

The Use and Maintenance of Levanna Style Projectile Points at the Bivouac Site in Colchester, Vermont

by
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Introduction

Stone projectile points are the most identifiable artifact types in Vermont. The distinctive shapes, sizes, and basal hafting readily mark them as the work of precontact era Native American to modern people of all ages and backgrounds. The differences in these distinct attributes facilitate their classification and placement in time, creating a temporal connection between the ancient user and modern discoverer. The vast majority of these artifacts are found in isolation, often a testament to their final moments of use...as a projectile gone astray, one broken and discarded, or one simply lost. The recovery of most projectile points from the surface of plowed fields attests to the shallow depth of which most archaeological sites in nondepositional environments exist. Considering how pervasive the plowing of the landscape has been over the last 150 years in Vermont, resulting in site disturbance and, often, site erosion, it is not surprising that relatively little information about the people who made them and the techniques they used can be gleaned from these diagnostic reminders of the past.

Recently a discrete concentration of Levanna style projectile points and associated debris, dating to a single occupation during the Middle and Late Woodland periods (ca. 100 B.C. – A.D. 1600) was recovered from systematic excavations within the Camp Johnson facility of the Vermont Army National Guard in Colchester, Chittenden County, Vermont (Figure 1). The concentration of complete and fragmentary projectile points was recovered in direct association with two fire hearth features also containing fragments of pottery, burned and unburned food bone, and fire-cracked rock. The well defined limits of this site and its intact nature prior to archaeological excavation provides a unique opportunity to investigate the nature of projectile point manufacture, use, and repair at a small, temporary Native American encampment.

Background

Camp Johnson in the town of Colchester, Vermont, is the headquarters of the Vermont Army National Guard. It is located on 660 acres of sandy delta outwash that overlooks several deeply incised tributaries of Sunderland Brook, which drains into the Winooski River 4 km to the west (see Figure 1). As part of the Integrated Cultural Resources Management Plan (ICRMP) for the Camp Johnson facility, the University of Vermont Consulting Archaeology Program (UVM CAP) conducted Phase I and Phase II studies in 25 archaeologically sensitive areas of the facility (Figure 2). The Phase I study was carried out to identify archaeological sites within these sensitive areas, and the more intensive Phase II study was carried out to determine whether or not the sites identified were eligible for inclusion on the National Register of Historic Places.

The 25 archaeologically sensitive areas were originally identified using a site sensitivity model for predicting the presence of precontact Native American sites. Site sensitivity models take into consideration the nearness of any given project area to numerous natural features that are known through experience, to be likely locations for prehistoric Native American sites. The bulk of the natural features used to differentiate the landscape in terms of archaeological sensitivity are water related and include nearness to a river or permanent stream, nearness to falls or rapids, a lake, pond, or wetland, etc. Another major category of archaeological sensitivity is related to dominant landforms, such as elevated, level landforms, or the proximity to a rock shelter, prehistoric quarry or source of workable stone, or within a natural travel corridor. Finally the presence of areas important in the ideological world view of Native Americans also contributes to the overall sensitivity score, however these variables are harder to discern by non-Natives. The closer a given area is to the natural features that would have attracted Native Americans, the higher the

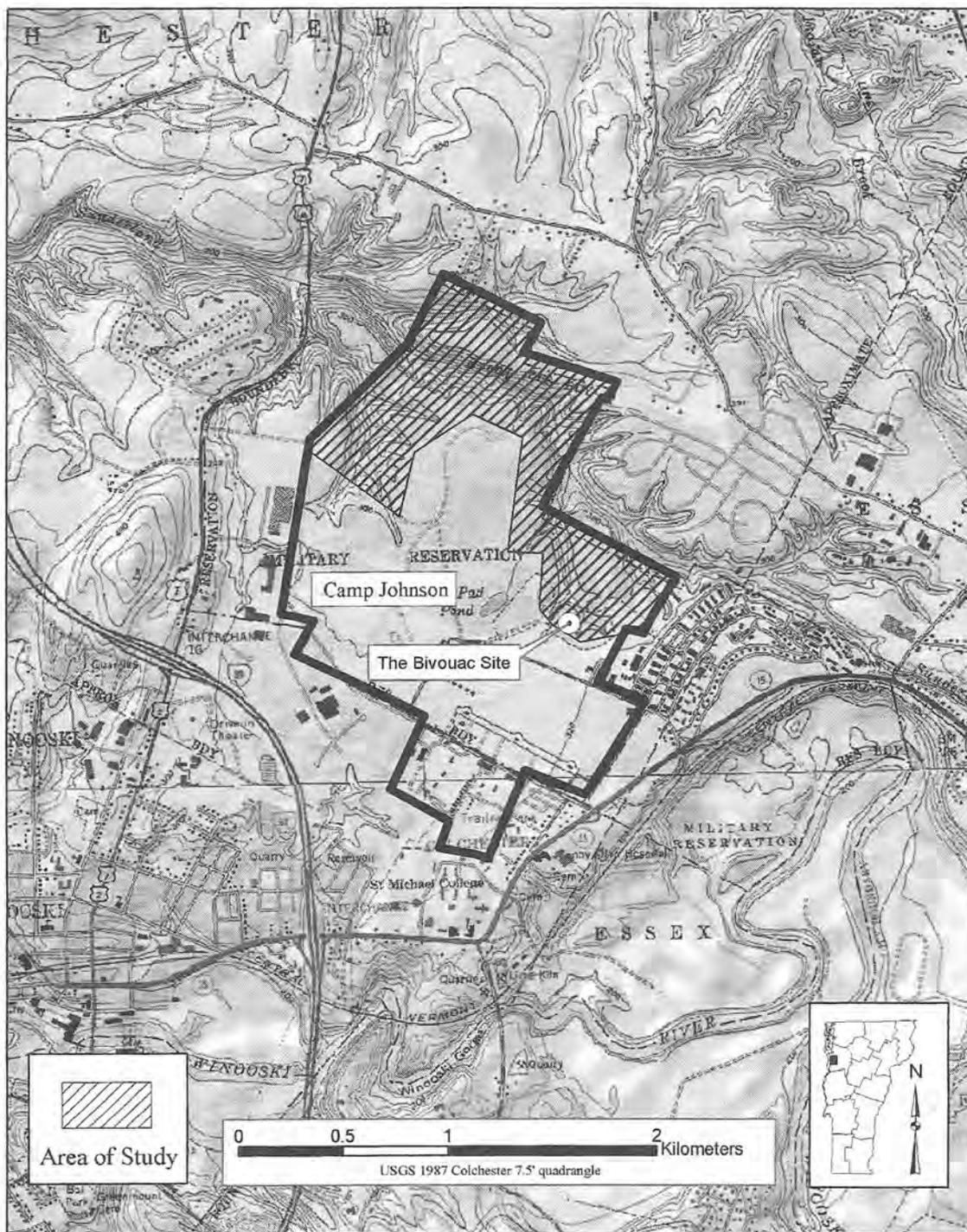


Figure 1. Map showing the location of the Camp Johnson facility and the area under archaeological study, Camp Johnson, Colchester, Chittenden County, Vermont.



Figure 2. Map showing the location of the Bivouac Site and most areas identified as archaeological sensitive within the Camp Johnson facility, Colchester, Chittenden County, Vermont.

sensitivity score. As a result, each sensitivity area within the Camp Johnson facility was ranked as having either moderate, moderate-low, or low archaeological sensitivity.

Phase I and II excavations were carried out in two stages based on the ranking of each area. Stage 1 excavations occurred in 1996 in sensitive Areas 1-15, located across a broad area parallel to the tributaries of Sunderland Brook that define the northern boundary of Camp Johnson. Stage 2 occurred in 2002 with excavations in Areas 16-25, which were concentrated around the head of draw of a single tributary in the southeast portion of the property (see Figure 2).

The 1996 study resulted in the identification and excavation of five precontact Native American sites: VT-CH-697, VT-CH-698, VT-CH-699, VT-CH-700, and VT-CH-703 (Thomas et al. 2001). Sites VT-CH-697, VT-CH-700, and VT-CH-703 were located in areas that were ranked moderately sensitive. Site VT-CH-698 was located in an area ranked moderate-low, and site VT-CH-699 was located in an area with a low sensitivity potential ranking (Thomas et al., 2001:104). It is of interest that of all the sites identified during the 1996 excavations, site VT-CH-698 contained the greatest quantity and diversity of artifacts, yet was located in an area ranked as having moderate-low archaeological sensitivity. In total, one graver made of Hathaway chert, close to 400 flakes of Hathaway chert, and 20 additional flakes of quartz, quartzite, rhyolite and other, unidentified chert types were recovered at site VT-CH-698 (Thomas et al. 2001:41). The large quantity of flakes suggests stone tool manufacture and resharpening at a short term encampment. As a result, archaeologists working within the Sunderland Brook drainage, at least, must exercise caution if they are to use predictive models that rely on environmental variables. The location of site VT-CH-698 was predicted to have moderate-low sensitivity for archaeological resources, yet it contained considerable cultural resources.

The 2002 study resulted in the identification and excavation of two additional sites: VT-CH-912 (the Bivouac Site) and VT-CH-913 (Knight and Carder 2006). The Bivouac Site was identified from three loci of artifact concentrations in Area 22 (Figure 3). Of these loci, Locus 2 contained the most complete assemblage and vast majority of the artifacts, and as such delimits the primary locus of activity at this site. Locus 2 covers approximately 400 m² (4,304 ft²), with a core area around Phase I test pit TR21 TP4 (Figure 4). It is the artifact assemblage from Locus 2 that is further analyzed

in this paper.

The Bivouac Site had the densest and most intact artifact assemblage recovered from a site in the upper Sunderland Brook drainage thus far. The lithic assemblage alone contained 36 complete and fragmentary projectile points, three of which articulated resulting in a minimum number of 33 projectile points. In addition to points, 26 expedient lithic tools and 15,175 pieces of lithic debitage were recovered. All complete and fragmentary projectile points are of the Levanna style, indicative of the Middle to Late Woodland periods (100 B.C. – A.D. 1600) (Figure 5). The majority of this assemblage (87% of debitage and 83% of points) came from the matrix of two fire hearth features or was directly associated with these features, concentrated in two 1x1 m excavation units (Table 1, page 25).

Environmental and Cultural Setting

The Camp Johnson facility is located on a series of narrow, high terraces to the west and south of heads of draw for a number of tributaries of Sunderland Brook, which itself begins approximately 2 km to the east, while draining into the Winooski River 4 km to the west (Thomas et al. 2001). These tributaries also lie within 1.5 km (1 mi) of the headwaters of Indian Brook, which drains northwest into Malletts Bay (see Figure 1). The Sunderland Brook drainage is located within the physiographic subdivision of Vermont known as the Champlain Lowland, and the surficial geography of the project area reflects the ancient, shallow margins of the Champlain Sea, which once covered the area. Specifically, the project area is 91 m (300 ft) above sea level located in a zone of loamy sands, characteristic of the Adams and Windsor Series. The Camp Johnson area was likely dominated by pitch pine and oak forests in the precontact era, with beech, maple, and hemlock also well represented (Siccama 1971).

Relatively high densities of precontact era Native American sites exist along the terraces bordering Sunderland Brook. This may be explained as the result of a number of overlapping variables. First, these terraces occur in a nondepositional environment, therefore the remains of any occupation since the beginning of human habitation in Vermont, dating to the Paleoindian period (9500-7000 B.C.), may exist very close to the surface. As a result, the area has the potential for many more episodes of human occupation to be encountered, than areas in depositional environments.

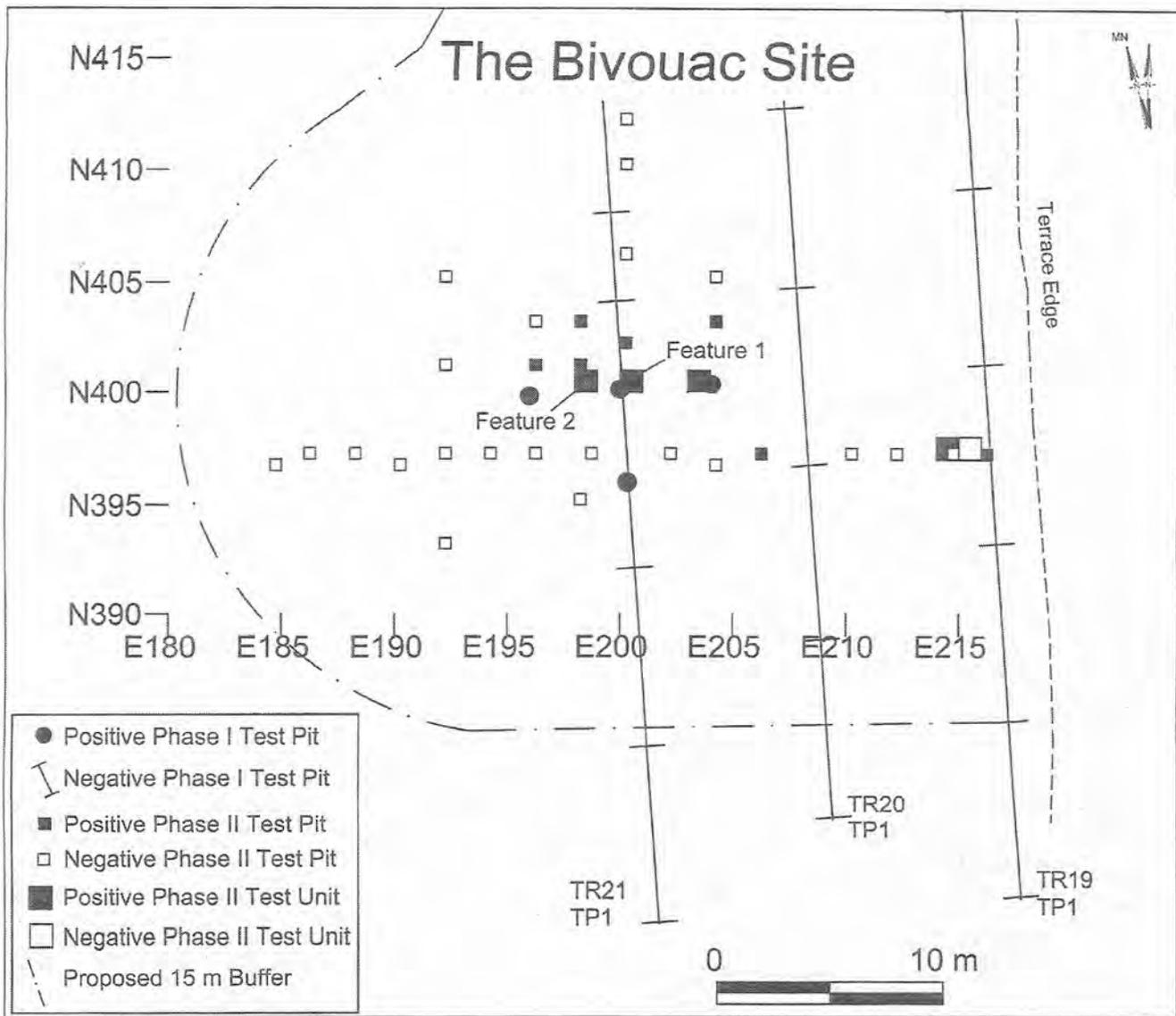


Figure 4. Map showing the location of the archaeological testing in Locus 2 of the Bivouac Site in Camp Johnson, Colchester, Vermont.

Second, these terraced areas have witnessed intense residential and commercial development in the last 30 years, resulting in more archaeological study carried out here than in areas with less intense development. Third, Sunderland Brook is a direct and well defined conduit between Lake Champlain to the west, and inland areas to the east, providing an inland route connecting Mallets Bay and the mouth of the Winooski River, via Indian Brook. As a result, it may have been an attractive thoroughfare to precontact era Native Americans.

As a result of these factors, and likely many more not considered here, at least 20 precontact era sites have been identified within 1.5 km (1 mi) of Camp Johnson. These include possible Paleoindian period (ca. 9500-7000 B.C.) sites, such as VT-CH-190 and VT-CH-9179, Early Archaic period (ca. 7000-5500 B.C.) sites, such as VT-CH-613, numerous Late Archaic period (ca. 4000-1000 B.C.) sites, and many that date to most sub-periods of the Early, Middle, and Late Woodland periods (ca. 1000 B.C. – A.D. 1600) (Thomas et al. 1985; 2001).

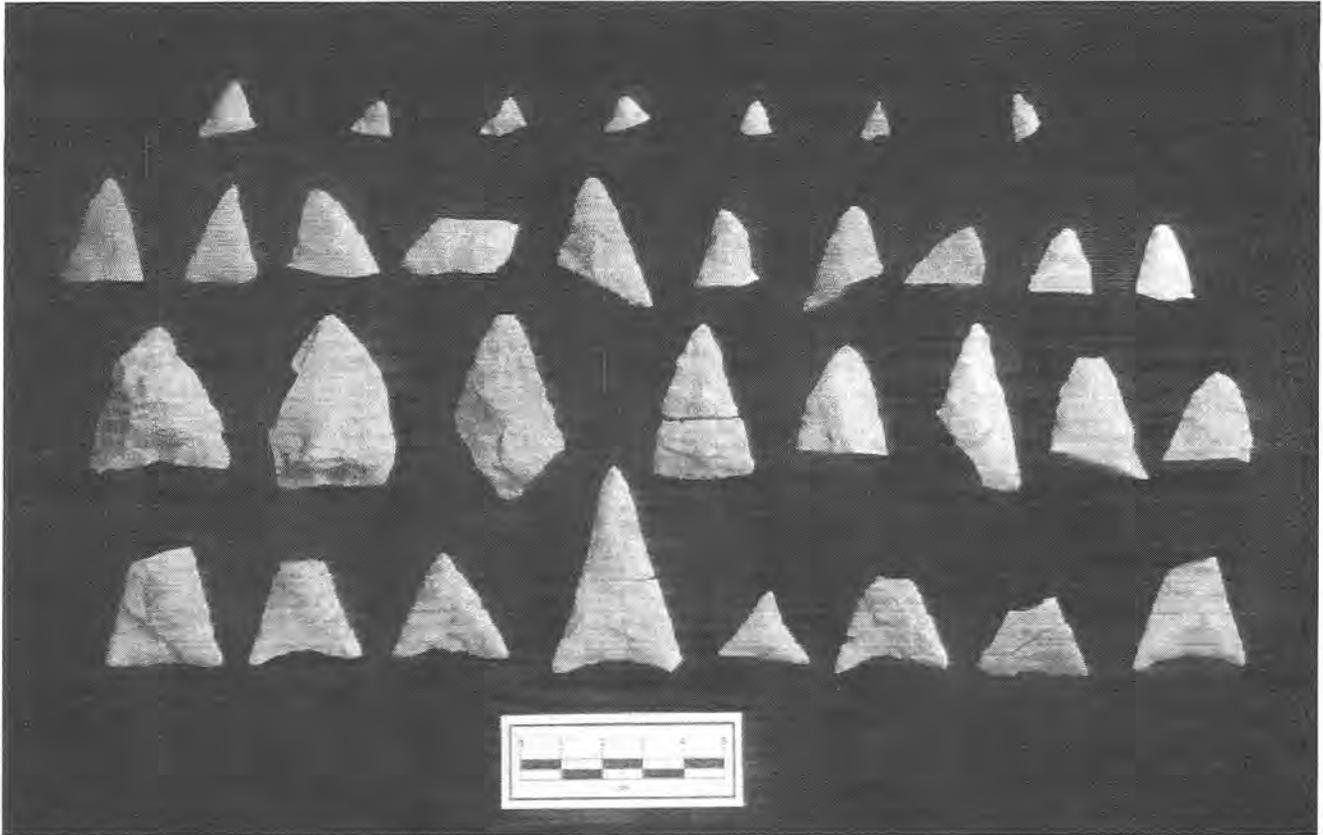


Figure 5. All complete and incomplete Levanna style projectile points recovered from the Bivouac Site, Camp Johnson, Vermont.

These sites range from 50-500 m² (538-5,380 ft²) in size for the smallest to 17,000-19,000 m² (182,920-204,440 ft²) in size for the largest, with the average hovering around 1,000-3,000 m² (10,750-32,280 ft²) in size (Thomas et al. 2001). Artifact assemblages at these sites tended to be small and discrete suggesting that small residential and extractive camps were the norm within and bordering the Sunderland Brook drainage (Thomas et al. 2001:15).

Methods

Since the archaeological investigation of the Camp Johnson facility was part of federal regulations under Section 106, field methods followed standard criteria outlined by the Vermont Division of Historic Preservation's *Guidelines for Conducting Archaeology in Vermont* (Peebles 2002). This involved the excavation of test pits along three parallel transects spaced 8 m (26 ft) apart, with test pits located at 8 m (26 ft) intervals along these transects. Several sensitive areas (Areas 19,

24, and 25) were located on landforms that were not large enough to employ this subsurface testing strategy. In those instances, test pits along two, rather than three parallel transects were excavated. Test pits along each transect were offset by 4 m (13 ft) from test pits in adjacent transects. The only methodological difference between the 1996 and 2002 Phase I surveys were the size of the test pits. The 1996 test pits were 40 by 40 cm (16 by 16 in.) in size, whereas in 2002 test pits were 50 by 50 cm (20 by 20 in.) in size.

Where high densities of artifacts or cultural features were encountered, a test pit was expanded into a 1- by 1-m excavation unit. Soils were excavated in 10-cm (4-in.) vertical levels and natural stratigraphic layers and soil horizons. During the Phase I survey, a standard mesh size of ¼ in. was used to sift the soil through screens. During the Phase II study the standard mesh size decreased to 3.2 mm (1/8 in.). All feature soil, regardless of study phase, was screened with 3.2 mm (1/8 in.) mesh, while during the Phase II study feature soil also was

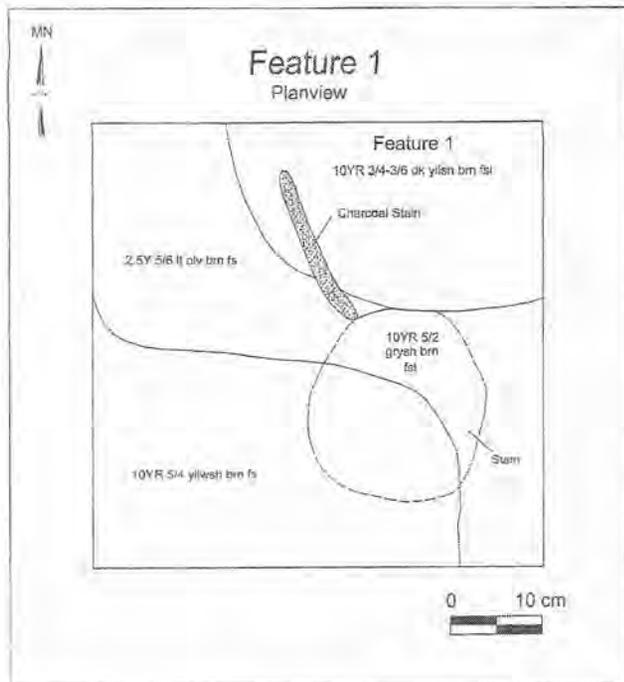


Figure 6. Planview of Feature 1 in TR21 TP4 at the Bivouac Site in Camp Johnson, Colchester, Vermont.

water screened through 1 mm window mesh. All tested areas were excavated to depths 50-70 cm (20-26 in.) below ground surface, or at least 10 cm (8 in.) into intact "C" horizon sediments. Stratigraphic profiles from each test pit or from a representative sample of test pits were recorded according to both texture and Munsell chart colors.

The Bivouac Site

Feature 1

The main locus of the Bivouac Site was initially identified from the recovery of a large concentration of artifacts from the single 50 x 50 cm test pit Transect 21 Test Pit 4 (TR21 TP4) in archaeologically sensitive Area 22 (see Figure 4). A fire hearth feature, designated Feature 1, was identified in the top 10 cm of TR21 TP4 (Table 2, page 25). Feature 1 was identified by a dark yellowish brown (10YR 3/4-3/6) stain in the northeast corner of the test pit that contained high concentrations of charcoal, lithic artifacts, animal bone and fire-cracked rock. The feature stain expanded beyond the limits of the test pit into the northern, northeastern, and eastern walls (Figure 6). After additional 50 by 50 cm test pits were

excavated at close proximity around TR21 TP4, resulting in additional artifacts including a decorated pottery sherd dating to the Middle Woodland period (ca. A.D. 750-1000), TR21 TP4 was expanded into a 1- by 1-m test unit to determine the limits of Feature 1. This test unit was given the coordinates N400 E200 (see Figure 4).

All Feature 1 soil from the adjoining three quadrants in Unit N400 E200 was recovered for analysis in the laboratory, where it was water-screened. The finer 1 mm window screen naturally resulted in the recovery of very small artifacts, including high quantities of animal bone and lithic debitage. These artifacts are summarized by type, quantity, and vertical distribution in Table 3 (page 26).

It is important to point out that due to variations in the mesh sizes used during the Phase I and II studies, as well as between the feature soil and closely associate non-feature soil, a comparison of general debitage size and volumetrics is not straight forward. In order to compare quantities of lithic artifacts recovered from the Feature 1 soil with those from the soil associated with Feature 1 in Unit N400 E200, only the data from the northwest, northeast, and southeast quadrants are considered, since soils from these quadrants were screened with 3.2-mm mesh (see Tables 2 and 3).

A comparison of all the quantity and type of artifacts recovered through 3.2-mm mesh from the matrix of Feature 1 to that from the matrix associated with Feature 1, makes it clear that the Feature 1 fire hearth was a locus of food and stone debris disposal. For instance 75% ($n=2,511$) of the 3,349 pieces of lithic debitage recovered from the 3.2 mm mesh was recovered from within the Feature 1 matrix. In addition, of all the debitage recovered from the entire site ($n=15,175$) only 20 pieces were fragmentary flakes. Therefore it appears that the lithic assemblage recovered from within Feature 1 and its associated soils represents secondary refuse that was quickly deposited into this disused fire pit. In doing so the effects of trampling were severely curtailed. It is not beyond the realm of reasonable speculation to envision a scenario of one or two individuals sitting near a fire preparing and maintaining their stone tools, then sweeping up this dangerous debris as best they could, and depositing it in the fire. The lack of any noticeable reddening on the debitage recovered suggests that this happened after the fire went out. In such a situation we would expect that some of this debris would not make it into the fire. This is a pattern of waste disposal familiar to anyone who has spent time around a camp fire.



Figure 7. Looking south at Feature 2, which is concentrated in the northwest quadrangle of Unit N400 E198 at the Bivouac Site, Camp Johnson, Vermont. Note: Semicircle outlines Feature 2 stain (Francis W. Robinson IV photo).

Feature 2

A second fire hearth feature, Feature 2, was identified at the Bivouac Site from the excavation of Unit N400 E198, 2 m west of Feature 1 (see Figure 4). Just prior to the excavation of Unit N400 E198, a 50- by 50-cm test pit was excavated at N401 E198. High concentrations of artifacts were recovered from this test pit, such as the tip of a quartzite projectile point and 252 pieces of debitage, but the soil stain representing Feature 2 was not recognized at that time. However, the Feature 2 soil stain was identified in the northwest half of the northwest quadrant of Unit 400 E198 when excavation began there (Figure 7). Likewise, the Feature 2 soil stain was visible in the west wall profile of Unit N400 E198 and Test Pit N401 E198 (Figure 8). Like Feature 1, all feature soil was collected and returned to the laboratory for water screening and flotation. In total, 4.5 liters of unscreened feature soil was collected from the first level of Feature 2 (arbitrary field level 14), and 19 liters of unscreened feature soil from the second level (arbitrary field level 15).

Artifacts recovered from within Feature 2 included quartzite debitage, burned and unburned animal bone fragments, an undecorated pottery sherd, and a quartzite projectile point which appears to be a Levanna style point preform, dating to the Middle and Late Woodland periods. The quantity and vertical distribution of artifacts recovered from the northwest quadrant of Unit N400 E198, including Feature 2, is summarized in Table 4 (page 27).

The northeast, southwest, and southeast quadrants of

Unit N400 E198 also contained a large amount of artifacts, notably broken and complete Levanna style projectile points (Table 5, page 28). In total, 21 complete or fragmentary projectile points were recovered from the nonfeature matrix from Unit N400 E198, 17 of these from the northeast, southwest, and southeast quadrants. Several articulating pieces of projectile points were found in Unit N400 E198.

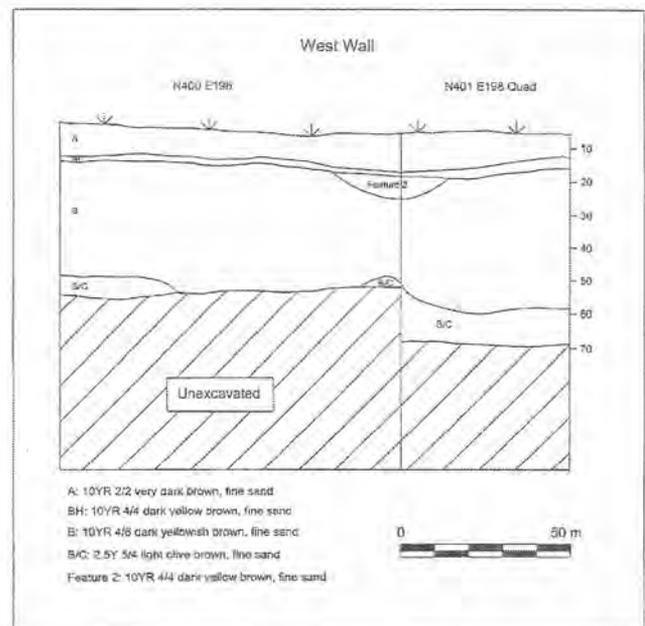


Figure 8. Profile of the west wall of Unit N400 E198, with Feature 2 profiled in the northwest quadrangle.

Vertebrate Fauna from the Bivouac Site

A zooarchaeological analysis was carried out by Nanny Carder on all vertebrate materials recovered from the Bivouac Site. The faunal sample was small, containing 3,824 bones, representing the remains of an estimated five identifiable individuals. Bone recovered from the site are highly fragmented and poorly preserved. The limited sample size of the vertebrate collection was not adequate for dietary interpretation, but allowed a profile of animal presence/absence at the Bivouac Site, and estimates of the minimum number of individuals (MNI). Animals in the collection comprise white-tailed deer (*Odocoileus virginianus*), fisher cat (*Martes pennanti*), a rabbit or hare (Leporidae), an unidentified mouse-sized mammal, and a large unidentified bird. All animals in the sample contribute one individual each. Bone modifications include burning and cut marks. All specimens were burned. Five fragments of unidentified mammal and one specimen of unidentified large mammal have cut marks.

Discussion

The lithic assemblages associated with Features 1 and 2 differ in quantity and type, and these differences may reflect variations in the activities carried out at the site. Since the soil matrix was not passed through 1 mm screen in all the adjoining Feature 2 quadrants, counts from the 1 mm screen are not considered in this comparison. In total, 9,733 pieces of debitage were recovered from the 6.4 and 3.2 mm mesh at the Bivouac Site. At Feature 1, only 7 complete or fragmentary projectile points were recovered within or near the feature matrix, however it contained 43% ($n=4,142$) of the debitage from the site. At Feature 2, 21 complete and partial projectile points were recovered, yet only 38% ($n=3,704$) of the debitage. This pattern also is evident in the distribution of bone. In total, 4,739 fragments of burned and unburned bone were recovered from the 6.4 and 3.2 mm mesh at the Bivouac Site. Feature 1, and associated matrix contained 94% ($n=4,450$) of all bone recovered, while Feature 2, and associated matrix contained only 6% ($n=286$) of all bone recovered.

As a result, the area surrounding the Feature 2 fire hearth may have been the manufacturing and rejuvenation locus of stone projectile points, with Feature 1 being the main locus of debris deposition. The large number of fragmentary points, especially the isolated Levanna point tangs, suggests that broken points were removed from the arrow shaft and either kept

nearby for rejuvenation and further use, or were rejuvenated. Of all the debitage recovered from Feature 1 and its surrounding matrix, 42% ($n=3,988$) were pieces smaller than 3 mm in length (see Tables 2 and 3). Although small debitage is created at all stages of lithic reduction (Mauldin and Amick 1989), small debitage in relatively unmixed lithic assemblages such as found at the Bivouac Site is indicative of late stage finishing and rejuvenation, when flaking by pressure dominates (Kooyman 2000:59). Some projectile point shaping also was occurring at the site, as indicated by the moderate amount of middle staged thinning and reduction flakes, and by three rejected point performs (Figure 9). However, the primary lithic activity was the finishing and rejuvenation of Levanna style projectile points. The large amount of very small rejuvenation flakes suggests that considerable reworking of broken points may have occurred. Sizes of recovered complete, or near complete points varies considerably (see Figure 5). I suggest that this indicates the reworking of points, from the larger isosceles triangle-shaped points to the smaller, more equilateral triangular-shaped points; a continuum of Levanna point production from blanks, use, rework, and additional use. It appears from the lack of any early stage lithic debitage that the occupants of the Bivouac Site had a limited quantity of lithic resources to start with, be that point blanks or finished points. As a result it would have been necessary to extend the life of their existing pool of projectile points, and this would have been achieved through vigorous reworking of damaged points, or pieces thereof.

What then, does the Bivouac Site represent in the Middle to Late Woodland period settlement system of the greater Sunderland Brook drainage? The small, discrete deposit of relatively homogeneous lithic artifacts, coupled with a small variation in faunal remains strongly suggests that the Bivouac Site represents a short term encampment where a specific set of activities were carried out; a "field camp" as Binford (1980:10-12) has defined it based on his ethnoarchaeological work with the Nunamiut Eskimo (Inuit) of north-central Alaska. Simply put, such "field camps" represent activity areas for specific tasks, such as hunting, which may be located a great distance from a more permanent "residential base," and as such should contain a limited artifact assemblage reflecting these specific activities (Binford 1980:10). The hunting and processing of game is indicated by the projectile point assemblage, the variety of expedient processing tools, and through direct evidence of a few of the recovered

Figure 9. Incomplete Levanna style projectile points recovered from the Bivouac Site, Camp Johnson, Vermont.



bones exhibiting butchering marks. The faunal record reflects a relatively broad spectrum of game types obtained, even though only one example of each of the identifiable species was recovered.

One problem with this designation, however, is the lack of a contemporaneous “residential base” within the greater Sunderland Brook drainage to which we can compare. The two largest sits in the greater Sunderland Brook area, such as VT-CH-184 and VT-CH-9185 located approximately 4 km northwest of the Bivouac Site, had relatively small artifact assemblages. Site VT-CH-184 represented at least three, distinct occupations: one each from the Early Archaic period (ca. 7000-5500 B.C.), the Late Archaic period (ca. 4000-1000 B.C.), and the late Middle to Late Woodland periods (ca. 100 B.C. - A.D. 1600). This last occupation is contemporaneous with the Bivouac Site (Thomas et al 1985:53). The artifact assemblage from site VT-CH-184 suggests that hunting, food processing, tool production, and maintenance activities were carried out there. However, the artifacts from all three occupations were conflated in space, making it impossible to discern the size of the Woodland period occupation and what activities occurred when. Regardless, the entire lithic assemblage from site VT-CH-184 numbered 62 artifacts (Thomas et al 1985:53). These factors make site VT-CH-184 an unlikely candidate for the “residential base” to our Bivouac Site “field camp.” Site VT-CH-9185 dated to the Late Archaic period, so cannot be considered as a residential base for the Bivouac Site.

In general, all sites located within the greater

Sunderland Brook drainage contained fairly small artifact concentrations, even the moderate to large sites (Thomas et al. 2001). One site, VT-CH-234, located 2 km east the Bivouac Site at the eastern-most head of draw for Sunderland Brook, had at least 10 different occupation episodes dating throughout the Late Archaic and Early Woodland periods (ca. 4000-100 B.C.) and during the Late Woodland period (ca. A.D. 1100-1600) (Petersen et al. 1988). Archaeological study there identified five discrete loci, none of which were larger than 200 m² (2,152 ft²) (Petersen et al. 1988). Nonetheless, the relatively large degree of artifact variability found there lead Petersen and his colleagues (1988:132) to conclude that site VT-CH-234 represents a “residential base,” as Binford (1980) defined it. How this site was used during the Middle to Late Woodland periods (ca. 100 B.C.-A.D. 1600), however, is not entirely clear. Petersen and his colleagues (1988) interpret the activities most suggestive of a “residential base” to have occurred during the Early Woodland period (ca. 1000-100 B.C.), leaving its status unclear for the period contemporaneous with the Bivouac Site.

As a result, there is no known candidate for “residential base” during the Middle to Late Woodland period within the greater Sunderland Brook drainage. It is possible that we would need to broaden our scope to encounter a site that fits the bill, or recognize that such as site has been destroyed by post-depositional processes. Nonetheless, the resolution provided by the intact depositional setting of the Bivouac Site provides a relatively clear window to view the nature of the

intrasite distribution of artifacts, and as a result, the tool production, and related hunting tasks, carried out there 500 to 2,000 years ago.

Conclusion

Excavations at the Bivouac Site in the Camp Johnson facility in Colchester, Vermont have provided data on the production and maintenance of numerous Levanna style projectile points during a single occupation during the Middle to Late Woodland period at a small, temporary field camp. The intrasite distribution of lithic debitage and bone remains delineates two areas of activity within the site: projectile point production and maintenance and the secondary deposition of production and maintenance debris. The relatively intense production and rejuvenation of projectile points, along with a small quantity of expedient lithic tool forms, and large number of small bone fragments, a few of which exhibited cut marks, suggests the Bivouac Site was a short term field camp for the acquisition of game.

Acknowledgements

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1987 Essex Junction 7.5' Quadrangle. United States Geological Survey, Washington D.C.

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Use and Maintenance of Levanna Style Projectile Points at the Bivouac Site in Colchester

Table 1. All lithic tools and debitage recovered from Locus 2 of the Bivouac Site.

Lithic Artifact	Feature 1 Matrix	Feature 2 Matrix	Associated Feature 1 Matrix	Associated Feature 2 Matrix	Unassociated Matrix	Total
Projectile Point	2	1	5	22	6	36
Tool	15	0	2	7	2	26
Debitage	7098	2631	1032	2465	1887	15113
Total	7115	2632	1039	2494	1895	15175

Table 2. Type and quantity of all artifacts recovered from TR21 TP4, including a portion of Feature 1.

Level	Stratum	Top Depth	Bottom Depth	Mesh Size	Artifact Type	Material Type	Count	<3 mm	3-10 mm	10-30 mm	30-50 mm	Weight (Grams)
1	A	Surface	10	6.4 mm	Projectile Point	Quartzite	2			1	1	12.4
1	A	Surface	10	6.4 mm	Flake debitage	Quartzite	103		44	59		68
1	A	Surface	10	6.4 mm	Pottery Body	Undecorated	2					1
1	A	Surface	10	6.4 mm	Bone	Burned	5					0.6
1	A	Surface	10	6.4 mm	FCR	Unknown	4					167
1	Feature 1	Surface	10	3.2 mm	Flake debitage	Quartzite	599		537	61	1	86.34
1	Feature 1	Surface	10	3.2 mm	Core	Quartzite	1					5.87
1	Feature 1	Surface	10	3.2 mm	Projectile Point	Quartzite	1					0.5
1	Feature 1	Surface	10	3.2 mm	Utilized flake	Quartzite	1			1		2.41
1	Feature 1	Surface	10	3.2 mm	Pottery	Undecorated	3					0.4
1	Feature 1	Surface	10	3.2 mm	Bone	Mixed	637					25.8
1	Feature 1	Surface	10	3.2 mm	Lithic Unmodified		105					0.9
1	Feature 1	Surface	10	1 mm	Flake debitage	Quartzite	793	793				3.8
1	Feature 1	Surface	10	1 mm	Bone	Mixed	1258					4.9
2	B	10	20	6.4 mm	Projectile Point	Quartzite	1			1		2.2
2	B	10	20	6.4 mm	Flake debitage	Quartzite	77		22	45		41.4
2	B	10	20	6.4 mm	Bone	Burned	14					3.7
2	B	10	20	6.4 mm	Bone	Unburned	1					7.4
2	B	10	20	6.4 mm	FCR	Unknown	1					31.8
3	B	20	30	6.4 mm	Flake debitage	Quartzite	12		6	6		2.9
3	B	20	30	6.4 mm	Bone	Burned						0.9
WALL	WALL	Surface	50	6.4 mm	Flake debitage	Quartzite	2		1	1		0.2
WALL	WALL	Surface	50	6.4 mm	Bone	Burned	3					0.2

Table 3. Type and quantity of artifacts recovered from the north, northeast, and east quadrants of Unit N400 E200, which includes Feature 1.

Level	Stratum	Top (cm)	Bottom (cm)	Mesh Size	Artifact Type	Material Type	Count	<3 mm	<3-10 mm	10-30 mm	30-50 mm	>5 cm	Weight (grams)
14	A	Surface	5	3.2 mm	Flake Debitage	Quartzite	598	438	130				134.9
14	A	Surface	5	3.2 mm	Projectile Point	Quartzite	1	1					0.3
14	A	Surface	5	3.2 mm	Pottery Body	Undecorated	2						1.8
14	A	Surface	5	3.2 mm	Bone	Burned	47						2.4
14	A	Surface	5	3.2 mm	Metal Armament		8						
15	Feature 1	5	13	3.2 mm	Flake Debitage	Quartzite	2511	2058	449	4			424.4
15	Feature 1	5	13	3.2 mm	Projectile Point	Quartzite	1						3.8
15	Feature 1	5	13	3.2 mm	Drill	Quartzite	1				1		6.6
15	Feature 1	5	13	3.2 mm	Uniface	Quartzite	1						13.9
15	Feature 1	5	13	3.2 mm	Biface Fragment	Quartzite	3						4.8
15	Feature 1	5	13	3.2 mm	Tool Fragment	Quartzite	8						8.1
15	Feature 1	5	13	3.2 mm	Unmodified Lithic	Granitic Rock	11						70.4
15	Feature 1	5	13	3.2 mm	Pottery Body	Undecorated	17						10.7
15	Feature 1	5	13	3.2 mm	Pottery Rim	Decorated	1						0.8
15	Feature 1	5	13	3.2 mm	Bone	Mixed	3471						151.4
15	Feature 1	5	13	3.2 mm	FCR	Unknown	3						275.5
15	Feature 1	5	13	1 mm	Flake Debitage	Quartzite	3195	3195					18.4
15	Feature 1	5	13	1 mm	Bone	Mixed	6964						33.3
15	B	13	16	3.2 mm	Flake Debitage	Quartzite	124	105	19				16.4
15	B	13	16	3.2 mm	Pottery Body	Undecorated	1						<.1
15	B	13	16	3.2 mm	Bone	Burned	109						6.5
16	B	16	26	3.2 mm	Projectile Point	Quartzite	1	1					0.3
16	B	16	26	3.2 mm	Flake Debitage	Quartzite	114	95	19				19.2
16	B	16	26	3.2 mm	Flake Debitage	Quartz	2	2					0.2
16	B	16	26	3.2 mm	Bone	Burned	163						11.4

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Table 4. Type and quantity of artifacts recovered from the northwest quadrant of Unit N400 E198, including Feature 2.

Level NW	Stratum	Top Depth	Bottom Depth	Mesh Size	Artifact Type	Material Type	Count	<3 mm	3-10 mm	10-30 mm	30-50 mm	Weight (Grams)
14	A	Surface		6 3.2 mm	Projectile Point	Quartzite	3			1		1.9
14	A	Surface		6 3.2 mm	Bifacial Fragment	Quartzite	1			1		0.2
14	A	Surface		6 3.2 mm	Flake debitage	Quartzite	592		476	116		114.7
14	A	Surface		6 3.2 mm	Bone	Burned	6					0.2
14	A	Surface		6 3.2 mm	Metal Armament		6					
14	Feature 2		6	8 3.2 mm	Flake debitage	Quartzite	347		264	83		60.4
14	Feature 2		6	8 3.2 mm	Bone	Mixed	12					0.6
14	Feature 2		6	8 1 mm	Flake debitage	Quartzite	255	255				1.7
14	Feature 2		6	8 1 mm	Bone	Mixed	26					0.3
15	Feature 2		8	9 3.2 mm	Flake debitage	Quartzite	1144		874	270		229.7
15	Feature 2		8	9 3.2 mm	Projectile Point	Quartzite	1					3.4
15	Feature 2		8	9 3.2 mm	Pottery Body	Undecorated	1					2.5
15	Feature 2		8	9 3.2 mm	Bone	Mixed	55					3.1
15	Feature 2		8	9 1 mm	Flake debitage	Quartzite	885	885				5.8
15	Feature 2		8	9 1 mm	Bone	Mixed	162					0.8
15	B		6	18 3.2 mm	Projectile Point	Quartzite	1			1		1.8
15	B		6	18 3.2 mm	Flake debitage	Quartzite	60		34	25	1	14.6
15	B		6	18 3.2 mm	Bone	Burned						0.4
16	B		19	29 3.2 mm	Flake debitage	Quartzite	13		9	4		1.2
16	B		19	29 3.2 mm	Bone	Burned	2					0.2
17/18	B		29	44 3.2 mm	Flake debitage	Quartzite	2		1	1		1.3

Table 5. Type and quantity of artifacts recovered from the northeast, southwest, and southeast quadrants of Unit N400 E198, associated with Feature 2.

Level	Stratum	Top	Bottom	Mesh	Artifact	Material	Count	<3 mm	<3-10 mm	10-30 mm	30-50 mm	Articulates	Weight
NE, SE, SW	quads	(cm)	(cm)	Size	Type	Type							(Grams)
14	A	Surface	9	3.2 mm	Projectile Point	Quartzite	3			3		X	4.3
14	A	Surface	9	3.2 mm	Projectile Point Fragment	Quartzite	7		1	6		X	9.4
14	A	Surface	9	3.2 mm	Modified Flake	Quartzite	1			1			1.1
14	A	Surface	9	3.2 mm	Utilized Flake	Quartzite	4			4			5.1
14	A	Surface	9	3.2 mm	Uniface	Quartzite	1				1		7.5
14	A	Surface	9	3.2 mm	Flake Debitage	Quartzite	1101		801	296	4		299.5
14	A	Surface	9	3.2 mm	Pottery	Undecorated	1						3.2
14	A	Surface	9	3.2 mm	Bone	Burned	62						3
14	A	Surface	9	3.2 mm	Bone	Unburned	4						1
14	A	Surface	9	3.2 mm	Metal Armament		2						
15	B	9	23	3.2 mm	Projectile Point Fragment	Quartzite	6			6		X	5.1
15	B	9	23	3.2 mm	Projectile Point	Quartzite	1				1		8.3
15	B	9	23	3.2 mm	Utilized Flake	Quartzite	1			1			0.8
15	B	9	23	3.2 mm	Flake Debitage	Quartzite	421		327	94			62.3
15	B	9	23	3.2 mm	Pottery	Undecorated	1						0.1
15	B	9	23	3.2 mm	Bone	Burned	118						6.5
16	B	23	35	3.2 mm	Flake Debitage	Quartzite	22		13	9			3.4
16	B	23	35	3.2 mm	Bone	Burned	1						0.1
17/18	B	35	50	3.2 mm	Flake Debitage	Quartzite	2		1	1			0.4