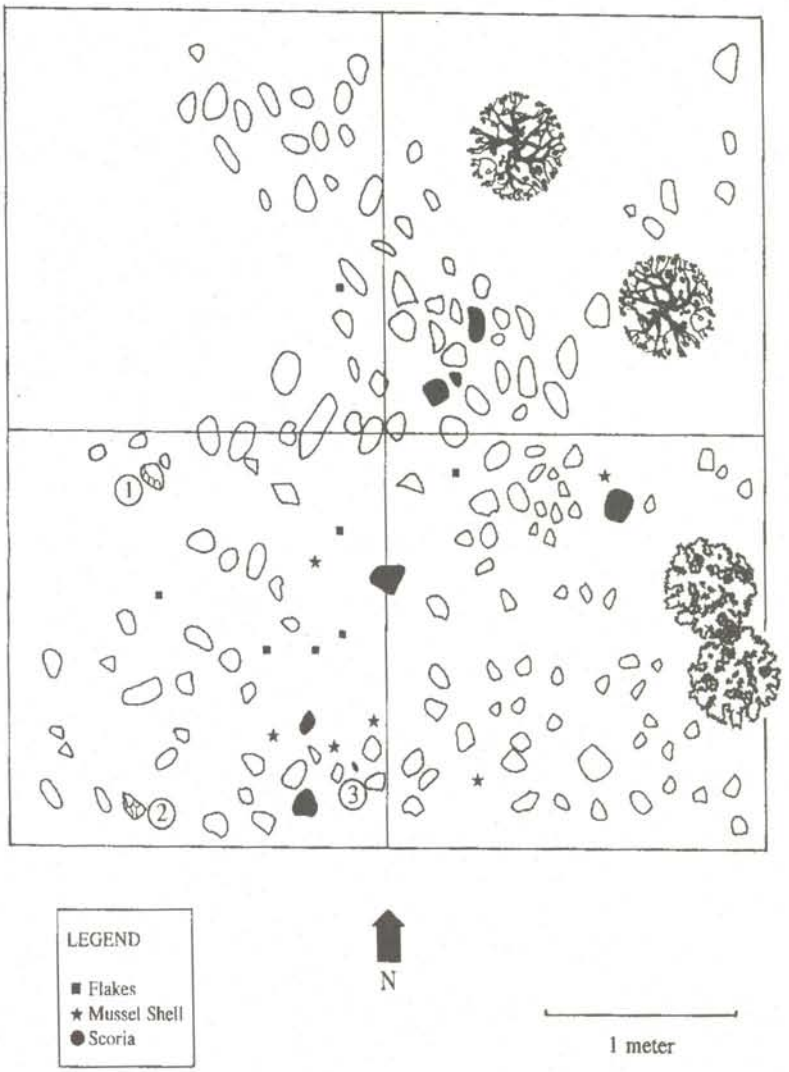
IDAHO ARCHAEOLOGIST

ISSN 0893-2271



Volume 21, Number 1

Volume 21, Number 1
Spring 1998

IDAHO ARCHAEOLOGIST

The ***IDAHO ARCHAEOLOGIST*** is published semi-annually by the Idaho Archaeological Society in cooperation with the College of Social Science and Public Affairs, Boise State University. The ***IDAHO ARCHAEOLOGIST*** is the journal of the Idaho Archaeological Society, a non-profit association of professional and amateur archaeologists, organized under the laws of the State of Idaho. Subscriptions are $12.00 per year and may be obtained by writing the ***IDAHO ARCHAEOLOGIST***, Department of Anthropology, Boise State University, 1910 University Drive, Boise, Idaho 83725.

NOTICE TO AUTHORS: Manuscripts should conform to the style sheet for *American Antiquity*. Manuscripts should be typed double-spaced, with 1 1/2 inch margins, and submitted, if possible on 3.5 inch diskette written in Wordperfect or MS Word. A single hard copy should be submitted. The ***IDAHO ARCHAEOLOGIST*** publishes peer reviewed articles and shorter contributions concerning the archaeology of Idaho and those areas of adjacent states and provinces including the Columbia drainage and the Great Basin. Technical and theoretical papers having a wider audience will be considered. Manuscripts should be addressed to:

Mark G. Plew, Editor
IDAHO ARCHAEOLOGIST
Department of Anthropology
Boise State University
1910 University Drive
Boise, Idaho 83725

CONTENTS

ARTICLES AND REPORTS

SHORT CONTRIBUTIONS

ARTICLES AND REPORTS

ARCHAEOLOGICAL INVESTIGATIONS AT THE BONUS COVE RANCH SITE (10-OE-269), SOUTHWESTERN IDAHO

Robert M. Yohe II and Susan Pengilly Neitzel

INTRODUCTION

In early spring 1993, the Idaho State Historic Preservation Office was contacted with regard to a Corps of Engineer permit application for the construction of a boat ramp on the Snake River below Jackass Butte. The property, owned by Joe Parkinson, was known to contain an archaeological site, 10-OE-269 (Fig. 1). This site is on the Bonus Cove Ranch (formerly Brooks Ranch), approximately 15 km north of the town of Grandview. The project area for the boat ramp was examined by the authors during the summer of 1993, and it was determined that the proposed ramp location was a considerable distance from 10-OE-269 and therefore would have no impact on the site. Originally recorded as a flake scatter in 1971, the site was revisited by Kelly Murphy in 1977 during an archaeological reconnaissance. Murphy reported finding numerous hearths, handstones, cobble tools, mussel shell fragments, and flakes spread out over an area measuring 320 x 15 m. in size on the west bank of the Snake River at this location. During our reexamination in the summer of 1993, we found the concentration of surface artifacts to be closer to 80 x 15 m. We also noted numerous deflated hearths, including one that appeared to contain some remnants of charcoal. The presence of this latter eroded hearth suggested that important paleoenvironmental information in the form of carbonized macrofossils might be recovered from such a feature, and with the passing of another winter these data could be lost forever. With this salvage objective in mind, the permission of the landowner was sought to conduct limited test excavations and formal mapping of the site. Permission was granted, and field studies were conducted on November 16 and 17, 1993.[1]

SITE DESCRIPTION

As briefly discussed above, the site primarily consisted of numerous surface features and artifacts that had been exposed through deflation of the fine sand that comprised the site soil. This material was scattered along the dune-covered top margin of a steep embankment on the west side of the Snake River between Jackass and Black Buttes. The dominant plant species on site were salt brush (*Atriplex* spp.) and sagebrush (*Artemsia tridentata*). The greatest concentration of surface material was found within a narrow strip approximately 40 x 15 m. along the embankment margin (Fig. 2). There were five main clusters of fire-affected quartzite cobbles, many of which were fire-cracked or spalled. They are believed to have represented deflated and scattered hearth features, owing in part to the greater concentrations of artifacts directly in association with them. The largest of these hearth features (Feature 2) was selected to be a sampling unit for micromapping, surface collection, and limited subsurface evaluation (Fig. 3). The more pristine hearth observed in our earlier visit (Feature 5) was located in the southern end of the site. Artifacts and ecofacts noted on the site surface included cobble hammerstones, Bliss projectile points, and at least two species of mollusks represented by shell fragments. Outside of the surface feature areas was only a light scattering of debitage and other artifacts, with a density ≥ 5 artifacts per m^2. Some recent disturbances to the site area included construction of a crude hunting blind in the vicinity of Features 3 and 4, the remnants of which are represented by scattered lumber (see Fig. 2).

FIELD METHODS

A site datum was established and a north/south baseline was emplaced to facilitate site mapping and hand-augering. Significant artifacts were mapped *in situ* prior to collection. Three different methods of subsurface data recovery were utilized at the site: standard hand-excavation, surface scraping, and hand augering. A 1 x 1 m. excavation unit (TU-1) was placed over Feature 5 which was excavated in arbitrary 10-cm levels. All excavated soils were passed through 1/8-inch hardware mesh, and collected artifacts and ecofacts from each level were bagged separately. The deflated condition of Feature 2 led to the adoption of data collection strategy that would maximize recovery. A 5 x 5 m. surface collection unit (SCU-1) was placed over the approximate extent of Feature 2. This unit was quartered and all materials found within were mapped *in situ*. Excavation of the upper 10 cm. of the deflated soils in this feature was initiated in the

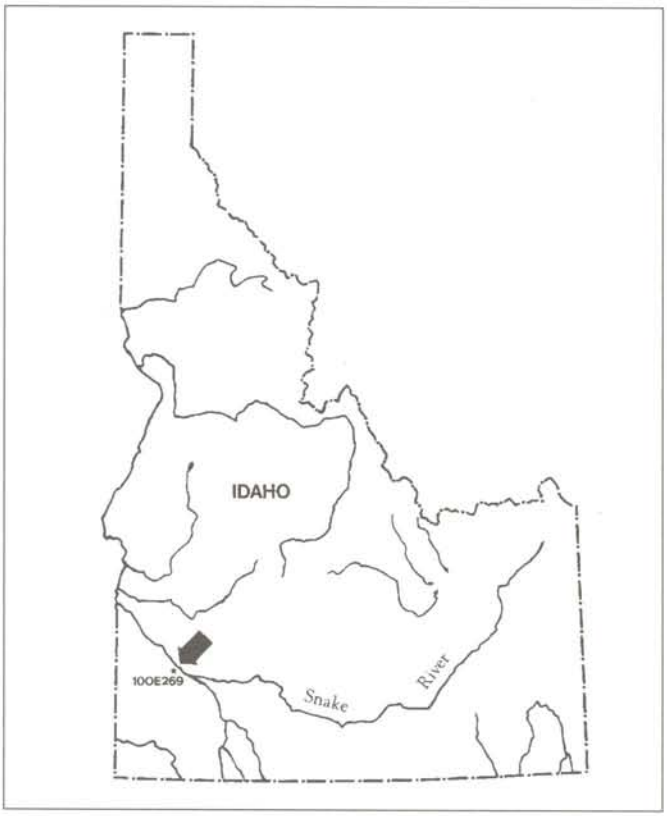


Figure 1. General location of the Bonus Cove Ranch site (10-OE-269).

south half of the unit, and the soil removed was sieved through 1/8-in screen. A series of 10-cm. in diameter auger holes were excavated in 10-cm increments at 10-meter intervals along the north/south baseline, and excavated soils were sieved through 1/8-inch mesh hardware cloth.

RESULTS

The results of the archaeological investigations at Bonus Cove Ranch included an evaluation of collected data, including the reconstructed depositional history of the site, and several specialized studies of artifacts and ecofacts. The assessment of the site deposit, features, artifacts, and faunal remains is described below.

NATURE OF THE CULTURAL DEPOSIT

The augering results supported our initial impression that the occurrence of a subsurface component in the site roughly corresponded with the areal distribution of the five hearth features. Evidence of subsurface material along the baseline was buried in dune sand and was limited to two auger holes at S10/E20 and S20/E20 (Fig. 2) . The presence of clay was shallow in S10/E20 (at 25 cm.) and in S30/E20 (at 10 cm.), and the absence of artifacts in these two test holes suggests limited prehistoric use of this area. The levels at which clay hardpan occurred coincided closely with the elevation at the base of the low spots or blow-outs containing the features in the eastern edge of the site. Artifact recovery (consisting of a small

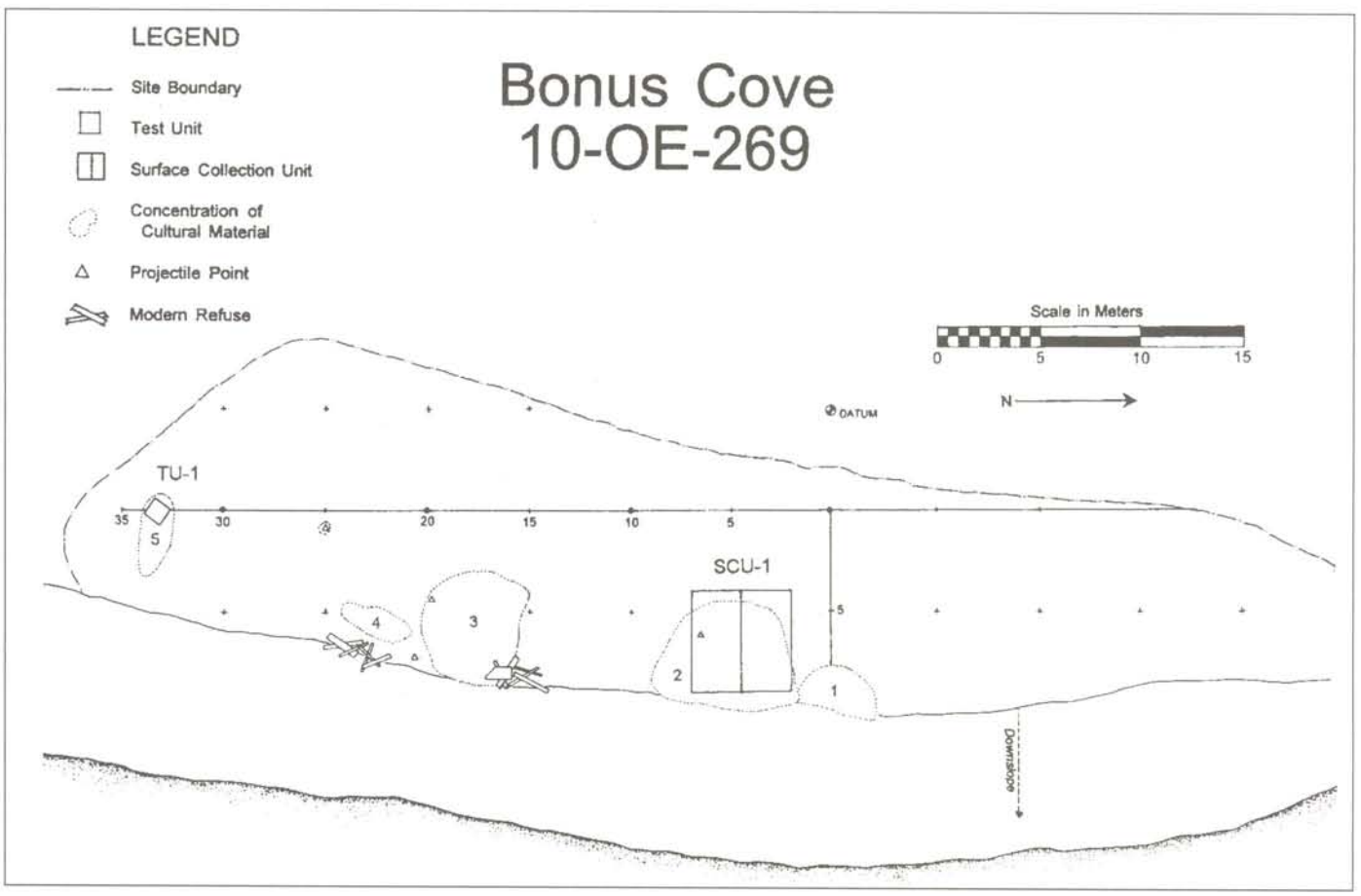


Figure 2. Map of 10-OE-269. Features (concentrations of cultural material) are designated by Numbers 1-5.

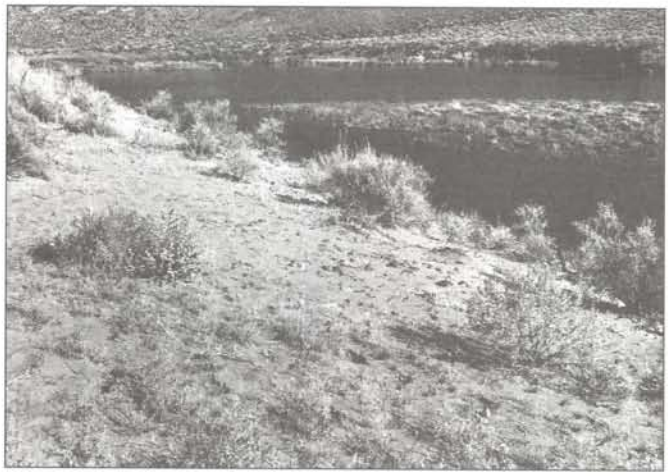


Figure 3. A view northeast toward Feature 2 (center), 10-OE-269.

number of flakes) from the two auger holes suggests a cultural deposit less than 30 cm. in overall thickness in the western, dune-covered portion of the site.

The limited studies at 10-OE-269 suggest that the habitation at the site was concentrated in dune sands close to the river's edge. The shifting of these fine sands over the centuries buried the west-central portion of the site, while vertically displacing the eastern portion of the site closer to the river.

FEATURES

Although there were five recognized features, only two of these were subjected to excavation due to both time and budgetary constraints. As discussed above, Features 2 and 5 were chosen for further investigation, the first for its relatively large size and density of associated artifacts, and the second for its apparent well-preserved state. The detailed description follows.

Feature 2

Feature 2 consisted of an aggregate of fire-fractured quartzite cobbles and burned scoria approximately five meters in diameter mixed with lithic debitage, mussel shell, a basalt bifacial core, a quartzite core tool, and a small Bliss point (Fig. 4). As stated earlier, this feature is interpreted as a scattered hearth. Screening of the surface-scraped soils from the south half of SCU-1 yielded numerous pieces of microdebitage of obsidian, chert, chalcedony, and quartzite, as well as shell, a small amount of pulverized large mammal bone, and several fragments of burned and broken fish bone. Because of the deflated nature of this blow-out area, augering below the surface scrape failed to provide evidence of additional cultural activity below 10 cm. The bulk of the artifacts described below were recovered from this feature.

Feature 5

This feature consisted of a concentration of burned quartzite cobbles and scoria with charcoal and burned sand approximately 90 cm. in diameter. After the excavation of the first 10-cm. level of TU-1, it became obvious that the hearth was of recent origin, complete with unburned wood, and in the next level, a layer of partially burned grass. Although no historic artifacts were found in the screenings, shotgun shell casings were found on the surface in the immediate vicinity, as were the milled lumber fragments that appeared to comprise a crude hunting blind. It was apparent that the modern architects of this hearth scavenged materials from a deflated hearth at the same spot, since numerous fire-affected rocks and artifacts littered the area adjacent to the hearth. Only a small number of flakes were recovered from the two levels that were excavated in TU-1.

ARTIFACT DESCRIPTIONS

Flaked Stone Artifacts

This category comprises the largest number of artifacts, consisting of 284 specimens. This includes five projectile points, one biface, two basalt core choppers, two quartzite hammerstones, and 272 pieces of debitage.

Projectile Points. Four projectile points, all small bi-pointed bifaces, were recovered from the site during the present study (Fig. 5). Typologically, the points fall within the descriptive category of "Bliss points" (Bonnichsen 1964; Plew and Woods 1980). Bliss points are small, bi-pointed and/or lozenge-shaped bifaces common to some riverine sites throughout southwestern Idaho. One of these specimens is from SCU-1, and the others are from

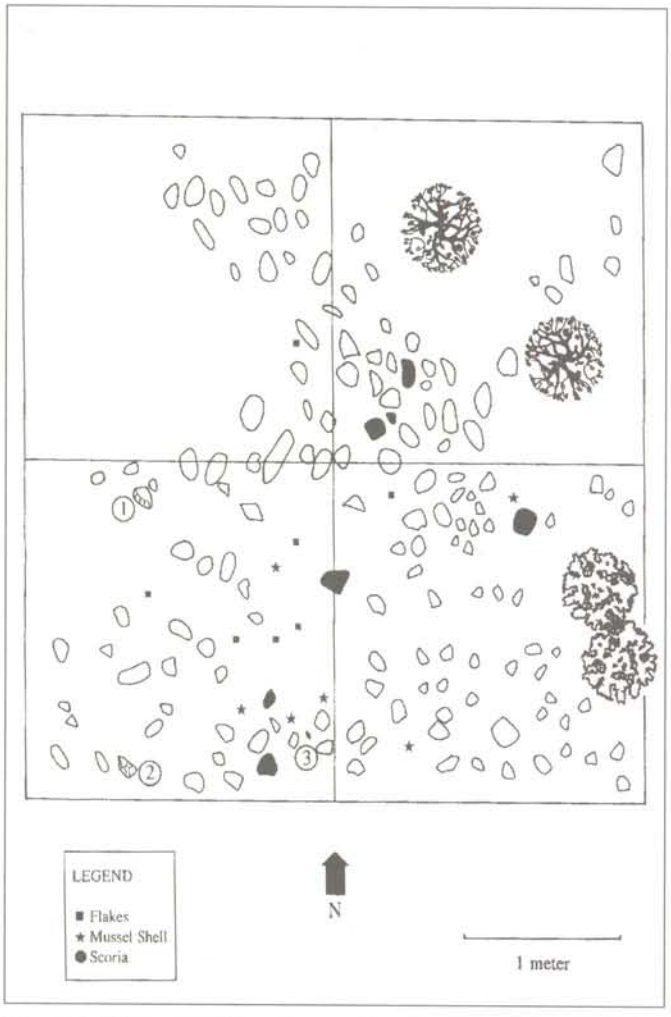


Figure 4. Micromap of Feature 2 within SCU-1. Numbers in circles refer to specific artifacts: (1) basalt chopper (10OE269-30); (2) quartzite core (10OE269-31; (3) Bliss point (10OE269-43).

the southern half of the site. All four Bliss points are made from chert. The metrical attributes of these specimens can be found in Table 1.

An additional projectile point fragment was collected from the surface of 10-OE-269 in 1977 by Kelly Murphy and is currently curated at the Southwestern Repository of the Archaeological Survey of Idaho. However, this artifact's provenience with relation to the site boundaries as redefined by the authors is unknown. The artifact is a midsection of a thin, obsidian pressure-flaked biface suggestive of a larger arrow or dart point. It measures 25.0 x 19.0 x 0.4 mm (Fig. 5).

Bifaces. One chalcedony biface fragment (10OE269-45) was recovered from SCU-1. It appears to be an aborted effort at pressure-flaking a thick flake into a preform, perhaps for a Bliss-type point (Fig. 5). Its metrical attributes are presented in Table 1.

Cores/Core Tools. One core tool and three cores were recovered from the surface of the 10-OE-269, two of which were found in the SE 1/4 of SC-1. A crude, basalt bifacial core tool (10OE269-30) with evident use wear polish on one edge is from SCU-1 (Fig. 6) . Protein residue analysis using cross-over immunoelectrophoresis (CIEP) was undertaken on this artifact to test for the presence of protein residues that may have survived on the worn edge. The results of this analysis (discussed in detail below) were negative. The remaining expedient unidirectional cores are quartzite and chert cobbles with several flake removals and no obvious evidence of use as tools themselves. An example of a unidirectional quartzite core (10OE269-31) is illustrated in Figure 6. The metrical attributes of these artifacts can be found in Table 1.

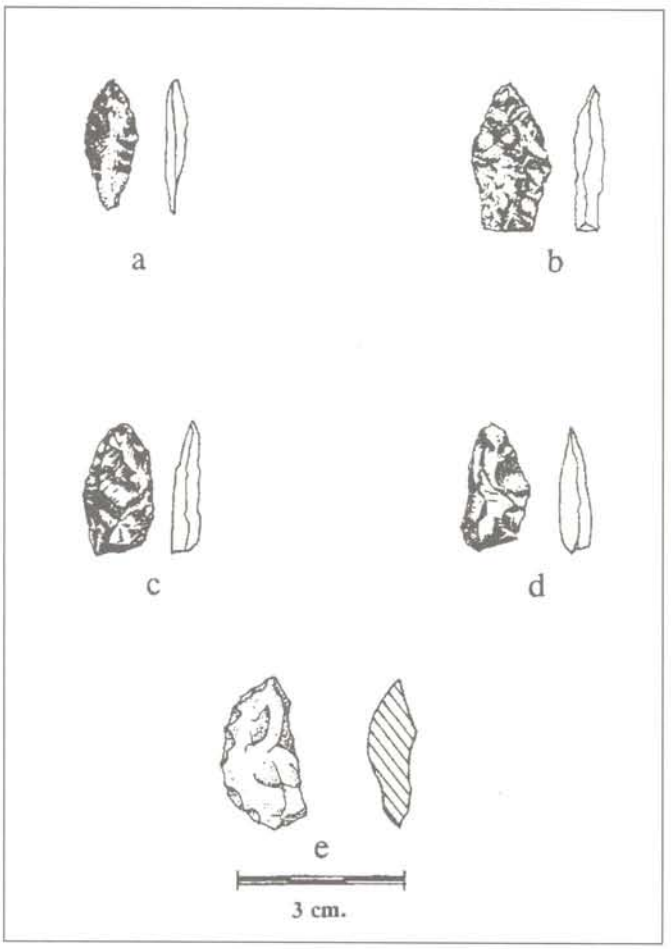


Figure 5. Bliss points and a preform from 10-OE-269. (a) 10OE269-28; (b) 10OE269-29; (c) 10OE269-42; (d) 10OE269-43; (e) 10OE269-45.

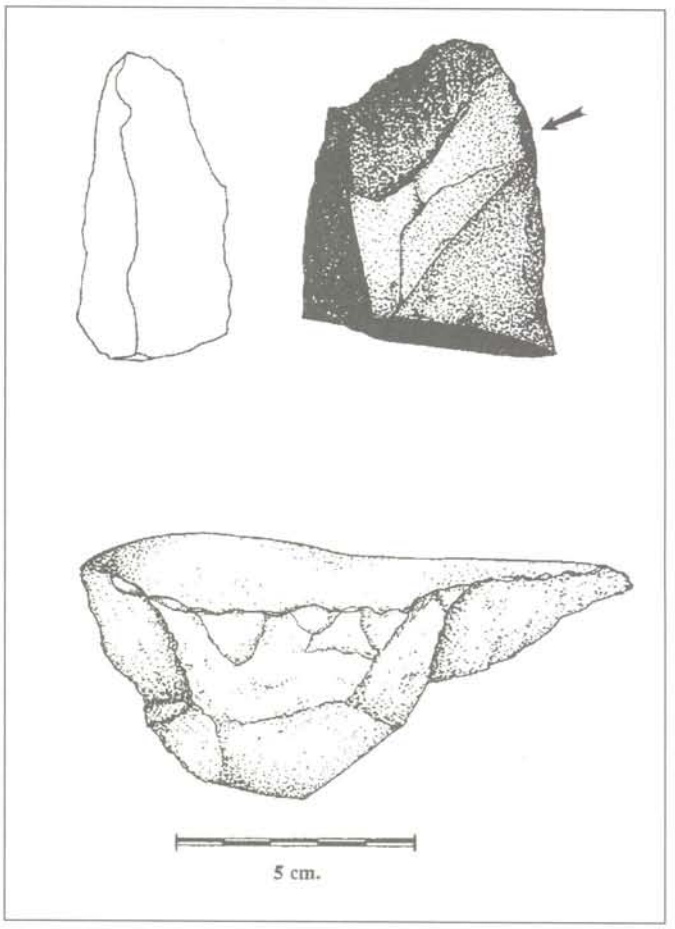


Figure 6. Core tools, top to bottom: Basalt cobble chopper (10OE269-30); quartzite core (10OE269-31). Arrow indicates worn edge on basalt cobble tool.

Hammerstone. A fire-affected quartzite cobble with battering at one end (10OE269-38) was recovered from the surface of Feature 3. It measures 10.6 x 6.8 x 5.6 cm. and weighs 599.5 g.

Debitage. A total of 272 flakes was recovered from 10-OE-269, all but 15 of these from SCU-1 at Feature 2. The results of the analysis of the flakes from SCU-1 are presented in Table 2. The largest percentage (65%) of flakes consist of cryptocrystalline flakes ranging the full spectrum of colors. Using distinct color types as an indicator of separate source materials (cores) for flakes, it is clear that a minimum of 6 separate cores and/or bifaces were reduced at Feature 2 alone. Both biface thinning and non-biface reduction are represented by the flakes, but it is clear from the debitage that both biface reduction and pressure flaking were being employed at Feature 2. The presence of only two cortical cryptocrystalline flakes and the small size of the flake assemblage in general (<2 cm.) suggests the utilization of either small prepared cores or bifaces with minimal primary reduction activities taking place on site. Obsidian was the second most common material type (14%) used for tool manufacturing, with

Table 1
ATTRIBUTES OF FLAKED STONE ARTIFACTS FROM 10-OE-269

Catalog No.	Artifact	Material	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
10OE269-28	Bliss point	chert	24.5*	13.0	5.3	1.7*
10OE269-29	Bliss point	chert	27.3*	14.7	6.4	2.6*
10OE269-41	Bliss point	chert	23.5*	13.2	5.7	1.6*
10OE269-42	Bliss point	chalcedony	24.5	9.5	3.5	0.7
10OE269-30	Core tool	basalt	64.2*	50.7	33.3	112.8
10OE269-31	Core	quartzite	134.3	92.2	48.8	575.9
10OE269-32	Core	quartzite	54.2	48.6	30.1	113.9
10OE269-34	Core	chert	71.5	56.8	33.7	164.9
10OE269-45	Biface	chert	27.9	17.4	8.1	3.0

*Artifact fragmentary. Specific measurement incomplete.

most of the material used apparently coming from small nodules available locally (see Obsidian Sourcing below). Evidence of bipolar reduction includes one split obsidian nodule and three diagnostic bipolar flakes. The obsidian flakes are all small (<1 cm.), which would be consistent with bipolar reduction. Quartzite flakes (n = 33; 12%) were probably produced for expedient cutting tools, although none of the specimens collected show evidence of edge wear. Five very small fine-grained basalt flakes (1.8%) make up the smallest proportion of the debitage assemblage.

The analysis of the flakes provides two important conclusions helpful in the behavioral interpretation of 10-OE-269: (1) Cryptocrystalline reduction appears to have been limited to small, prepared cores and/or bifaces, and (2) obsidian use focused on the bipolar reduction of small nodules of material available in the immediate vicinity. Such behavior would be expected at a short-term occupation site for a highly-mobile hunting and gathering group.

FAUNAL REMAINS

Both invertebrate and vertebrate faunal remains, all thought to be subsistence related in origin, were recovered from SCU-1. Mussel shell was common, with vertebrate remnants far fewer in number and much degraded in condition.

Invertebrate Remains

A total of 57.9 g. of mussel shell fragments were recovered from the excavation of the south half of SCU-1. From this material, two species were identified, *Margaritifera falcata* (MNI = 1) and *Gonidea angulata* (MNI = 3). Mussel shell is common to archaeological sites along the Middle Snake River (Plew 1980; Green 1982; Huntley 1988; Sayer *et al* 1996, 1997) and suggests that freshwater invertebrate exploitation was an adjunct to other riverine resource procurement activities.

Vertebrate Remains

A scant number of vertebrate remains were recovered from the screenings of SCU-1. Among these are 14 cortical bone fragments from a large mammal, and several fragmentary fish centra, several of which are fire-affected. Also recovered were 5 fish otoliths identified as chinook salmon (*Onchorhynchus tshawytscha*). The otoliths, representing five individuals, are from fish weighing approximately 7 kg. (K. Gobalet, personal communication, 1994).

SPECIAL STUDIES

Obsidian Sourcing and Hydration Analysis

Three pieces of obsidian were submitted to Pacific Legacy, Inc. in Aptos, California for x-ray fluorescence

Table 2
DEBITAGE ANALYSIS RESULTS FROM SCU-1, 10-OE-269

Material Type	Bipolar	Biface Thinning	Pressure	Other	TOTALS
Obsidian	3	1	1	34	39
Ignimbrite	—	—	—	2	2
Cryptocrystalline	—	16	25	137	178
Quartzite	—	—	—	33	33
Basalt	—	—	—	5	5
TOTALS	3	17	26	211	257

Table 3
XRF OBSIDIAN SOURCING DATA, 10-OE-269

Sample No.	FE/RI	PB	TH/RI	TB/RI	SR/RI	Y/RI	ZR/RI	NB/RI	Source
269-1	7732.6	26.8± 3.3	24.8± 4.6	207.8± 3.5	49.8± 6.1	25.3± 2.0	132.2± 4.9	12.2± 1.9	Owyhee
269-2	6825.7	24.5± 2.8	29.3± 4.1	222.4± 3.1	3.15± 6.0	27.1± 1.7	118.8± 4.7	11.4± 1.7	Owyhee
269-3	6860.7	24.8± 2.9	26.8± 4.1	200.9± 3.2	28.0± 6.0	29.2± 1.7	113.2± 4.7	12.6± 1.7	Owyhee

sourcing and obsidian hydration measurements. Trace element assessment of the specimens are presented in Table 3. All three obsidian specimens key to the Owyhee/Toy Pass source, which would include all local obsidian such as the redeposited nodules found in the general vicinity of the site. Obsidian hydration values for these same specimens range from 2.5 to 3.3μ. The chronological implications of these readings are not known at this time due to the limited number of radiocarbon-dated sites correlated with the Owyhee/Toy Pass source.

Radiocarbon Analysis

The entire sample of mussel shell from SCU-1 (57.9 g) was submitted for a radiocarbon assessment of the age of 10-OE-269. Invertebrate shell is one of the least desirable organic materials for radiometric C^{14} assessment unless the reservoir effects for a particular study area are known and stable isotope studies of the materials have also been conducted (cf. Taylor 1987). Unfortunately, no other organic material from the site existed in large enough quantities for a standard (non-AMS) radiocarbon study.

The shell sample was submitted to Beta Analytic, Inc. for standard radiometric measurement. The sample produced an age of 3630 ± 70 BP (Beta-75710). The calendric calibrated results at 2 sigma (95% probability) is 1765 to 2175 B.C.

This date seemed earlier than would have been anticipated by the authors, given that Bliss points are generally associated with late period sites (Bonnichsen 1964; Swanson 1965). As noted above, there can be problems with freshwater mollusk dates, especially in the presence of springs that bring up older carbonates from deep in the earth that become incorporated in the construction of the shell (Darden Hood, personal communication, 1994). Shell dates that are too old for their associations were also a problem at Givens Hot Springs (10-OE-1689) (Green 1982), 10-CN-9 and 10-AA-306 (Willig 1989; Sammons and Myler 1994), other riverine habitation sites on the middle Snake River. Bliss points have not been used in the past as temporal indicators, but their appearance in a stratigraphic context at Nahas Cave (Plew 1980) and late period sites such as Rattlesnake Canyon (10-EL-45; Bonnichsen 1964), the Hagerman Fish Hatchery (10-GG-176; Pavesic and Meatte 1980), and Clover Creek (Plew and Gould 1990) suggest their most common usage within the last 1,000 years. Our feeling at present, based on the exclusive presence of Bliss points, is that the site dates to within the last 1,000 years, and that the shell dates are anomalously older than the occupation of the site.

Protein Residue Analysis

Three artifacts, two Bliss points (10OE269-29 and -43) and the basalt core/chopper (10OE269-31), were submitted to the University of Calgary for protein residue analysis. In a study recently conducted by Yohe *et al.* (1995), it was proposed that Bliss points may have served as harpoon and/or fish spearing tips given their occurrence most commonly at sites along the Snake River and the fact that salmonid residue had been detected on two Bliss points from the Rocky Canyon Hot Springs site, Idaho (Newman 1994). Unfortunately, of the 10 Bliss points analysed in the study, none tested positive for fish residues (Yohe *et al.* 1995). The basalt core/chopper had a distinctive worn edge suggesting use, so it, too, was submitted for study to see if it may have been used for animal processing in some way. The specimens were tested against several mammals, trout/salmon, and mollusks, with no positive reactions.

DISCUSSION AND CONCLUSIONS

The evidence assessed from the limited archaeological investigations at the Bonus Cove Ranch site suggest that 10-OE-269 was a small, temporary encampment used for fishing and mussel exploitation during the late prehistoric period. The lack of milling implements, ornaments, and bone tools combined with the presence of one style of projectile point, expedient general processing tools (core tools and flakes), cooking features, and riverine faunal resources (salmon and mussels) suggests both short-term use and narrowly focused subsistence-related activities. The small size of the tertiary debitage and large number of pressure flakes speaks of tool maintenance, limited late-stage biface reduction, and core reduction from small, prepared cryptocrystalline cores, an expected suite of flaked stone activities associated with short-term use by highly-mobile foraging groups.

10-OE-269 has similarities to other small limited-use riverine sites that have been formally investigated along the Middle Snake River (cf. Hauer and Hughes 1997; Huntley 1988; Plew and Sayer 1995; Sayer *et al.* 1996, 1997), but also differs in significant ways. Of the more than 20 prehistoric archaeological sites that have been subjected to subsurface testing between Marsing and Grand View, only 10-OE-269 contains Bliss points. The presence of this point type alone may suggest a special focus to site activities (such as use as a fishing spear [Yohe *et al.* 1995] for salmon procurement). With the exception of the Cromwell site (10-OE-2792; Huntley 1988), all the other sites contain predominantly obsidian debitage followed by cryptocrystalline and other materials; here again, the Bonus Cove Ranch site differs in that chalcedony and chert occurs with a higher frequency than obsidian. Given that all the Bliss points found in direct association with the features (and the majority of known Bliss points in general [Bonnichsen 1964; Plew 1980b,1981]) are made from cryptocrystalline material, it is possible that Bliss points were the predominant projectile points were being manufactured at 10-OE-269.[2] The small amount of obsidian that does occur on site appears to have been derived from small obsidian nodules that would have been locally available. These were reduced by means of bipolar reduction; the resulting small, thin flakes may have been hafted for use as fine cutting implements (i.e., fish cleaning and/or filleting). Admittedly, the testing of this site was limited and the number of artifacts relatively small, but the patterns of the various data sets (which, again, may be the result of sampling bias) seem to suggest the above interpretation.

Although small archaeological sites are frequently overlooked as potentially useful data sets from a scientific standpoint, it is our opinion that in order to gain a more complete understanding of prehistory it is necessary to have information from sites that represents the full range of human activities (cf. Glassow 1985; Sutton and Yohe 1987). With the advent of new technologies and the relatively low cost of many special studies (i.e., XRF analysis of obsidian, obsidian hydration, immunological protein studies, etc.), it is now possible to "squeeze" much more useful data from sites that may have previously been dismissed by investigators. In this light, information from the Bonus Cove Ranch site, though limited in scope, will provide future investigators an example of an ephemeral camp as a point of comparison with similar riverine sites along the Snake River.

NOTES

[1]Although we had intended to return to the site for further investigations the following spring, the site was inadvertently destroyed by the landowner during land leveling for a corral.

[2]The contention that Bliss points were manufactured on site is supported by the breakage pattern of three of the four specimens (bending fractures) and that only the distal ends were recovered (where as the proximal or hafting end would more likely be recovered following discard from breakage in use as a projectile point).

ACKNOWLEDGEMENTS

We thank Joe Parkinson for his interest and graciousness in letting us conduct our project on his ranch. We also thank Mary Anne Davis and Glenda King for their assistance in the field work; Frank Jarrett for cataloguing the artifacts; Sara Pedde and Dana Shuster for the artifact illustrations; Ken Gobalet, Department of Biology, California State University, Bakersfield for identification of the fish remains; Jim Chatters for the specific identification of the mollusk shell; Tom Jackson of Pacific Legacy for the XRF analysis of obsidian from the site. Mary Anne Davis also provided useful comments on the final draft of the initial manuscript for this article.

REFERENCES CITED

Bonnichsen, Robson
1964 The Rattlesnake Canyon Cremation Site, Southwestern Idaho. **Tebiwa** 7(1):28-38.

Glassow, Michael
1985 The Significance of Small Sites to California Archaeology. **Journal of California and Great Basin Anthropology** 7(1):58-66.

Green, Thomas J.
1982 House Form and Variability at Givens Hot Springs, Southwest Idaho. **Idaho Archaeologist** 6(1&2): 33-44.

Hauer, A. Craig, and Lisa Hughes
1997 Description and Analysis of the Material Culture of Site 10-CN-6, Middle Snake River, Idaho.

Huntley, James
1988 An Archaeological Test Excavation at the Cromwell Site (10-OE-2792), the Middle Snake River, Owyhee County, Idaho. **Idaho Archaeologist** 11(2):13-18.

Newman, Margaret
1994 Immunological Analysis of Lithic Artifacts from Rocky Canyon Hotsprings, Idaho. Report on file, USDA Forest Service, Boise National Forest.

Pavesic, Max G., and Daniel S. Meatte
1980 Archaeological Test Excavations at the National Fish Hatchery Locality, Hagerman Valley, Idaho. **Archaeological Reports No. 8**, Boise State University.

Plew, Mark G.
1980a Archaeological Excavations at Big Foot Bar, Snake River Birds of Prey Natural Area, Idaho. **Project Reports** No. 3, Idaho Archaeological Consultants, Boise.

1980b The Archaeology of Nahas Cave: Material Culture and Chronology. **Archaeological Reports No. 13**, Boise State University.

1981 Archaeological Test Excavations at Four Prehistoric Sites in the Western Snake River Canyon Near Bliss, Idaho. **Project Reports** No. 5, Idaho Archaeological Consultants, Boise.

Plew, Mark G. , and Russell T. Gould
1990 A Preliminary Report on Test Excavations at Clover Creek (10-EL-22), King Hill, Idaho. **Idaho Archaeologist** 12(1):3-14.

Plew, Mark G. and Camille Sayer
1995 Archaeological Excavations at 10-EL-392, Southwest Idaho. Birds of Prey National Conservation Area Archaeological Project Technical Reports No. 2, Boise State University.

Plew, Mark G., and James C. Woods
1985 Observations of Edge Damage and Technological Effects on Pressure-Flaked Stone Tools. In: **Stone Tool Analysis: Essays in Honor of Don E. Crabtree**, Mark G. Plew, James. C. Woods, and Max Pavesic, eds., pp. 211-227. University of New Mexico Press, Albuquerque.

Sammon, D., and Terrie L. Myler
1994 Archaeological Investigations at 10-AA-306, the Midden Site. Report on file, Bureau of Land Management, Boise District, Boise, Idaho.

Sayer, Camille, Sharon Plager, and Mark G. Plew
1996 Archaeological Test Excavations at Sites 10-AA-12, 10-AA-14, 10-AA-188, and 10-AA-189, Snake River Birds of Prey National Conservation Area, Southwest Idaho. Birds of Prey National Conservation Area Technical Report No. 4, Boise State University.

Sayer, Camille, Mark G. Plew, and Sharon Plager
1997 Archaeological Test Excavations at 10-CN-1, Southwestern Idaho. Birds of Prey National Conservation Area Technical Report No. 5, Boise State University.

Sutton, Mark Q., and Robert M. Yohe II
1987 Nopah Cave: A Late Period Sheep-Hunting Camp in the Southwestern Great Basin. **Pacific Coast Archaeological Society Quarterly** 23(3): 24-34.

Swanson, Earl H., Jr.
1965 Archaeological Explorations in Southwestern Idaho. **American Antiquity** 31:24-37.

Taylor, R. E.
1987 **Radiocarbon Dating: An Archaeological Perspective**. Orlando: Academic Press.

Willig, Judy
1989 Report of Test Excavations and Mitigation Proposals at Five Archaeological Sites Along Halverson Road in the Snake River Birds of Prey Area, Southwestern Idaho. Report on file, Bureau of Land Management, Boise District, Boise, Idaho.

Yohe, Robert M. II, Max G. Pavesic, and Will Reed
1996 Bliss Points as Fishing Spears: Evidence for Determining Projectile Point Function. Paper presented at the Idaho Archaeological Society Annual Conference, Twin Falls.

SHORT CONTRIBUTIONS

IMPLICATIONS OF A LATE PREHISTORIC RADIOCARBON DATE FROM THE RATTLESNAKE CANYON SITE (10-EL-45)

Robert M. Yohe II

In the winter of 1960, Robson Bonnichsen, a recent high school graduate who had just applied for entry to Idaho State University, excavated an overhang in Rattlesnake Canyon 15 miles upstream of C.J. Strike dam in Elmore County, Idaho (Bonnichsen 1961). Within the shelter was a cremation pit containing two layers of human remains and more than 600 artifacts, including projectile points (predominately Eastgate and Bliss points), bone tools, numerous pestles, beads and other shell ornaments, and carbonized basketry. Additionally, two copper sheet fragments were recovered, one from each layer within the cremation pit. Spectrographic analysis of the copper indicated that the origin of the copper was likely European, so the age of the site was assumed to be either the proto-historic or early historic period (Bonnichsen 1961).

During the summer of 1997, the Western Repository of the Archaeological Survey of Idaho was notified by the Bureau of Land Management that the Rattlesnake Canyon Cremation site human remains and artifacts would be removed from the repository and repatriated to the Shoshone-Paiute Tribes of the Duck Valley Reservation. Since many data had not been recorded from the collection and there were no existing photographs or individual measurements on artifacts save for those in the 1961 *Tebiwa* article by Bonnichsen, the author conducted a reanalysis and thorough documentation of the collection. The results of this new analysis are in preparation for publication (Yohe n.d.). In the process of this study, it was determined that a radiocarbon date to discern the correct age of the cremation feature was warranted since the previous dating of the site was based solely on the presence of the possible European copper.

A piece of carbonized organic material from the interior of one of the basketry fragments was selected for the radiocarbon assessment. This material had the appearance of burned sugar and on one face of the specimen had the impression of the interior of the basket on it, suggesting that it had become liquid during the burning of the basket. It was assumed that whatever food item was burned in the basket that held it would be a fairly accurate indicator of the age of the actual cremation event. Permission to conduct destructive analysis on the sample was obtained from the Shoshone-Paiute Tribes. The charred material was then sent to Beta Analytic, Inc. for radiocarbon dating.

The date derived from the Rattlesnake Canyon sample was 1120±80 RCYBP (Beta-111324). The calibrated age (calendric equivalent) at one sigma (68% probablility) is A.D. 865 to A.D. 1005, with a mean age of A.D. 960. Unfortunately, the exact vertical provenience of any of the cultural items excavated from the feature is unknown; however, the occurrence of copper in both cultural layers suggests that the creation of the burial pit represents a single event. The significance of the radiocarbon date in light of the original conclusions drawn about the age of the cremation based on the presence of "European" copper is that it is about 800 years too old. The following possibilities could account for this outcome: (1) the organic materials comprising the sample were contaminated by older carbonaceous compounds; (2) the "European" copper is not Old World in origin; (3) the copper was added as tribute at a later time. The first of the possibilities is unlikely owing to the fact that "dead carbon" would have had to been added to whatever food stuff was burned in the basket. If ground shell or calcium carbonate had been added to the mixture, this could make the sample yield an anomolously old date, but there was no evidence of such compounds in the sample. The third possibility, introducing the copper to the deposits as tribute during protohistoric times, also is not likely given that the top layer of human remains would have to have been disturbed to introduce the small copper piece to the second layer of cremains and artifacts. Tribute to the dead of this sort has not been noted among the Shoshonean peoples ethnographically (cf. Steward 1938, 1941).

The second possibility seems the more likely of the three. The presence of Eastgate points in abundance in a 1,000-year-old cremation is consistent with the commonly accepted age range for the popularity of this point type between A.D. 500 and A.D. 1300 (Thomas 1981; Holmer 1986). A cairn burial in this age range (1310±70 B.P.; Beta-98424) recently excavated by the author in western Owyhee County contained only Eastgate points

(n = 4) (Yohe and St Clair n.d.). The original spectrographic analysis of the copper could not be relocated, but the conclusions in the earlier report on the Rattlesnake Canyon artifacts (Bonnichsen 1961) suggested the presence of silver (0.02%), magnesium (0.005%), and calcium (0.003%) indicated that these copper pieces "were probably of European origin" (Bonnichsen 1961:28). A reanalysis of the material was not possible prior to repatriation. It seems just as likely that the copper may have been imported during prehistory from the Northwest Coast, where native copper artifacts are reported as early as 2500 B.C. (McDonald 1983). A clear Columbia Plateau influence is obvious in the archaeological assemblage from the Rattlesnake Canyon cremation feature, evidence of ties to cultural entities beyond the northern Great Basin. However, a full assessment of the status of the cupric materials from this cremation will not be possible until an adequate sample of Northwest Coast native copper artifact trace element data are available to compare with the Rattlesnake Canyon analytical results.

In summary, the recent radiocarbon assessment from Rattlesnake Canyon Rockshelter now calls into question the proported proto-historic or more recent origin of the cremation feature excavated by Bonnichsen. Further comparisons of the trace element concentrations with other native copper samples are warranted and may shed additional light on the interactions between northern Great Basin peoples and those of the Plateau and Northwest Coast more than a thousand years ago.

REFERENCES CITED

Bonnichsen, Robson
1961 The Rattlesnake Canyon Cremation Site, Southwest Idaho. **Tebiwa** 7(1):28-38.

Holmer, Richard
1986 Common Projectile Points of the Intermountain West. In: **Anthropology of the Desert West: Essays in Honor of Jesse D. Jennings**, C. J. Condie and D. D. Fowler, eds., pp. 89-115. Salt Lake City: University of Utah Press.

McDonald, George
1983 Prehistoric Art of the Northern Northwest Coast. In: **Indian Art Traditions on the Northwest Coast**, Roy Carlson, ed., pp. 99-121. Burnaby, B. C.: Simon-Frazer University Archaeology Press.

Steward, Julian
1938 Basin-Plateau Aboriginal Sociopolitical Groups. **Bulletin of American Ethnology** No. 120.

1941 Culture Element Distributions: XIII, Nevada Shoshone. **Anthropological Records** 4:2. Berkeley and Los Angeles: University of California Press.

Thomas, David Hurst
1981 How to Classify the Projectile Points from Monitor Valley, Nevada. **Journal of California and Great Basin Anthropology** 3:7-43.

Yohe, Robert M. II
n.d. The Rattlesnake Canyon Cremation Site (10-El-45) Revisited. Manuscript in preparation.

Yohe, Robert M. II, and Jessica St Clair
n.d. A Descriptive Analysis of Two Late Prehistoric Burials from Southwestern Idaho. **Journal of California and Great Basin Anthropology** (in press).

BOOK REVIEW

ARCHAEOLOGICAL ETHICS

Edited by Karen D. Vitelli. Altamira Press, Walnut Creek, California. 1996.
272 pp., Hard Cover, No Price Given.

Reviewed by Mark G. Plew

During the past several decades archaeologists have become increasingly aware of ethical issues that face the discipline. Discussion of these issues and related topics have been extensive but scattered. In *Archaeological Ethics*, Vitelli brings together 23 carefully selected readings from *Archaeology* magazine which address a range of issues from looting to repatriation. The book is divided into six parts and two appendices which include statements of archaeological ethics and a resource guide. Following an introduction by Vitelli, each chapter begins with a brief synopsis by the editor and is accompanied by "Discussion Questions" and references for "Future Research."

Part One entitled "Looting and Collecting" contains four papers which pertain to archaeology and the ethics of collection. Chase, Chase and Topsey discuss the relationships of museums and archaeologists with consideration of how variable standards have resulted in the use of unprovenienced objects in scholarly studies. In a similar vein, Elia challenges Colin Renfrew's publishing of the description of unprovenienced artifacts from a private collection. Brian Fagan discusses the scientific loss at Slack Farm in Kentucky while Howell describes an Ecuadorian project in which investigators choose to buy artifacts from looters in an attempt to retain national ownership.

Part Two considers "Responses to Looting." The first two chapters describe legal responses to illicit collecting and trafficking. Neary describes sting operations performed by federal agents of the U.S. Park Service and U.S. Bureau of Land Management in which extensive pre-Colombian materials are recovered. In the second chapter, an equally interesting discussion is offered by Rose and Acar who detail the Turkish government's extensive programs for curtailing the illicit antiquities trade in Turkey. As an alternative to legal actions Harrington details the educational programs of the Arkansas Archaeological Survey, which provides a training program for avocational archaeologists and a program by the Arkansas Soil Conservation Service in which farmers are trained to recognize cultural resources and are rewarded with SCS services for following cultural resources policies. In "Enlightened Stewardship" Fagan describes the history and philosophy of The Archaeological Conservancy which has acquired through purchase over 100 archaeological sites across the country.

Part Three contains papers pertaining to "Cultural Heritage in Time of War and Political Unrest" and provides both historical and contemporary perspectives on the vulnerability of cultural resources during times of political unrest. Baily describes the looting of Bulgarian antiquities under its new found democracy while Ciochon and James discuss the ongoing attempts to protect the famed site of Angkor. In an interesting paper, Fleming describes recent uses of the 1954 Hague Convention through which UNESCO sought to protect cultural properties during armed conflicts. Fleming describes its use in recent conflicts from the Near East to El Salvador and Cambodia. In "Operation Scroll", Silberman describes a related problem exemplified by the Israeli Army's conduct of survey and excavation for antiquities in the occupied territories of Gaza and Jericho one month prior to withdrawal of forces from the regions. From a more historical perspective, yet relating to the Israeli incident, Meyer discusses the Nazi and Soviet collecting of "Trophy Art" and the problems associated with contemporary collectors who unscrupulously use the ambiguity of ownership to traffic illicitly in works of art.

Part Four addresses issues relating to "Affected Peoples." Scott describes the historical background of archaeological exploration of the island of St. Lawrence and the present exploitation of archaeological remains for income by the Eskimo population. Similarly, Brent describes the looting of Mali by peasants working for local dealers who serve wealthy European collectors, where income earned is so great in the local economy that museum curators and conservators, graduate students and analytical laboratories have been implicated in the destruction of the cultural heritage. Gray addresses the efforts of Percy Trezise in preserving and enhancing the appreciation of Aboriginal Australian rock art while McIntosh, McIntosh and Togola address the issue of "People Without History" in an exploration of solutions to the polemic positions which have emerged in recent years between third world scholars, native peoples and western archaeologists.

Part Five entitled "Reburial and Repatriation" addresses one of the more "emotional" debates in American archaeology. Anderson addresses the successful cooperation of archaeologists and Native Americans in Iowa during the 1970's and 1980's, while contrasting views on the Native American Graves and Repatriation Act (1990) are well represented by Meighan and Zimmerman who represent the pros and cons of debate. In a related piece Harrington describes the controversies surrounding the excavation of a Colonial African Burial Ground under a New York City parking lot.

Part Six appropriately deals with issues of "Professional Behavior." In "The Arrogant Archaeologist" Fagan challenges the community to be more active in addressing issues of ethics and in educating the public about the collection of antiquities.

Echoing a similar theme, McGuire discusses in the "Gringo Stigma" the perspectives of local people in Tincheras, Mexico where the common perception is that archaeologists are treasure hunters. McGuire argues that this reflects their past experiences with foreigners not their lack of knowledge about archaeology. Finally, in "Archaeology's Dirty Secret" Brian Fagan discusses the failure of archaeologists to live up to their fundamental responsibility for full and complete publication of excavations.

My initial reaction to this book based on its small size, the cartoon which appears on its cover, and its contents—23 essays from *Archaeology* magazine—was less than enthusiastic. Fortunately, I took the time to read *Archaeological Ethics*. This is a very fine little book which covers a broad range of issues. The selections are concise and informative. This book will have a wide audience. For the amateur/avocational archaeologist, students and professional archaeologists, this is an invaluable compilation. The "Discussion Questions" at the end of each chapter are thought provoking and challenging. Vitelli's efforts constitute an important contribution to the issues of *Archaeological Ethics*.

Boise State University
Department of Anthropology
College of Social Sciences
and Public Affairs
1910 University Drive
Boise, Idaho 83725

Account 0280001

Non-Profit Organ.
U.S. POSTAGE
PAID
Boise, Idaho
Permit No. 170