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Cover: Clover Creek site during excavation.

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IDAHO ARCHAEOLOGICAL SOCIETY DISTINGUISHED SERVICE AWARD*

William C. Norquist

During the past twenty years amateur/professional efforts in support of Idaho archaeology have increased tremendously. These efforts have fostered field projects, the development of educational programs to inform the public about Idaho archaeology, and founding of a state archaeological journal. For his important contributions during these formative years William C. Norquist is awarded the 1990 Idaho Archaeological Society Distinguished Service Award.

Bill Norquist always had an interest in things of a scientific nature. As an avid reader and through an Air Force career in the field of meteorology Bill eventually developed a strong interest in archaeology. In the early 1970s he and his wife Charlotte joined the newly formed Great Basin Chapter of the Idaho Archaeological Society. This marked the beginning of a long and fruitful relationship with the society and one which would see Bill become a leading figure in the amateur movement in Idaho. Bill, often accompanied by Charlotte, volunteered on many archaeological projects including: Braden site, Bachman Cave, Givens Hot Springs, the Foote House, the Share's Basin Mountain Sheep site, to name a few.

One of Bill's most important contributions was the founding, together with Tom Moore and the Great Basin Chapter, of the publication of the *Idaho Archaeologist*. On assuming the editorship Bill guided the journal through its early years and is to be credited for helping establish it as an important regional journal.

Bill served on the Board of Directors holding the chair of Director of Education. He was also a long-term member of the Executive Committee and was Vice President and secretary of the Great Basin Chapter.

Bill's many friends and amateur/professional colleagues will long remember his hard work and dedication. The society, by its award, acknowledges Bill's significant and lasting contributions to Idaho archaeology.

**Editor's Note: The Idaho Archaeological Society Distinguished Service Award was established by its Executive Committee to acknowledge the contributions of its members to Idaho archaeology. Bill Norquist passed away in July 1990. This issue is dedicated to his memory.*

ARTICLES AND REPORTS

A PRELIMINARY REPORT ON TEST EXCAVATIONS AT CLOVER CREEK (10-EL-22), KING HILL, IDAHO

*Mark G. Plew and Russell T. Gould
Boise State University*

INTRODUCTION

In the late 1970's archaeologists, under contract with the Bureau of Land Management, excavated a portion of the Clover Creek site (10-EL-22) located approximately 3 km east of King Hill, Idaho. Though project results were never published, the site is known to have produced evidence of prehistoric occupation including house floors, fish remains, and an extensive assemblage of Late Archaic materials. Butler (1982) analyzed a portion of the assemblage and interpreted the site to be a Fremont fishing station. Beyond Butler's interpretation, recent work within the riverine environment document considerable inter and intrasite variability, suggesting relatively extensive use of the Middle Snake area during the Late Archaic (Green 1982; Pavesic and Meatte 1980; Plew 1980, 1981, 1988, and Gould and Plew 1988).

In 1988, Boise State University conducted its annual field school at Clover Creek. Our research objectives included the following: (1) What was the nature and extent of fishing activity? (2) Was there evidence of a Fremont occupation of the locality? (3) What was the range of variation in material culture and features? How were these assemblages similar or different than others within the riverine environment? (4) When and for how long was the site occupied? (5) What was the functional and seasonal use of the locality, and did this vary over time?

This paper provides a narrative report of our investigations and a description of the material culture. To the extent possible, we summarize the findings relative to our research questions.

THE SETTING

The Clover Creek site is approximately 50 m north of the Snake River. It covers an area 150 x 60 m, and is situated approximately 200 m east of the confluence of the river and Clover Creek. Currently, the site is covered with a mix of sagebrush, greasewood, bunch and cheat grasses. Sediments consist of a sandy eolian deposit covering a highly compacted silt or durapan layer, which varies between 30 and 120 cm below sur-

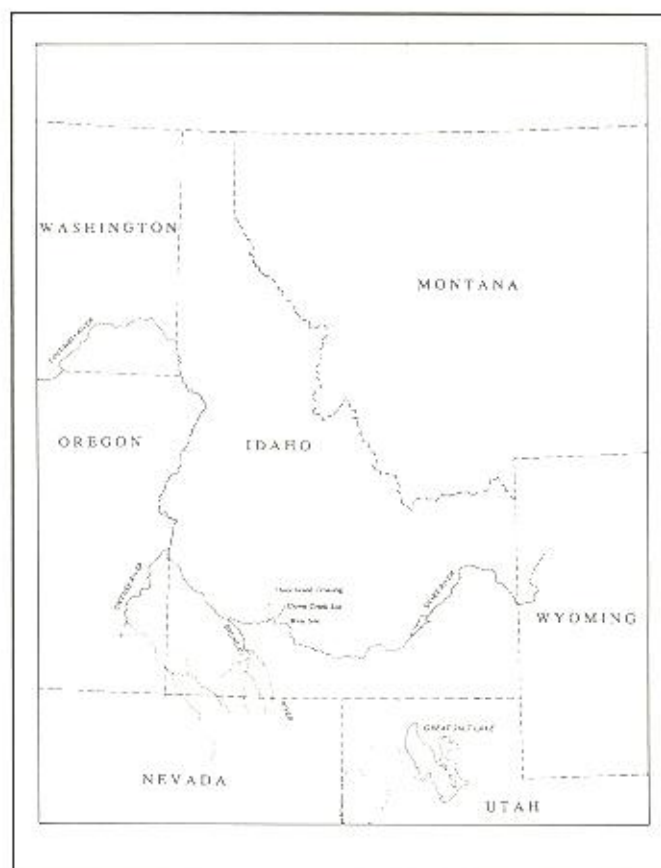


Figure 1. Map showing location of sites discussed in text.

face. The site is atop a constructional terrace, the surface of which is approximately 3.5 m above the lowest water levels of the river. The site has a vertical relief of 3 m across its sloping surface. Historic impacts include some mining activity at the eastern margin of the locality, extensive pothunting activity, and impacts by the previous excavations. The previous investigations were discernable while pothunting was evidenced by numerous potholes and recent historic debris in the upper level of the excavation units.

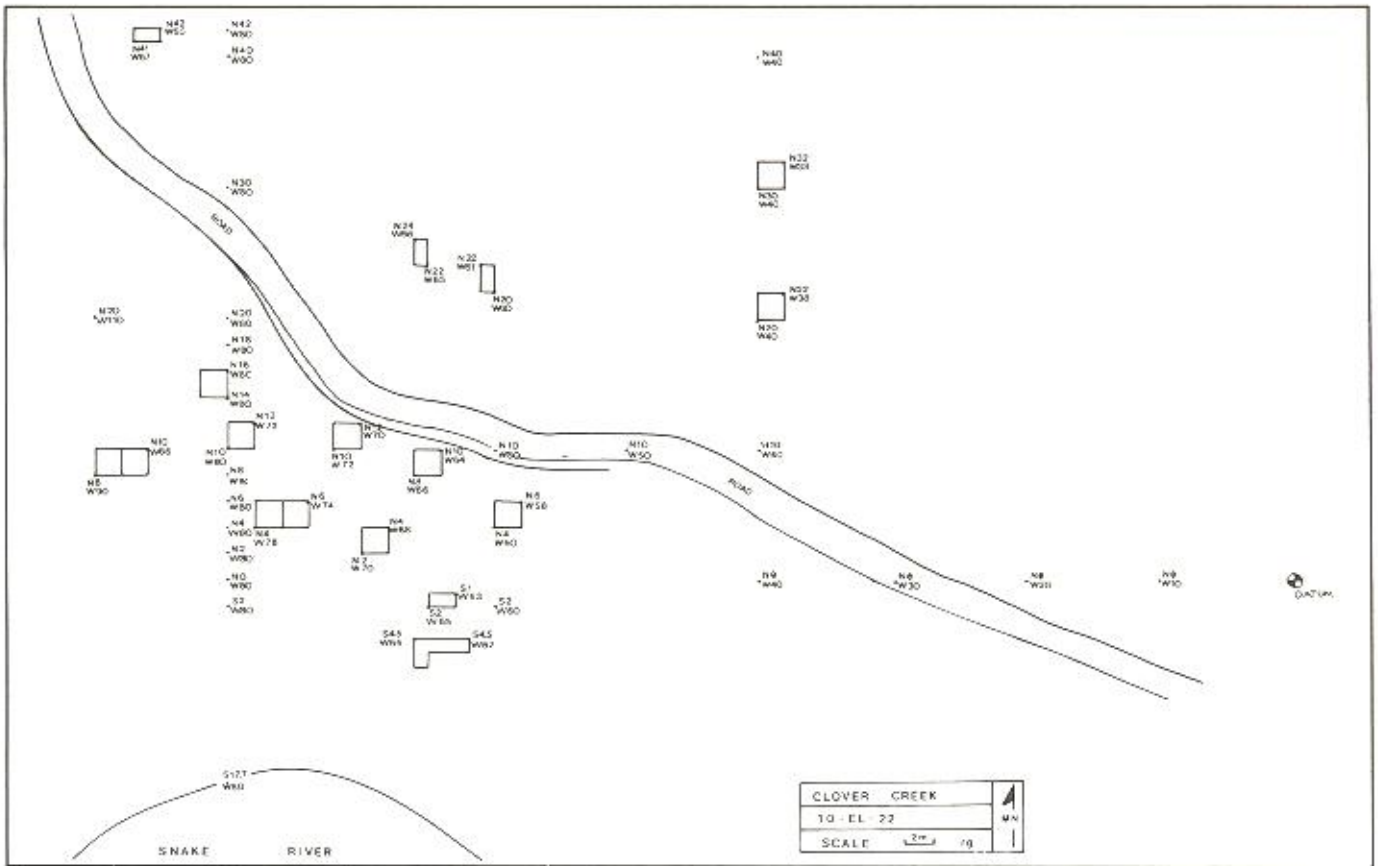


Figure 2. Plan map of Clover Creek Site showing test unit locations.

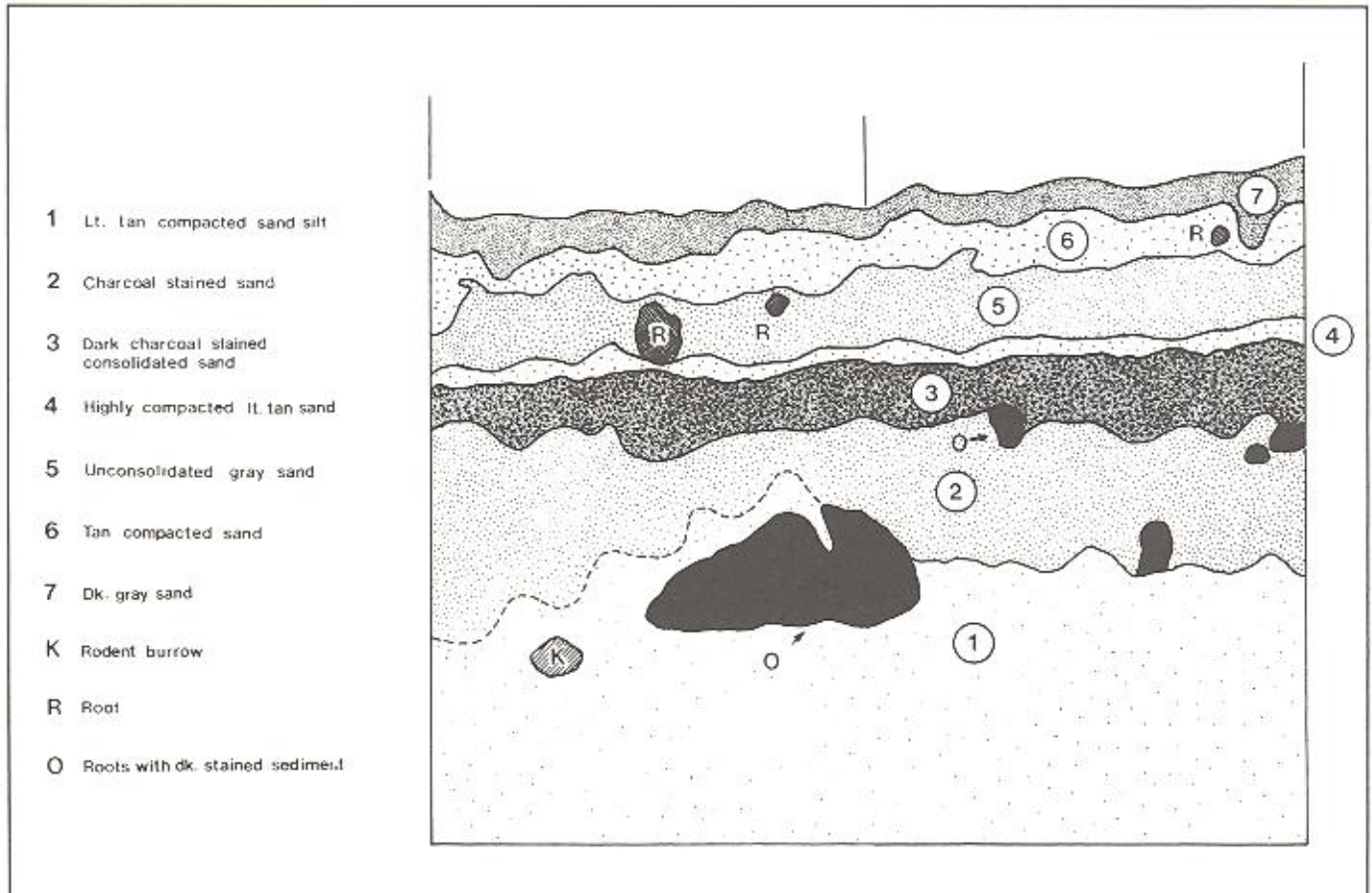


Figure 3. Profile of Unit W2 S9.

EXCAVATION STRATEGY AND SEDIMENT ANALYSIS

Using maps from the previous investigations, we attempted to establish a site datum near that used by the earlier investigators (see Elton Bentley, field maps, Idaho State Historical Society). Our initial efforts focused on delineation of the boundary of Mario Delisio's excavations. In this context, we excavated two 2 x 2 m test units to the northeast of the previous work. In addition, test units were located along the southern periphery of the Delisio excavation. Our work suggests that the topographic map depicting the location of the previous units is approximately 20 m north of the 1988 excavations. Those units near the Delisio excavations were extensively disturbed, while sediments within 15 m of the edge of the terrace remain relatively intact, extending approximately 30 m west along the river.

A total of 64 m² was excavated to depths ranging between 0.5 and 2 m. At the extreme western edge of our excavations, within 50 m of Clover Creek, an old stream channel was encountered which may be associated with an earlier alignment of Clover Creek. Approximately 30-40 cm below the surface, we encountered a culture-bearing level which extends variably from 30-80 cm in thickness. The level is a sandy eolian deposit, dark stained from small charcoal fragments scattered throughout and is separated above and below by a sterile lighter grey sand. Excavation was conducted using arbitrary 10 cm levels. The upper 20-30 cm was shovel shaved and passed through 6.4 mm mesh, while the cultural lens and remaining deposits were passed through 3.2 mm hardware cloth. Flotation samples were taken from all levels. Microstratigraphy is not present. The occupational level is dated by hydration between 1013 A.D. ± 36 to 1187 A.D. ± 31 years (see Table I). This suggests relatively rapid accumulation of sediments over the last 1,000 years.

Sediments analysis, consisting of particle size and soil color, has been conducted on 27 samples from units N22/W39, N6/W77, and S4.5/W64 (Bennick 1988). Unit S4.5/W64 is a trench on the western edge of the excavation; unit N22/W39 is at highest elevation with an extensive calcium carbonate level; unit N6/W77 contained an artifact concentration of pottery and temporally diagnostic materials. Analysis suggests that deposits above the 30 cm level are substantially disturbed and have little integrity. All sediments contain 85-95% sand with little clay and silt content. Further, the occupational level contains substantial small organic remains. The calcium carbonate in unit N22/W39 suggests a probable association with drainage from Clover Creek and may be associated with the stream channel encountered on the western edge of the site. The trench exhibits the least amount of disturbance but is outside the probable site boundary. In general, our analysis confirms the observed disturbance to the upper portions of the site and the lack of stratigraphy.

NON-CULTURAL REMAINS: FIRE-CRACKED ROCK, LITHIC DEBRIS, AND FAUNAL REMAINS

Though the artifactual remains from Clover Creek are somewhat limited, a rather large collection of non-cultural materials was recovered. Most interesting is a

collection of 32,303 items of lithic debris, of which 76% is basalt, 18%, cryptocrystalline, and 7%, obsidian. The percentage of basalt tools is not surprising as a major basalt quarry is located a few kilometers upstream from Clover Creek. Further, high percentages of basalt tools have been noted at nearby localities (Plew and Woods 1987; Plew and Gould 1987). Notable, however, is the number of projectiles manufactured from basalt. In addition to lithic debris, 1,884 specimens of fire-cracked rock were recovered.

Faunal remains, while highly fragmentary, consist of 23,285 items of bone and 228 fragments of shell. Though the faunal assemblage has not been systematically identified, both large, primarily deer, and small mammal species are present. Most interesting is the virtual absence of fish remains; only 22 specimens were recovered.

FEATURES

The investigations at Clover Creek exposed no cultural features. This is due in part to vandalism, though a more probable explanation is the location of the excavated units. We believe our work focused on the periphery or margin of the habitation area excavated by Delisio. Hence, the probability of encountering certain features may have been limited.

MATERIAL CULTURE

The artifactual assemblage recovered during the 1988 excavations consists of 619 prehistoric items. Following Winters's (1969: 30-87) functional classes, domestic items dominate the assemblage, comprising 50.1% of all recovered artifacts. Sherds of Shoshoni Ware pottery were the most commonly recovered items, totaling 298 specimens. Also included in the domestic equipment assemblage are a few pestle fragments and shallow and deep basin mortars.

Weapons, consisting entirely of projectile points, represent 19.7% of the assemblage. Desert side-notched, Eastgate, Rose Spring, Cottonwood, and Bliss forms are included in the projectile point assemblage. These account for 57.3% of all morphologically distinct projectiles. Extremely small side- and corner-notched points also are included in the assemblage. These forms have not been reported from other Middle Snake River sites and mark a unique feature of the material assemblage.

General utility tools, comprised of hammerstones, cobble choppers, modified flakes, knives, and bifaces represent 14.2% of the assemblage. Fifty percent of the general utility items are whole or fragmentary bifaces, with large irregularly shaped basalt forms being the most common. A majority of these bifaces evidence cortex.

Fabricating and processing tools include perforators, cores, and scrapers, and constitute 11.5% of the assemblage. Large irregularly shaped basalt cores are common. Ornamental items are 1.3% of the assemblage and are represented by bone and shell beads. Ceremonial items are marked by the recovery of red ochre, consisting of 1.5% of the assemblage.

WEAPONS

Excavations at Clover Creek recovered 119 projectile points. The typology presented here is purely descriptive focusing on form and temporally diagnostic characteristics. The most commonly recovered points are those identified with the Late Archaic in Idaho and include Desert Side-Notched, Eastgate Expanding Stem, Cottonwood Triangular, and Rose Spring Side- and Corner-Notched projectiles. These have been noted at sites throughout the Great Basin (e.g., Aikens 1970; Gruhn 1961; Hanes 1988; and Thomas 1983). Some projectiles found only in southwestern Idaho during the Late period are included as well; these are Bliss and Concave Base points, both of which have been noted at other sites along the Snake River (e.g., Plew 1981; and Plew and Gould 1990), as well as a newly defined type, Clover Creek Side- and Corner-Notched projectiles presented below. Eleven other types, accounting for only a small number of the recovered projectiles, are included here for descriptive purposes. These may or may not prove to be unique in assemblages of this period.

Also included with the descriptions are metrical data on length, width and thickness, which are presented in ranges for all typological classes. Material of manufacture is identified as well, and three categories are used: obsidian, basalt and cryptocrystalline. The latter is a catch-all category including chert, chalcedony, jasper and a host of other materials. The selection of raw material for projectile points shows a marked preference for obsidian. Sixty-one of the 119 recovered specimens were manufactured from this material. The remaining 58 points were evenly divided into the two other material classes, with 28 basalt and 28 cryptocrystalline items.

DESERT SIDE-NOTCHED

Figure: 4, a-d

Number of Specimens: 13

Size Ranges: 2.5-1.4 cm long, 1.85-1.2 cm wide, and 0.4-0.2 cm thick.

Description: All specimens are triangular in outline and have deep side notches. Blade element margins are straight, while those of bases are flat to concave. With the exception of one, all are General subtype. One Sierra subtype is present. Bases are somewhat square and relatively large creating substantial haft elements. Cross sections are plano-convex. Pressure flaking is evidenced in an irregular pattern, and two obsidian specimens appear to be reworked forms with small blade elements. Obsidian is the most common stone, with 11 specimens of this material. Two are made of cryptocrystalline. Desert Side-Notched projectiles are common throughout the Great Basin, and have been recovered at a number of sites in southern Idaho, including 10-GG-1 near Bliss (Plew 1981: 100-102; Fig. 19, a-f) and Three Island Crossing near Glens Ferry (Plew and Gould 1990) along the Snake River.

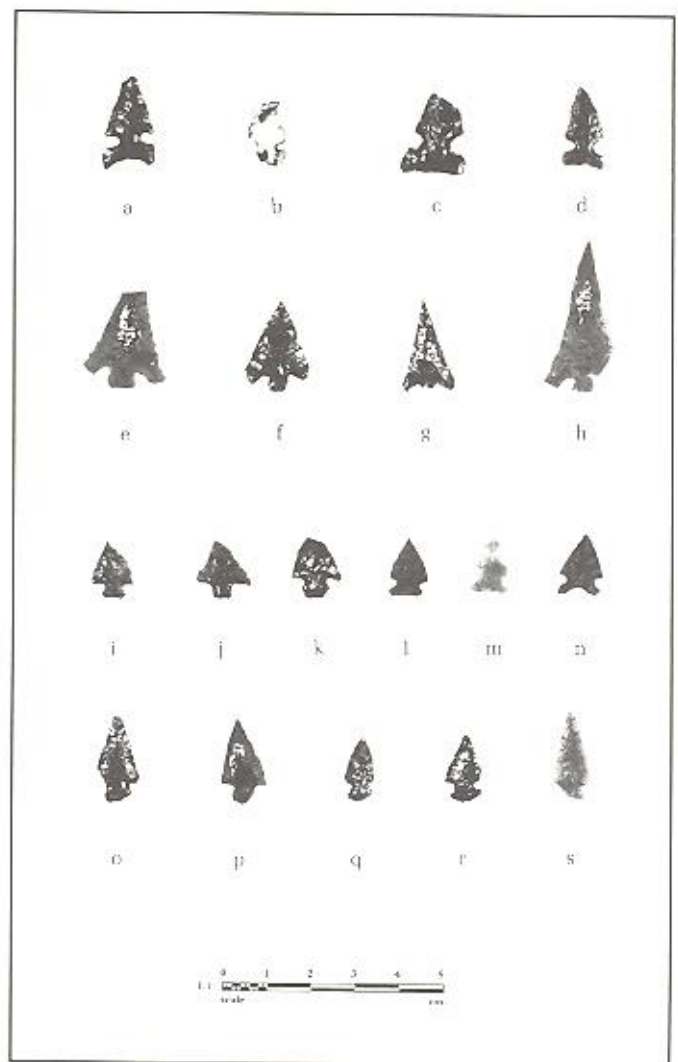


Figure 4. a-d, Desert Side-Notched; e-h, Eastgate Expanding Stem; i-k, Clover Creek Corner-Notched; l-n, Clover Creek Side-Notched; o-r, Rose Spring Side-Notched; s, Rose Spring Corner-Notched.

EASTGATE EXPANDING STEM

Figure: 4, e-h

Number of Specimens: 15

Size Ranges: 4.2-1.9 cm long, 2.3-1.25 cm wide, and 0.5-0.3 cm thick.

Description: Projectiles of this class are triangular in outline, ranging from long and narrow isosceles to equilateral forms. Items are corner-notched creating expanding basal elements or, as is the case with a few, resulting in more straight-base items. Most bases are rounded. Blade margins are generally straight though a few have slightly incurvate edges. With most of these specimens, barb and basal terminations are in a line perpendicular to longitudinal axes. Most cross sections are plano-convex, though six are biconvex. Irregular in pattern, pressure flaking is noted on all specimens, with two obsidian items exhibiting fine retouch along blade margins. Basalt is the most common stone (n = 7). Five are obsidian; three, cryptocrystalline. Obsidian hydration of one specimen yielded a date of 1106 A.D. ± 45 years (see Table I). Eastgate Expanding Stem projectiles are common along the Snake River (e.g., Plew

1981: 104; Fig. 21, a-e; Plew and Gould 1987: Fig. 6, a) and mark the most commonly recovered point type at Three Island Crossing (Plew and Gould 1990).

BLISS

Figure: 5, d-j

Number of Specimens: 9

Size Ranges: 3.1-2.2 cm long, 1.6-0.8 cm wide, and 0.9-0.3 cm thick.

Description: Forms are oval in outline with irregularly excurvate margins. All but three have extremely thick cross sections, which are evenly divided between being plano-convex or biconvex. Five are Type B points which are true bipoints; the remaining four are Type A forms with snapped or straight bases. Three of the Type B points have little to no modification on their ventral faces, with one of these being a true uniface. Pressure flaking is irregular in pattern. Seven of the specimens are made of cryptocrystalline, while one is of obsidian, and one is of basalt. Bliss points have a relatively restricted distribution, with most in south central and southwestern Idaho, including Rattlesnake Canyon (Bonnichsen 1964: 28; Fig. 2 q-aa), the Hagerman Fish Hatchery Locality (Pavesic and Meatte 1980: 54-55; Fig. 16, b), 10-GG-1 (Plew 1981: 109; Fig. 21, h-i) and Three Island Crossing (Plew and Gould 1990).

COTTONWOOD TRIANGULAR

Figure: 5, a-c

Number of Specimens: 6

Size Ranges: 3.2 cm long (only one complete specimen was recovered), 1.7-0.9 cm wide, and 9.5-9.2 cm thick.

Description: These are triangular forms, long and narrow in outline. One specimen has a rounded base; all others are straight. Four have straight blade margins, while two exhibit margins which are slightly excurvate. With the exception of one biconvex specimen, all have plano-convex cross sections. These points evidence pressure flaking in an irregular pattern. Five are made of obsidian; one is of basalt. Common throughout the Great Basin (e.g., Aikens 1970: 35; Fig. 18, m-o; Thomas 1983: 179; Fig. 67, p-w), Cottonwood Triangular projectiles have been noted at a few localities along the Snake, including Givens Hot Springs (Boaz 1984: 20; Fig. 4, b), 10-GG-1 (Plew 1981: 102-104; Fig. 20, a-d), 10-EL-215—approximately 5 km upstream from Clover Creek (Plew and Gould 1987: Fig. 6, b)—and Three Island Crossing (Plew and Gould 1990).

ROSE SPRING SIDE-NOTCHED

Figure: 4, o-r

Number of Specimens: 5

Size Ranges: 2.4-1.7 cm long, 1.3-0.9 cm wide, and 0.3-0.2 cm thick.

Description: These points are marked by small narrowly triangular side-notched forms. Blade margins are straight or excurvate, and bases are commonly rounded, though one flat base specimen is included in this class. Notches are relatively shallow and somewhat rounded. Cross sections are either plano-convex, as is the case with three of the specimens, or biconvex, as noted among the remaining two. All

are pressure flaked with evidence of an irregular flaking pattern, though one specimen exhibits collateral flaking on one face. Materials used for the manufacture of these points vary: two of obsidian; two of cryptocrystalline, and one of basalt. These points have a somewhat spotty distribution in southern Idaho with their recovery at Wilson Butte Cave (Gruhn 1961: 66; Pl. 14, k-l) and along the Snake River near Bliss (Plew 1981: 104-106; Fig. 21, f-g) and at Three Island Crossing (Plew and Gould 1990).

ROSE SPRING CORNER-NOTCHED

Figure: 4, s

Number of Specimens: 5

Size Ranges: 2.4-1.7 cm long, 1.3-0.9 cm wide, and 0.3-0.2 cm thick.

Description: These points are similar in outline to the Rose Spring Side-Notched projectiles described above except that these items are corner-notched. These have narrowly triangular outlines, straight to excurvate blade margins, and exhibit irregular pressure flaking patterns. However, these corner-notched forms have only plano-convex cross sections. No tangs are noted on these specimens and bases are straight to slightly expanding. Basal terminations are rounded. Three are made of obsidian, and two are manufactured from basalt. Rose Spring Corner-Notched projectiles are more common in southwestern Idaho than their side-notched counterparts and have been recovered along the Snake at Hagerman (Pavesic and Meatte 1980: 53; Fig. 16, a, c-f, h) and Three Island Crossing (Plew and Gould 1990). One specimen from Clover Creek has been dated 1066 A.D. \pm 64 years by obsidian hydration (see Table I).

CLOVER CREEK SIDE-NOTCHED

Figure: 4, l-n

Number of Specimens: 9

Size Ranges: 1.6-1.1 cm long, 1.3-0.8 cm wide, and 0.3-0.2 cm thick.

Description: This class of projectiles is marked by extremely small triangular side-notched points. Though side-notched, these are not simply reworked Rose Spring or Desert side-notched forms. Hafting elements, created by side-notching, are extremely delicate. Basal margins are slightly concave, flat or slightly rounded. Notches, as well as lateral basal terminations, are rounded. Blade element margins are slightly excurvate to straight, with the clear majority falling into the former category. One specimen has a slight central basal notch. All items exhibit pressure flaking in an irregular pattern, and cross sections are plano-convex on all points in this class. Obsidian is the most common stone used for Clover Creek Side-Notched points with six of the specimens being of this material. Three are made of cryptocrystalline, and one is of basalt. Obsidian hydration of one of these points yielded a date of 1151 A.D. \pm 23 years (see Table I). This type class has not been clearly identified in the area though one Small Triangular Side-Notched point from Three Island Crossing certainly would be included in this category (see Plew and Gould 1990).

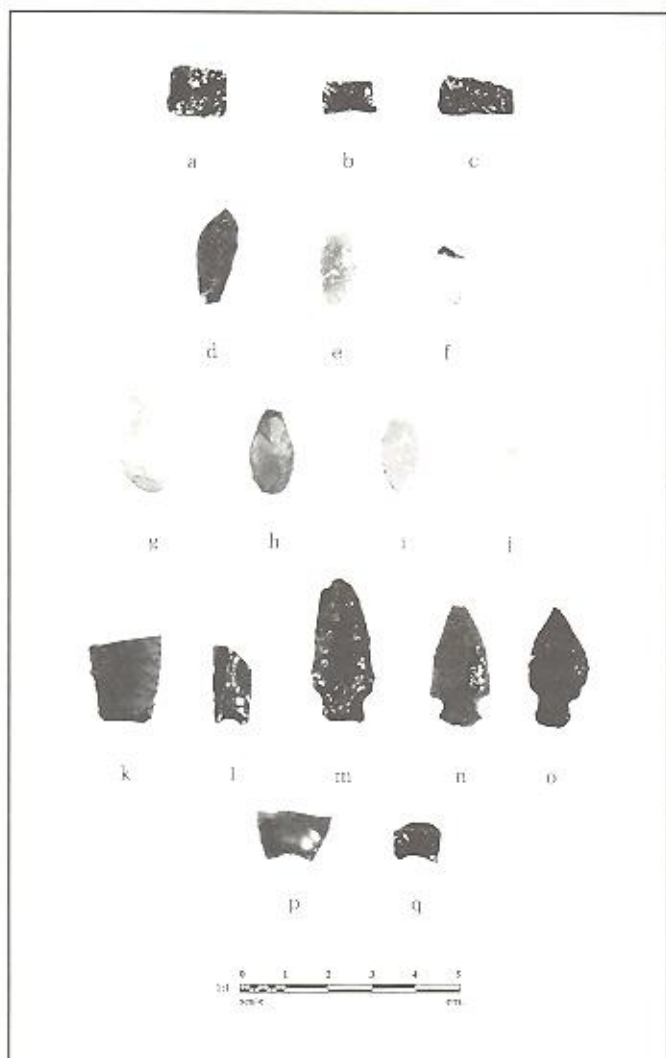


Figure 5. a-c, Cottonwood Triangular; d-f, Type A Bliss; g-j, Type B Bliss; Concave Base, p-q; Large Shouldered, k; Large Corner-Notched, m-o.

CLOVER CREEK CORNER-NOTCHED

Figure: 4, i-n

Number of Specimens: 6

Size Ranges: 1.9-1.4 cm long, 1.5-0.7 cm wide, and 0.35-0.3 cm thick.

Description: These projectiles are equilateral to narrowly triangular in outline and exhibit corner-notches. In fact, the corners are essentially removed on these points. Blade margins are straight to slightly excurvate, and basal margins are straight to rounded. Notching is quite deep and no tangs are noted on these nearly shouldered points. Blade elements terminate with sharply pointed or slightly rounded corners. Bases are most commonly straight, but can be slightly expanding. Five of the points are made of obsidian. Only one point is made of cryptocrystalline. Obsidian hydration of two specimens yielded dates of 1013 A.D. \pm 36 years and 1187 A.D. \pm 31 years (see Table I). An irregular pressure flaking pattern is noted on all specimens. Though points of this form have not been reported from sites along the Snake, they resemble Camas Creek Corner-Notched points from the Owyhee Uplands (Plew 1980: 40-42; Fig. 5, f-h).

CONCAVE BASE

Figure: 5, p-q

Number of Specimens: 4

Size Ranges: (All specimens are basal fragments; no length measurements are available) 2.0-1.1 cm wide and 0.6-0.4 cm thick.

Description: All specimens are fragments with tips broken off. Exact outline is unknown; however, these points may be willow leaf forms, as suggested by portions of intact midsections. Bases are concave, created by the removal of a number of longitudinally oriented flakes. All have relatively thick cross-sections, which for the most part are plano-convex, though one is biconvex. Midsection blade margins are excurvate to straight, the latter being noted on what appear to be parallel-sided specimens. Pressure flaking pattern is irregular. Half of the specimens are made of obsidian; the other half, cryptocrystalline. Only fragments of this type have been recovered along the Snake at Three Island Crossing (Plew and Gould 1990).

LARGE SHOULDERED

Figure: 5, k

Number of Specimens: 3

Size Ranges: 3.9-3.2 cm long, 1.7-1.6 cm wide, and 0.6-0.5 cm thick.

Description: These points are large, stemmed and have somewhat oval outlines of the blade element. Bases are straight to slightly expanding, and blade margins are excurvate. Two of these points have serrated edges, and ventral faces on two specimens exhibit modification only along margins. Cross-sections are thick and plano-convex. Two are made of basalt, while one has been manufactured from obsidian. Pressure flaking is irregular. Bases are rounded on two specimens and flat on one. These appear to be akin to the Shouldered Straight Base form recovered at Three Island Crossing (see Plew and Gould 1990), but no other comparable specimens have been recorded in southern Idaho.

LARGE CORNER-NOTCHED

Figure: 5, m-o

Number of Specimens: 2

Size Ranges: 2.9 cm long (one specimen has a snapped base), 2.3-1.8 cm wide, and 0.6-0.45 cm thick.

Description: These projectiles are large, thick points with triangular outlines. Blade margins are relatively straight; and the base on one is slightly expanding and flat, while on the other it has been snapped off. Corner notching is deep and has produced blade terminations perpendicular to longitudinal axis. Flaking is in an irregular pattern and appears to be a combination of percussion and pressure. Both are made of obsidian. One has a biconvex cross-section; the other is plano-convex. No comparable specimens of this type have been reported in the region.

CONCAVE BASE TRIANGULAR

Number of Specimens: 2

Size Ranges: 2.5-1.7 cm long, 1.2-1.1 cm wide, and 0.4-0.3 cm thick.

Description: Both are narrowly triangular with concave bases and excurvate blade margins. The smaller of the two appears to have been broken and reworked, producing a twist in the blade. This specimen has an irregular pattern of pressure flaking, while one face on the other exhibits parallel-oblique pressure flaking. One is made of obsidian. The other is manufactured from cryptocrystalline. Both have plano-convex cross sections. These are similar in form though larger than the Concave Base Triangular point recovered at Three Island Crossing (Plew and Gould 1990). Unlike the Three Island specimen, these do not appear to be variants of the Cottonwood Triangular forms reported there or above here.

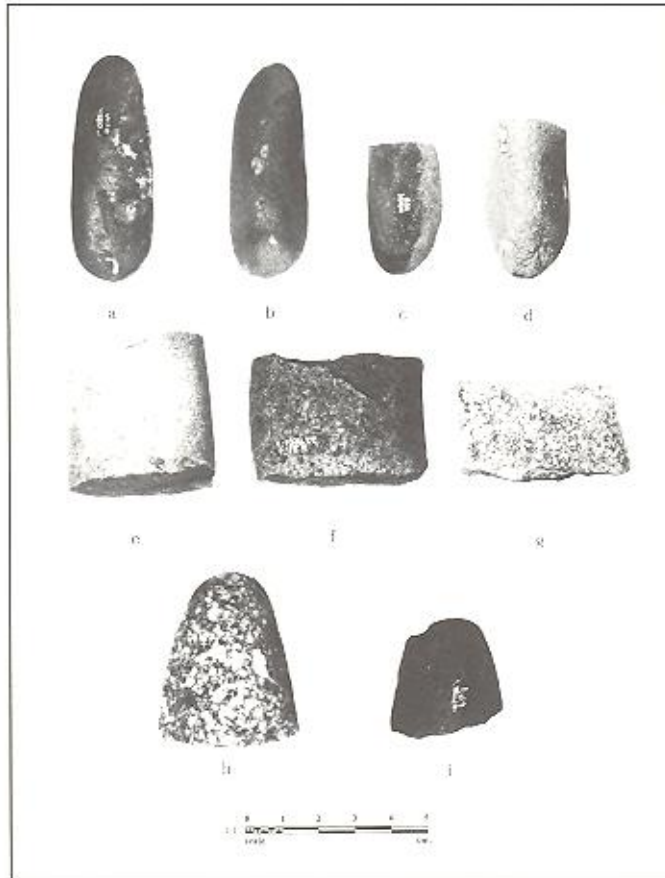


Figure 6. a-d, Hammerstones; e-g, Mano Fragments; h-i, Pestle Fragments.

SHALLOWLY SIDE-NOTCHED

Number of Specimens: 2

Size Ranges: greater than 2.2 cm long (both have broken tips), 1.3-1.2 cm wide, and 0.3-0.25 cm thick.

Description: Both specimens are narrowly triangular forms which were manufactured from relatively thin flakes and shallowly side-notched. Margins are straight and bases are flat or very slightly concave. Cross sections are plano-convex. Pressure flaking is in an irregular pattern. Both are made of basalt. These projectiles achieve their greatest width at the bases, which are only slightly wider than at blade element terminations. No comparable specimens have been reported from southwestern Idaho, though a few similar examples have been referred to as Swift

Current Fish-Tailed in the southeastern portion of the state (see Reed 1985: 41; Type Group 7, Specimen numbers 171, 219 and 220).

SMALL CORNER-NOTCHED

Number of Specimens: 1

Size: 1.6 cm long, 1.25 cm wide, 0.3 cm thick.

Description: This small projectile is triangular with deep corner notches and a slightly concave base. The deep and rounded character of the notches made the projectile look as if it is an extremely small version of an Elko Corner-Notched projectile (e.g., Plew 1986: 56-57; Fig. 9, a-i). It is made of cryptocrystalline and has a plano-convex cross section. An irregular pattern of pressure-flaking is evidenced. No similarly sized projectiles of this form have been reported in the region.

ASYMMETRICAL CORNER-NOTCHED

Number of Specimens: 1

Size: 2.3 cm long, 1.4 cm wide, and 0.2 cm thick.

Description: This is a small projectile with a somewhat oval outline and corner notches. It was manufactured from a thin flake by pressure flaking only along the tool's margins. Blade margins are excurvate, and the base is straight and flat. When the point is oriented with the flat base straight on a line perpendicular to the observer the projectile tip and midsection curve off the side. The cross section is plano-convex. The object is manufactured from obsidian. No comparable specimens have been noted in the regional literature.

NARROW SIDE-NOTCHED

Number of Specimens: 1

Size: greater than 1.7 cm long (tip is broken), 0.8 cm wide, and 0.3 cm thick.

Description: This is an extremely narrow, parallel-sided point. The outline is uncertain as the tip of the specimen has been broken off. Side-notches are extremely shallow, almost to the point of being indistinguishable. Base is flat and margins are straight. Cross-section is biconvex. Obsidian was used as the medium of manufacture. This point may represent an extremely battered Rose Spring Side-Notched form described above, and the narrow nature of this specimen may mark its preparation for use as a drill. However, this cannot be clearly established. The object was pressure flaked in an irregular pattern, and no comparable specimens have been noted.

LARGE STEMMED

Number of Specimens: 1

Size: greater than 2.4 cm long, probably greater than 2.0 cm wide (only the base was recovered), and 0.5 cm thick.

Description: Since only the base of the specimen was recovered, the outline of the complete point is uncertain. Blade margins, from the base toward the tip, extend outward from the longitudinal axis and are straight. Base is flat. The cross-section is plano-convex. This basalt object was pressure flaked in an irregular pattern. No comparable specimens are

determinable due to the fragmentary nature of the specimen.

LARGE BASAL-NOTCHED

Number of Specimens: 1

Size: Substantially greater than 2.5 cm long, 2.5 cm wide (only a fragment was found), and 0.7 cm thick.

Description: Specimen is an extremely large basal-notched projectile fragment. Cross-section is plano-convex on this obsidian item, which has been pressure flaked in an irregular pattern. Comparable types are unknown.

ABERRANT SIDE-NOTCHED

Number of Specimens: 1

Size: 1.7 cm long, 1.45 cm wide, and 0.45 cm thick.

Description: The outline of this projectile is best characterized as irregular. One side of the longitudinal axis could be called triangular and side-notched. On the other, however, it is slightly corner-notched and has a deep squared section removed from the blade area. The cross-section is plano-convex, and this obsidian object evidences an irregular pattern of pressure flaking.

FRAGMENTS

Number of Specimens: 32 (23 tips and 9 midsections)

Description: All appear to be fragments of small triangular projectile points. Of the 23 tips recovered, 10 are basalt, 9 are obsidian, and 4 are cryptocrystalline. Among the midsections, obsidian is noted with 4 of the specimens; cryptocrystalline, 3; and basalt, 2.

DOMESTIC EQUIPMENT

Pottery

Figure: 9, a-c

Number of Specimens: 310

Description: Pottery is typical of materials commonly referred to as Shoshoni Ware. Exterior color ranges from tan to light brown, with core color ranging from black to reddish brown. Sand and mica are common tempering agents. Many specimens are incompletely oxidized. Core texture ranges from medium to coarse with a high degree of friability. Rim forms are straight and bases are flat bottomed. Surface finish is relatively smooth, though some sherds from the Delisio excavation are incised. Sherds are extremely small and provide no basis for determination of vessel form.

Mortars

Number of Specimens: 4

Description: Basin mortars having small grinding depressions measuring c. 5-10 cm in diameter. The single complete specimen is 23 x 16 cm. A deep hopper mortar basin fragment measures 22.0 x 13.5 cm.

Pestle Fragments

Figure: 6, h-i

Number of Specimens: 8

Description: Five midsections which are circular to triangular in cross section range in size from 12.2-4.2 cm long to 5.8-2.1 cm in diameter. Specimens exhibit wear modification on a single lateral margin. The

three remaining fragments are pecked on proximal or distal margins or both. Sizes range from 7.7-4.1 cm long to 7.4-2.2 cm wide. Items are manufactured from quartzite river cobbles.

Manos

Figure: 9, e-g

Number of Specimens: 3

Description: Specimens are fragmentary, appear oval in outline and relatively flat with modifications on dorsal/ventral surfaces and margins. Manos are from quartzite cobbles.

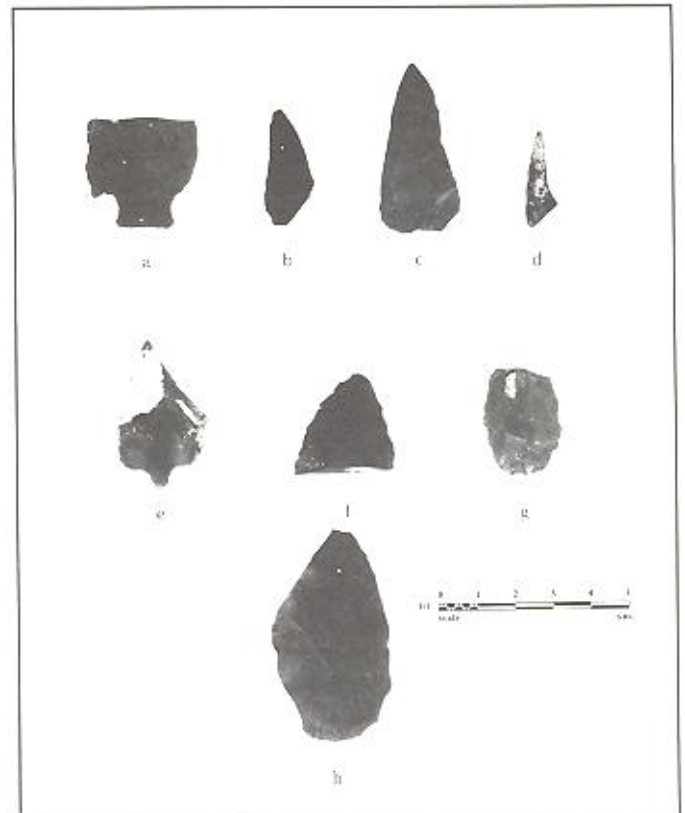


Figure 7. a-e, Knives; f-h, Scrapers.

GENERAL UTILITY TOOLS

Hammerstones

Figure: 6, a-e

Number of Specimens: 13

Description: Small quartzite cobbles ranging in size from 10.0-5.0 cm long, 7.6-2.7 cm wide, and 2.7-1.4 cm thick. All specimens exhibit battering of the proximal or distal ends or both.

Modified Flakes

Number of Specimens: 44

Description: Flakes exhibiting minor retouch which in some instances may be manufacturing related. Size range is highly variable though most modified flakes are larger reduction or thinning flakes.

Biface Fragments

Number of Specimens: 33

Description: Bifacially modified ovate to triangular forms having plano-convex or biconvex cross sections. Items are irregularly broken and produced by

**TABLE I
CLOVER CREEK OBSIDIAN HYDRATION AND SOURCING DATA¹**

Type	Clover Creek Corner-Notch	Clover Creek Corner-Notch	Clover Creek Side-Notched	Rose Spring Corner-Notch	Eastgate Expanding Stem
Cat. No.	252	289	318	662	704
Source	Hudson Ridge Ignim.	Hudson Ridge Ignim.	Hudson Ridge Ignim.	Timer-Squaw Butte	Hudson Ridge Ignim.
Na ₂ O	3.32	3.22	3.28	4.32	3.36
K ₂ O	5.36	5.63	5.35	4.54	5.61
Fe ₂ O ₃ T	2.40	2.48	2.38	0.53	2.31
CaO	0.60	0.66	0.67	0.65	0.84
MgO	0.08	0.08	0.09	0.04	0.09
Hydration Rim	3.07 ± 0.06	2.78 ± 0.05	2.85 ± 0.04	1.52 ± 0.05	2.92 ± 0.07
Date and Range	1013 AD ± 36 yrs	1187 AD ± 31 yrs	1151 AD ± 23 yrs	1068 AD ± 64 yrs	1106 AD ± 45 yrs

percussion. There is little evidence of edge retouch. Primary and lake scars are visible over most surfaces. Specimens are largely fragmentary. Most specimens are made of cryptocrystalline or basalt.

Knives

Figure: 7, a-e

Number of Specimens: 11

Description: Large thin bifaces exhibiting considerable secondary edge modification. Specimens are relatively narrow with lengths two times greater than maximum widths. All items are biconvex. A single complete specimen is triangular with an expanding

base measuring 7.1 x 3.5 x 1.0 cm. A second relatively complete specimen is an expanding stemmed knife with a single basal notch. This item measures 4.3 x 1.8 x 0.6 cm. One additionally complete specimen is a willow leaf form which is extremely narrow and appears to have an intentionally blunted base. Three midsections and five end or tip fragments were recovered. Six specimens are basalt, and 5 are cryptocrystalline.

Cobble Choppers

Figure: 8, g-h

Number of Specimens: 5

Description: Large cobbles having two or more large flakes removed from a single margin. All items are quartzite with a size range of 15.5-8.7 cm long, 12.0-6.0 cm wide, and 5.9-2.9 cm thick.

FABRICATION AND PROCESSING TOOLS

Cores

Figure: 8, a-f

Number of Specimens: 50

Description: Cores are evenly distributed between conically shaped (N = 25) specimens and those which are irregularly shaped (N = 25). Size is highly variable though most specimens average 5-10 cm in diameter. Forty-one are basalt, six cryptocrystalline, and one, obsidian.

Scrapers

Figure: 7, f-h

Number of Specimens: 11

Description: Specimens are manufactured from plano-convex reduction flakes and characterized by secondary edge retouch. Seven specimens are combination end and side scrapers, while four are end scrapers. Specimens range from 6.7-2.5 cm long, 5.4-2.4 cm wide, and 3.0-0.8 cm thick. Thirteen specimens are basalt, and one is made of cryptocrystalline.

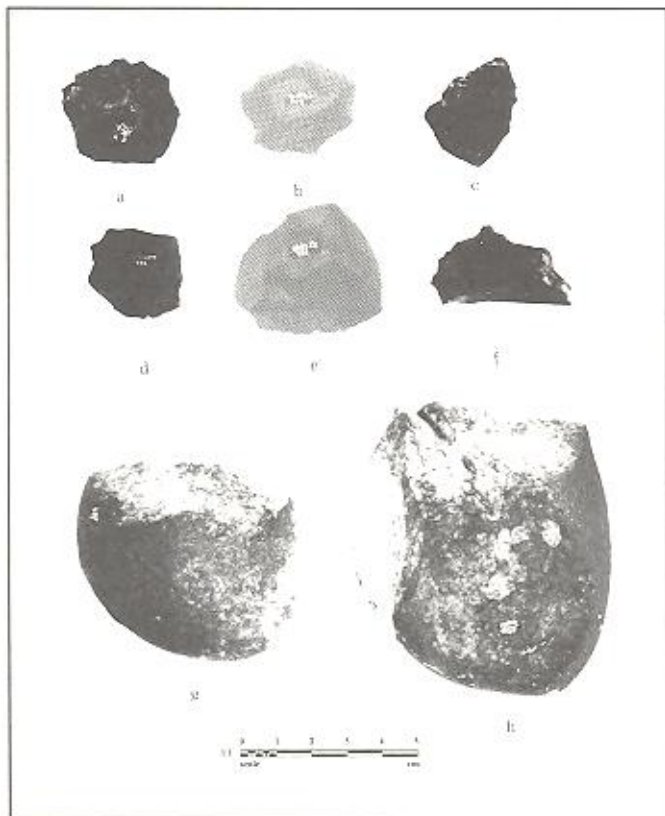


Figure 8. a-f, Cores; g-h, Cobble Choppers.

Drills

Number of Specimens: 1

Description: An obsidian drill tip measuring 1.9 cm long, 0.8 cm wide, and 0.3 cm thick. The specimen has a biconvex cross section.

Bone Awl Fragment

Figure: 9, g

Number of Specimens: 1

Description: Bone awl tip measuring 2.2 x 1.9 cm. The specimen is well rounded and fire-hardened.

ORNAMENTAL ITEMS

Tubular Bone Beads

Number of Specimens: 4

Description: Beads are cylindrical and range from 2.3-0.3 cm long and 0.5-0.3 cm in diameter with 1-2 mm diameter holes. All specimens exhibit some degree of polish.

Bone Disk Beads

Figure: 9, i

Number of Specimens: 2

Description: Flat disk shaped beads measuring 7-6 mm across and having hole diameters of approximately 2 mm.

Shell Disk Beads

Figure: 9, h

Number of Specimens: 2

Description: Flat to slightly curving disk beads. The specimens measure approximately 7-6 mm across with drill holes of 2 mm.

Incised Dentallium Bead

Figure:

Number of Specimens: 1

Description: Incised dentallium bead measuring 1.3 cm long and 0.3 cm in diameter. The design consists of lines incised around the surface of the shell to a diagonal. One element extends from the uppermost portion of the shell and consists of five lines bending toward a diagonal. The second is incised near the mid-point of the item and consists of six lines bending to a diagonal.

MISCELLANEOUS ITEMS

Fired Clay Fragments

Number of Specimens: 5

Description: Five small fired clay fragments.

Drilled and Polished Bone Fragment

Figure: 9, f

Number of Specimens: 1

Description: A small flat piece of bone polished on the ventral surface with thirteen incised depressions on the dorsal surface. The latter appear to have been placed in rows. The specimen which measures 1.8 cm long, 1.1 cm wide, and 0.2 cm thick and is incomplete.

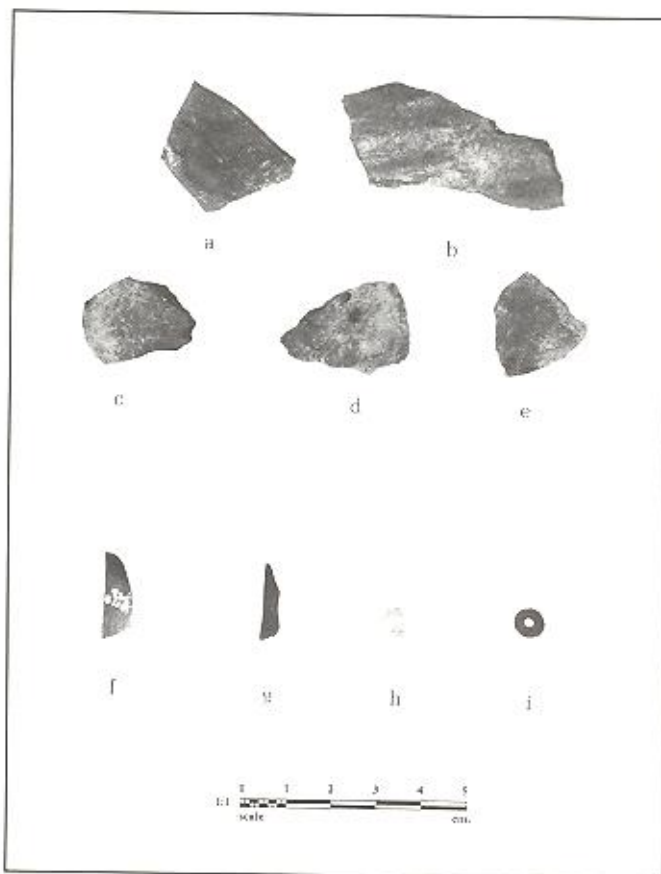


Figure 9. a-e, Pottery; f-g, Bone Awls; h, Shell Bead; i, Bone Bead.

CONCLUSIONS

The 1988 excavations at Clover Creek address some but not all of our research objectives. The lack of feature data is disappointing since earlier excavations had reportedly encountered prehistoric house floors. The fact that we did not encounter any features is due to two possible factors. First, feature bearing deposits may have been destroyed by the intensive pothunting activity evidenced at the site. Secondly, there is a high probability that our work focused on the margin of the habitation area where certain habitation features are perhaps less likely to be located. Indeed, our excavations abutted the major excavation area of the previous investigators. To some degree, it seems likely that both factors account for our lack of feature data. This lack of data, along with the disturbed nature of the site, limits our ability to discern site function. It does appear, however, based upon our excavations, that a portion of the site was an early stage manufacturing locality. This is based upon the recovery of 32,303 flakes of lithic debris consisting of numerous cortex and large thinning flakes. The relative abundance of cores and unfinished bifaces, constituting 15.8% of the assemblage, also supports this interpretation.

The site chronology is established by five hydration readings indicating the site to have been occupied between A.D. 1013 \pm 36 years and A.D. 1187 \pm 31 years. The use of the locality is placed within the Late Archaic and is contemporary with occupations at 10-GG-1 (Plew 1981), Hagerman (Pavesic and Meatte 1980), and Three Island Crossing (Plew and Gould 1990). Establishment

of an area chronology is an important preliminary step in determining the range of variation in site function. It further indicates the relatively extensive use of the riverine environment within the last 1,000 years.

Though some projectile points appear to occur commonly along the Middle Snake River, including the small corner- and side-notched points we have defined as Clover Creek Corner- and Side-Notched, most projectiles fall within the range of forms from other Snake River localities and sites throughout the Northern Great Basin. Further, the ceramic assemblage, while documenting surface treatment which includes incision and punctuation, is within the range of Southern Idaho Plain and Shoshoni Ware (Plew 1979; Plew and Gould 1990; Touhy 1956). Finally, we recorded no features or other material culture items suggestive of the Fremont culture (cf Butler 1982).

The range and variation in the material culture fits well within a pattern noted at other sites along the Snake River (see Plew 1988). This pattern is one of large numbers of domestic items, dominated by pottery, and a relatively high occurrence of projectile points. These have been documented at fishing locals near Bliss (10-GG-1 and 10-TF-352; Plew 1981) and Three Island Crossing (Plew and Gould 1990). A similar pattern is

documented at Clover Creek, though it is important to note that only a very few fish remains were recovered. While the faunal evidence for sites along the river varies between an apparent emphasis on fish, as is the case at Three Island Crossing (Plew and Gould 1990), to a possible emphasis on game, as found at Clover Creek or the occurrence of both fish and game remains, as noted at the Bliss sites (Plew 1981) there is a high-degree of consistency in the material assemblages.

Our excavations have determined that Clover Creek was probably not a major fishing locality and that the site was not occupied by Fremont peoples as suggested by Butler (1982). The site was variously occupied during the period from c. A.D. 1013 to A.D. 1187. During this interval, a primary activity was early stage lithic reduction. We urge caution, however, as our interpretation is based upon data acquired from an area peripheral to the apparent habitation area excavated by Delisio. Hence, a greater range of activities may characterize the site. Analysis of the Delisio collection may contribute to our understanding of the greater range of activities at Clover Creek. The 1988 excavations at Clover Creek provide information on artifactual variability which should be useful in further delimiting the range of Late Archaic riverine settlements.

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10-EL-22 — ELEVATION

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140
Scrapers (10)		4	4	1										1
Hammerstones (11)		4	2	3		1	1							
Cores (44)	4	14	11	3	6	3	1		2					
Knife Fragments (10)		3	1	2	1	4								
Biface Knife (1)					1									
Biface Fragments (33)	4	5	7	6	5	1	2		2				1	
Modified Flake (20)	4	1	4	1	2	4	3	1						
Mano Fragments (3)		1	1				1							
Chopper (5)		1		1	2	1								
Pestle Fragments (6)		3	1		2									
Drilled Stone Frag (1)		1												
Drilled Stone (1)		1												
Bone Perforator Tip (1)				1										
Charred & Polished Bone Frag (1)								1						
Worked Bone (2)		1						1						
Basin Mortar (5)	1	2	2											
Drill Tip (1)		1												
Shell Bead (2)				1	1									
Incised Bone Bead (1)					1									
Tubular Bone Bead (3)				3										
Bone Bead (2)					1		1							
Bone Bead Fragment (1)		1												
Potsherds (250)	22	68	30	54	23	31	18	4						
Misc. Potsherds (31)														
Eastgate (12)	1	1	2	4	2	1	1							
Desert Side-Notch (13)	3	3	2		2	2	1							
Rose Spring Corner-Notch (3)	1					2								
Clover Creek Side-Notch (8)		1	1	2			1	1				1		1
Rose Spring Side-Notch (4)		1	1				1	1						
Clover Creek Corner-Notch (4)			1		1	1		1						
Bliss (9)	1	1		1	3	2	1							
Aberant Side-Notch (1)				1										
Narrow Side-Notch (1)					1									
Shallow Side-Notch (2)					2									
Large Corner-Notch (2)	1			1										
Concave Base (3)				1	1	1								
Large Shouldered (3)				1		1			1					
Small Corner-Notch (1)														1
Asymmetrical Corner-Notch (1)					1									
Concave Base Triangular (2)					1	1								
Large Stemmed (1)		1												
Cottonwood (6)		2		1	2				1					

10-EL-22 — HORIZONTAL PROVENIENCE

	N1-2 W63-65	N2-4 W68-70	N4-6 W58-60	N4-6 W74-76	N4-6 W76-78	N8-10 W54-56	N8-10 W64-66	N8-10 W86-88	N10-12 W70-72
Scrapers (10)			4				1	1	
Hammerstones (11)		1	2	1			2		2
Cores (44)		2	17	1		1	3		2
Knife Fragments (10)		3	3						1
Biface Knife (1)			1						
Biface Fragments (33)		1	5	4	1		4	1	2
Modified Flake (20)		1	3	2	1		2		
Mano Fragments (3)			1						
Chopper (5)		1	3						
Pestle Fragments (6)			2				2		
Drilled Stone Frag (1)									
Drilled Stone (1)			1						
Bone Perforator Tip (1)									1
Charred & Polished Bone Frag (1)									
Worked Bone (2)			1						
Basin Mortar (5)							2		
Drill Tip (1)									
Shell Bead (2)									
Incised Bone Bead (1)			1						
Tubular Bone Bead (3)			2						1
Bone Bead (2)		1					1		
Bone Bead Fragment (1)			1						
Potsherds (250)		37	74	36	11		74		12
Misc. Potsherds (31)									
Fastgate (12)		1	2			1	4		1
Desert Side-Notch (13)	1		2		1		3		4
Rose Spring Corner-Notch (3)				1	1				1
Clover Creek Side-Notch (8)							2	2	4
Rose Spring Side-Notch (4)			1	1	1		1		
Clover Creek Corner-Notch (4)					1		2		
Bliss (9)			2	1					2
Aberant Side-Notch (1)							1		
Narrow Side-Notch (1)									1
Shallow Side-Notch (2)									
Large Corner-Notch (2)			1						
Concave Base (3)									
Large Shouldered (3)				1	1		1		
Small Corner-Notch (1)								1	
Asymetrical Corner-Notch (1)		1							
Concave Base Triangular (2)		1		1					
Large Stemmed (1)									
Cottonwood (6)	1		1						

10-EL-22 — HORIZONTAL PROVENIENCE

	N10-12 W78-80	N14-16 W80-82	N20-22 W38-40	N20-22 W60-61	N22-24 W64-66	N30-32 W38-40	N31-32 W110-112	S1-2 W63-65	S8-10 E5-6	S0-2 E14-15
Scrapers (10)			1			2			1	
Hammerstones (11)						2			1	
Cores (44)	2	6	1		1	8				
Knife Fragments (10)	1				1	1			1	
Bi-face Knife (1)										
Bi-face Fragments (33)	2	1	2			7	1	1	1	
Modified Flake (20)		1		1		3	1	2	2	1
Mano Fragments (3)		1				1				
Chopper (5)										1
Pestle Fragments (6)		1			1					
Drilled Stone Frag (1)			1							
Drilled Stone (1)										
Bone Perforator Tip (1)										
Charred & Polished Bone Frag (1)	1									
Worked Bone (2)	1									
Basin Mortar (5)						2				1
Drill Tip (1)						1				
Shell Bead (2)	2									
Incised Bone Bead (1)										
Tubular Bone Bead (3)										
Bone Bead (2)										
Bone Bead Fragment (1)										
Potsherds (250)	3		1		2					
Misc. Potsherds (31)										
Eastgate (12)		1			1		1			
Desert Side-Notch (13)			1					1		
Rose Spring Corner-Notch (3)										
Clover Creek Side-Notch (8)										
Rose Spring Side-Notch (4)										
Clover Creek Corner-Notch (4)					1					
Bliss (9)	4									
Aberant Side-Notch (1)										
Narrow Side-Notch (1)										
Shallow Side-Notch (2)	2									
Large Corner-Notch (2)									1	
Concave Base (3)		2							1	
Large Shouldered (3)										
Small Corner-Notch (1)										
Asymmetrical Corner-Notch (1)										
Concave Base Triangular (2)										
Large Stemmed (1)					1					
Cottonwood (6)	2				1			1		

SHORT CONTRIBUTIONS

WEST CLOVER CLOVIS

by Gene L. Titmus and James C. Woods
College of Southern Idaho

In September of 1985, while conducting a Bureau of Land Management Fire Rehabilitation Survey (Druss 1985), Mark Luther recovered a Clovis point in the West Clover area of Owyhee County (Figure 1). This specimen is unique in that its morphological and technological attributes strongly suggest that it was resharpened at least one time, and this resharpening probably was accomplished while the point was still secured in its haft.

The point is 7.8 cm. long, 3.0 cm. wide, and 0.9 cm. thick (Table 1). The lateral margins have been polished 2.9 cm. and 2.8 cm. up from the base, and the basal concavity has been polished. The channel flake scar on the primary face (first channel flake removed, Figure 2A) extends 5.3 cm. up the face and is 1.6 cm. wide. The channel flake scar on the secondary face (Figure 2B) is 5.4 cm. long and 1.7 cm. wide. The depth of the basal concavity is 0.5 cm.

The Clovis point was manufactured from a tan-colored, semi-translucent microcrystalline material. The stone is very waxy in appearance and it is possible it has been heat treated although any evidence of a natural surface has been removed in the manufacturing process. It is noted that very few microcrystalline materials are this waxy appearing in their natural state (Ahler 1983; Bleed and Meier 1989; Crabtree and Butler 1965; Flenniken 1974; Purdy 1974; Purdy and Brooks 1971; Rick 1978; Sollberger and Hester 1973). It has also been noted that heat treating was apparently practiced by Clovis peoples (Bonnichsen 1977; Titmus and Woods 1985).

The West Clover Clovis bears distinctive collateral pressure flake scars, a characteristic common to Clovis points found throughout North America. A point of interest about this Clovis is that it was apparently resharpened while still in the haft, or resharpened to the termination of the lateral margin polishing while out of the haft. Resharpening is evidenced by the abrupt outline change which occurs at the end of the margin polishing. Resharpening is indicated by the intersection of the channel flake scars by several collateral flake scars (Figure 2).

Resharpening usually results in a distinctive change in point morphology and can usually be easily identified

on Clovis points. The careful polishing of the basal margins not only assisted in the hafting process, it prevented the easy removal of subsequent pressure flakes from the basal margins. Consequently, if this point were resharpened either in or out of the haft, only the medial and distal margins could be easily altered. As a result, resharpened Clovis points are more triangular in outline. It is of interest to note that many other short Clovis points exhibit this distinctive triangular outline (Wormington 1957:45, 54, 57).

Clovis points are commonly made from microcrystalline or cryptocrystalline materials that are more durable than most obsidians. This durability and the form of these points allowed them to withstand many impacts before major damage occurred. In an impact fracture study using lanceolate projectile points made from obsidian and an atlatl as the delivery system, it took an average of nine impacts per projectile to cause breakage, even when the target materials were selected to force a high incidence of damage (Woods 1987). The replicas used were similar in dimension to Clovis points although they were made of more brittle obsidian implying an even higher survival rate among points made of the tougher silicates. Dulling and minor damage usually occurred on the obsidian points before

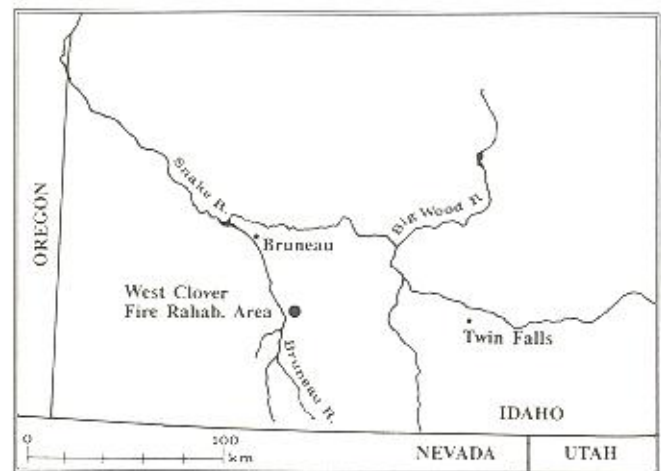


Figure 1. General location map showing the West Clover locale.

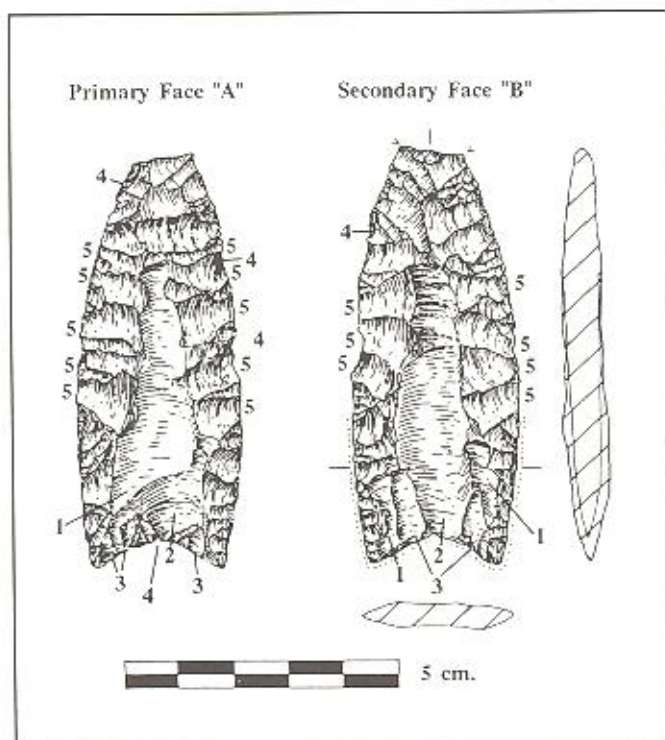


Figure 2. The West Clover Clovis Point. 1, 2, 3 = sequence of channel flake removal; 4 = post-manufacture damage; 5 = resharpening flakes.

they were damaged beyond repair, and minor resharpening would have renewed the effectiveness of the tools. In all instances, resharpening and repair could have easily been accomplished with the point in the haft.

The West Clover Clovis has exceptionally long channel flake scars when compared to other western tradition Clovis points. Most western tradition Clovis points have channel flake scars that extend from thirty percent to fifty percent of the length of the point, with most not exceeding thirty percent of the length. On this specimen, the channel flakes run nearly seventy percent of the projectile length. By observing the angles of the faces in relation to the margins on the basal third of the point, and projecting these angles to the midline, it appears that the point was very convex with a slight medial crest on each face before channel flake removal. On experimental replicas, this cresting enhances channel flake travel and helps control channel flake width (see also Bonnichsen 1977). However, several other variables can affect channel flake length including the relation of the angle of applied force to the channel flake platform, the area of platform contacted by the force medium, platform location, and the force applied.

The exact length of the channel flake scar on the primary face (Figure 2A) is unknown as the original termination of the channel flake has been removed by a resharpening flake. The basal thinning attributes on the secondary face (Figure 2B) indicate a basal thinning sequence as follows: (2) the primary channel flake was removed, (2) a second large flake was then removed adjacent to the first, (3) a number of small flakes were removed to flatten the base for hafting purposes.

The channel flake scar on face B shows that the chan-

nel flake terminated in a small hinge fracture. Because of this, its exact length can be determined. The channel and base preparation flake scars on face A show a flake removal sequence as follows. First, a narrow flake was removed up each face close to the lateral margins. Only a portion of these flake scars remain. These flakes were removed to help isolate the platform used to remove the largest channel flake. Their removal also left a guiding ridge, or high area, at the midline of the proximal end of the point to help guide channel flake travel. Next, the channel flake was removed. Finally, a flake was removed up each ridge left by the removal of the channel flake. These two flakes flattened the basal area for hafting purposes.

The point has been damaged in several places either from use or trampling. The distal end has suffered a small snap break induced by a force directed from face B toward face A. Other areas of damage are indicated in Figure 2.

The West Clover Clovis is a unique specimen in that it is one of a few that retains clear evidence of resharpening. Resharpening is indicated by the intersection of pressure-flake scars and the channel flake scar above the margin polishing and the lack of this feature below the margin polishing. It is also indicated by the triangular morphology of the distal end which starts just above the margin polishing. The apparent resharpening suggests that the West Clover Clovis point had a superior haft juncture that allowed the point to be used often enough to dull before use-breakage could occur.

TABLE 1
Morphological Characteristics of the
West Clover Clovis (in cm.).

Length	7.8
Maximum Width	3.0
Thickness	0.9
Basal Indentation	2.9
Basal Width	5.3
Primary Flute Length	5.3
Primary Flute Width	1.6
Secondary Flute Length	5.4
Secondary Flute Width	1.7
Right Lateral Margin Polish Length	2.9
Left Lateral Margin Polish	2.8
Thickness at Termination of Margin Polish	0.64

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