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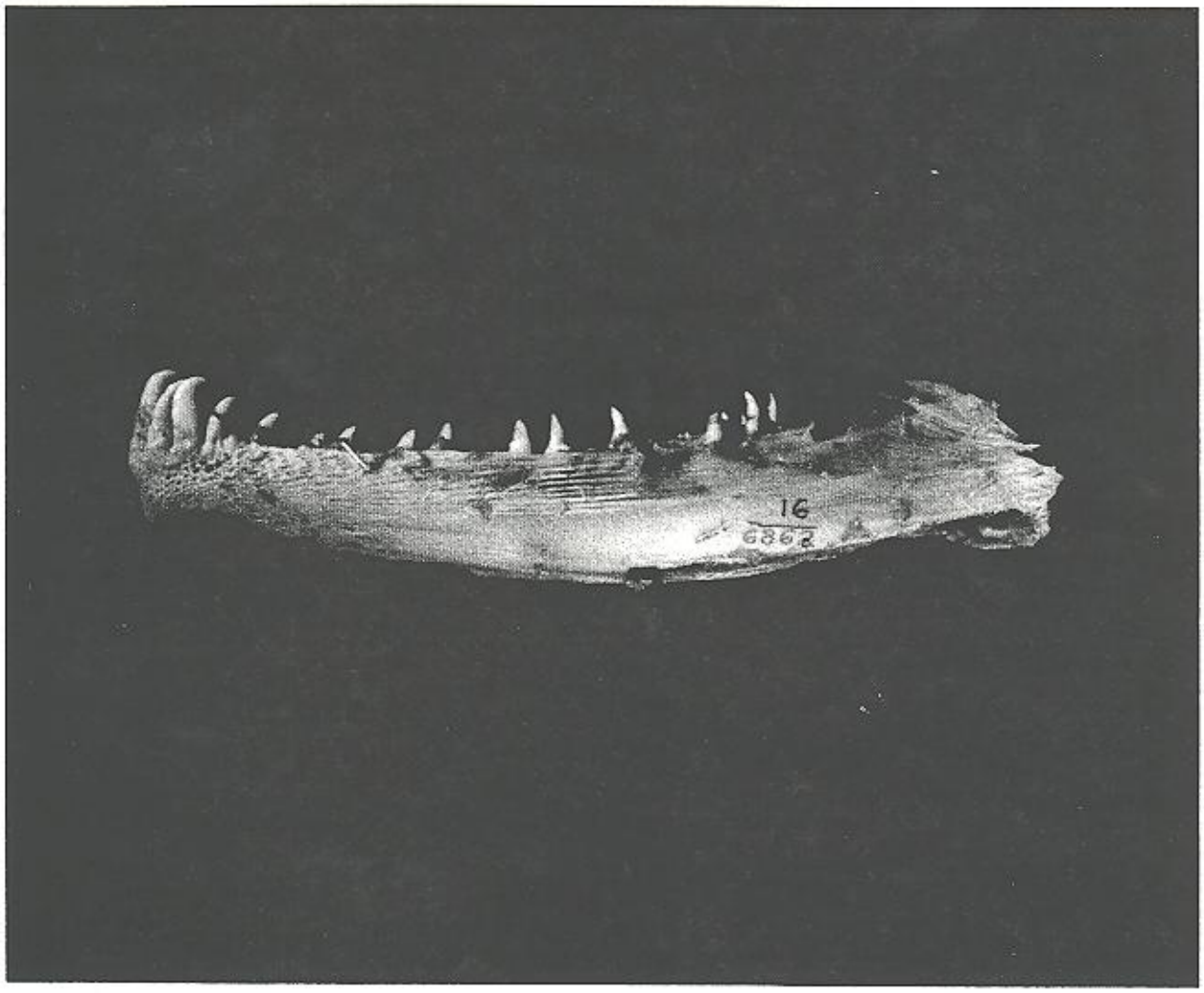

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Cover: Left dentary, *Oncorhynchus tshawytscha,* Chinook salmon, Schellbach Cave No. 1. Photo Courtesy Pavesic, Follett, and Statham.

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ARTICLES AND REPORTS

ANADROMOUS FISH REMAINS FROM SCHELLBACH CAVE NO. 1, SOUTHWESTERN IDAHO[1]

Max G. Pavesic
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Boise, Idaho

In 1929 Louis Schellbach conducted his pioneering archaeological research in southwestern Idaho under the auspices of the Museum of the American Indian, Heye Foundation, New York City (Schellbach 1930, 1967). His purpose was to extend "the known non-agricultural and Basketmaker area of Nevada and Utah northward" (Schellbach 1930:122). Schellbach worked closely with the Idaho Historical Society and selected an area south of Boise along the Snake River for field observation. He surveyed the Snake River Canyon in Ada, Canyon and Owyhee counties, Idaho, and continued westward to the Succor Creek drainage of eastern Oregon. Six campsites were recorded and eight caves, of which Cave No. 1 (10-OE-240) is the best documented (Schellbach 1967). Cave No. 1 is famous for its extensive array of recovered perishable items, especially the collection of fishing paraphernalia. Unique in Idaho archaeology, this single deposit has produced the most significant sample of ancient fishing gear in the entire upper Snake River drainage basin. Recovered items include harpoon points, net sinkers, a fishhook and fish line (1967:Fig. 3).

A variety of other archaeological deposits in southern and central Idaho have produced identifiable anadromous fish remains, such as Bernard Creek Rockshelter (Randolph and Dahlstrom 1977), Big Creek Cave (Manion n.d.), Nahas Cave (Plew 1980) and 10-GG-1 (Huelsbeck 1981), however, they lack directly associated procuring implements. In addition, a series of recent reports document fish walls and weirs along the Snake River drainage (Butler and Murphey 1982, 1983; Meatte 1982, 1986).

The identification of the anadromous fish remains from Cave No. 1 was initiated in 1980. An interinstitutional effort between Boise State University, the Idaho Historical Society, the California Academy of Sciences, and the Museum of the American Indian was coordinated by the senior author (see Holland 1983 for discussion). W.I. Follett identified the fish specimens, curation was handled by William P. Statham in Boise and Brenda Shears Holland in New York City. Schellbach also coordinated his earlier effort and through the association of Richard P. Ervin of Boise, a portion of the Cave No. 1 collection was donated to the Idaho Historical Society (Reed 1930:10). The Idaho sample consists of a small variety of artifacts and faunal remains, including anadromous fish (see Table I). Since the collection housed at the Idaho Historical Society represents a portion of the recovered materials, it was hoped the anadromous fish sample would be greatly expanded by adding the curated specimens from the Museum of the American Indian. This did not prove successful. Today only 13 fish remains exist and 10 are located in Boise (articulated elements are treated as a single unit in this report). It has proved impossible to determine if the original sample was substantially larger.

Ten of the recovered fish are Chinook salmon, *Oncorhynchus tshawytscha* (Walbaum), and three are identifiable only to the family Salmonidae. Since only Chinook is represented in the identified sample, we may speculate that the three other fish represent *O. tshawytscha* as well. The Chinook salmon is also known as the king, spring, Quinnat and Tyee salmon (see Hudson 1917). Locally, post-spawn Chinook in a deteriorated condition are often referred to as "dog salmon." Steward addressed this problem in his pioneering ethnographic description of southern Idaho's Native peoples:

> *Oncorhynchus tshawytscha* (Walbaum), the Chinook salmon, was probably the taza agai (summer salmon) of the Snake River and the agai of the

[1]*Editor's Note: This paper corrects an editorial error in the spelling of Louis Schellbach's surname. It appeared as Shellbach in the 1967* Tebiwa *publication of "The Excavations of Cave No 1, Southwestern Idaho" (1967:63-72) edited and with a Foreward by Earl H. Swanson, Jr. The proper spelling is found in the author's papers and in his 1930 publication, "Researcher in Idaho" which appeared in the* Indian Notes *series of the Museum of the American Indian, Heye Foundation. The paper by Pavesic, Follett, and Statham corrects this long-standing error.*

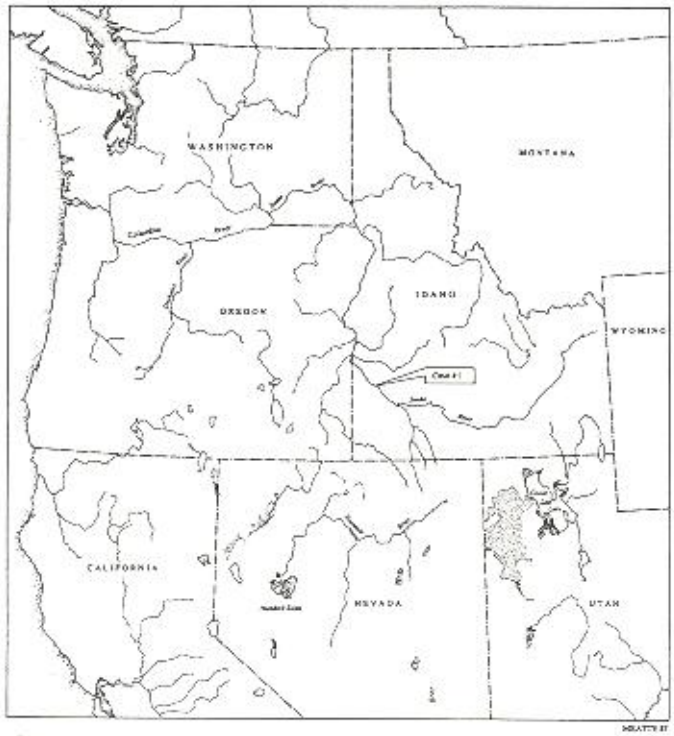

Figure 1. Map of area.

Lemhi and Salmon Rivers. Locke (1929, pp. 181-182) states that it ascends from the ocean to spawn in the headwaters in July, August, and September. Losing weight in their ascent, in Idaho they weigh from 8 to 20 pounds and rarely reach 50 pounds. Spawning activities leave them emaciated and covered with sores. By September most of them are dead or gone. In the small streams these are probably the wo:vi (board or log) agai. In the upper Salmon River these seldom passed Alturas Creek (Evermann 1897, pp. 180-186). Locally these are called "dog salmon." The true dog salmon is *Oncorhynchus keta*, a species not ascending these rivers (1938:42-43).

Furthermore, to the Native populations of southern and western Idaho, Chinook was an extremely important resource. As Steward states: "Inhabiting streams where salmon could be taken, fishing was their principal subsistence" (1938:165). A well developed extractive technology was in place (Pavesic 1978) and anadromous fish were processed in a variety of ways (Steward 1943:364). It is interesting to note that the Cave No. 1 specimen (16-6864 [MAI]) consisting of 28 articulated vertebrae appears to have been filleted and may represent an archaeological example of what Steward referred to as "flesh adhering to the backbone cut off and dried separately" (1943:364).

Specific provenience data is lacking for the identified fish recovered from Cave No. 1. A field catalog is now known to exist, nevertheless, Schellbach's discussion of "Section 2" does contain several astute observations which certainly apply to the specimens under discussion. He states:

> A peculiar condition was encountered on the east side beginning with the east datum stake back to the wall. Heretofore, very little stone of any consequence was found in the cave deposit. But in this section stones were laid up one above the other, in no semblance to masonry but nevertheless placed that way. There were layers of straw between the stone, and all this straw or grass was discolored as though there had been some oily liquid in contact with it. There was a slight perceptible odor of fish, such as given off by smoked fish. At the junction of the line drawn through Station 1.00 and a line from the east datum stake running parallel with Line A-B, a very deep firepit lay. The burned area of ashes was more than a foot thick. The strata showed it to be a later disturbance and was evidently made during the second occupational layer from the surface. Many fish bones and fish jaws were found at this point (1967:68).

Schellbach's reported feature of straw or grass, permeated with an oily liquid with a "slightly perceptible odor of fish," is clearly visible in the left corner of the photographed east-west stratigraphic profile (Fig. 3, this report). This previously unpublished photograph also details the buried firepit, which is exposed above the trowel (Fig. 3). We suggest

TABLE I
ANADROMOUS FISH REMAINS FROM CAVE NO. 1

Catalog Number	Element	Identification	Comments
16-6861 (MAI)[1]	left opercle, interopercle & subopercle	*Oncorhynchus tshawytscha* (Walbaum)	articulated
16-6862 (MAI)	left dentary & fragment of articular	" "	articulated—from a fish c. 96 cm in total length
16-6862	left maxilla[2]	" "	incomplete
16-6862	right maxilla	" "	nearly complete—from a fish c. 80 cm in total length
16-6864 (MAI)	28 caudal vertebra	" "	articulated—apparently from a fish from which the flesh of both sides had been sliced
16-6864	right ceratohyal & epihyal	" "	incomplete, articulated
16-6864	3 precaudal vertebral centra[3]	" "	articulated, the 3rd incomplete
16-6864	3 caudal vertebrae	" "	incomplete, articulated
16-6864	2 caudal vertebrae	" "	incomplete, articulated
16-6864	caudal vertebra	" "	incomplete
16-6861	left opercle	*Salmonidae*	fragment
16-6864	right pectoral fin	"	incomplete
16-6864	left pelvic fin	"	incomplete

[1]The 13 fish remains recovered from this site are listed by catalog numbers assigned to them by the Museum of the American Indian, Heye Foundation; those remains that we have recently borrowed from that museum are indicated by the initials MAI. Articulated elements are treated as a single unit.
[2]See Vladykov, 1962:Fig. 65, for photographs of maxillae of this species.
[3]See Follett, 1963:Pl. 1b, for a photograph of a vertebral centrum of this species.

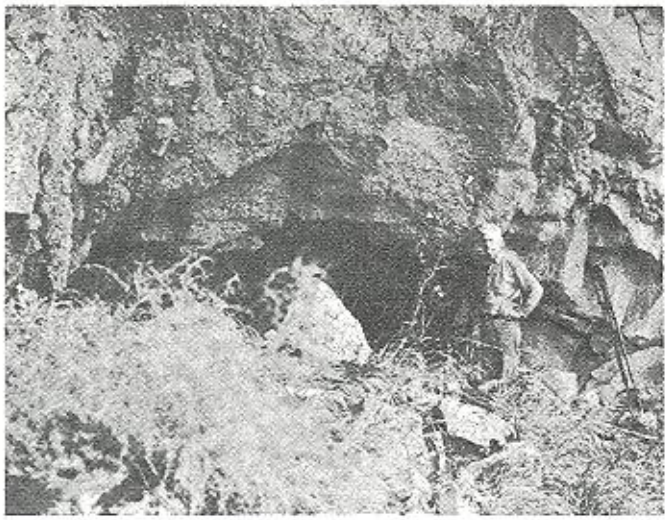

Figure 2. Richard P. Erwin at Cave No. 1 in 1929. (Louis Schellbach photograph, courtesy of the Museum of the American Indian)

the majority of identified fish are associated with this feature as the only other mention of fish is a passing reference to the back-dirt of the Bob Rimpert[2] looting party (Schellbach 1967:65). A final note of caution is offered, however: the test of the 1967 report mentions Station 1.00 which does not appear in the published ground plan and cross-section of Cave No. 1 (1967:Fig. 1). The 1967 report varies in the numbering of the base and datum line designations from the text to the accompanying plan views. We believe the features as recorded in this report are correct. This is further substantiated by the pot-holes clearly visible above the profile (Fig. 3) which correspond with the "Disturbed Area" illustrated in the earlier site plan (Schellbach 1967:Fig. 1).

The study of anadromous fish use by the Native peoples of southern Idaho has received a renewed interest in regional archaeological and ethnohistoric studies (e.g., Meatte 1983; Pavesic 1976, 1986; Plew 1983; Schalk 1986). The anadromous fish remains from Schellbach Cave No. 1 provide additional verification of this important areal resource. The value of Schellbach's findings focuses on the richness of the reported caches and features. We may never know the exact cultural sequence of the deposit since a field catalog has not been located. While short term occupation obviously occurred at the site, the caches and special use features are of immediate importance to contemporary archaeological needs. Schellbach obviously recognized the limits of his research when he stated the "cave may have been a seasonal fishing station," but stressed:

> There is a lack of artifacts associated with such occupation, and furthermore, pottery fragments were encountered. The caches of harpoon line and the backrest would indicate that they were placed there until return at a future time. (1967:69)

The difficulty of interpreting the occupational/settlement data from Cave No. 1 is clearly recognized by regional researchers (e.g., Ames 1982:4; Green 1982:35-37; Swanson 1967:63). The reconstruction of a macro sequence may eventually be realized with the identification of the underlying volcanic ash (Statham and Wilson 1973:10) and radiocarbon dating various recovered perishable items.

The verification of the presence of Chinook salmon, *Oncorhynchus tshawytscha,* at Schellbach Cave No. 1 is now complete. Cave No. 1 should be recognized as an important salmon caching locality in southern Idaho.

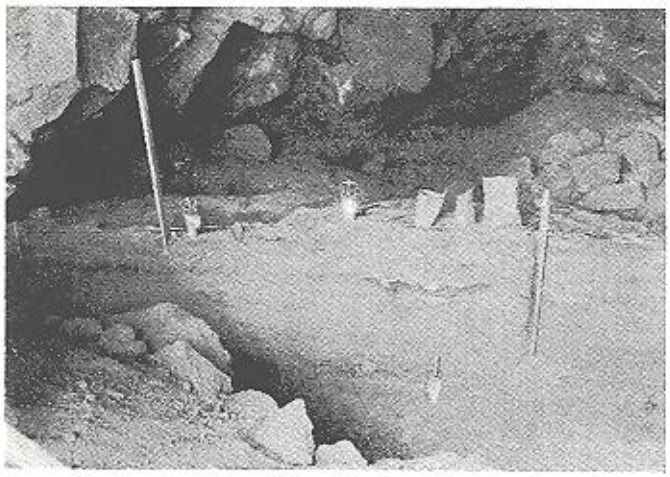

Figure 3. East-west stratigraphic profile, Cave No. 1. Straw/grass feature is visible in profile wall (left) along with the fire pit (center) above the trowel. (Louis Schellbach photograph, courtesy of the Museum of the American Indian)

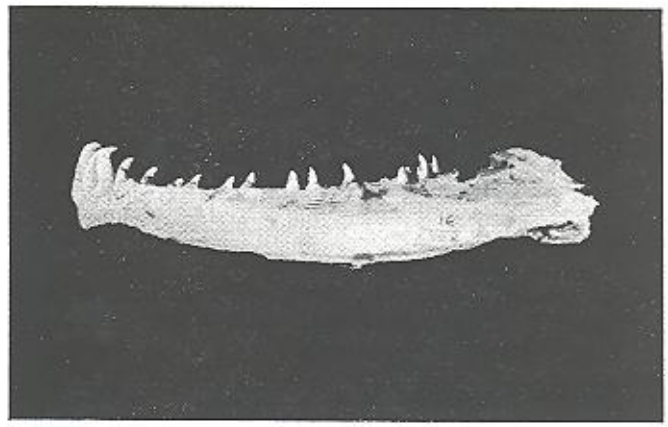

Figure 4. Left dentary (16-6862 MAI), *Oncorhynchus tshawytscha,* Chinook salmon, Cave No. 1. Specimen length is 103mm.

NOTES

[2]This is an apparent typographical error and should read Bob Limbert. Limbert was a taxidermist, photographer, promoter of Idaho tourism and purveyor of popular Western culture. His collection is on file at the Boise State University Library.

ACKNOWLEDGEMENTS

We wish to thank Brenda Shears Holland and Dr. Roland W. Force, Museum of the American Indian, Heye Foundaion, and Glenda King, Idaho Historical Society, for their aid in the preparation of this report. Figure 1 was prepared by Daniel S. Meatte, and Maggie Starkovich, Boise State University Research Center, typed the final draft. The senior author was supported by an Idaho State Historic Preservaiton Office travel grant for portions of this study.

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ARCHAEOLOGICAL INVESTIGATION AT PATROL POINT (10-IH-1603), A SITE IN THE MOUNTAINS OF THE NEZ PERCE NATIONAL FOREST

Mary Anne Davis
Idaho State Historical Society

INTRODUCTION

During three weeks in July and August of 1986, the Idaho State Historical Society, in cooperation with the Nez Perce National Forest and the Idaho Archaeological Society, conducted an archaeological test excavation of a lithic scatter at Patrol Point (10-IH-1603). The site is located northeast of Riggins, Idaho, in the mountains east of the Salmon River at an elevation of 6,180 feet ASL. Patrol Point is one of several sites located in this area by former forest archaeologist James McKie. Since information about lithic scatters at higher elevations is rare, further investigation was needed to understand the importance of this site in local cultural history.

The ethnographic evidence indicates that Nez Perce peoples moved from the Salmon River to higher elevations in late spring and early summer to gather plants and to hunt animals (Marshall 1977). These people returned to the canyons in late summer to fish and to live in villages and large camps during the winter. Historically, the Nez Perce occupied major winter sites near the town of White Bird, Idaho, and at the mouth of Slate Creek (Chalfant 1974). The Patrol Point site may have been visited by these people and earlier residents of the Salmon River area in search of game and plant resources.

Archaeology in northcentral Idaho has focused on sites along the Snake, Salmon, and Clearwater rivers and their larger tributaries (Keeler 1973, Oswald 1975, Gaston 1984, Leonhardy and Thomas 1984, Sappington and Carley 1984, Pavesic 1986). Most of these sites are probably villages and camps with occupations dating back several thousand years. In the past few years interest in sites away from the rivers and in sites higher in elevation increased with investigations at Coyote Springs above Big Creek (Leonhardy and Thomas 1984), the Cottonwood-Divide Creek site between the Salmon and Snake rivers (Sisson 1984), the Hurley Creek site located just below Patrol Point (Chance 1987), and Eagle Creek near White Bird (Gaarder 1967). These projects focused on determining the economic activities associated with the sites and how long the sites were occupied. Hunting and root processing are two activities associated with these high-altitude sites. Leonhardy and Thomas (1984) also suggest that the people at the Coyote Springs site may have camped there to collect white pine nuts as well as to hunt. The dates of occupation for these sites range from four to five thousand years ago to the historic period. (Gaarder 1967, Leonhardy and Thomas 1984, Sisson 1984, Chance 1987).

Patrol Point was chosen for investigation because the site was representative of other lithic scatters in the area. Surveys in the Nez Perce Forest recorded over 45 sites ranging in elevation from 3,500 to 7,500 feet ASL. McKie (1986) noted that most of these sites are on east-west ridges within 100 meters of a water source—usually a spring. A variety of different types of projectile points, scrapers, knives, secondary and tertiary debitage, and an assortment of cobble tools are present on the surface of these sites. The cobble tools are of interest due to their occurrence in at least fifty percent of the sites. These include cores used as choppers, edge-ground cobbles, and large flat water-worn cobbles which were brought up from the Salmon River, eight to twelve miles to the west.

While there is archaeological and ethnographic evidence for aboriginal peoples using sites in the mountains, there is a general lack of information about this use. The goals of the investigation were to determine what activities occurred at the site, how long the site was utilized, and how the site compares to others in the area.

THE SETTING

The site at Patrol Point is located in a small saddle on a roughly northeast-southwest ridge between Slate Creek drainage to the south and Skookumchuck Creek drainage to the north (Fig. 1). Elevation of the site is 6,180 feet (1,878 m) ASL. The site is approximately twelve road miles east from Highway 95 where Skookumchuck Creek flows into the main Salmon River.

The site was recorded in 1983 (McKie 1986) as an upland camp site covering an area 150 by 100 meters (Fig. 2). At this time, artifacts and debitage were noted along the ridge and in the saddle at Patrol Point. A road built in the 1930s cut through the site. Lithic debris and artifacts were washing out onto the road surface in 1986.

SOILS

The soils at Patrol Point are typical of mountain locations in the area. They have formed from a mixing of clays derived from Columbia River basalts of Miocene age and loess containing volcanic ash. The ash is attributed to the eruption of Mt. Mazama 6,700 years ago. The upper portion of the site contains greater soil depth. This area is more protected by the direction of exposure and vegetation and, therefore, is less susceptible to erosional forces of wind and water. Other areas of the site are rocky and contain little soil.

The surface layers are high in organic matter suggesting a long period of aridity with associated vegetation. Green (1987) indicates that the depth and intensity of organic matter suggests soil stability for thousands of years. The description for test pit 152N/24E shows soils are high in clay content. The compaction of surface layers to an approximate depth of 30 centimeters is probably due to livestock grazing in the area.

Soil Description for 152N/24E (Green 1987): (Measurements were taken from the test pit datum.)

Figure 1. General location of Patrol Point (10-IH-1603).

Oi 0.5-0 cm
Thin discontinuous coniferous litter.

A1 0-12 cm
Very dark brown (10YR2/2) silt loam; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; 5% basalt pebbles and 5% cobbles; common fine roots; moderately acid (pH 6.0); clear smooth boundary.

A2 12-28 cm
Very dark grayish brown (10YR 3/2) cobbly clay loam; strong coarse subangular blocky structure breaking to fine; hard, firm, sticky and plastic; 10% basalt pebbles and 5% cobbles; few fine common and medium coarse roots; moderately acid (pH 6.0); clear smooth boundary.

B1 28-50 cm.
Very dark grayish brown (10YR 3/2) cobbly clay loam; strong medium subangular blocky structure; very hard, firm; slightly sticky and plastic; 10% basalt pebbles and 20% cobbles; few fine and coarse roots; few thin clay films on ped faces and pores; moderately acid (pH 6.0).

VEGETATION AND FAUNA

The vegetation at Patrol Point is a mixture of original plant species and those that grow in disturbed soil. The plant species at Patrol Point are limited by cold temperatures and the lack of water in rockier soils of the open ridge. The area presently has an overstory of grand fir/Douglas fir common in a grand fir/mallow ninebark habitat type. However, there is a lack of ninebark and oceanspray which are common in other areas of the Nez Perce Forest. Instead, forbs that grow in cold weather, such as Jacob's ladder, are present.

The presence of western cornflower, yarrow, and clusterred frasera suggest prior disturbance by fire or cattle. Other species growing at the site include common snowberry, elk sedge, bracted strawberry, western meadow rue, Pipers anemone, shiny leaf spirea, darkwoods violet, and side-flowered mitrewort. In the rocky areas of the site where there is little soil, grazing has eliminated the perennial grasses except for sparse amounts of mountain brome. Present plant types growing in the lithisols are lupine, arrowleaf balsamroot, knotweed, silver sage, lomatium (biscuitroot), yampah, leafy aster, and rosy pussytoes.

Lomatium and yampah (wild carrot) were important in the Nez Perce diet (Marshall 1977:52-57). These plants grew in the well-drained rocky soils or lithisols on ridge tops like Patrol Point. Collection of the lomatium could begin after the snow recedes (Glenda King, personal communication 1986). At Patrol Point, collection could have begun in May and continued into June. The yampah roots could have been collected beginning in July. These plants, along with camas and other less common plants, were probably stored for winter use.

The Nez Perce Forest is home to a variety of animals. Deer, elk, and bear inhabit the area along with smaller mammals and birds. There is a predominance of small ground squirrels at the site. Information about hunting in the 1920s and 1930s indicates that elk, though highly prized by the Nez Perce, were rare during this period (McKie 1986).

METHODOLOGY

The site extends over an area 160 by 140 meters and has been divided into two areas based on the topography of the site and the location of artifact concentrations (Fig. 3). Area A is the major portion of the site, sloping to the west with a relief of 10 meters. This 160 by 50 meter area also contains the flatter areas with the major concentrations of lithics and subsurface deposits.

Area B is located to the east of the road and steeply slopes to the east for 60 meters where artifacts are washing down the slope from the main part of the site. Artifacts found on the surface in Area B are 7 to 13 meters below the elevation of Area A.

A grid was superimposed on the site with grid north established 26 degrees east of magnetic north. The north-south line follows the edge of the road to some extent. Excavators measured vertical depth from a pit datum tied into a site datum at 120N/0E. This datum was given an elevation designation of 100 meters and all elevations are referenced to this point. A pipe at the south end of the grid (30S/0E) marks the permanent site datum for vertical and horizontal measurements.

Figure 2. The Patrol Point site.

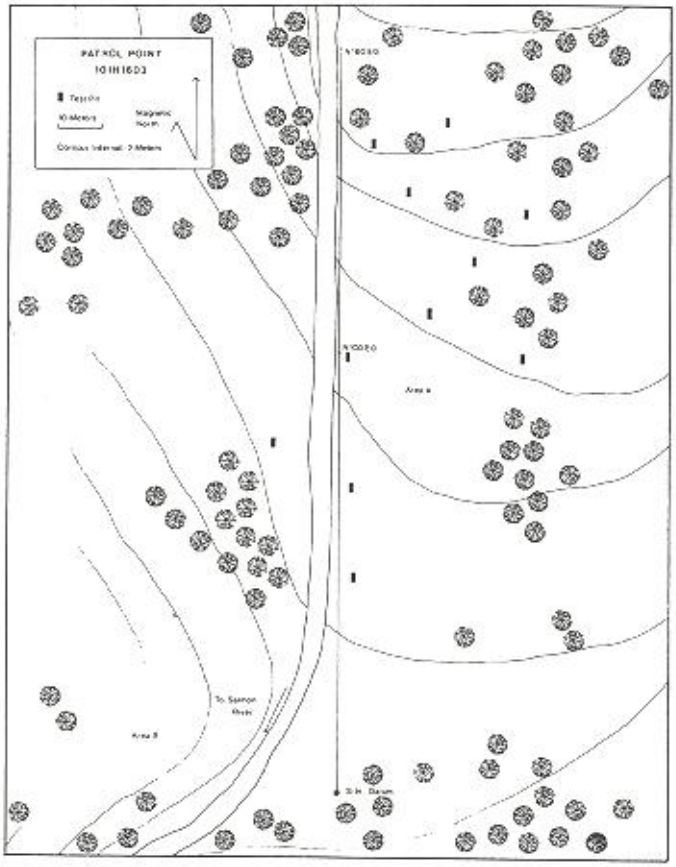

Figure 3. Site map showing placement of test pits.

Test pits were placed to determine the horizontal extent of the site and to check for subsurface deposits in areas of artifact or flake concentrations. Intensive pedestrian surveys located most of the artifacts, and their individual locations were mapped.

A total of eleven one-by-two meter test pits were excavated. Arbitrary 10-centimeter levels provided stratigraphic control. In instances where the ground sloped more than 10 centimeters from the north end to the south end of the pit, excavation followed this contour in 10-centimeter arbitrary levels. All soil was screened through ¼-inch screen, and all cultural material was collected and catalogued. One flotation sample was collected from the northern-most test pit (152N/24E). Excavation proceeded until sterile soil was encountered, usually 20 to 30 centimeters below the pit datum (bpd). Excavators generally encountered dense angular rock void of cultural material at these depths. Excavation continued in two test pits—152N/24E and 78N/15W—to depths of 50 and 70 centimeters bpd, respectively. These pits were in areas where there was considerable slope wash or protection from erosional forces.

FEATURES

No features were found while excavating the eleven test pits. Due to the size of the site and the number of surface artifacts, we expected to find hearths or possible roasting pits for roots. There may be several reasons for this lack of features. The location of the site along the ridge may not be an ideal place for fires or pits. The ridge is open and the wind could make fires difficult to control. Since the soils are shallow and rocky along the ridge, it is not a good area to dig roasting pits. It is possible that features washed away or were completely disturbed by cattle and more recent human recreational activities. Lastly, due to the size of the site and the percentage of area sampled in Area A (less than one percent), we simply may have missed the features.

CULTURAL MATERIAL

Members of the project crew recovered a total of 55 artifacts and 1,352 flakes from 10-IH-1603. Surface finds account for 42 of the artifacts (Table I). These include projectile points, drills, bifaces, cores, edge-ground cobbles, and anvils. The remaining 13 artifacts were found in four test pits in the northern end of Area A (Table II). The artifacts recovered in the test pits were two projectile points, three biface fragments, one complete biface, one scraper, and six utilized flakes.

The artifacts described below are from the surface collection and excavation. The categories are descriptive classifications based primarily on morphology. Size measurements refer to length, width, and thickness, respectively. A range is given for these values where there is more than one artifact per category.

Table I Surface Collection by Area

Artifact Classes	Area A	Area B	Unknown
Projectile Points	6	3	
Bifaces	1	1	
Biface Fragments	7	1	
Drills/Perforators	2		
Scrapers	2		
Utilized Flakes	1	3	
Bifacially Worked Flake	1	1	
Cores/Core Fragments		4	2
Edge Ground Cobbles	3	1	
Anvil Stones	1	2	1
Total	24	15	3

FLAKED STONE TOOLS

Projectile Points

Large Side-Notch (N = 1) (Fig. 4a)
A large triangular point with a straight base and fairly straight edges. Notches are slight indentations low on the sides. Cross-section is biconvex. Tip is missing.
Size: 2.4 × 1.8 × 0.4 cm
Weight: 2.1 gm
Artifact Number: 9
Material: Basalt
Provenience: Area B, surface

Small Side-Notch (N = 2) (Fig. 4b, c)
Small triangular points with deep side notches. The base is straight on the one complete specimen. The short blade of one point (Cat. no. 41) appears to have been reworked. Cross-sections are biconvex.
Size: 1.4-1.8 × 1.3-1.7 × 0.2-0.2 cm.
Weight: 0.20 - 0.50 gm
Artifact Numbers: 6, 14
Material: 2 Cryptocrystalline
Provenience: Area A, surface

Small Corner-Notch (N = 3) (Fig. 4d-f)
Small triangular shaped points. Corner notches are deep, producing prominent barbs on two specimens (Cat. nos. 31, 32). Bases are slightly convex. Edges are straight to slightly excurvate. Tips are missing on smaller specimens. The edges of complete specimen (Cat. no. 40) are serrated. Cross-sections are biconvex.
Size: 1.7-3.1 × 1.4-1.9 × × 0.3-0.4 cm.
Weight: 0.10-0.70 gm

Table II Number of Artifacts Per Test Pit

Excavation Unit	Level 0-10 cm	10-20 cm	20-30 cm	40-50 cm
152N/24E		5	2	1
147N/7E		1		
98N/1E		2		
96N/41E	1	1		
Total	1	9	2	1

Artifact Numbers: 31, 32, 40
Material: 3 Cryptocrystalline
Provenience: 142N/24E, 10-20 cm (2); Area A, surface

Asymmetrical Corner-Notch (N = 1) (Fig. 4g)
Small asymmetrical triangular point with corner notches. Base is irregular. Lateral edges are straight and slightly excurvate. The tip has been broken off. Cross-section is biconvex.
Size: 2.0 × 1.7 × 0.5 cm
Weight: 0.90 gm
Artifact Number: 10
Material: Cryptocrystalline
Provenience: Area B, surface

Large Corner-Notch (N = 1) (Fig. 4h)
This specimen is a large triangular point with corner notches. Lateral edges near the tip and concave base are broken. Cross-section is plano-convex. Point has a slight patina due to weathering.
Size: 4.2 × 2.1 × 0.4 cm
Weight: 3.6 gm
Artifact Number: 39
Material: Siltstone
Provenience: Area A, surface

Projectile Point Fragments (N = 3)
Basal fragments and midsecton of small projectile points. These are too fragmentary for classification into styles.

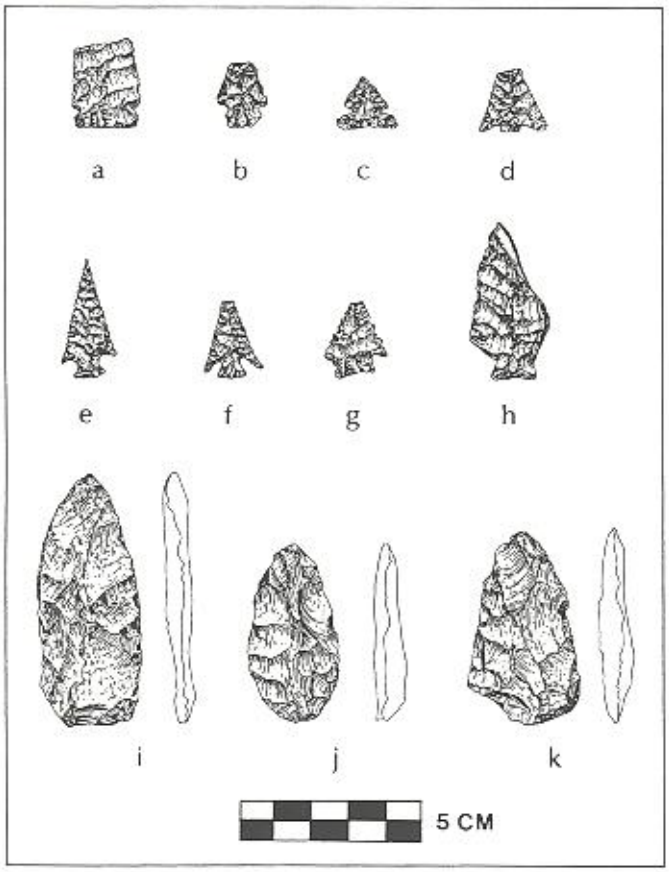

Figure 4. Projectile points: a., large side-notched; b-c, small side-notched; d-g, small corner-notched; h, large corner-notched. Bifaces: i, straight-edged; j, oval; k, triangular.

Size: 1.1-1.7 × 1.1-2.3 × 0.5-0.6 cm
Weight: 0.40-1.60 gm
Artifact Numbers: 3, 7, 37
Material: 1 Obsidian, 1 Cryptocrystalline, 1 Basalt
Provenience: Area A, surface (2); Area B, surface

Other Flaked Tools

Bifaces

Straight-Edged Biface (N = 1) (Fig. 4i)
Biface has parallel lateral edges and a broad tip. Base is straight. Cross-section is biconvex.
Size: 6.9 × 2.7 × 0.7 cm
Weight: 16.10 gm
Artifact Number: 30
Material: Basalt
Provenience: 152N/24E, 0-10 cm

Triangular Biface (N = 1) (Fig. 4k)
Triangular shaped biface with a rounded base. Large flake scars appear across both faces. Biconvex in cross-section.
Size: 5.2 × 3.1 × 0.8 cm
Weight: 11.70 gm
Artifact Number: 2
Material: Cryptocrystalline
Provenience: Area A, surface

Oval Biface (N = 1) (Fig. 4j)
Oval to leaf shaped biface. Base exhibits remains of platform. Cross-section is plano-convex. A slight patina has developed on both faces of this biface.
Size: 4.9 × 2.4 × 0.9 cm.
Weight: 11.00 cm
Artifact Number: 33
Material: Basalt
Provenience: Area A, surface

Biface Fragments (N = 11) (Fig. 5a-e)
Assorted fragments of bifaces, mostly tips. Edges are straight to irregular with varying degrees of flaking along the edges. Cross-sections are biconvex to plano-convex.
Size: 2.8-4.7 × 1.7-3.5 × 0.4-1.2 cm
Weight: 1.55-63.90 gm
Artifact Numbers: 23, 5, 1, 24, 44, 25, 4, 12, 34, 43, 45
Material: 8 Cryptocrystalline, 2 Basalt, 1 Quartz
Provenience: Area A, surface (7); Area B, surface; 147N/7E, 10-20 cm; 96N/41E, 0-10 cm; 152N/24E, 20-30 cm

Drills/Perforators (N = 2) (Fig. 5f, g)
Tools are bifacially worked drill bits with generally straight lateral margins. Biconvex in cross-section.
Size: 1.5-2.3 × 0.7-1.0 × 0.4-0.5 cm.
Weight: 0.20-0.45 gm
Artifact Numbers: 42, 46
Material: Cryptocrystalline
Provenience: Area A, surface (2)

Scrapers (N = 3) (Fig. 5h, i)
These tools are unifaces with a steep convex working edge. One specimen (Cat. No. 26) has a bifacially flaked narrow tip opposite the steep end for use as a perforator. Outlines for the scrapers are irregular. Cross-sections are generally plano-convex.
Size: 3.0-3.6 × 2.2-2.9 × 0.4-0.5 cm
Weight: 4.10-10.85 gm
Artifact Numbers; 19, 26, 38
Material: Cryptocrystalline
Provenience: Area A, surface (2); 96N/41E, 10-20 cm

Utilized Flakes (N = 10)
Assorted small flakes with one or more edges showing signs of wear.
Size: 1.6-3.6 × 1.4-3.9 × 0.2-1.0 cm
Weight: 0.05-10.10 gm
Artifact Numbers: 11, 21, 20, 27, 28, 22, 29 53, 54, 55
Material: 8 Cryptocrystalline, 2 Siltstone
Provenience: Area A, surface; Area B, surface (3); 98N/1E, 10-20 cm (2); 152N/24E, 10-20 cm (2), 20-30 cm, 40-50 cm

Bifacially Worked Flake (N = 1)
This tool is a thick flake that has smaller flakes removed from both faces.
Size: 3.0 × 2.9 × 0.8 cm
Weight: 9.1 gm

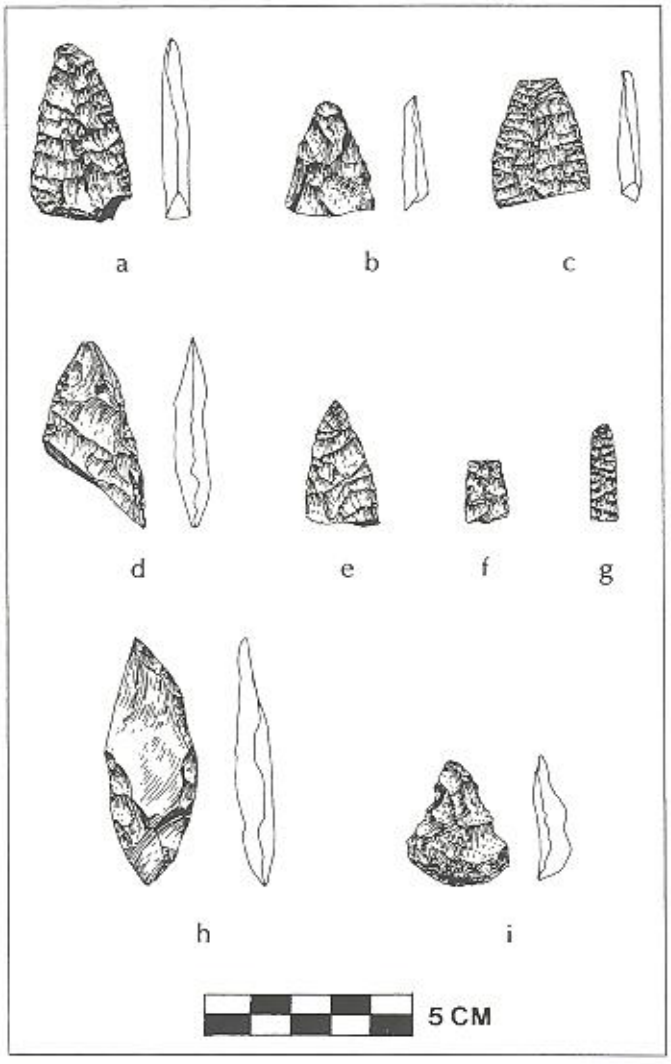

Figure 5. Biface fragments: a-e; f-g, drill fragments, h-i, scrapers.

Weight: 9.1 gm
Artifact Number: 36
Material: Cryptocrystalline
Provenience: Area A, surface

Core and Core Fragments (N = 6) (Fig. 6a-c)
Material that has had flakes removed for tool manufacture. Many of the cores have subsequently been used as choppers or other tools.
Size: 5.5-13.4 × 3.4-8.3 × 1.5-5.6 cm
Weight: 27.85-425.5 gm
Artifact Numbers: 13, 14, 15, 47, 52
Material: 2 Cryptocrystalline, 4 Basalt
Provenience: Area B, surface (4); Unknown, surface (2)

GROUND STONE ARTIFACTS

Edge-Ground Cobbles (N = 4) (Fig. 7)
Oval river cobbles with one lateral edge ground smooth from use. Edge is slightly beveled. Three specimens (Cat. nos. 9, 17, 48) exhibit battering on one or both ends. The fourth cobble is triangular in shape and is a coarser grained rock (Cat. no. 49). A large flake has been struck from the ground edge. Ground edges of the four cobbles are straight to slightly convex in lateral view.
Size: 7.3-13.8 × 7.1-8.5 × 2.8-4.4 cm
Weight: 267.9-535.7 gm
Length of Ground Edge: 5.9-8.8 cm
Width of Ground Edge: 1.1-1.4 cm
Artifact Numbers: 9, 17, 48, 49
Provenience: Area A, surface (3); Area B, surface

Anvils (N = 4) (Fig. 8)
Large flat river cobbles, oval, round or asymmetrical in outline. One specimen has polish on both flat faces of the cobble. Two cobbles have very slight polish on one face. It is difficult to distinguish any wear or polish on the fourth specimen (Cat. no. 18). One anvil (Cat. no. 16) was found on the surface adjacent to an edge-ground cobble (Cat. no. 17).
Size: 19.5-23.5 × 17.5-15.9 × 3.6-4.9 cm
Weight: 2,397.10-3,003.0 gm
Artifact Numbers: 16, 18, 50, 51
Provenience: Area A, surface; Area B, surface (2); Unknown, surface

DEBITAGE

The amount of debitage recovered from this site is somewhat surprising (Table III). Most of the flakes were recovered from six test pits. 152N/24E yielded 727 of 1,352 flakes or just less than 54 percent of the debitage recovered from the site. The fine screen used in flotation sampling allowed the collection of 109 flakes less than 6 millimeters in length. These small flakes are small pressure flakes or fragments of larger flakes.

Ninety-four percent (1,273 of 1,352 flakes) of the debitage is variously colored cryptocrystalline material. The remaining flakes are basalt, siltstone, quartz, or obsidian. This suggests that there is an obvious dependence on locally available material. A quarry site for red cryptocrystalline material was noted by forest surveyors east of Patrol Point and Dairy Mountain (James McKie, personal communication 1986).

The debitage included mostly secondary and smaller flakes. There were very few flakes with cortex still attached. This suggests that there was some reworking or resharpening of tools at the site. Less than one percent of the flakes recovered show signs of heat treatment (pot lidding or crazing). White opaque and dark red cryptocrystalline flakes comprise this group of flakes.

FAUNA/FLORA

There was one very small bone fragment collected from one test pit at Patrol Point. The size of the specimen makes it impossible to determine what animal it represents. Likewise, we did not find any plant remains associated with the archaeological deposits. Since Patrol Point is assumed to have been a hunting camp, based on the type of artifacts found at the site,

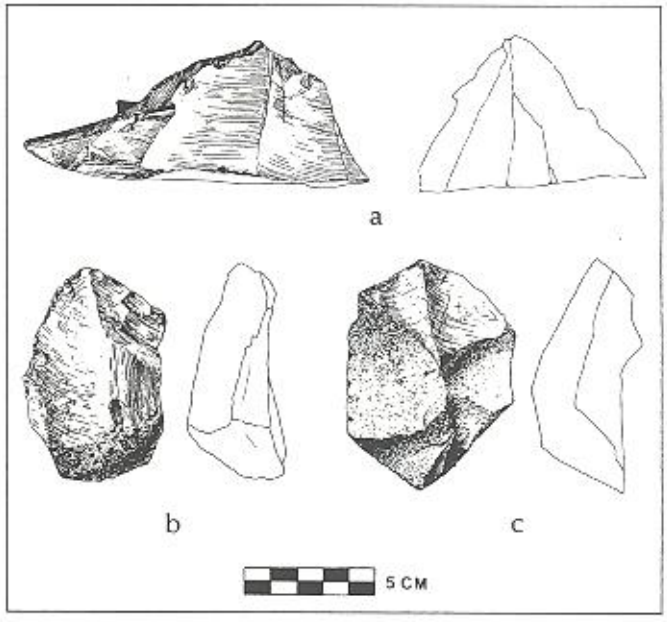

Figure 6. Cores.

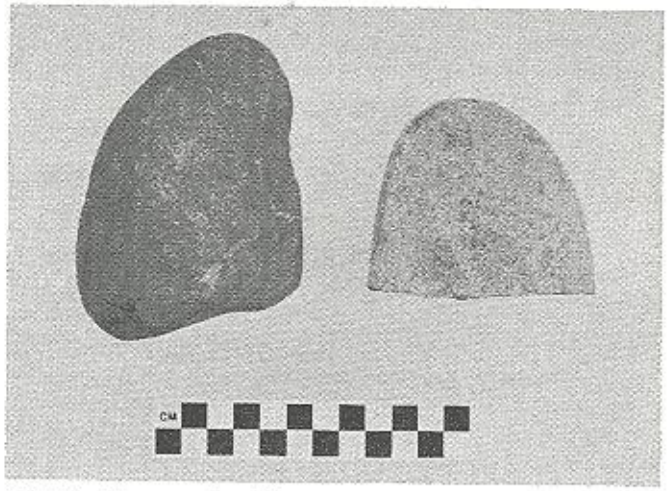

Figure 7. Edge-ground cobbles.

this lack of faunal remains certainly limits what we can say about the site. There is no way of telling what the occupants were hunting. Erosion may be one reason why there is no bone; remains close to the surface may have washed away.

DISCUSSION

Dating of the Patrol Point site is reliant on comparisons with projectile point typologies developed for sites investigated in the Snake and Clearwater river drainages. Projectile points from Patrol Point accounted for 20 percent (N = 11) of the artifacts recovered from the site. The small corner-notched points, made of cryptocrystalline material, resemble those points attributed to the Harder phase of the Snake River chronology developed by Leonhardy and Rice (1970, 1980). These points date from 2,500-250 B.P. and are found at Eagle Creek (Gaarder 1967), Slate Creek (Oswald 1975), Sally Ann Creek (Gaston 1984), and are similar to those found at Kooskia (Sappington and Carley 1984) and Ahsahka (Sappington, Cochran, Leonhardy 1987).

Also present at Patrol Point were two small side-notched points which have straight bases and are made of cryptocrystalline material. These are similar to three points recovered at Slate Creek (Oswald 1975:77). These are Desert Side-Notched points common in southern Idaho and elsewhere in the northern Great Basin. These points date between 850 B.P. to historic times in the Great Basin (Holmer 1986:107-110). In the Columbia Plateau, these small side-notched points are late and not as common (Sappington, Cochran, and Leonhardy 1987:39).

The remaining point specimens are either too fragmentary to identify or do not fit the usual stylistic categories. The large corner-notched point is likely a Harder phase point but somewhat older than the small corner-notched points. Based on the above information concerning projectile points, the author suggests that Patrol Point was occupied during the last 2,000 years. The presence of small corner-notched and the side-notched points may reflect different occupations of the site through time. However, this cannot be verified since both styles were found on the surface of the site.

There is no doubt that northcentral Idaho has been home to hunters and gatherers for several thousand years. Dating of artifact assemblages for sites in the area has relied on comparison of projectile point styles found at sites with controlled excavation and radiometric dating. Only one site near Patrol Point, Eagle Creek, has carbon-14 dates and the date is from an oven feature with charcoal dated at 1895 A.D. (Gaarder 1967:40). However, some projectile points found at Eagle Creek resemble those from other sites on the Plateau with a much older period of use (Gaarder 1967:48; Ames n.d.).

This appears to be true for the other sites in the Patrol Point area. Sisson (1984:22) reports finding projectile points at Cottonwood-Divide Creek similar to those in use elsewhere for the last 4,000 years. Testing of the Coyote Springs site recovered Bitterroot side-notched and the McKean type of projectile points dated greater than 5,000 years B.P. (Leonhardy and Thomas 1984:3). The surface collection from Coyote Springs contains projectile points similar to those in the Patrol Point assemblage. Though the projectile points recovered from Hurley Creek resemble those from Patrol Point, there is also evidence noted in the excavations for older occupation of the site (Chance 1987).

An evaluation of the artifacts from Patrol Point revealed that hunting activities predominated. Projectile points, scrapers, bifaces, and drills all suggest hunting took place in or near the site. Unfortunately, one small bone fragment does not give us an idea what kind of animals were being hunted.

The Patrol Point assemblage is similar to others in the area. Hunting appears to be an important activity at Eagle Creek (Gaarder 1967), Coyote Springs (Leonhardy and Thomas 1984), Cottonwood-Divide Creek site (Sisson 1984), and Hurley Creek (Chance 1987). Projectile points, bifaces, and scrapers comprise tool kits well suited to hunting and butchering activities. These types of artifacts are also similar to those found at the Slate Creek archaeological site—a Nez Perce campsite at the mouth of Slate Creek (Oswald 1975).

The large number of secondary and tertiary flakes recovered from the northern test pits indicates the occupants were resharpening or reworking their tools. There were only one or two flakes with cortex and very few biface thinning flakes present in the collection. Therefore, the site does not appear to be a tool manufacturing site.

Figure 8. Anvil.

Table III Lithic Debitage by Excavation Unit

Excavation Unit	OBS	CCS	SS	BAS	Other
152N/24E	1	708	3	14	1
147N/7E		37		2	
131N/42E		247		11	
136N/15E		7	5		
120N/30E		62		7	
108N/20E		68		9	
98N/1E	3	58	15	2	
96N/41E		62		3	
78N/14W	1	19			
68N/2E					
48N/3E		5		2	
Totals	5	1,273	23	50	1

TOTAL 1,352

Obsidian (OBS) Cryptocrystalline (CCS) Siltstone (SS) Basalt (BAS)

The edge-ground cobbles and anvils found on the surface of the site also suggest hunting activities and are similar to those found at other sites in the area (Gaarder 1967, Oswald 1975, Sisson 1984, McKie 1986, Max Pavesic, personal communication 1986). Based on Sims' study of edge-modified cobbles from the Northwest and his designation of categories of edge-ground and edge-abraded cobbles, the Patrol Point specimens are edge-ground. As Sims (1971:22) and Keeler (1973:49) suggest, edge-ground cobbles may have been used in preparing animal hides. The large flat worn stones, anvils, often found associated with the cobbles provided a flat surface on which to stretch out the skin (Sims 1971:22). The repeated movement of the cobble across the animal skin produced a well worn and sometimes beveled edge on the cobble. Anvils were found at Patrol Point.

There were no recognized plant processing tools found during the investigation at Patrol Point. The cobbles and anvils do not exhibit the kind of wear associated with the pounding and grinding of roots or seeds. Artifact assemblages from Eagle Creek, Cottonwood-Divide Creek, Slate Creek, and White Bird (Max Pavesic, personal communication 1986) contain cobble tools associated with processing plants. Lomatium and yampah are plentiful at Patrol Point. Surely the prehistoric inhabitants would have used this readily available food, provided the plants grew there during the time of occupation. The artifact assemblage simply does not reflect this activity.

The Patrol Point investigation provided valuable information about an upland site described as a lithic scatter and categorized as a campsite. Excavation determined that subsurface deposits do exist in the northern portion of the site but the depth can be attributed in some test pits to slope wash. There were no features, plant remains, or significant amounts of bone found at Patrol Point. The types of projectile points found suggest occupation of the site some time during the last 2000 years. The artifacts indicate hunting was the main activity at Patrol Point. The site represents a mountain hunting camp that could have been occupied after the snow melted in the late spring until late fall when the snow became too deep.

A review of the archaeological literature demonstrates the need for controlled excavations and the recovery of datable material to establish the occupations of these campsites. Though the information is limited, Patrol Point is significant as it provides information about the use of the mountainous areas in the Nez Perce Forest. Additional work is needed at these high altitude sites in order to understand the environmental and cultural history of the sites which should relate to the broader regional settlement pattern.

ACKNOWLEDGEMENTS

Many people participated in the Patrol Point investigation. The author would like to thank the volunteers from the Idaho Archaeological Society, interested local residents, friends, and Forest Service personnel for their interest, hard work and cheerful enthusiasm during the unseasonably wet, cold weather that marked the first week of the field project: Glen Smith, Fred Hill, Perry Silver, Juan Chavarria, Dawn Johnson, Norma Coates, the Spence family, Tony Green, Ryan Strong, Betty Bickle, Jody Bickle, Rachel Strong, Stacy Ericson, Mark Walp, and James McKie. Members of the field crew extend their appreciation to the personnel at the Slate Creek Ranger Station for providing a warm place to escape the rain and the snow. Pat Green, Soil Scientist for the Nez Perce Forest, visited the site and contributed her knowledge of the geology and vegetation of the Patrol Point area. Fred Hill helped to process the lithic material from the site. I am grateful to James Woods of the Herrett Museum for drawing the artifacts from the site. Finally, I would like to thank Thomas Green, State Archaeologist, for his support and editing skills.

The Nez Perce Forest should be commended for co-sponsoring this project. We hope that this interest in archaeological investigations by the Forest Service will continue.

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SHORT CONTRIBUTIONS

X-RAY MINERALOGY AND GEOLOGIC SOURCE OF A PREHISTORIC PIPE FROM THE DOUBLESPRING SITE (10-CR-29), EAST-CENTRAL IDAHO

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Quaternary Consultants

During the summer of 1986 a stone smoking pipe was found at the Doublespring archaeological site, 10-CR-29 (Fig. 1). The pipe was located on the surface in a relict outlet channel of Doublespring near areas of obvious "pot hunting" activity. Considering the additional problem of the historic use and development of the spring, precise provenience will never be known.

Archaeological studies at 10-CR-29 have been of limited scope. The evidence available suggests that the use of the site has been temporally extensive, representing nearly every cultural phase recognized in east-central Idaho (Druss 1981). Many of the geomorphic surfaces in the area date to the early Holocene or older, meaning that cultural material of subsequent phases have accumulated on the same surface for more than 4,000 years rendering archaeological stratigraphy virutally nonexistent in many locales. Presently, the site is used as cattle grazing land and, as a result, the delicate stratigraphy that did exist has largely been destroyed by trampling hoofs.

The intent of this paper is to explore the physical characteristics and mineralogy of the pipe, point to a possible source quarry, and relate the find to others like it in the region.

The pipe fragment is illustrated in Figure 2. It is approximately 5 cm long with an unknown length broken off the proximal end. The square portion varies from 1.75 to 1.85 cm in width along each side at the mouth. This portion is 3.65 cm long. V-shaped nicks are cut into the edges of the square barrel and are unevenly spaced. There are four on each edge with the spacing between each nick varying from 0.35 to 0.60 cm. They are consistently about 0.10 cm in maximum depth. The rounded segment, nearest the mouthpiece, makes up the remainder of the pipe. This portion gently tapers from the square barrel to a round cross section 1.60 cm in outside diameter at the broken end (refer to Fig. 2).

The exterior surface is generally well polished and has a slight patina, probably acquired through organic and mineral staining from use and post-depositional processes. Tell-tale cutting marks, however, are evident along convexities and within the barrel edge nicks, places not as easily polished. These marks indicate carving with sharp, hard tools to the final pipe dimensions. Unfortunately, the outside surface is also marked by various trampling nicks and scratches. The scars are unpatinated and this is taken as evidence of their relative youth.

A longitudinal orifice was drilled with a high degree of precision, probably from the distal end (see McGuire 1984 for discussion of drilling techniques). The diameter of the hole varies along a convex profile from 1.45 cm at the pipe mouth to 0.90 cm at the proximal end. Expert workmanship and a smooth polish also characterize the interior finish. Interior smoothing may have been accomplished by using a sanding stick and mud

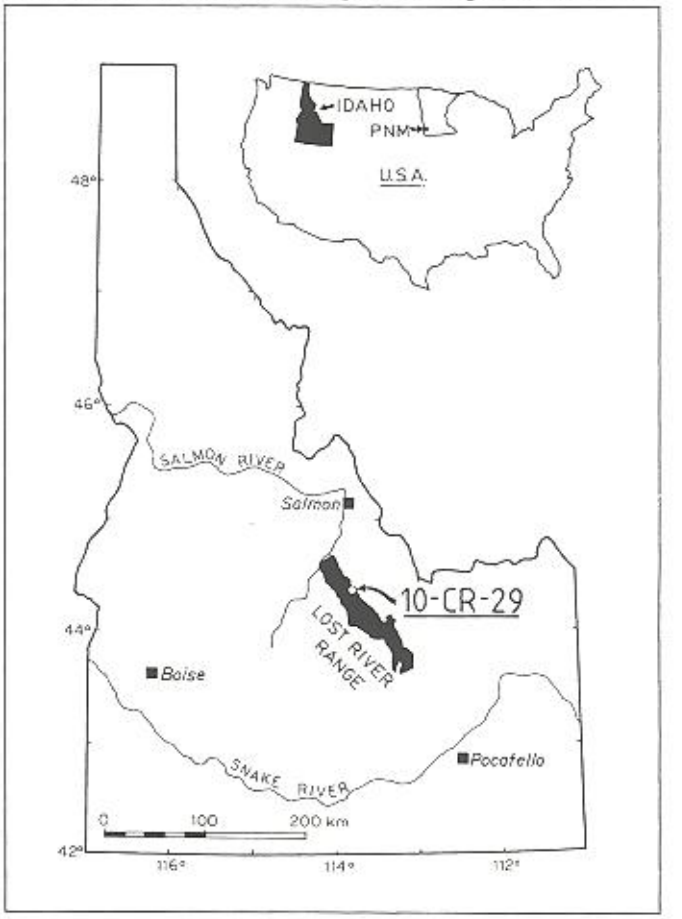

Figure 1. Location map of 10-CR-29, on the east flank of the Lost River Range, east-central Idaho. Idaho and Pipestone National Monument (PNM), Minnesota, are indicated in the U.S.A.

slurry to wear away the drilling marks, or may be the result of prodigious cleaning with similar utensils. The smooth interior surface is abruptly interrupted at the very distal end where circular drilling scars are present (Fig. 2). These may represent a later phase of reaming with a sharp cutting tool that increased the inside diameter at the mouth about 0.20 cm. The drilling marks are patinated similar to the rest of the artifact. If they do represent a later phase of work, the time interval between this and the original work may be short, depending on the rate of patina development.

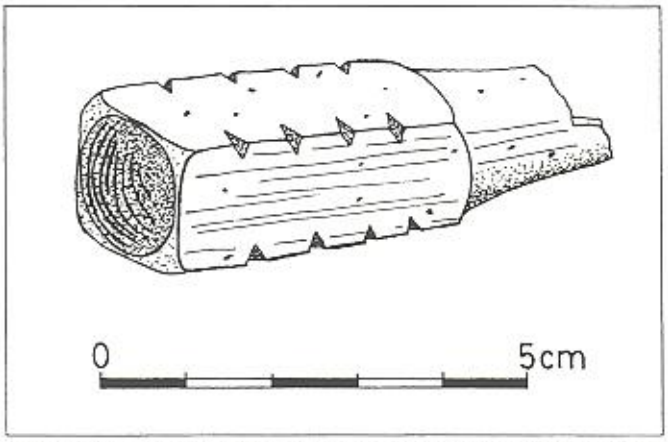

Figure 2. Sketch of red catlinite pipe from 10-CR-29, emphasizing some of the stylistic attributes and manufacturing scars. See text for color and dimensional details.

Based on extant geometry and assuming that most of the original form is still preserved, the pipe may tentatively be classified as a tube type (West 1934:127). In use the stone portion may have been affixed to a split and hollowed willow (or other) stem mouthpiece (Ewers 1963), probably to prevent burning the user.

The material itself is a red (5R 5/4 streak; 5R 4/6 to 5R 4/8 in general, but with excursions into the darker 10R hues) banded and speckled rock with a hardness of 3 to 4 on Mohs scale, and extremely fine grained texture; properties that make it particularly suitable to working with stone tools. Hardness and color are distinctive properties that suggest the material is a form of *catlinite* as defined by Sigstad (1973), and which occurs only at Pipestone National Monument (Fig. 1). Determinative mineralogy by X-ray diffraction reveals numerous clay minerals and sheet silicates, various oxides, hydroxides, and other silicate minerals (see Table I for mineral list and identification references). The red hues of the rock are imparted by the mineral hematite. Small diaspore grains are evident as prominent black speckles that stand in relief due to their greater hardness (Table I).

In hand sample examination, little can be said of the other mineral constituents owing to their micro- to submicroscopic size and probable mixing within individual color bands. Viewed as rock-forming minerals representing a distinct geological environment, however, the mineral suite supports the hypothesis that the rock is catlinite (*sensu* Sigstad 1973). All of the identified minerals may be derived from terriginous weathering of certain Archean continental rock units (namely, basic volcanics, ironstones, and associated rocks) which are located in likely source regions for the Pipestone National Monument catlinite occurrence, a part of the Huronian (Proterozoic) Sioux Quartzite (Bowles 1918:203).

If the pipe is indeed made of catlinite, then by definition (Sigstad 1973) the material must have come from Pipestone National Monument, Minnesota. Other known quarries apparently do not produce the distinctly banded and speckled pipestone. Further, a recently published color photograph of catlinite (Ewers 1979:295) bears a striking resemblance to the pipestone from 10-CR-29. At this time it is not possible to say whether the finished pipe or just the raw material was imported to east-central Idaho. Possibly, analysis of stylistic attributes could resolve this question.

Preliminary research has not revealed any other pipes of similar shape, design, or ornamentation. A steatite pipe from the Birch Creek Valley, Desert Zone Site, 10-BT-51, was briefly described by Swanson, et al (1963:82). This pipe is probably a tube type pipe and is similar in size and the presence of a shouldered bowl, but is dissimilar in design and ornamentation. The manufacturing technique lacks the "finishing touches" that compliment the catlinite pipe. Though the pipe was a surface find, Swanson, et al, suggest it is protohistoric or historic in age (1964:102). The steatite is of unknown origin.

Lewis and Clark (1902) noted the use of tobacco pipes by the Shoshone Indians in eastern Idaho, probably near the headwaters of the Lemhi River. Few details on these pipes are known. This observation, early in the nineteenth century, supports Mulloy's (1958) assignment of the oldest pipes (tube pipes) to the late prehistoric or early historic phases in adjacent Montana. West (1934) and Sigstad (1973) mention a "Bannock elbow pipe" (calumet type of West 1934) from southeastern Idaho which is also made of red catlinite, though it is unclear whether they are both referring to the same pipe. In any case, their observations can be taken as further evidence of importation of stone pipes (or pipestone) from Minnesota during late prehistoric or early historic times into eastern Idaho by Shoshone-Bannock peoples.

The stone pipe from 10-CR-29 is apparently a form of catlinite, an argillaceous material quarried at Pipestone National Monument, Minnesota. It is a tube pipe, probably grossly similar to pipes observed in use by the Shoshone people of the region by Lewis and Clark in 1806. However, its detailed form and ornamentation are, as far as we are aware, without parallel, making the culture of manufacture difficult to determine. The pipe is potentially important in studies of aboriginal trading systems, and more specifically, smoking by prehistoric east-central Idaho peoples, since little is known of this custom. It is unfortunate that the public land at the Doublespring site is used as open cattle grazing range, being permanently destroyed at the expense of a wealth of archaeological data.

ACKNOWLEDGEMENTS

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Table 1. Partial Listing of Minerals Identified by X-ray Diffraction in Stone Pipe from 10-CR-29

Mineral Group	Mineral	Hardness (M)	Reference
Sheet silicates (clay minerals)	Berthierine	2.5-3.5	Brindley and Brown 1980
	Halloysite	2.0-2.5	Deer et al. 1966
	Kaolinite	2.0-2.5	Deer et al. 1966
	Muscovite	2.5-3.0	Deer et al. 1966
	Pyrophyllite	1.0-2.0	Deer et al. 1966
Oxide	Hematite	5.0-6.0	Deer et al. 1966
Hydroxides	Diaspore	6.5-7.0	Deer et al. 1966
	Betafite	3.0-5.5	Schrocke and Weiner 1981
Chain silicate	Enstatite	5.0-6.0	Deer et al. 1966

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THE BLUE LAKES CLOVIS

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College of Southern Idaho

In August 1965 the remains of four Imperial mammoth, the skull of a saber-tooth cat, and the teeth of extinct bison, horse, and camel were found in the Blue Lakes area. One mammoth reportedly had a large angular rock imbedded in the neck bones just behind the skull (Twin Falls Times-News, August 11, 1965:16, report on file, ISU Museum of Natural History).

The late Don E. Crabtree, then Research Associate in Lithic Technology for ISU, notified B. Robert Butler, the curator of education at the ISU Museum, of the find. Subsequently, a team from ISU was sent to excavate in the area. No association between the extinct fauna and aboriginal tools was confirmed and the excavation was not formally published.

In the late 1960s Burton Perrine, a resident of Twin Falls, Idaho, found the basal portion of a Clovis point in the same area located on the north side of the Snake River, approximately two miles north and one mile west of Twin Falls (Fig. 1). The Clovis point was surface collected and was associated with no other material remains.

The Clovis point is made from a semi-translucent brown micro-crystalline material with white and tan inclusions. The luster of the surface suggests heat-treatment, as few micro-crystalline materials have high luster or smooth surface texture in their natural state.

The basal portion is 18 MM long, 32 MM wide, 3 MM thick, and the single channel flake is 13 MM wide (Fig. 2). All margins of the fragment have been dulled by grinding, almost to a polish.

Only one face has a channel flake scar (Fig. 2a). This is probably because the Clovis point is very thin and did not require removal of a channel flake from the opposite face (Fig. 2b) to meet haft element requirements.

The point was bend broken (Fig. 2a-1) as evidenced by a slight lip-like projection on the distal margin of the unfluted face. A bend break can be produced during the manufacturing process, from use, or from some unknown force that is directed from one face toward the other face, such as an animal stepping on the entire specimen. Because the last step in the manufacturing process is to grind the margins, it is unlikely that the point was broken during the initial manufacturing process, although resharpening could cause this type of break.

The channel flake scar is very shallow and because it was removed very close to the surface of the face and is only 13 MM wide, it is possible that the channel flake was removed by direct hand pressure and did not extend very far beyond where the point is broken. The sub-lenticularity or flatness of the face would also tend to terminate the channel flake.

It is difficult to determine the exact flaking technique used on the missing portion of the point. Basal retouch flaking done in conjunction with hafting tends to alter the previous stage flaking technique that would appear on the remainder of the point, which is missing in this instance. However, one wide collateral flake scar on the primary face (Fig. 2a-2) is similar to flake scars on a Clovis point recently found in Owyhee County during the West Clover fire rehabilitation survey (Wyatt n.d.). Two Denver Museum of Natural History Clovis casts, one from the Naco site in New Mexico, and one from the Dent site in Colorado, have collateral flake scars like the Blue Lakes specimen.

Other examples of western tradition Clovis points from the Dent, Naco, and Lehner sites (Wormington 1957) show that these specimens were collaterally flaked. Several other Clovis points found in Idaho exhibit collateral flaking (Butler 1963; Huntley 1985:13-14; Woods and Titmus 1985:3-8). Collateral flaking appears to be an attribute that is consistent within Clovis technology and the Blue Lakes Clovis, with the little evidence we have, does not seem to deviate from this.

The Blue Lakes Clovis is slightly different with respect to thickness when compared with specimens described

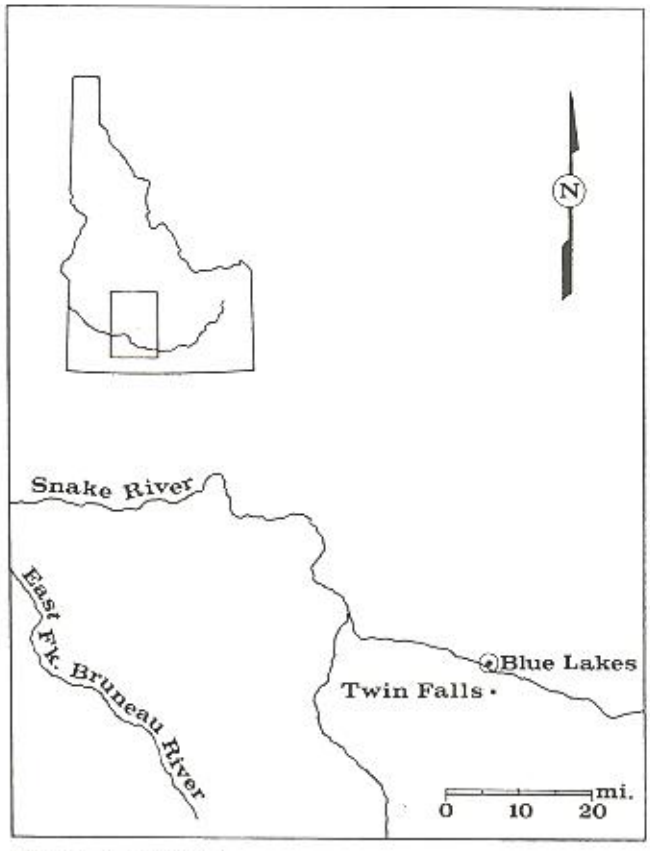

Figure 1. Map of area.

in the literature. Clovis points were generally made thick and lenticular for strength, although this attribute may be absent in resharpened specimens. Even though the portion of the Blue Lakes Clovis is very small (18 MM long), it can still be determined from comparison with other Clovis points that it was almost certainly thin and sub-lenticular. The expanding lenticularity of most other Clovis points is very obvious when measured at a similar location.

To my knowledge, points of the western Clovis tradition have not been found in association with extinct megafauna such as mammoth and bison except in the states of Texas (Black 1974; Haury et al 1959), Arizona (Haury et al 1959), Colorado (Haynes 1970), New Mexico (Damon et al 1964), and Wyoming (Frison 1976, 1977, 1978).

Careful study of the remains of a Clovis and Folsom occupation in Idaho can result in a better understanding of the unique fluted projectile technology and patterns of Paleo-Indian occupation. Therefore, the reporting of Clovis and Folsom materials, however fragmentary, can provide a significant contribution to our knowledge of early man in Idaho and will help answer questions about life at the end of the last ice age.

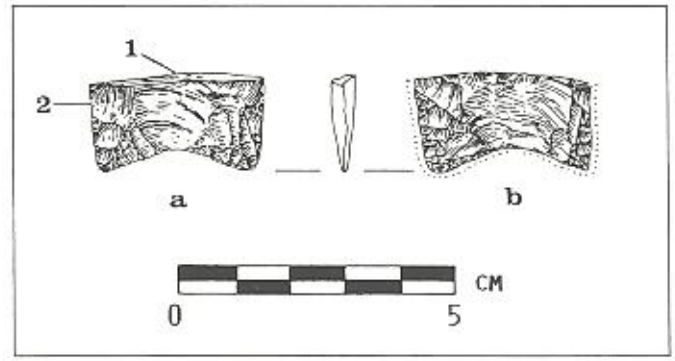

Figure 2. Blue Lakes Clovis.

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A CLOVIS POINT FROM LONG VALLEY, IDAHO

Nicholas H. Petersen

The occurrence of Clovis points in Idaho has long been of interest to archaeologists. These range from the find of unknown provenience on the Lapwai reservation near Lewiston (Potter and Aageson 1974) to the Simon site near Fairfield (Butler 1963; Butler and Fitzwater 1965; Woods and Titmus 1985). Other surface finds include a Clovis point from Bannock Creek, near American Falls, and a find at the mouth of the Portneuf River, near Pocatello (Butler 1963, 1978). In western Idaho, isolated finds have been made in the vicinity of Glenns Ferry (Green n.d.), southeast of Bruneau (Wyatt n.d.) and Alkali Spring, near Marsing (Huntley 1985).

In September 1986, the author located a Clovis point approximately three km west of the town of Cascade (Fig. 1). The find, recorded as 10-VY-563, was located on the southwest shore of Cascade Reservoir, approximately 30 meters inside the high water line and 500 meters southeast of the Campbell Creek boat ramp. The point was nestled among the cobbles and boulders of a low hummock aproximately one meter above the surrounding beach. The angular and sub-angular nature of the rocks suggest the hummock is glacial outwash from nearby West Mountain. Arnold (1984:9-10) notes that West Mountain glaciation occurred during the Pinedale stage, 10,000 to 15,000 years ago. He further notes that little deposition has taken place since then, leaving land forms much as they were during the Pleistocene.

The topography of the area is an incline of five to 10 degrees from the inundated north fork of the Payette River to the toe of West Mountain. Because of the gentle slope of the terrain, it appears that less than one meter of overburden has been eroded by the reservoir's wave action.

No other cultural materials were noted in the immediate vicinity of the Clovis find, though a circular shaped probable historic rock feature, approximately 1.5 meters in diameter, is located on the hummock about 8 meters from where the point was found (Fig. 2). The feature and hummock are both composed of sub-angular basalt cobbles and boulders measuring 10 to 50 cm in diameter.

The Clovis point (Fig. 3) is made of a translucent blue-black colored obsidian, which has multiple parallel black bands. The description matches Sappington's characterization of Timber Butte obsidian (1981:14). Timber Butte seems a likely source, considering that 95 percent of 241 obsidian artifacts from Long Valley proved to be manufactured from Timber Butte obsidian (Arnold 1984:136). The artifact's surface exhibits a slight, overall patina which subdues the reflective quality of the obsidian. The artifact measures 7.7 cm in length, 3.2 cm in width, 0.9 cm in thickness and weighs 23.35 gm.

On the dorsal side of the artifact, two broad, shallow thinning flake scars extend 2.9 cm from the base toward the distal end. Both scars terminate as step fractures, and one of the scars or "flutes" extends to the lateral edge where it has been retouched by pressure flaking. On the ventral side, a single, shallow thinning flute extends 3.7 cm where its termination has been obscured by a single deep flake scar. This scar appears to have been detached by force directed toward the basal end, slightly diagnonal to the long axis of the point, perhaps an impact fracture. The surface of the intrusive scar is patinated to the same degree as the rest of the artifact. Perhaps because of the abrasive environment in which it was found, all of the artifact's edges show some degree of grinding or wear. It appears that the edge of the basal concavity has been intentionally ground. In addition, the lateral edges of the basal end of the artifact seem to have been dulled by a combination of grinding and crushing, which has produced a series of small step fractures along each edge. The edge grinding extends approximately as far as the longest flute's length.

The flaking pattern is random, and flake scars do not extend inward to the mid-line of the artifact (Fig. 3). This

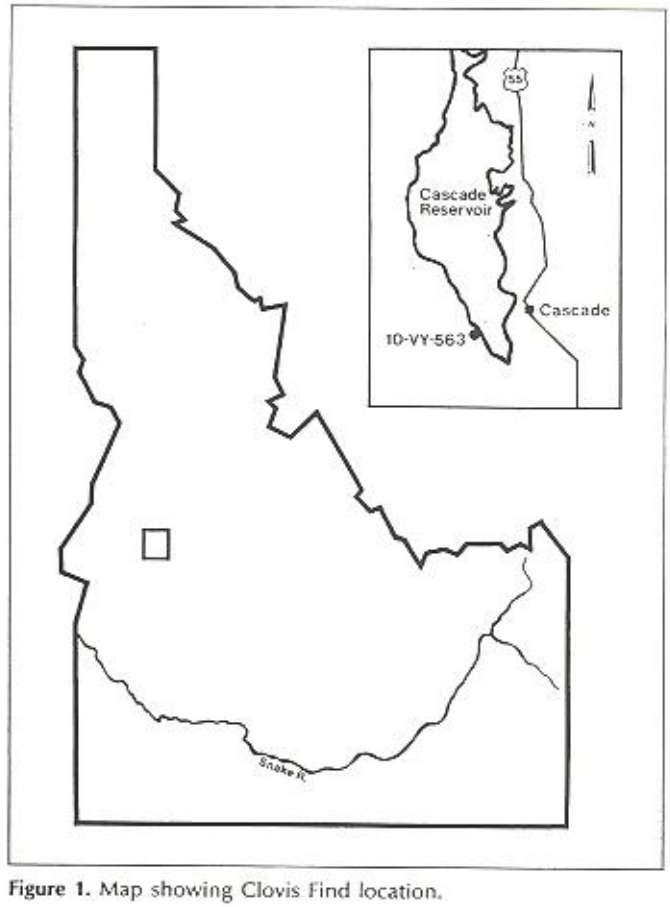

Figure 1. Map showing Clovis Find location.

is in contrast with the Simon materials (Butler 1963:24; Woods and Titmus 1985:4) and the Lapwai specimen (Potter and Aageson 1974:92).

The Long Valley Clovis point is one of several isolated Clovis finds which have come to light in recent years. The noting of these finds contributes toward understanding their distribution in Idaho.

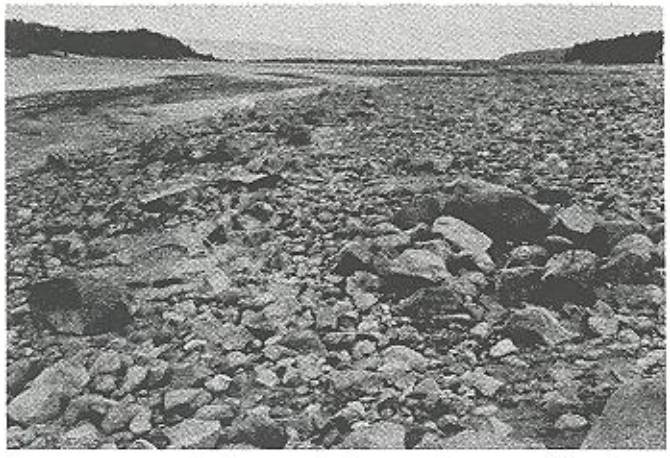

Figure 2. Photograph of site area looking south. Arrow at left indicates location of Clovis Point. The rock feature is at center-right. Silva compass in center of feature for scale.

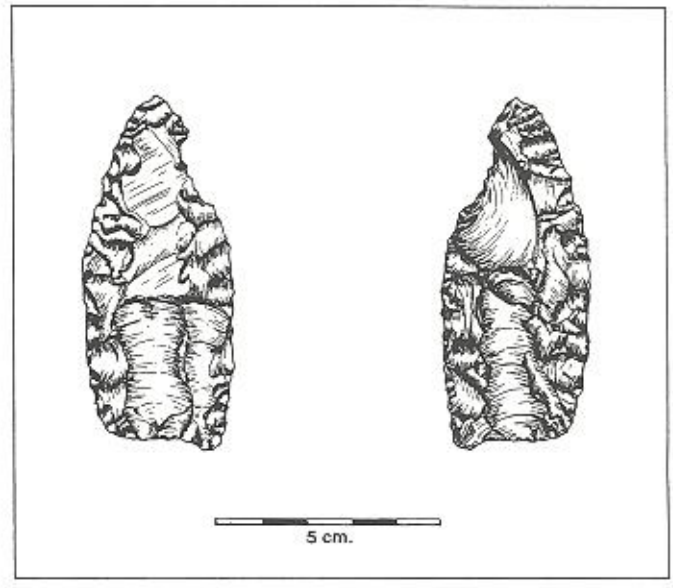

Figure 3. Illustration of Clovis Point (From 10-VY-563). Ventral surface is on the left.

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