance

$H_0 = \overline{X}_1 = \overline{X}_2 = \overline{X}_3$

<u>Length</u> $f = 3.884$

$.05 > p > .01$

<u>Width</u> $f = .072$

$p > .05$

<u>Thickness</u> $f = 3.22$

$.05 > p > .01$

<u>Length/Width Ratio</u> $f = 8.73$

$p < .001$

T-test

<u>Length/Width Ratio</u>

$H_0 = \overline{X}_2 = \overline{X}_3$

$t = 1.82$

$.1 > p > .05$

$H_0 = \overline{X}_1 = \overline{X}_2$

$t = 2.07$

$p > .05$

$H_0 = \overline{X}_1 = \overline{X}_3$

$t = 4.087$

$p < .001$

$\overline{X}_1$: APPLEGATE

$\overline{X}_2$: MARIAL

$\overline{X}_3$: TLEGETLINTEN

Table 8 continued.

Confidence Intervals

Length:	Applegate	48.33 mm to 36.16 mm
	Marial	38.76 mm to 31.24 mm
	Tlegetlinten	37.33 mm to 31.26 mm
Width:	Applegate	17.5 mm to 15.7 mm
	Marial	17.43 mm to 15.7 mm
	Tlegetlinten	17.68 mm to 15.9 mm
Thickness:	Applegate	7.90 mm to 6.89 mm
	Marial	7.83 mm to 6.60 mm
	Tlegetlinten	7.03 mm to 5.92 mm

Figure 20. Lanceolate projectile points.

a - b Tlegetlinten 01-06B

c - g Tlegetlinten 01-06A

h Marial Leafshape C

i - j Marial Leafshape D

k - l Marial Leafshape E

m - r Applegate 01-06A

s Applegate 01-06B

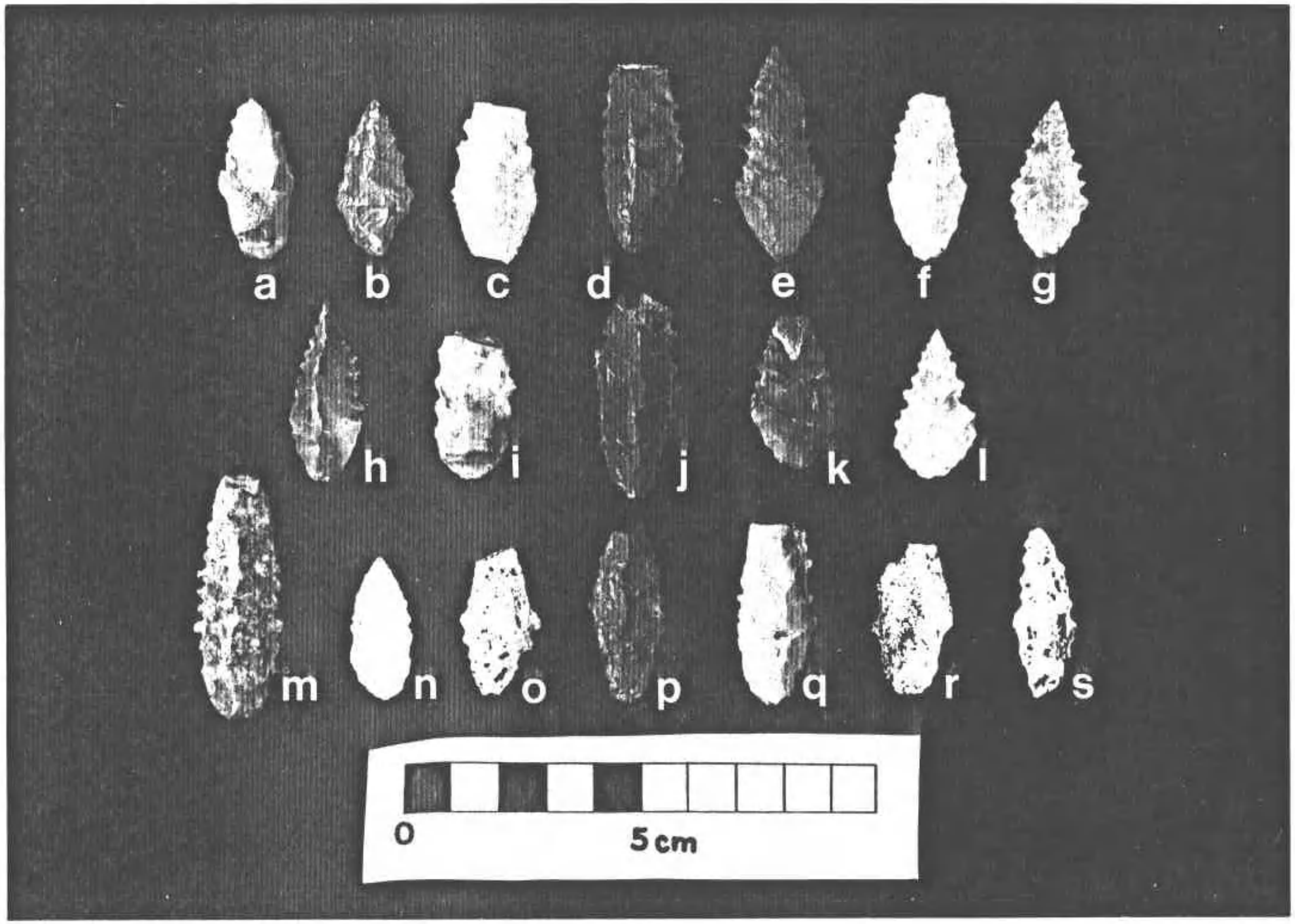

Figure 20.

Applegate are similar, but the average length/width ratio of the projectile points from the three sites are not. This could be due to the fact that the length/width ratio is measuring two dimensions (i.e., shape) instead of one dimension (i.e., size as measured by length, width or thickness). The length/width ratio may, thus, be a variable more sensitive to detecting stylistic variation in lanceolate projectile points than simple size-related variables. To assess this, the length/width ratio was statistically compared for each pair of sites (Table 8). The lanceolate projectile points from Tlegetlinten are similar to Marial, but not to those from Applegate. The differences that occur between the Tlegetlinten points and the Applegate points could be due to temporal differences, ethnic differences, or both. The Applegate points and Marial points are not significantly different, nor are the Marial and Tlegetlinten points. That is, there appears to be a relationship between these three samples of points, a relationship similar to a biological cline. The points from Tlegetlinten are shorter and wider while those from Applegate are longer and narrower and those from Marial fall between Tlegetlinten and Applegate

(Figure 21).

Overall it appears that the three samples are stylistically similar and probably represent closely related ethnic groups and similar time periods. Differences are greatest between the two samples farthest apart geographically (Tlegetlinten and Applegate) and similarities are greatest between those collections which are closest geographically. This suggests that diffusion has played a role in the distribution of the morphometric variation in lanceolate points within the Rogue River Basin (Deetz and Dethlefsen 1965); hence, typological cross dating of Tlegetlinten should be based on the Marial collection and not the Applegate collection.

Granting, then, that the lanceolate projectile points from Tlegetlinten date to approximately the same time as those from Marial, the lanceolate projectile points from Tlegetlinten date to about 6000 years B.P.

Various notched and stemmed projectile point styles in the upper levels of the Tlegetlinten site indicate a second and later component. The second largest category of projectile points from Tlegetlinten is the side notched types. There are sixteen

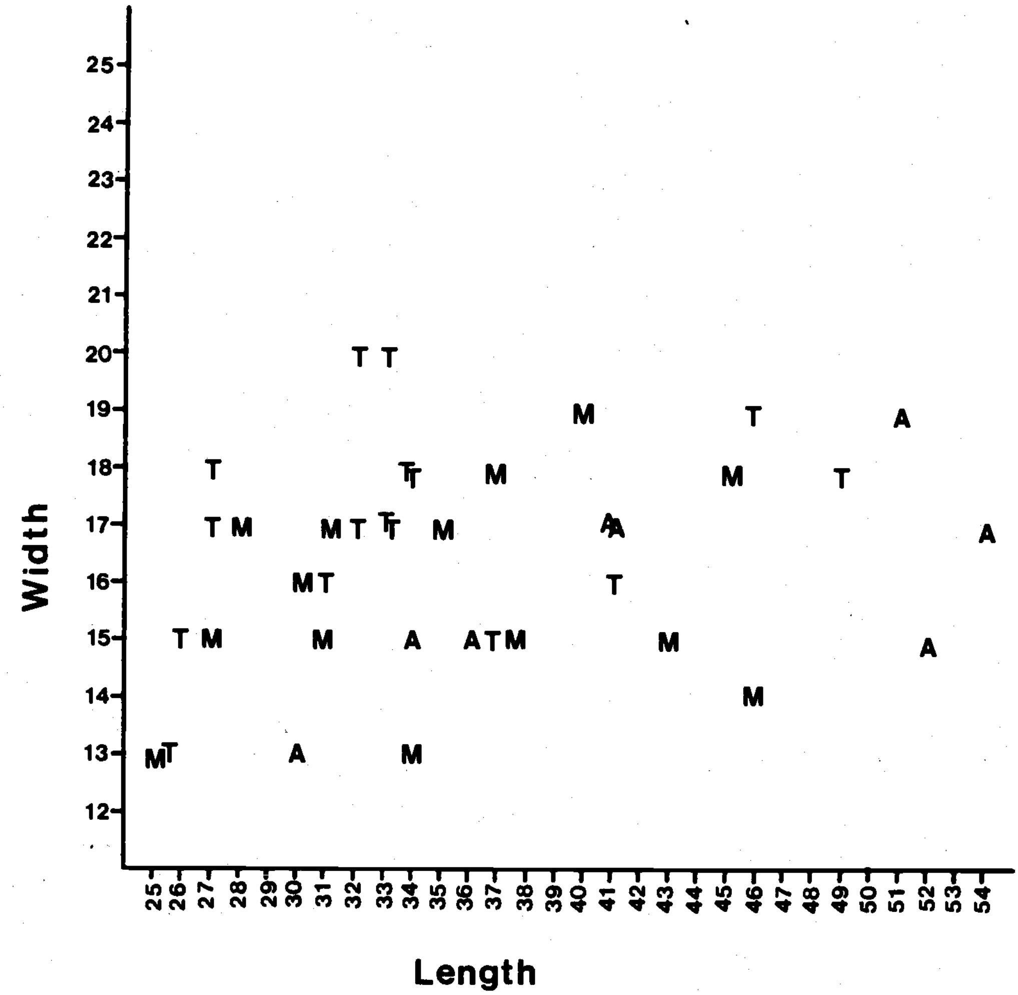

Figure 21. Scattergram illustrating lengths and widths of lanceolate projectile points from Tlegetlinten (T), Marial (M) and Applegate (A); projectile points farthest to the left are wider relative to their lengths.

specimens and six varieties, 01-03A through 01-03F. All of these varieties are found throughout southwestern Oregon and are considered to be a late style of projectile point (Brauner 1983).

Pettigrew (1980) has suggested, on the basis of his work at the Looney site (35DO13) located in Camas Valley, that narrow necked (less than 7.5 mm) projectile points began to replace broad necked (greater than 7.5 mm) projectile points about1000 B.P. Minor and Toepel (1983) also used neck width size differences in their proposal for a southern Oregon coast chronology. They suggest that broad necked projectile points gave way to narrow necked projectile points around 1500 B.P.

Marial has a C14 date of 2,810 $\pm$ 50 years B.P. for Schriendorfer's (1985) side-notched types A, B and D. Sixty percent of these projectile points have neck widths greater than 7.5 mm, lending support to Pettigrew's suggestion that broad necked projectile points are older than 1000 B.P. Schriendorfer's side-notched A, B and D are morphometrically similar to the side notched types 03A and 03B from Tlegetlinten. At Tlegetlinten, eighty percent of the 03A and

03B types have neck widths greater than 7.5 mm, indicating that these points may be older than 1000 B.P. and contemporeneous with the side-notched types from Marial. Based on the typological cross dating of the side notched projectile points a suggested terminal occupation date for the upper terrace of Tlegetlinten is 2000 B.P.

The only diagnostic artifact recovered from the lower terrace was a concave base projectile point. This point style is found from the Coquille River, Oregon to Humbolt Bay, California. Concave base points are found in small numbers in some of the interior sites. Thirteen specimens were recovered from the 1983 testing at Marial (Schriendorfer 1985). The concave base point dates from AD 900 at Gunther Island Shellmound (4Hum67) in Humbolt Bay, California and the style lasted into the early twentieth century (Schriendorfer 1985).

Whether or not occupation of Tlegetlinten lasted until 1856 with the removal of the Indians to the Siletz Reservation is not certain. Historical records (Beckham 1971 and 1977) indicate the site was occupied until 1856. Until more archaeological information is retrieved it can only be assumed the site was occupied by the people of Tlegetlinten until their removal to the Siletz Reservation in 1856.

CHAPTER VII

Intrasite Spatial Analysis

Intrasite spatial analysis can be defined as the study of the spatial organization of artifacts within a site to determine various activity and use areas. The information presented in this chapter deals with intrasite spatial utilization; that is, certain areas of the site used by the Tlegetlinten people may have been used for certain functions. It may also be possible to determine if the site was used during different seasons or over long periods of time.

In the past, various statistical manipulations were used to define the spatial organization of artifacts and to reconstruct past activities. Carr (1984:133) suggests that there are problems with using statistics to explain and reconstruct past behaviors because "in general the results of such analysis have told archaeologists less" about the site than our own perceptions. "As a consquence, quantitative spatial analysis of intrasite patterning has not become the standard approach in archaeology that once seemed probable" (Carr 1984: 133). Carr

(1984:211) explains that archaeologists need to be aware of the inconsistencies in the use of the various "mathematical search techniques". Therefore, the data I present here will be in a spatial context with comments on general observations.

Figure 22 illustrates the number of various tool types by level in each unit (see Appendix A for explanation of the alpha-numeric classificatory system). Edge wear analysis was not attempted in this research so functional categories were inferred from tool morphology.

The most abundant tool type in each unit is the utilized flake category (06). Utilized flakes are described here as waste flakes used for various purposes, usually cutting and scraping. These tools are usually expediency tools, that is, tools often used without purposeful retouch on the flake. Experiments (e.g., Tringham et al. 1974; Gifford-Gonzalez et al. 1985) have shown that it is difficult to distinguish between edge damage (utilization) caused by cultural or natural forces. Patterson (1983:305) feels that "slight damage to the edge of tools as a result of use is difficult to distinguish from natural edge damage". Tringham et al. (1974) and Gifford-Gonzalez et al.

Unit C (2x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1	2			1	5	5		3						16
2	6			1	2	10	1	6						26
3	1			1	6	5		3						16
4	8				6	13		13						40
5	7				10	9	1	10	1	1				39
6	1				12	17		5						35
7	6	1			6	13	1	12					1	40
8	5		1		6	18	1	13						44
9	3				1	7	1	7	2	1				22
10	2				1	5		2	1					11
11	2					4		1			1			8
Total	43	1	1	3	55	106	5	75	4	2	1		1	297

Figure 22 a-g. Amount of various tool types by level in each unit.

Unit E (2x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	Total
1	2				1	1	1	6						11
2	10				8	9	1	11	2	1			1	43
3	6	1			8	5		7	1					28
4	1				7	2		16	1	5			1	51
5	6				3	11	1	12		7				40
6	9				5	11		6			1	1		33
7	6				11	14		13		1				45
8					2	11		7						20
9	3				2	4		1	1					11
10	1				3	2		2						8
11					1	1								2
Total	44	1			51	89	3	81	5	14	1	1	2	292

Figure 22b.

Unit 199/180
(2x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1	2	1	1		3	4		2						13
2	3		2		7	17		6		4	3		1	43
3	1		1		7	10		5	1	4	1			30
4	5	1			6	12		9						25
5	3				5	4		5						21
6	2				12	8		6						27
7	5	1			4	10		4		1				27
8	3				5	7			1					20
9					2	6							1	9
Total	24	3	4		51	78		38	2	9	4		2	215

Figure 22c.

Unit 208/200 (2x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	Total
1	6				6	10	1	5					1	29
2		1			8	4		2	1	4	1	1	1	23
3	3	1				6	1	4	1	10	5	1	1	33
4	2				8	5		5		1				21
5	3				7	12		3		4			2	31
6					4	4	1	3		1				13
7	1				3	6		6						16
8	1				3	1		2						7
9					1			1						2
Total	16	2			40	48	3	31	2	20	6	2	5	175

Figure 22d.

Unit 200/200
(1 x 2 m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1	2				1	2		2		2				9
2	2				3	2	1	5						13
3					6	6		5						17
4					2	6		8			1		1	18
5	2				4	6		6						18
6	2				3	2		2						9
7	1				1	2	1	2						7
8					2	1								3
Total	9				22	27	2	30		2	1		1	94

Unit 200/188
(1x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1					2	5								7
2					2	5		1						8
3						4		1						5
4					1	7		3			1		1	13
5	2				7	7		1		2				19
6					4	6		2						12
7	2				1	8		1		1				13
8	1				1	5		1						8
Total	5				18	47		10		3	1		1	85

Figure 22e.

Unit A (1 x 2 m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1						1		1						2
2					1									1
3					1	1	1	1		1				5
4					1					3		1		5
5					1					1				2
Total					4	2	1	2		5		1		15

Unit B (2 x 2 m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1					1	7	1	5						14
2	3		2	1	8	14		10		4	2			44
3	2	1	1		6	9	1	6	1	1	1			28
4	4				7	11		6						28
5	4			1	9	8	3	4						29
6	1		1		5	10	1	4			1			23
7	3		2		6	7		8						26
8					3	1		1					1	6
9					2	7								9
10								2						2
Total	17	1	6	2	47	74	5	46	1	5	4		1	209

Figure 22f.

Unit 100/200
(1x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1	1													1
Total	1													1

Unit 258/200
(1x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1						1								1
2	1				1	1								3
Total	1				1	2								4

Unit 199/218
(2x2m)

Tool types

Levels	01	02	03	04	05	06	07	08	10	12	13	14	15	
1					1		2							3
2	2	1			5	3		6						17
3	1				3	12	1			2	1	1	1	22
4	1			1	5	5		10		5				27
5	1		1		5	5		3		2				17
6	1			1	3	9		2	1					17
7						1		2						3
8	1					1								2
9	1													1
Total	8	1	1	2	22	36	3	23	1	9	1	1	1	109

Figure 22g.

(1985) have shown that trampling on lithics can cause edge damage. Whether the flakes from Tlegetlinten categorized as utilized flakes can be attributed to purposeful use (cultural) or indiscriminate trampling is unknown. The high frequency of utilized flakes at Tlegetlinten probably resulted from both processes.

Bifaces were the second most abundant tool type recovered from Tlegetlinten. Most of the bifaces were unidentifiable tool fragments. Whether most of these tools functioned as knives, scrapers or projectile points is unknown.

Scrapers were also an abundant tool type at Tlegetlinten with 311 specimens. Hideworking was probably an activity taking place at the site as evident by the relatively large numbers of scrapers recovered. But scrapers can also be used for woodworking. Tringham et al. (1974:191) have shown that different types of actions (i.e. cutting, scraping) on different types of material (i.e. bone, wood, hide) can produce "qualitative as well as quantitative differences in the eventual micromorphology of a flake's worked edge".

Lithic debitage dominated the cultural material recovered from Tlegetlinten. Tool manufacture and repair was probably the dominant activity taking place. The ready accessibility of lithic materials (esp. cryptocrystalline silica and basalt) near the site also makes it a logical inference that tool manufacturing occurred at the site.

Plant processing occurred at the site as indicated by the recovered manos, metates, mortars and pestles. Roots, seeds and bulbs would have been ground and cooked to make a mush or gruel. Bone would have been pounded to extract the marrow or to make soup.

Faunal remains were recovered from levels 1 through 9. Fish bones and plant remains were not recovered from the site, probably due to the nature of the organic preservation and not that fishing or plant gathering did not occur at Tlegetlinten.

Figure 23 illustrates the average (tool or debitage quantity divided by the number of 1 x 1 meter units per level) and absolute quantity of tools and lithic debitage from each level and stratum. Clearly, the frequency of cultural material tends to rise in levels 5 through 8 then and gradually declines. This suggests the most intense use of Tlegetlinten occured in Strata

Figure 23. Average and real quantity of tools and lithic debitage.

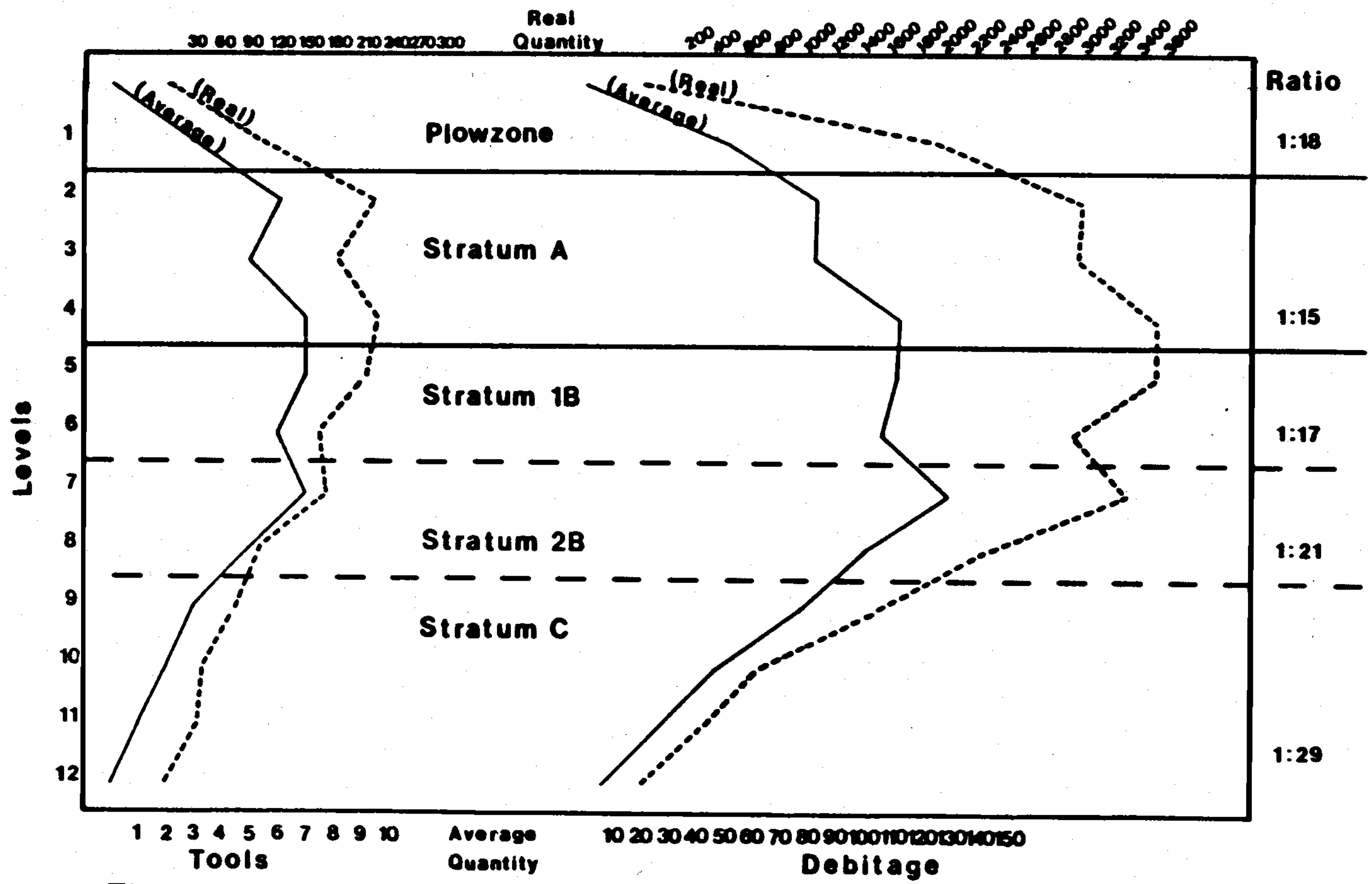
Real
Quantity
30 60 90 120 150 180 210 240 270 300
Ratio
(Real)
(Average)
Plowzone
Stratum A
Stratum 1B
Stratum 2B
Stratum C
Levels
1
2
3
4
5
6
7
8
9
10
11
12
1:18
1:15
1:17
1:21
1:29
1 2 3 4 5 6 7 8 9 10
Tools
Average
Quantity
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
Debitage

Figure 23.

1B and 2B.

It is also possible to intrepret the frequency curve as indicating differences in sediment deposition rates (Brauner 1985; Kidwell 1985). If we assume that site utilization was constant through time then during periods of increased net sedimentation the rate of artifact accumulation per level would be low. Conversely, if the rate of sedimentation decreased almost to a point of stability the net rate of artifact accumulation would increase.

It may be helpful at this point to summarize the composition of the stratigraphic profile of the site. Stratum A is composed of loamy sand, indicative of relatively rapid sediment accumulation. Strata 1B and 2B are composed of silt loam, indicative of relatively slow to stable sediment accumulation. Stratum C is composed of sandy loam, again indicative of a faster sediment accumulation. So, it may be more correct to interpret the curve in Figure 23 as indicative sediment rate accumulation as opposed to intensity of site usage. The ratio of tools to debitage (Figure 23) also indicates there is no significant difference in the frequency of cultural material between strata.

If Figure 23 reflects the rate of sediment accumulation, then I might expect to define discrete living areas in Strata 1B and 2B. No such areas were found at Tlegetlinten, probably due to a number of different biological (i.e., rodent and worm activites; plant rootlets and roots) and geological (i.e., colluvial, fluvial and alluvial action) post depositional disturbances (Wood and Johnson 1978). Thus activity and use areas were difficult to perceive. Further, no individual unit contained a particular tool type in abundance to indicate a specialized activity area.

Figure 24 illustrates the percentage of tool types from each stratum and suggests uniformity in site function through time. That is, activities such as: 1) hunting (as evident by projectile points and faunal remains), 2) tool manufacturing (as evident by lithic debitage), 3) possible hide processing (as evident from scrapers, knives, drills, and gravers), 4) possible woodworking (as evident by scrapers and cobble choppers), and 5) plant processing (as evident by groundstones) were taking place at Tlegetlinten throughout its occupation.

Figure 24. Histogram of percentage of tool types by strata.

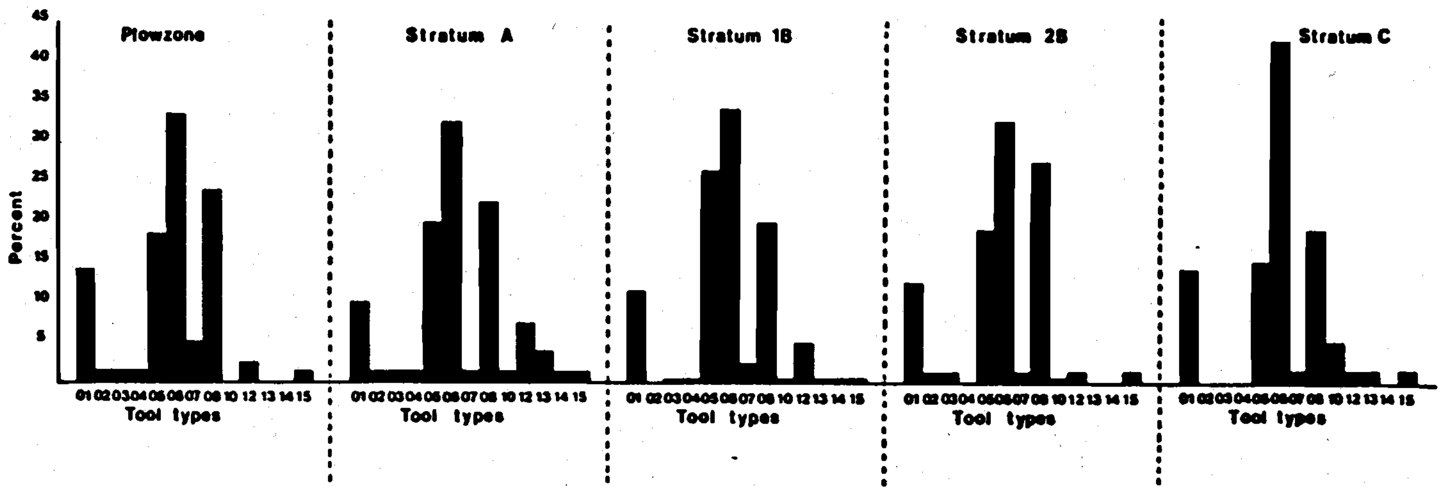
Plowzone
Stratum A
Stratum 1B
Stratum 2B
Stratum C
Percent
45
40
35
30
25
20
15
10
5
Tool types

Figure 24.

Historical records (Waterman 1925; Berreman 1978) indicate that Tlegetlinten was a major village. Ethnographic information (Sapir 1907; Drucker 1936) indicates that large permanent villages were occupied either during the winter months or summer months when the Indians were not in search of food. It was impossible to determine with absolute certainty due to the lack of evidence (i.e. plant and faunal remains), the season(s) in which the site was occupied. Tlegetlinten is a large site (approximately 4 acres) and only a small sample (36 1 x 1 meter units) of the site was tested. To be able to say with certainty whether Tlegetlinten was a major permanent village, additional testing would have to take place.Binford (1980: 9) suggests that when a residential site (i.e., "the locus out of which foraging parties originates and where most processing, manufacturing, and maintenance activites take place") is used year after year, the greater the potential for the material culture of a particular group to build up. This redundancy (year after year use) also reflects content variability. That is, the cultural material in permanent villages tends to have greater within-assemblage variability as opposed to seasonal camps that have less complex assemblages. Not only are these seasonal camp assemblages less variable but they may also indicate the specific function of the site (i.e., kill site, meat processing site, camas procurement site).

> Comparisons among winter residences would clearly warrant a categorical distinction of these from summer residences and they would be a "cleaner" less noisy category of greater within-assemblage diversity. Summer sites would be more variable among themselves but also less internally complex (Binford 1980: 18).

A large amount of cultural material was recovered in the testing and this, coupled with the historical records and intrasite analysis, suggests that Tlegetlinten functioned as a permanent village occupied over a long period of time.

CHAPTER VIII

Summary and Conclusions

In the introduction I stated there were three basic research problems to be dealt with: 1) identifying site boundaries, 2) identifying site antiquity, and 3) identifying site function. These have been addressed in detail in previous chapters. The last research problem concerns the possibility of intra-regional relationships. It is now my intentions to summarize and answer these research problems.

Site Boundaries

The Tlegetlinten site is situated on approximately four acres of private property on the lower Rogue River. The site consists of two terraces that step down westward to the Illinois River. The Rogue River is the site's north boundary. The site's eastern and southern boundaries probably extend beyond the private property boundaries but testing for this was not possible because permission to excavate could not be obtained from the adjoining property owners.

The majority of the site is located on the upper terrace. The lower terrace has been extensively disturbed from periodic flooding. The site has also been disturbed from previous bridge and road building.

Historical records (Berreman 1935) had recorded house pit depressions. These depressions were probably located on the lower terrace that had been disturbed by the 1964 flood (see Figure 16). During the 1982 excavation, house pits and living areas were not discernable on the surface or during excavation. This does not imply that house pits or living areas did not exist at Tlegetlinten but could be due to sample size (number of units within a large site), field methods (testing units instead of open block excavation units) and biological and geological post depositional disturbances. Cultural material was encountered directly below the surface on both the upper and lower terraces. Cultural material recovered from the upper terrace reached to a depth of 240 centimeters. The lower terrace produced cultural material to a depth of 100 centimeters.

Site Antiquity

Cross dating of the lanceolate projectile point style with a similar morphometric projectile point from two sites in southwest Oregon indicates a possible basal date of 6000 B.P. Typologically cross dating of another projectile point style suggests a second component and a terminal occupation date of 2000 B.P. for the upper terrace.

Historical records suggest that the site was occupied until the removal of Indians to the Siletz Reservation in 1856. The lack of archaeological evidence does not rule out a late prehistoric to historic occupation at Tlegetlinten. The lower terrace is the most probable location for a late occupation but flooding of the area occurring in 1861,1890,1927, 1955 and 1964 (Atwood 1978) could have destroyed or washed away the evidence. Surface collecting by the residents of Agness (Lee 1982) after the 1964 flood is well known and this activity also could have contributed to the lack of archaeological evidence. Only a small sample of the Tlegetlinten site was tested and it is possible that evidence for a late prehistoric occupation will be recovered during further testing.

The northern portion of the site(Units C and E in Figure 17)was occupied by Euro-Americans as early as1868 (Atwood

1978). Early 20th century Euro-American artifacts were recovered in the upper levels of Unit C and E (see Table 7).

Site Function

The major type of activity taking place at Tlegetlinten was tool manufacturing and repair as evident by the amount of lithic debitage and tools. Cryptocrystalline silica and basalt can be found in the form of nodules and river cobbles in the Illinois and Rogue rivers. Since obsidian is a material type not indigenous to the site it was probably brought in through trade and/or trips to the source area, and supports the conclusion that tool manufacturing occurred at the site.

The recovered faunal remains and tools associated with hide processing and butchering (i.e., scrapers, knives, drills, bifaces) are evidence that these activities occurred at Tlegetlinten. Few faunal remains are found in sites located in southwestern Oregon. Activities associated with faunal remains could only be inferred because of the lack of recovered faunal remains, the absence of which was due to the nature of preservation at the site. Presently, faunal remains from a late period site on the Applegate have just been analyzed (Schmitt

1986), and shed light on the butchering activites of the peoples of southwestern Oregon.

Sapir (1907) and Drucker (1936) claim that salmon and various other fish species were an important dietary staple of the Athapaskans. Excavations at Tlegetlinten uncovered no evidence of a fishing economy. Although no fish remains were recovered, it is likely fishing was taking place at Tlegetlinten because of its proximity to two major rivers. Gray (1985:124) states that the Galice Athapaskans (relatives to the Shasta Costas) "had the cultural practice of throwing waste products from salmon (i.e., skin, blood et al) back into the river, thus returning some of the evidence of salmon consumption to the waters from which the fish came". The occupants of Tlegetlinten also could have been using this cultural practice, thus providing an additional explanation for the lack of fish remains. Fishing may also have occurred away from Tlegetlinten at a functionally specific site (Binford 1980) thereby leaving no evidence of fishing at Tlegetlinten.

The recovered projectile points give evidence that hunting of game animals was an activity carried out by the occupants of Tlegetlinten. The recovered manos, metates, mortars and pestles indicate that plant processing occurred at the site although no plant remains were discovered.

Specific activity and use areas were difficult to precieve. As previously stated, several factors could have influenced this perception: 1) insufficient sampling and field methods, 2) biological and geological post depositional disturbances and 3) no individual unit contained a particular tool type in abundance to indicate a specialized activity area.

Vertical distribution of the recovered cultural materials suggests that the same kind of activities were taking place at Tlegetlinten throughout its occupation. The lack of plant remains and small number of recovered faunal remains contribute to the difficulty in determining the time of year the site was occupied. The number of functionally different artifacts recovered from Tlegetlinten indicates a variety of activities were taking place. Binford (1980) has suggested that within-assemblage variety usually indicates a residential base (i.e. permenant village) and campsites usually contain functionally specific assemblages. Therefore, it is possible that the site functioned as a village with everyday activities occurring at Tlegetlinten for the duration of its use.

Intra-regional Relationships

Statistical comparisons of the morphometric attributes on the lanceolate projectile points from Tlegetlinten, Marial (35CU84), and Applegate (35JA52) indicate a relationship similar to a biological cline. The three samples are stylistically similar and probably represent related ethnic groups as well as similar time periods but the greatest morphometric differences can be seen in the samples that are farthest apart geographically. This suggests that diffusion played a role in the distribution of morphometric variations in the lanceolate points within the Rogue River Basin.

Before I began these comparisons I had some basic assumptions: 1) if a particular style occurred at more than one location it can be intrepreted as evidence of movement of a stylistic proclivity, and 2) that the three sites I examine are geographically separate and therefore any minor stylistic variation in the lanceolate points denotes diffusion over time.

The use of the length/width ratio comparison of the lanceolate style points between Tlegetlinten, Marial and Applegate suggests diffusion but the direction of the diffusion is unknown. In order to determine the direction, C14 samples associated with the lanceolate style at Applegate or Tlegetlinten must be found. To strengthen the argument for the direction of the diffusion, sites need to be found containing lanceolate style points in locations between the three examined sites.

The model I present in this thesis could be used to test interior-coastal connections/relationships. If lanceolate points found in sites located downstream from Tlegetlinten show stylistic similarities but morphometric variations then the cline should be continuous to the coast (assuming time is controlled). If the cline is not continuous, then there is no interrelationship/or diffusion of style. The discontinuity could be due to ethnicity.

The investigation at Tlegetlinten has shown that Tlegetlinten was a large site, occupied over a long time, at least from the historic past to 6000 years B.P. We know from historic records (Beckham 1971 and 1977) that Tlegetlinten was a village but it is not known with certainty if this was true at 6000 years ago. But given the variety and number of artifacts recovered, Tlegetlinten probably functioned as a village throughout its occupation. I have also shown that the lanceolate style projectile points from Tlegetlinten indicate a probable affinity and contemporaneity with the Marial site. A model demostrating diffusion in the Rogue River Basin may be used to determine diffusion from the interior to the coast. It is hoped that the information presented here will add insights into the prehistory of southwestern Oregon.

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Appendices

Appendix A

Artifact Description

ARTIFACT DESCRIPTION

The alpha-numeric descriptive classificatory system used for this thesis is based on an artifact classification developed by Brauner (1976). It was originally developed for the Alpowai locality on the Columbia Plateau and was designed to ultimately be a system that could be used throughout all archaeological sites. It has been implemented on sites in southwestern Oregon, the Willamette Valley and the Cascades.

The system is based on a combination of morphological and functional attributes. Tools are seperated into classes based on inferred function such as scraper, knives, drills, etc. Each class is then described morphologically. The alpha-numeric designation is used to denote the classes, the sub-categories within each class and varieties within each sub-category. For example, 01-01A are narrow contracting stemmed projectile points; 01 refers to the class projectile points, -01 refers to the sub-category stemmed projectile points and A refers to the variety narrow contracting stems.

The classification system used for this thesis follows as much as possible the system used by Brauner and Nisbet (1983) in the Applegate Lake Project Report. There may be slight differences in sub-categories and varieties but in general uses the same classes.

ARTIFACT DESCRIPTION

01 *Projectile Points*

01-01A Stemmed or shouldered points; narrow stem contracting to a point. Triangular blade with slightly concave edges, planoconvex cross section. Flaking random and edges serrated.

	Range
Length	17 mm
Width	10 mm
Thickness	4 mm
Neck width	4 mm
Base width	2 mm
Basal length	4 mm
Material	cryptocrystalline silica
N sample	1

01-01B Stemmed or shouldered points; broad straight stem with straight to slightly convex base. Straight to slightly convex edges, biconvex to planoconvex cross section. Flaking random.

	Range	Mean
Length	32 mm	32 mm
Width	10-18	14
Thickness	5	5
Neck width	6-10	8
Base width	5-9	7
Basal length	7-10	8.5
Material	cryptocrystalline silica	
N sample	2	

01-02A Stemmed or shouldered points; broad straight to contracting stems with straight to convex bases. Symmetrically convex edges, biconvex to planoconvex cross section. Collateral to random flaking and serrated edges.

	Range	Mean
Length	52 mm	52 mm
Width	19-23	21.2
Thickness	6-9	7.8
Neck width	12-14	12.8
Base width	9-11	9.8
Basal length	9-14	10.8

Material cryptocrystalline silica

N sample 5

01-02B Stemmed or shouldered point; produced on a broad thick flake. Straight to slightly convex edges. Planoconvex cross section, flaking random and edges serrated. Remenant platform evident.

	Range
Length	52 mm
Width	30 mm
Thickness	9 mm
Neck width	14 mm
Base width	10 mm
Basal length	10 mm

Material cryptocrystalline silica

N sample 1

01-02C Stemmed or shouldered points; broad contracting stems and an asymmetrically convex base that comes to a point. Blades distinguished from bases by serrated edges. Planoconvex to biconvex cross section. Random flaking.

	Range	Mean
Length	38 mm	38 mm
Width	20-23	21.8
Thickness	6-8	6.8
Neck width	14-18	15.2
Base width	8-10	8.75
Basal length	11-13	12

Material cryptocrystalline silica

N sample 5

01-03A Side-notched; broad necked, straight base with one specimen exhibiting a concave base. Produced on a broad thin flake with straight to slightly convex edges. Planoconvex to biconvex cross section. Random to collateral flaking. Three specimens show serrated edges, all others are straight.

	Range	Mean
Length	19-24 mm	21.5 mm
Width	11-18	16.16
Thickness	4-6	5
Neck width	7-12	10.16
Base width	14-18	17
Basal length	6-10	8

Material cryptocrystalline silica

N sample 7

01-03B Side-notched; broad necked, convex base. Straight to convex edges. Planoconvex to biconvex cross section. Random to collateral flaking.

	Range	Mean
Length	26mm	26mm
Width	13-16	14.33
Thickness	4-5	4.66
Neck width	9-11	9.66
Base width	13-16	14
Basal length	7-9	8

Material cryptocrystalline silica 3

N sample 3

01-03C Side-notched; broad necked, produced on a thick bladelike flake with an ovate hafting element. Notches located approximately 1/3 from the base and are long and shallow. Edges straight, biconvex cross section and collateral flaking.

	Range
Length	29 mm
Width	17 mm
Thickness	8 mm
Neck width	10 mm
Base width	13 mm
Basal length	13 mm

Material cryptocrystalline silica

N sample 1

01-03D Side-notched; broad necked, produced on a broad thick flake, straight to slightly convex edges. Straight to slightly concave base. Biconvex cross section. Flaking random and nonserrated edges. Notches shallow with one notch located near the base giving it a stemmed appearance and the other notch located approximately 1/3 from the base.

	Range
Length	30 mm
Width	25 mm
Thickness	7 mm
Neck width	19 mm
Base width	22 mm
Basal length	12 mm

Material	cryptocrystalline silica
N sample	1

01-03E Side-notched; broad necked, produced on a broad thick flake with serrated edges. Straight to slightly concave base. Planoconvex cross section. Flaking random on one side and collateral on the other.

	Range
Length	29 mm
Width	21 mm
Thickness	7 mm
Neck width	18 mm
Base width	20 mm
Basal length	8 mm

Material	cryptocrystalline silica
N sample	1

01-03F Side-notched; broad necked, produced on a thick bladelike flake with shallow notching. Edges serrated and straight. Planoconvex cross section. Flaking random.

	Range	Mean
Length	27-41 mm	35.33 mm
Width	16-18	17
Thickness	8-9	8.66
Neck width	13	13
Base width	13-15	14
Basal length	8-10	9.33

Material	cryptocrystalline silica
N sample	3

01-04A Corner-notched; broad necked, shouldered with expanding stem. Base straight to convex. Edges straight with two specimens exhibiting one convex and one concave edge. Biconvex to planoconvex cross section. Collateral and random flaking.

	Range	Mean
Length	25-28 mm	26.75 mm
Width	16-17	16.66
Thickness	4-6	5
Neck width	7-11	9
Base width	10-13	11.75
Basal length	9-11	9.75
Material	cryptocrystalline silica	
N sample	4	

01-04B Corner-notched; long and narrow blade with straight base. Broad neck shouldered with expanding stem Edges straight to slightly convex. Planoconvex cross section. Collateral flaking.

	Range
Length	30 mm
Width	13 mm
Thickness	4 mm
Neck width	8 mm
Base width	8 mm
Basal length	7 mm
Material	obsidian
N sample	1

01-04C Corner-notched; broad necked, shouldered. Base straight. Broad triangular flake with straight edges. Planoconvex cross section. Random flaking.

	Range
Length	24 mm
Width	25 mm
Thickness	5 mm
Neck width	13 mm
Base width	13 mm
Basal length	5 mm
Material	cryptocrystalline silica

N sample	1

01-05A Basal-notched; contracting stem, straight base. Symmetrically concave edges. Barbed with one barb extending below base. Biconvex cross section, random flaking and serrated edges.

	Range
Length	17 mm
Width	13 mm
Thickness	3 mm
Neck width	3 mm
Base width	3 mm
Basal length	3 mm
Material	cryptocrystalline silica
N sample	1

01-05B Basal-notched; expanding stem, convex base. Symmetrically concave edges. Barbed with barbs extending to base. Biconvex cross section, random flaking and serrated edges.

	Range	Mean
Length	18 mm	18 mm
Width	15	15
Thickness	3	3
Neck width	5	5
Base width	5	5
Basal length	4-5	4.5
Material	cryptocrystalline silica	
N sample	2	

01-06A Lanceolate; rounded to flat base, sides straight to symmetrically concave, produced on a thick flake with maximum width 1/3 to 1/2 the length of the point from base to tip. Triangular to planoconvex cross section. Seven specimens exhibit original dorsal ridge and three specimens exhibit remenant platforms on proximal end. Random and collateral flaking. Serrated and nonserrated edges.

	Range	Mean
Length	25-49 mm	35.3 mm
Width	12-25	18

Thickness	3-8	12.6
Material	cryptocrystalline silica 26 obsidian 2	
N sample	28	

01-06B Lanceolate; rounded to flat base, base narrower than blade with maximum width approximately half the length of the point from tip to base. Sides straight to slightly convex. Two specimens exhibit remnant platforms on proximal end. Triangular to planoconvex cross section. Random and collateral flaking. Edges serrated .

	Range	Mean
Length	26-34 mm	31.8 mm
Width	15-18	17
Thickness	6-9	7.4
Material	cryptocrystalline silica	
N sample	5	

01-05B Basal-notched; expanding stem, convex base. Symmetrically concave edges. Barbed with barbs extending to base. Biconvex cross section, random flaking and serrated edges.

	Range	Mean
Length	18 mm	18 mm
Width	15	15
Thickness	3	3
Neck width	5	5
Base width	5	5
Basal length	4-5	4.5
Material	cryptocrystalline silica	
N sample	2	

01-06A Lanceolate; rounded to flat base, sides straight to symmetrically concave, produced on a thick flake with maximum width 1/3 to 1/2 the length of the point from base to tip. Triangular to planoconvex cross section. Seven specimens exhibit original dorsal ridge and three specimens exhibit remenant platforms. Random and collateral flaking. Serrated and nonserrated edges.

	Range	Mean
Length	25-49 mm	35.3 mm
Width	12-25	18
Thickness	3-8	12.6

Material	cryptocrystalline silica 26 obsidian 2
N sample	28

01-06B Lanceolate; rounded to flat base, base narrower than blade with maximum eidth approximately half the length of the point from tip to base. Sides straight to slightly convex. Two specimens exhibit remenant platforms. Triangular to planoconvex cross section. Random and collateral flaking. Edges Edges serrated .

	Range	Mean
Length	26-34 mm	31.8
Width	15-18	17
Thickness	6-9	7.4

Material	cryptocrystalline silica
N sample	5

01-06C Lanceolate; bases rounded, sides symmetrically convex; all but one specimen is produced on a thick flake. Generally broad and thick. Cross section is planoconvex and flaking random.

	Range	Mean
Length	27-50 mm	39.4 mm
Width	14-24	20.4
Thickness	4-11	7.4

Material	cryptocrystalline silica 9 obsidian 1
N sample	10

01-06D Lanceolate; bi-pointed with maximum width approximately half the length of the point from tip to base giving it a diamon shaped appearance. Planoconvex cross section. Collateral flaking and no edge serration.

	Range	Mean
Length	33-34 mm	33.5 mm

Width	12-16	14
Thickness	4-5	4.5

Material cryptocrystalline silica

N sample 2

01-06E Lanceolate; same as 01-06D except produced on a thick flake with maximum thickness located approximately at the point of maximum width. Maximum width is located half the length of the point from tip to base. Planoconvex cross section. Collateral flaking with edge serrations.

	Range
Length	49 mm
Width	21 mm
Thickness	10 mm

Material cryptocrystalline silica

N sample 1

01-07A Concave base; thin triangular blade with no notching and slightly concave base. Sides symmetrically concave. Planoconvex cross section. Flaking random on one surface and collateral on the other surface.

	Range
Length	27 mm
Width	18 mm
Thickness	4 mm

Material cryptocrystalline silica

N sample 1

01-10A Projectile point tip fragments.

Material cryptocrystalline silica 20
obsidian 1

N sample 21

01-10B Projectile point mid sections.

Material cryptocrystalline silica 32
obsidian 1

N sample 33

01-10C Projectile point base fragments.

Material	cryptocrystalline silica 19 obsidian 1
N sample	20

01-10D Projectile point lateral edges.

Material	cryptocrystalline silica 7 obsidian 1
N sample	8

02 *Knives*

02-01A Asymmetrical knife produced on a thin to moderately thick flake. One edge straight to slightly convex, the other edge convex. All but one specimen is bifacially flaked on entire dorsal and ventral surfaces. One specimen flaked on entire dorsal surface but on the periphery only of the ventral surface. Three specimens exhibit serrated edges. Planoconvex to lenticualr cross section. Bases vary from straight to pointed and flaking is random.

	Range	Mean
Length	32-49 mm	37.5 mm
Width	16-21	18.6
Thickness	5-10	7.2
Edge angle (in degrees)	38-59	49.4

Material	cryptocrystalline silica
N sample	5

02-01B Large lanceolate blade with hafting element. One edge slightly concave, the other edge slightly convex. The entire dorsal and ventral surfaces are flaked. No edge serrations; convex base. Planoconvex cross section and flaking is collateral.

	Range
Length	93 mm
Width	36 mm
Thickness	11 mm
Edge angle (in degrees)	62

Material	cryptocrystalline silica	
N sample	1	

02-01C Knife fragments; acute edges with no serration. Bifacially flaked on the dorsal and ventral surfaces. Flaking random. Lenticular cross section.

	Range	Mean
Edge angle (in degrees)	42-45	43.5
Material	cryptocrystalline silica 1 obsidian 1	
N sample	2	

02-02A Cutting edge produced on an otherwise unmodified flake; cutting edge is straight to slightly convex and acute. Flaking is bifacial but on the periphery only.

	Range
Length	47 mm
Width	44 mm
Thickness	8 mm
Edge angle (in degrees)	37
Material	cryptocrystalline silica
N sample	1

03 *Drill/Perforators*

03-01A General lanceolate shaped with tapered bit and convex bases. Edges of bit are obtuse and serrated. Planoconvex cross section. Bifacially worked over entire dorsal and ventral surfaces. Flaking random.

Length	28-35 mm	31.33 mm
Width	14-21	18.33
Thickness	6	6
Material	cryptocrystalline silica 2	

	obsidian 1
N sample	3

03-01B Produced on a medium thick to thick flake. Modified into a teardrop shape and bifacially flaked on the dorsal and ventral surfaces. High dorsal ridge. Planoconvex cross section and collateral flaking. Edges slightly serrated.

	Range
Length	35 mm
Width	22 mm
Thickness	10 mm
Material	cryptocrystalline silica
N sample	1

03-01C Same as 03-01B except edges deeply serrated.

	Range
Length	21 mm
Width	16 mm
Thickness	7 mm
Material	obsidian
N sample	1

03-02A Produced on a medium thick flake with no hafting element. Bifacially flaked bit produced on the distal end of a flake. Base is flaked on the dorsal surface only. Original flake platform evident on proximal end.

	Range
Length	34 mm
Width	19 mm
Thickness	8 mm
Material	cryptocrystalline silica
N sample	1

03-03A An irregular flake utilized as a drill. Natural projection on the distal end of a flake has been utilized. Two specimens exhibit opposite, alternate edge wear as a result of twisting action. A natural projection on the lateral edge of one specimen exhibits opposite, alternate wear as a result of twisting.

	Range	Mean
Length	23-32 mm	26.66 mm
Width	17-23	19.66
Thickness	7-10	8

Material	cryptocrystalline silica 2 obsidian 1
N sample	3

03-10A Bit fragments.

Material	cryptocrystalline silica
N sample	2

03-10B Basal fragments.

Material	cryptocrystalline silica
N sample	1

04 *Graver/Perforators*

04-01A Projections used as gravers produced by parallel notching on an irregular flake. The tips remaining between the notches and outer edges are used as gravers.

Material	cryptocrystalline silica
N sample	2

04-02A Natural projection an irregular flake used as a graver. Minor modification to the tip prior to use. Tip shows crushing through use.

Material	cryptocrystalline silica
N sample	1

04-02B Natural projection on an irregular flake used as a graver. No modification prior to use.

Material	cryptocrystalline silica
N sample	5

05 *Scrapers*

05-01A Endscrapers; obtuse convex scraping edge unifacially worked on the dorsal-distal end and lateral edges of a flake to produce an oval or half-circle shape. Twelve specimens retain a original striking platform on the proximal end. The scraping edge show crushing and polish through use.

	Range	Mean
Length	15-41 mm	23.79 mm
Width	17-59	24.54
Thickness	4-23	8.54
Edge angle (in degress)	49-82	68.27

Material	cryptocrystalline silica 38 obsidian 6
N sample	44

05-01B Endscrapers; obtuse convex to straight scraping edge unifacially worked on the dorsal-distal end and lateral edges of a flake to produce a rectuangular or triangular shape. The scraping edges show crushing and polish through use.

	Range	Mean
Length	14-52 mm	24.52 mm
Width	13-31	18.10
Thickness	4-15	7.18
Edge angle (in degrees)	48-100	70.48

Material	cryptocrystalline silica 42 obsidian 8
N sample	50

05-01C Endscrapers; obtuse convex to straight scraping edge unifacially worked on the dorsal-distal end of a flake. Most exhibit concentration of use on the distal end and little lateral use. These are irregularly shaped flakes. Scraping edge shows crushing and polish through use.

	Range	Mean
Length	9-46 mm	20.04 mm

Width	11-35	19.86
Thickness	2-12	5.65
Edge angle (in degrees)	45-85	63.83

Material	cryptocrystalline silica 78 obsidian 36
N sample	114

05-01D Same as 05-01C except scraping edge is acute.

	Range
Length	20 mm
Width	24 mm
Thickness	6 mm
Edge angle (in degrees)	43

Material	cryptocrystalline silica
N sample	1

05-01E Endscrapers with gravers; obtuse convex scraping edge manufactured on the dorsal-distal end of an irregularly shaped flake. A natural or manufactured projection on the scraping edge shows evidence of use as a graver. Scraping and graver edges exhibit crushing through use.

	Range	Mean
Length	17-25 mm	22 mm
Width	19-22	21
Thickness	7-8	7.33
Edge angle (in degrees)	54-80	67.33

Material	cryptocrystalline silica
N sample	3

05-01F Endscraper with drill/perforator. Bifacially flaked to produce a tear drop shape. High dorsal ridge. Planoconvex cross section and collateral flaking. Scraping edge obtuse, drill bit acute.

	Range
Length	27 mm
Width	16 mm
Thickness	7 mm
Scraping edge angle	84
Bit edge angle	42

Material	cryptocrystalline silica

N sample	1	

05-01G Endscraper with knife; obtuse straight scraping edge with one lateral edge of the flake bifically worked to produce a knife-like cutting edge. Scraping edge exhibits crushing through use.

	Range	Mean
Length	35-95 mm	64.5
Width	27-33 mm	30
Thickness	9-19 mm	14
Edge angle (in degrees)	67-70	68.5

Material	cryptocrystalline silica
N sample	2

05-01H Endscrapers from reworked fragmented projectile points. Projectile points that have been broken in half have been reworked on the distal end to produce a scraping edge. Edge obtuse and straight to slightly convex. Scraping edge shows crushing and polish through use.

	Range	Mean
Length	12-21 mm	19.8 mm
Width	10-28	18.8
Thickness	6-10	7.4
Edge angle (in degrees)	47-90	64

Material	cryptocrystalline silica
N sample	5

05-01N Scraper fragments; scraping edge has been fragmented.

Material	cryptocrystalline silica 35 obsidian 3
N sample	38

05-02A Side scrapers; obtuse convex to straight scraping edge manufactured on a lateral edge of a flake. Irregularly shaped; scraping edge shows crushing through use.

	Range	Mean
Length	13-49 mm	23.18 mm
Width	12-76	23.68

Thickness	2-18	6.66
Edge angle (in degrees)	47-81	59.04

Material — cryptocrystalline silica 46
obsidian 4

N sample — 50

05-02B Same as 05-02A except scraping edge is acute.

	Range	Mean
Length	16-46 mm	32.33 mm
Width	25-29	27
Edge angle (in degrees)	41-43	41.66
Thickness	6-8	6.66

Material — cryptocrystalline silica

N sample — 3

06 *Utilized Flakes*

06-01A Acute edge or edges of a flake that are utilized without prior modification; edges convex prior to use or as a result of utilization.

Material — cryptocrystalline silica 37
obsidian 9
basalt 1

N sample — 47

06-01B Same as 06-01A except an obtuse edge is utilized.

Material — cryptocrystalline silica 82
obsidian 14
basalt 1

N sample — 97

06-01C Acute edge or edges of a flake that are utilized without prior modification; edges are straight prior to use or as a result of utilization.

Material — cryptocrystalline silica 21

obsidian 12

N sample 33

06-01D Same as 06-01C except an obtuse edge is utilized.

Material cryptocrystalline silica 64
obsidian 13

N sample 77

06-01E Acute edge or edges of a flake that are utilized without prior modification; edges are concave prior to use or as a result of utilization.

Material cryptocrystalline silica 26
obsidian 17

N sample 43

06-01F Same as 06-01E except an obtuse edge is utilized.

Material cryptocrystalline silica 47
obsidian 17

N sample 64

06-01G Acute edge or edges of a flake are utilized without prior modification; the flake has a combination of convex, straight or concave edges either prior to use or as a result of utilization.

Material cryptocrystalline silica 32
obsidian 18

N sample 50

06-01H Same as 06-01G except edges are obtuse.

Material cryptocrystalline silica 53
obsidian 17

N sample 70

06-01I Same as 06-01G except both acute and obtuse edges are utilized.

Material	cryptocrystalline silica 18 obsidian 10
N sample	28

07 *Unifaces*

07-01A Unidentifiable unifacially worked flakes. Flakes removed either from the dorsal or ventral side of a flake but not from both sides. On some specimens flakes were removed only from the periphery. These are flakes that have not been worked into a recognizable form.

Material	cryptocrystalline silica 22 obsidian 1
N sample	23

08 *Bifaces and Biface Fragments*

08-01A Unidentifiable biface fragments; bifacially flaked over most or all of the dorsal and ventral surfaces. Most specimens are probably tool fragments.

Material	cryptocrystalline silica 152 obsidian 15 basalt 3
N sample	170

08-01B Unidentifiable bifacially worked flakes; bifacially flaked on both the dorsal and ventral surfaces but on the periphery of the flake only. Some specimens have one surface completely flaked and the other surface flaked on the periphery only.

Material	cryptocrystalline silica 106 obsidian 37
N sample	143

08-01C Unidentifiable biface. Asymmetrical, with one edge straight to slightly concave and the other edge convex. Bifacially worked over the entire dorsal and ventral surfaces. Very high dorsal ridge. Planoconvex cross section. Flaking random and edges are deeply serrated.

Length	31 mm
Width	11 mm
Thickness	8 mm
Material	cryptocrystalline silica
N sample	1

08-01D Unidentifiable biface. Flaked on the dorsal surface but flaked on the periphery of the ventral surface. Pentagon shaped; flat base and high dorsal ridge. Planoconvex cross section. Collateral flaking on the dorsal surface. Two edges serrated.

Length	17 mm
Width	19 mm
Thickness	7 mm
Material	obsidian
N sample	1

08-01E Unidentifiable biface. Bifacially flaked over entire dorsal and ventral surfaces. Oval shaped. Biconvex cross section. Flaking random and no edge serrations.

	Range	Mean
Length	16-23mm	
Width	16-21	
Thickness	6-9	
Material	cryptocrystalline silica	
N sample	2	

08-02A Blanks and blank fragments; large, thick flakes which have been bifacially flaked into a general lanceolate shape. Edges are symmetrically to asymmetrically convex. Flakes have been removed from most or all of the dorsal and ventral surfaces through bifacial percussion flaking. Biconvex to lenticular in cross section. Two specimens retain platforms and four specimens have some cortex remaining.

Material	cryptocrystalline silica

N sample 8

08-02B Performs and perform fragments; thin to medium thick flakes which have been bifacially flaked into an overall triangular or lanceolate shape. Edges are generally convex. Flakes have been removed from all of the dorsal and ventral surfaces through bifacial percussion and pressure flaking. Biconvex to lenticular in cross section; flaking random.

Material	cryptocrystalline silica 9 obsidian 4
N sample	13

10 Cores/ Worked Chunks

10-01A Small (22 mm wide) conical core. Flaking unidirectional and completely around the perimeter of the core, giving the core a cone shape.

Material	cryptocrystalline silica
N sample	1

10-01B Small to medium chunk (50 mm wide) with flakes removed from the entire periphery. Core edges obtuse. Discoidal shaped.

Material	cryptocrystalline silica
N sample	1

10-01C Irregular shaped core. Flaking multidirectional and patternless giving the core an irregular shape. Cortex present.

Material	basalt
N sample	1

10-02A Worked chunks; irregular, multifaceted chunks with a few negative bulbs of percussion. Flaking multidirectional. Some specimens exhibit noncontiguous pressure flaking with edge battering and step fractures. Cortex present on eight specimens.

Material cryptocrystalline silica

N sample 12

12 Choppers

12-01A Medium to large alluvial and colluvial cobbles and cobble fragments modified on one edge to form a convex obtuse cutting edge. Some specimens exhibit numerous step fractures. Edges may or may not be crushed through use.

N samples 42

12-01B Same as 12-01A except bifacially flaked on one edge.

N sample 3

12-01C Large cobbles of fine grained basalt and other igneous rocks that have been unifacially flaked to an obtuse edge. Flaking is patternless and all specimens could have served as cores.

N sample 8

12-02A Chopper/scrapers; medium to large cobble spalls unifacilly flaked on the periphery only. All specimens exhibit cortex. Some specimens exhibit step fractures.

N sample 16

13 *Groundstones*

13-01A Small river cobble with one highly faceted edge. Faceted edge has a 73 degree angle and is approximately 16 mm wide.

N samples 1

13-02A Mano; small oval shaped cobble with one face or plane smoothed and flattened. No other modifications.

N samples 1

13-02B Pestles and pestle fragments; naturally elongated basalt cobbles that have been modified into a cylindrical shape. Circular to oval cross section. One end smooth and flattened, the other end on one specimen has been modified into a cone shape. Four specimens exhibit one face or plane that has been smoothed and flattened. Four specimens are fragmented.

N samples 7

13-03A Metates; large river cobbles with one face smoothed and flattened. No concavity worn into face. One specimen has had edges unifacially flaked into oval shape. This specimen measures 306 mm x 308 mm. The other specimen measures 208 mm x 206 mm.

N samples 2

13-03B Same as 13-03A except slight concavity worn into one face. This specimen measures 100 mm x 107 mm and is fragmented.

N samples 1

13-04A Mortar fragments; large river cobbles with the interior
hollowed out to from a concavity; size of concavity varies with the size of the rock. All are fragmented.

N samples 8

14 *Hammerstones*

14-01A Natural elongated river cobbles with no modification other than pecking and battering on one end.

N samples 4

14-02A River cobble with one natural projected edge exhibiting pecking and battering through use.

N samples 1

15 *Other miscellaneous tools and objects*

15-01A Large basalt spoke shave; notched by bifacially flaking an edge of a rounded river cobble. Scraping edge obtuse. Numerous step fractures evident.

Length
Width
Edge angle

N sample 1

15-02A Anvil stone; small to medium cobble with center of both faces pecked and battered. No other modifications evident.

N sample 1

15-03A Shaft straightner or abrader; sandstone that has been modified into a cylindrical shape. Half circle cross section. Flat plane has a 12 mm wide groove end to end.

N sample 1

15-04A Etched stone; triangular shaped stone that has been bifacially flaked on the distal end prior to being etched. Flaking is noncontiguous. A "geometric" pattern of chevrons and lines are etched onto both faces.

N sample 1

15-05A Worked schist fragments; two unidentifiable fragments that have edges and faces smoothed. One possible pendant; modified into a circle shape. One unidentifiable fragment with grooves worked into both faces. One large (50 mm x 102 mm) asymmetrical piece that has been modified into "blade-like" shape.

N samples 5

15-06A Worked slate fragments; two unidentifiable fragments that have smooth edges and faces. Lenticular cross section. One specimen has been worked into a "point".

N samples 2

15-07A Clay balls; one large (approximately 65 mm in diameter) with a hole punched into the center but does not pierce the ball completely through. One clay ball measures 35 mm in diameter and another measures 20 mm in diameter. These smaller clay balls do not have holes and may possibly be gaming pieces.

N samples 3

Appendix B

Artifact Measurements

Explanation of abbrevations used in this appendix.

LT = total length

WM = maximum width

NW = neck width

LM = maximum length of the base

WB = basal width

Th = thickness

Mat = material

ccs = cryptocrystalline silica

obs = obsidian

TP = test units

Appendix B

Projectile Points

Artifact	LT	WM	NW	LM	WB	Th	Mat
01-01A							
208/200 3-17	17	10	4	4	2	4	ccs
01-01B							
TP C 7-29	32	18	10	10	9	5	ccs
200/218 2-6	-	10	6	7	5	5	ccs
01-02A							
TP E 6-18	52	19	13	14	11	7	ccs
TP E 1,2-3	-	22	14	10	10	9	ccs
TP E 7-15	-	23	13	11	10	6	ccs
TP E 2-4	-	22	12	10	9	9	ccs
TP C 5A-12	-	20	12	9	9	8	ccs
01-02B							
TP C 8-29	52	30	14	10	10	9	ccs
01-02C							
TP C 6-30	-	22	14	11	8	8	ccs
TP C 4-8	-	20	15	12	10	7	ccs
TP C 7-51	-	22	14	12	8	7	ccs
TP C 9-13	-	22	15	12	9	6	ccs
TP C 4A-1	38	23	18	13	-	6	ccs
01-03A							
TP E 2-21	-	-	-	10	-	4	ccs
TP E 2-10	-	18	11	7	18	5	ccs

01-03A continued.

Artifact	LT	WM	NW	LM	WB	Th	Mat
200/200 7-5	-	18	12	9	18	6	ccs
TP C 1A-14	-	18	11	9	18	6	ccs
199/180 2-5	24	15	8	8	14	4	ccs
TP E 2-9	-	17	12	7	-	6	ccs
01-03B							
200/180 2-3	-	13	9	8	13	5	ccs
TP C 7-37	26	14	9	7	13	4	ccs
TP E 3A-3	26	16	11	9	16	5	ccs
01-03C							
199/180 5-16	29	17	10	13	13	8	ccs
01-03D							
TP C 5-3	30	25	19	12	-	7	ccs
01-03E							
TP E 5-5	29	21	18	8	20	7	ccs
01-03F							
199/218 4-22	38	16	13	8	15	9	ccs
200/200 6-7	27	17	13	10	14	8	ccs
TP C 4-10	41	18	13	10	13	9	ccs
01-04A							
TP E 1,2-2	28	16	9	9	11	6	ccs
199/180 3-20	26	17	9	10	13	5	ccs
208/200 1-27	28	-	11	11	13	5	ccs
199/218 2-8	25	17	7	9	10	4	ccs

Projectile points continued.

Artifact	LT	WM	NW	LM	WB	Th	Mat
01-04B							
208/200 3-13	30	13	8	7	8	4	obs
01-04C							
TP E 9-2	24	25	13	6	13	5	ccs
01-05A							
TP B 2A-13	17	13	3	3	3	3	ccs
01-05B							
TP E 4-9	18	15	5	5	5	3	ccs
258/200 2-2	-	-	5	4	5	3	ccs
01-06A							
TP E 10-5	46	19	-	-	-	7	ccs
199/218 9-1	49	18	-	-	-	8	ccs
TP C 4-4	33	17	-	-	-	6	ccs
TP C 8-36	32	20	-	-	-	6	ccs
200/188 7-11	40	25	-	-	-	7	obs
TP B 5A-1	33	20	-	-	-	7	ccs
TP C 5-6	31	16	-	-	-	4	ccs
TP C 8-8	27	17	-	-	-	3	obs
199/180 7-4	27	18	-	-	-	5	ccs
TP B 4-15	-	14	-	-	-	5	ccs
199/180 8-9	-	15	-	-	-	4	ccs
TP C 2-3	-	12	-	-	-	4	ccs
TP B 3A-4	38	-	-	-	-	7	ccs
TP E 6-4	-	18	-	-	-	9	ccs
TP C 7-43	-	19	-	-	-	7	ccs

01-06A continued.

Artifact	LT	WM	NW	LM	WB	Th	Mat
200/200 6-8	-	17	-	-	-	9	ccs
TP B 5-12	-	16	-	-	-	9	ccs
TP C 9-16	-	13	-	-	-	6	ccs
TP E 2-22	-	17	-	-	-	7	ccs
TP E 1,2-4	-	16	-	-	-	9	ccs
208/200 5-3	-	18	-	-	-	8	ccs
TP E 2-6	-	13	-	-	-	5	ccs
TP E 7-25	-	15	-	-	-	5	ccs
TP E 5-13	25	13	-	-	-	5	ccs
TP B 5A-10	41	16	-	-	-	6	ccs
TP B 5A-5	-	19	-	-	-	7	ccs
199/180 8-8	-	18	-	-	-	6	ccs
199/180 7-12	37	15	-	-	-	6	ccs
<u>01-06B</u>							
TP C 5-12	32	17	-	-	-	8	ccs
TP C 7-27	34	18	-	-	-	7	ccs
TP C 11-8	33	17	-	-	-	9	ccs
TP E 7-1	26	15	-	-	-	7	ccs
TP C 1A-12	34	18	-	-	-	6	ccs
<u>01-06C</u>							
TP C 2A-16	36	22	-	-	-	6	ccs
208/200 5-2	46	20	-	-	-	11	ccs
TP E 5-22	50	23	-	-	-	8	ccs
TP E 6-14	49	22	-	-	-	7	ccs

01-06C continued.

Artifact	LT	WM	NW	LM	WB	Th	Mat
TP E 5-24	47	24	-	-	-	8	ccs
199/218 5-9	35	19	-	-	-	6	ccs
200/188 7-8	34	21	-	-	-	9	ccs
TP C 5-19	38	-	-	-	-	8	ccs
TP E 6-15	32	19	-	-	-	7	ccs
208/200 1-1	27	14	-	-	-	4	ccs
<u>01-06D</u>							
199/180 2-15	33	12	-	-	-	4	ccs
199/180 4-8	34	16	-	-	-	5	ccs
<u>01-06E</u>							
TP B 4-10	49	21	-	-	-	10	ccs
<u>01-07A</u>							
100/200 1-1	27	18	-	-	-	4	ccs

<u>Knives</u>

Artifact	LT	WM	Th	EA	Mat
<u>02-01A</u>					
TP C 7-40	49	21	10	59	ccs
199/180 7-3	33	20	8	48	ccs
208/200 2-19	36	20	5	38	ccs
200/180 1-10	32	16	8	59	ccs
TP B 3-14	-	16	5	43	ccs
<u>02-01B</u>					
TP E 3-1	93	36	11	62	ccs

Artifact	LT	WM	Th	EA	Mat
02-01C					
208/200 3-14	-	-	-	45	ccs
199/218 2-4	-	-	-	42	obs
02-02A					
199/180 4-26	47	44	8	37	ccs
Drill/Perforators					
03-01A					
199/218 5-9	35	20	6	-	obs
199/180 2-3	28	14	6	-	ccs
TP B 6A-5	31	21	6	-	ccs
03-01B					
TP B 7-17	35	22	10	-	ccs
03-01C					
199/180 3-15	21	16	7	-	obs
03-02A					
TP B 2A-4	34	19	8	-	ccs
03-03A					
TP B 2-6	23	23	7	-	ccs
199/180 2-8	32	17	10	-	obs
200/180 1-11	25	19	7	-	ccs

Graver/Perforators

Artifact	LT	WM	Th	Mat
04-01A				
199/218 6-11	25	19	3	ccs

Artifact	LT	WM	th	Mat
04-02A				
TP C 1-8	21	20	4	ccs
04-02B				
199/218 4-12	25	13	5	ccs
TP B 2-8	45	17	9	ccs
TP B 5A-20	41	18	13	ccs
TP C 3A-14	19	12	2	ccs
TP C 2A-43	17	14	3	ccs

Scrapers

05-01A	LT	WM	Th	EA	Mat
208/200 1-23	17	18	8	67	ccs
208/200 5-28	21	23	9	75	obs
199/180 9-14	20	22	5	74	ccs
208/200 6-3	29	22	6	57	ccs
TP B 3A-3	26	23	6	80	ccs
199/180 6-9	29	26	8	57	ccs
200/188 5-11	21	20	6	51	ccs
208/200 6-12	18	18	10	65	obs
TP B 9-3	24	24	9	74	obs
199/180 8-1	25	30	7	67	ccs
TP C 4-2	28	21	6	68	ccs
TP B 3-12	26	23	6	67	ccs
200/188 6-9	23	23	7	70	ccs
199/180 4-5	19	23	8	70	ccs
199/180 5-23	23	20	7	80	ccs
TP B 7A-1	24	23	8	71	ccs

05-01A continued.

Artifact	LT	WM	Th	EA	Mat
199/180 3-7	23	27	5	60	ccs
200/200 3-26	29	25	10	80	ccs
TP C 2-2	25	23	9	76	ccs
200/200	19	21	6	80	ccs
TP C 6-12	26	22	5	50	ccs
TP E 5-14	26	24	6	52	ccs
TP E 4-18	20	18	9	70	obs
TP C 3A-4	18	18	5	66	obs
TP C 1-10	21	21	9	67	ccs
TP C 8-3	32	26	10	75	ccs
199/180 6-5	29	20	7	78	ccs
TP B 4-14	30	30	15	79	ccs
199/180 1-1	25	27	9	60	ccs
208/200 1-13	25	28	12	69	ccs
TP E 1,2-13	17	17	5	55	ccs
199/180 4-4	19	24	8	82	ccs
TP C 4A-12	17	18	6	70	ccs
TP E 7-21	20	24	4	49	ccs
TP E 4-41	15	20	5	62	ccs
200/200 3-23	19	25	9	65	ccs
TP E 1,2-14	15	18	8	74	ccs
TP E 1~6-5	15	27	10	75	ccs
199/180 3-11	34	31	17	71	ccs
199/218 3-5	41	59	15	74	ccs

Artifact	LT	WM	Th	EA	Mat
TP B 2-16	36	48	23	75	ccs
TP C 8-23	27	36	17	61	ccs
TP E 2-18	28	26	9	76	ccs
199/218 4-21	23	18	7	60	obs
<u>05-01B</u>					
200/200 3-19	19	16	6	70	ccs
TP E WS7-17	19	17	5	70	ccs
TP C 5-21	25	19	8	65	ccs
TP E 4-13	28	22	8	80	ccs
200/200 3-20	16	14	6	67	ccs
TP B 4-7	20	15	7	60	ccs
TP C 2A-21	19	16	5	73	obs
TP B 5A-4	23	19	9	65	ccs
TP B 6-8	30	22	7	70	ccs
TP B 5-11	30	16	10	75	ccs
199/180 6-15	32	21	9	80	obs
TP B 3-5	17	13	7	67	obs
199/180 3-13	27	17	8	63	ccs
TP B 6A-3	24	18	8	75	ccs
208/200 2-17	28	16	6	61	ccs
199/180 4-7	14	15	4	57	obs
200/188 6-1	26	22	6	71	ccs
200/188 6-3	24	31	10	76	ccs
199/180 2-13	20	22	7	73	obs

05-01B continued.

Artifact	LT	WM	Th	EA	Mat
TP C 8-6	27	24	9	67	ccs
200/200 8-6	27	22	7	73	ccs
199/180 6-1	30	19	7	72	ccs
TP C 5-5	23	15	7	80	ccs
199/180 6-3	25	17	8	74	ccs
199/218 4-14	29	22	11	80	ccs
TP C 3-1	22	14	8	75	ccs
TP C 6-13	21	15	7	75	ccs
TP C 6-28	52	21	15	74	ccs
199/180 6-14	19	13	4	75	ccs
200/188 8-6	28	21	9	82	ccs
199/180 3-14	30	19	6	65	ccs
200/188 6-7	23	17	7	80	obs
200/188 4-8	24	21	7	77	ccs
199/218 6-3	25	17	6	65	ccs
200/200 7-10	23	18	6	70	ccs
200/200 8-5	39	16	6	67	ccs
TP B 2A-6	40	18	5	70	ccs
200/200 5-13	21	20	8	85	ccs
TP E 6-22	21	17	6	60	ccs
TP C 8-25	30	21	7	48	ccs
TP C 7-31	25	20	5	72	ccs
TP B 5A-9	25	17	7	80	ccs
200/188 5-13	25	18	10	100	ccs

Artifact	LT	WM	Th	EA	Mat
199/218 4-6	22	20	7	85	ccs
199/180 5-29	19	16	7	48	obs
199/180 5-26	16	14	6	49	obs
199/180 7-23	21	16	7	69	ccs
199/180 9-13	25	14	6	63	ccs
199/180 8-3	25	14	6	70	ccs
199/180 3-5	30	18	6	56	ccs
<u>05-01C</u>					
TP C 9-34	28	20	4	62	ccs
199/180 2-9	22	25	4	56	obs
TP E 10-7	24	14	6	71	ccs
TP C 1A-21	18	16	5	45	obs
TP C 7-71	11	23	5	48	ccs
199/180 6-11	22	16	6	56	obs
199/180 6-6	17	22	3	45	obs
TP E 8-6	30	24	5	54	ccs
200/200 6-13	26	16	4	72	obs
208/200 5-18	14	18	7	59	ccs
TP B 9-4	22	22	7	51	ccs
199/180 2-4	28	23	8	54	ccs
208/200 4-26	30	28	4	68	ccs
208/200 7-14	12	20	3	59	ccs
TP C 6A-1	26	35	6	62	ccs
199/180 2-6	25	21	5	65	ccs

05-01C continued.

Artifact	LT	WM	Th	EA	Mat
TP E 11-2	46	31	7	68	ccs
200/218 2-8	20	23	6	51	ccs
200/200 3-7	16	16	5	64	obs
200/188 1-11	19	13	5	56	ccs
199/180 7-22	23	22	8	68	ccs
TP B 8-8	17	22	8	67	ccs
199/180 6-13	12	20	6	49	obs
200/188 5-15	17	18	6	64	ccs
200/180 1-4	25	15	5	84	ccs
200/200 1-10	16	16	4	70	ccs
TP E 4-32	16	20	6	59	ccs
TP E 6-17	10	16	4	60	ccs
199/180 8-15	11	17	5	65	ccs
TP B 6A-2	14	17	6	57	ccs
208/200 4-3	16	15	4	77	ccs
TP B 3A-5	14	15	5	45	obs
208/200 5-31	21	24	5	75	ccs
TP E 8-8	24	22	9	74	obs
200/218 2-10	20	21	5	73	ccs
TP B 3-20	17	21	4	70	ccs
200/218 2-9	14	22	5	80	ccs
208/200 4-13	21	23	6	77	ccs
200/188 7-13	20	25	5	62	ccs
TP C 10-7	19	14	5	66	obs

05-01C continued.

Artifact	LT	WM	Th	EA	Mat
TP E 3-12	20	18	7	62	obs
TP C 6-9	20	16	3	47	obs
TP C 4A-4	15	13	3	64	obs
TP B 4-4	15	11	4	71	obs
208/200 7-15	20	14	5	57	obs
199/180 6-4	16	20	5	70	ccs
TP B 8-5	18	14	5	62	obs
199/180 5-13	18	14	6	64	obs
TP E WS7-14	21	19	4	70	ccs
TP E 3-8	20	14	3	60	ccs
TP B 2-21	23	14	5	68	ccs
208/200 2-31	24	21	7	70	ccs
200/200 4-7	26	18	4	56	ccs
TP C 6-18	27	20	11	73	ccs
TP C 4-3	26	16	8	84	obs
TP C 5A-5	27	17	6	56	obs
TP B 7-16	25	20	8	73	obs
TP B 2A-8	27	18	5	50	obs
208/200 8-9	25	23	6	85	ccs
199/180 5-10	21	18	7	70	ccs
200/188 5-14	20	20	6	70	ccs
208/200 2-3	29	28	10	85	obs
208/200 8-2	26	25	8	56	obs
TP B 2A-5	30	24	10	84	ccs

05-01C continued.

Artifact	LT	WM	Th	EA	Mat
TP B 6-6	9	12	2	48	obs
199/218 4-17	14	20	4	55	ccs
199/180 7-7	15	17	6	63	obs
TP B 5-13	13	22	5	75	ccs
TP B 4A-4	15	18	4	50	ccs
TP E 7-16	18	20	3	46	ccs
200/188 5-9	14	20	7	75	ccs
199/218 6-12	20	20	6	60	ccs
TP B 2-22	23	27	6	81	ccs
200/188 2-25	17	24	6	64	ccs
199/180 1-3	18	17	3	50	obs
TP C 5-4	22	24	8	77	ccs
TP E WS7-15	15	19	5	60	ccs
TP C 6-19	15	16	3	61	ccs
TP B 7-15	15	15	3	55	obs
199/180 6-7	12	18	4	55	obs
199/180 8-13	15	22	7	60	obs
TP B 6-15	17	23	8	83	ccs
TP A 5-2	28	25	12	66	ccs
TP C 5-17	17	21	5	72	ccs
208/200 1-19	22	27	9	66	ccs
199/180 4-11	21	19	8	65	ccs
208/200 2-21	18	23	5	65	ccs
199/218 6-5	19	23	8	75	ccs

05-01C continued.

Artifact	LT	WM	Th	EA	Mat
TP B 5-6	14	19	4	60	ccs
200/188 5-18	18	18	5	60	ccs
TP C 6-10	14	13	5	64	ccs
208/200 2-25	19	17	4	67	ccs
208/200 4-21	30	27	7	74	ccs
208/200 4-6	23	20	7	60	obs
TP E 3-6	23	19	6	60	ccs
TP E 3-21	17	21	7	72	ccs
199/218 5-14	13	17	5	54	obs
TP E WS7-7	28	25	7	70	ccs
TP C 8-24	25	23	6	74	ccs
TP E 4-28	18	21	5	68	ccs
TP E WS7-11	20	24	6	54	ccs
208/200 1-9	14	13	5	53	ccs
TP C 5-7	13	20	5	49	obs
TP E 6-20	13	17	4	65	ccs
TP C 1A-26	11	18	3	53	ccs
200/200 3-16	18	15	6	58	obs
TP C 3A-5	18	18	4	70	obs
TP E 3-14	10	15	2	56	obs
200/200 5-8	21	23	4	64	obs
TP C 6A-2	27	26	8	63	ccs
TP C 1A-25	17	14	4	71	ccs
TP C 8-21	32	29	8	75	ccs

Artifact	LT	WM	Th	EA	Mat
200/218 3-7	35	29	9	50	ccs
TP B 2-5	40	26	10	71	ccs
<u>05-01D</u>					
200/200 2-9	20	24	6	43	ccs
<u>05-01E</u>					
TP C 6-26	17	22	8	54	ccs
200/188 5-23	25	19	7	80	ccs
TP E 1,2-45	24	22	7	68	ccs
<u>05-01F</u>					
TP C 6-11	27	16	7	84	ccs
<u>05-01G</u>					
TP B 7A-2	95	33	19	70	ccs
200/200 2-13	34	27	9	67	ccs
<u>05-01H</u>					
TP E 9-1	25	28	6	60	ccs
TP C 5-15	25	22	10	90	ccs
TP C 7-1	18	18	7	67	ccs
208/200 1-15	19	16	8	56	ccs
TP B 3A -12	12	10	6	47	ccs
<u>05-02A</u>					
TP E 3-9	16	25	6	41	ccs
199/180 3-18	35	29	6	60	ccs
208/200 6-9	46	27	8	41	ccs
TP B 5-9	16	23	8	58	ccs

05-02A continued.

Artifact	LT	WM	Th	EA	Mat
TP B 1-4	27	25	6	60	ccs
TP E 2-2	26	44	8	58	ccs
TP E 3A-13	22	30	7	66	ccs
208/200 4-1	24	29	10	51	ccs
TP E 4-43	24	28	8	57	ccs
TP E 9-15	23	26	5	58	ccs
TP C 1-9	23	19	5	54	ccs
199/218 2-11	16	17	3	55	ccs
TP B 7-10	28	22	9	50	ccs
200/200 2-8	17	24	7	53	ccs
TP E 4-7	21	21	7	80	ccs
TP E 5-7	16	29	11	65	ccs
TP E 1-5	24	19	3	53	ccs
199/180 8-5	49	76	18	81	ccs
199/218 5-13	24	26	7	50	ccs
TP E 7-9	15	18	3	55	ccs
TP E 5-1	22	18	5	54	ccs
208/200 2-7	16	25	7	47	ccs
TP B 4A-7	16	19	4	50	ccs
208/200 5-9	21	22	7	69	ccs
200/200 6-9	29	29	10	65	ccs
TP B 5-15	23	21	4	47	obs
TP C 3-7	21	14	4	56	obs
208/200 1-8	13	15	2	66	ccs

05-02A continued.

Artifact	LT	WM	Th	EA	Mat
199/218 5-10	27	24	7	62	ccs
200/200 4-15	22	24	9	66	ccs
199/180 2A-10	32	13	7	64	ccs
TP E 1,2-22	42	23	10	72	ccs
TP C 5-20	20	22	8	77	ccs
TP B 4A-9	24	15	4	67	ccs
208/200 9-1	24	31	10	66	ccs
199/180 6-19	20	26	9	50	ccs
TP C 7-17	24	21	6	58	ccs
TP B 8-4	24	12	4	50	ccs
TP C 6-15	19	21	4	68	ccs
TP E 10-6	20	23	6	73	ccs
200/200 5-25	21	17	6	65	obs
199/218 5-16	21	27	6	61	ccs
TP C 3A-3	23	15	7	71	ccs
TP E 2-7	19	20	5	61	ccs
TP C 7-35	16	21	4	45	ccs
TP C 3-4	16	18	4	48	ccs
199/180 4-20	20	22	6	57	obs
199/180 2-7	26	16	9	74	ccs
TP C 7-18	18	25	6	54	ccs
199/218 1-5	28	28	8	53	ccs
<u>05-02B</u>					
208/200 6-9	46	27	8	41	ccs

199/180 3-18	35	29	6	43	ccs
TP E 3-9	16	25	6	41	ccs

Appendix C

Lanceolate Point Measurements

Appendix C

Length measurements in mm.

Applegate	Marial	Tlegetlinten
52	31	46
54	34	49
52	38	33
41	45	32
34	43	40
30	46	33
41	25	31
36	40	27
total = 340	30	27
N = 8	28	38
X = 42.5	31	25
	37	41
	27	37
	total = 490	32
	N = 14	34
	X = 35	33
		26
		34
		total = 618
		N = 18
		X = 34.3

Width measurements in mm.

Applegate	Marial	Tlegetlinten
19	17	19
17	15	18
15	13	17
21	15	20
17	17	25
15	20	20
13	18	16
17	19	17
18	15	18
14	19	14
13	17	15
17	18	12
15	14	18
21	15	19
20	13	17
17	19	16
16	16	13
16	17	17
13	18	16
13	17	18
17	18	13
17	15	15
19	total = 365	13
20	N = 22	16
18	X = 16.6	19
15		18
16		15
total = 449		17
N = 27		18
X = 16.6		17
		15
		18
		total = 539
		N = 32
		X = 16.8

Thickness measurements in mm.

Applegate	Marial	Tlegetlinten
9	6	7
8	8	8
8	8	6
8	6	6
8	5	7
8	8	7
7	6	4
7	7	3
8	8	5
6	8	5
7	8	4
8	10	4
5	8	7
10	7	9
9	4	7
8	7	9
8	6	9
6	7	6
5	7	7
4	6	9
8	9	8
7	10	5
7	total = 159	5
9	N = 22	5
7	X = 7.22	6
8		7
7		6
total = 200		6
N = 27		8
X = 7.40		7
		9
		7
		6
		total = 214
		N = 33
		X = 6.48

Length/width ratio. Measurements in mm.

Applegate	Marial	Tlegetlinten
52/19	31/15	46/19
54/17	34/13	49/18
52/15	38/15	33/17
41/17	35/17	32/20
34/15	45/18	40/25
30/13	43/15	33/20
41/17	46/14	31/16
36/15	25/13	27/17
total = 21.173	40/19	27/18
N = 8	30/16	25/13
X = 2.646	28/17	41/16
	31/17	37/15
	37/18	32/17
	27/15	34/18
	total = 31.151	33/17
	N = 14	26/15
	X = 2.225	34/18
		total = 33.242
		N = 17
		X = 1.955

Appendix D

Photographs of Selected Artifacts

Selected projectile points.

A - 01-01A

B - 01-01B

C - 01-02A

D - 01-02B

E - 01-02C

F - 01-03A

G - 01-03B

H - 01-03C

I - 01-03D

J - 01-03E

K - 01-03F

L - 01-04A

M - 01-04B

N - 01-04C

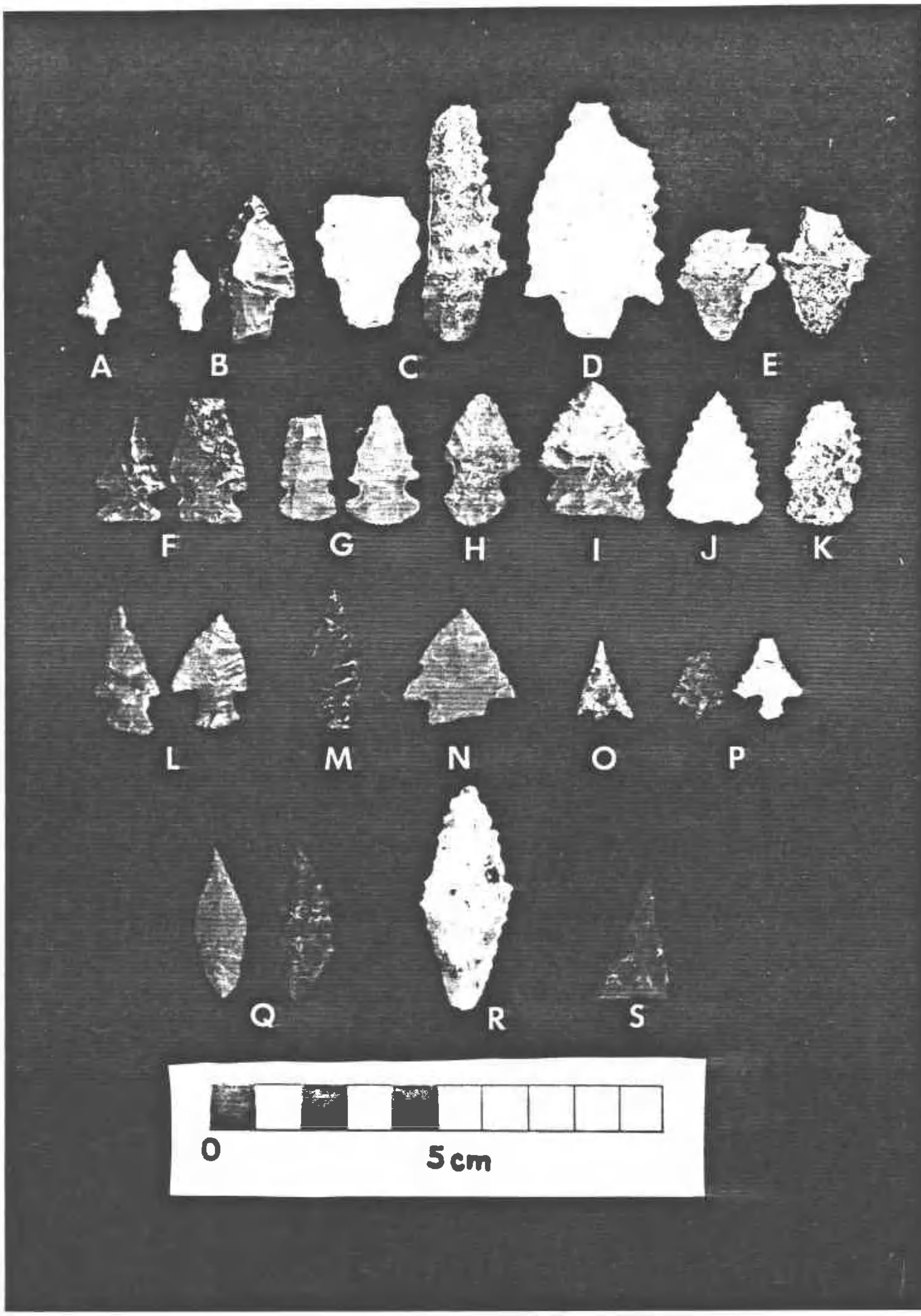
O - 01-05A

P - 01-05B

Q - 01-06D

R - 01-06E

S - 01-07A


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
0
5cm

Selected knives, drills, gravers and bifaces.

A - Knives 02-01A

B - Knife 02-01B

C - Drill/Perforator 03-01A

D - Drill/Perforator 03-01B

E - Drill/Perforator 03-01C

F - Drill/Perforator 03-02A

G - Graver/Perforator 04-01A

H - Graver/Perforator 04-02A

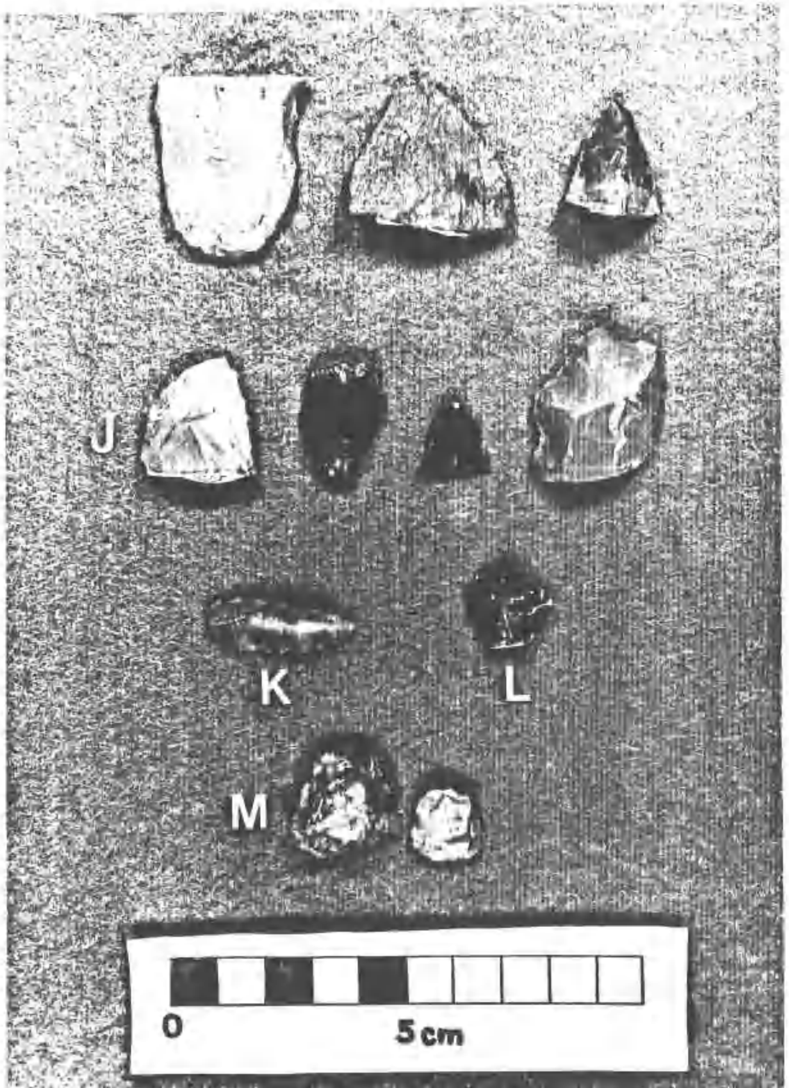
I - Bifaces 08-01A

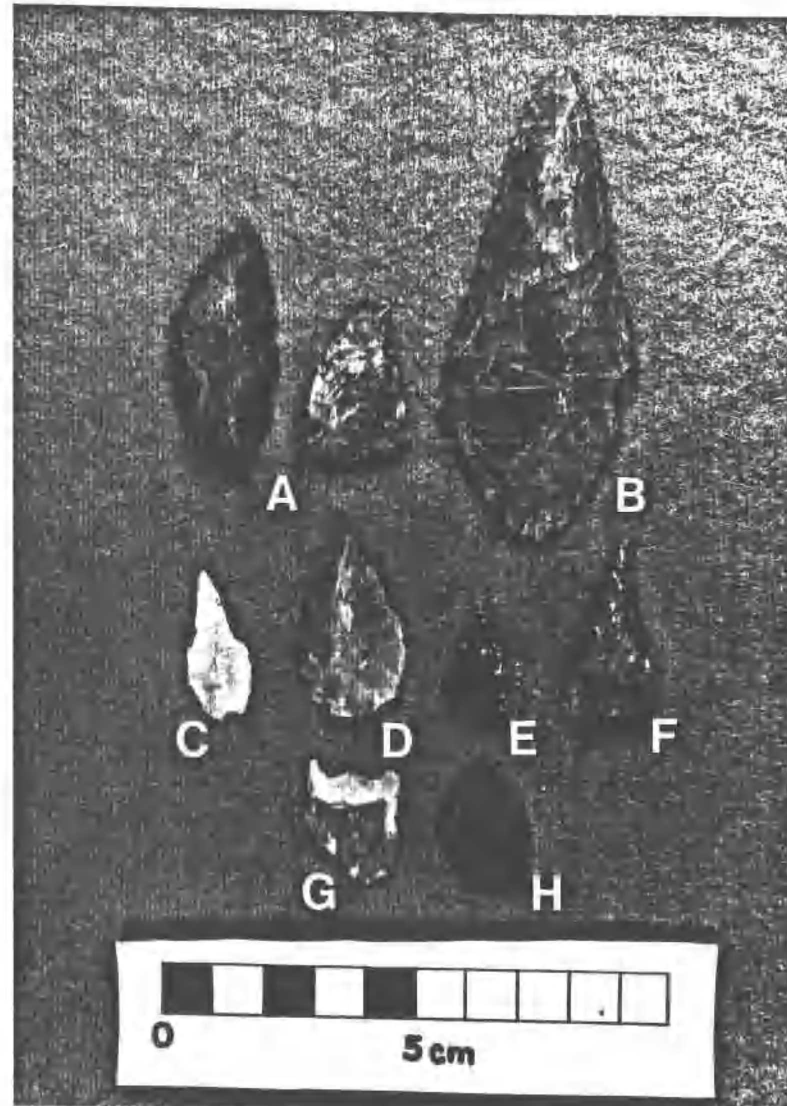
J - Bifaces 08-01B

K - Biface 08-01C

L - Biface 08-01D

M - Biface 08-01E


J
K
L
M
0
5 cm


A
B
C
D
E
F
G
H
0
5 cm

Selected scrapers and miscellaneous artifacts.

A - Scrapers 05-01A

B - Scrapers 05-01B

C - Scrapers 05-01C

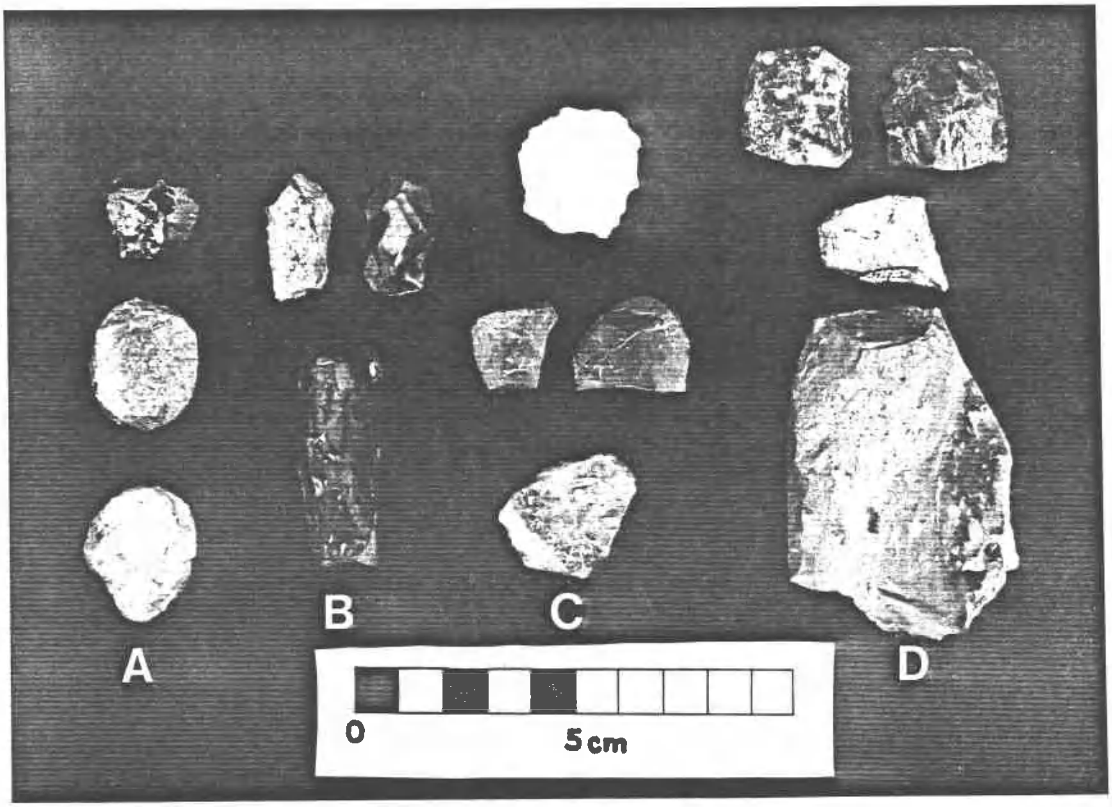
D - Scrapers 05-02A

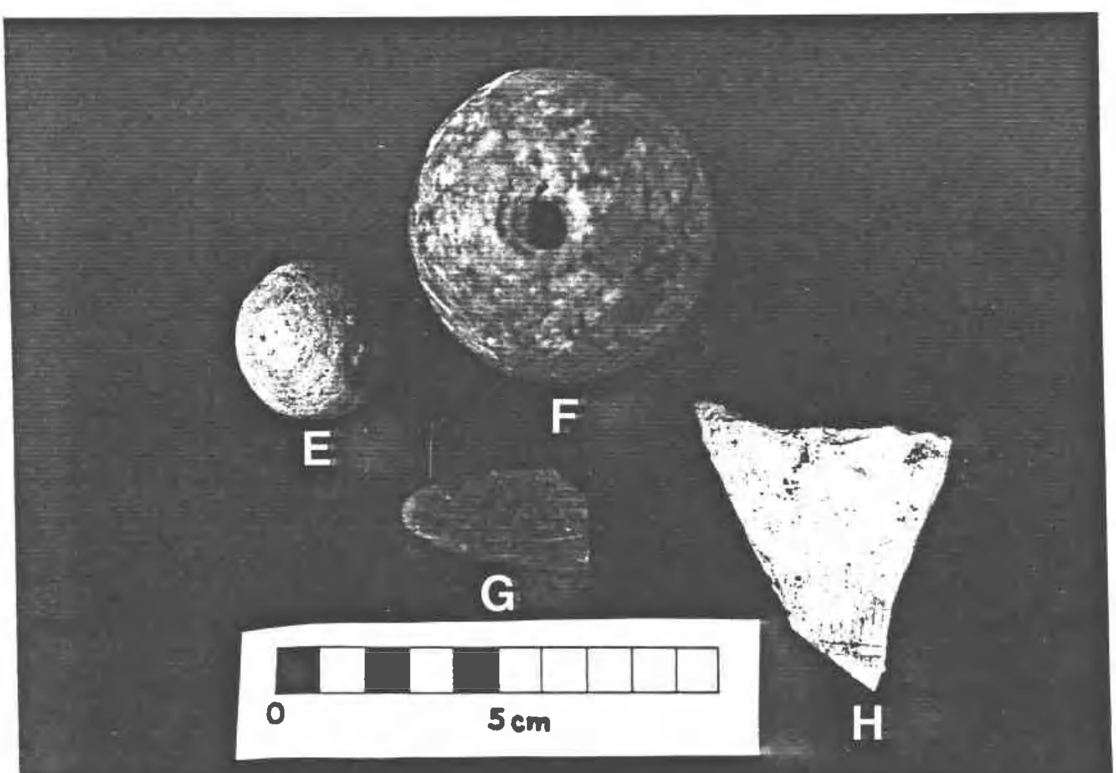
E - Clay ball 15-07A

F - Clay ball? 15-07A

G - Worked slate fragment 15-06A

H - Etched stone 15-04A


A
B
C
D
0
5 cm


E
F
G
H
0
5 cm

Selected grounstones.

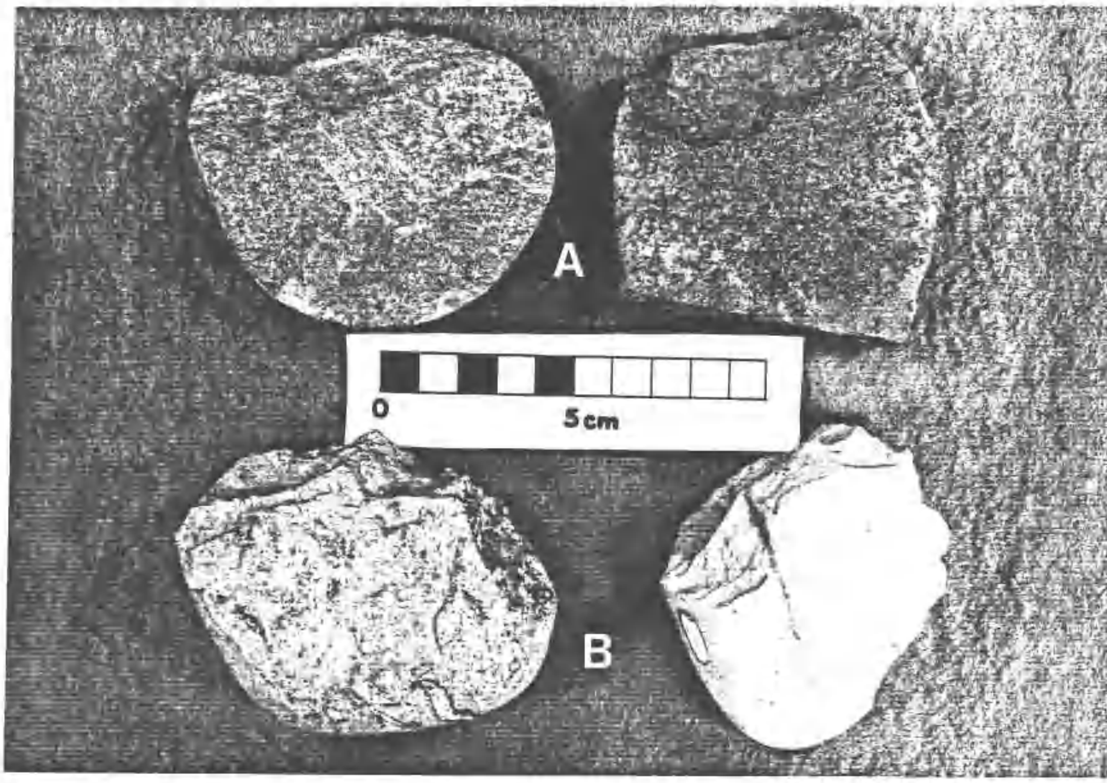
A - Chopper/scrapers 12-02A

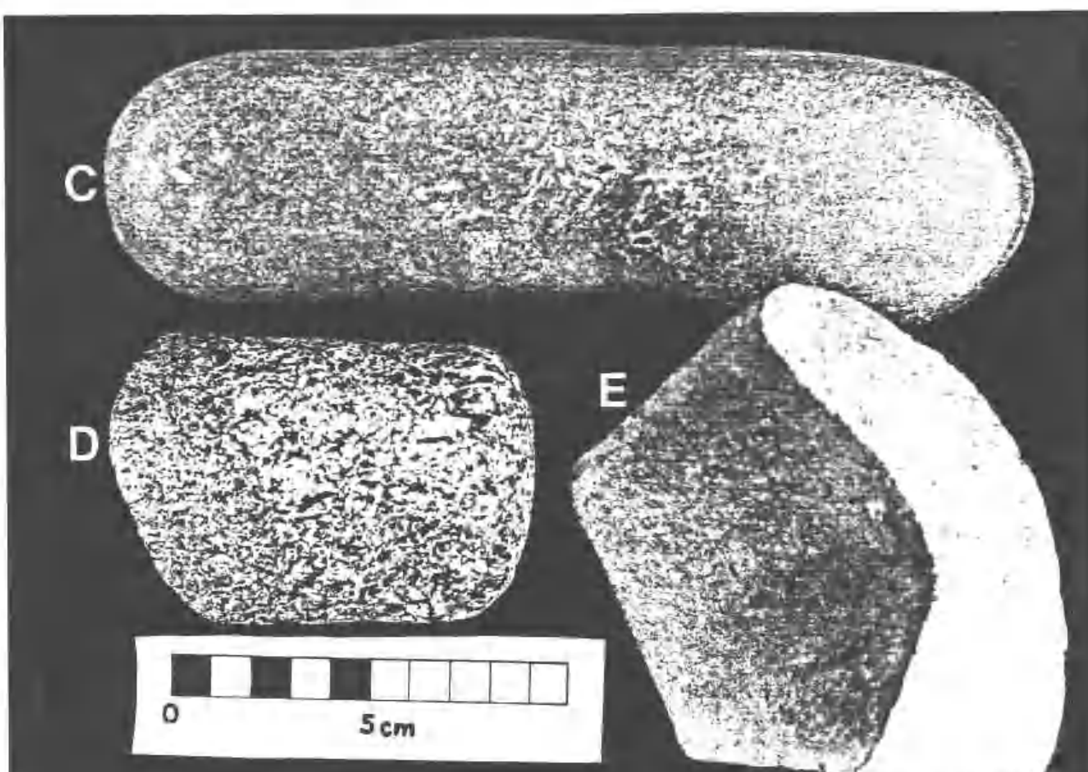
B - Choppers 12-01B

C - Pestle 13-02A

D - Pestle 13-02A

E - Mortar fragment 13-04A


A
0
5 cm
B


C
D
E
0
5 cm