APPENDIX K:

FEATURE CONTEXT ANALYSES

THERMALLY ALTERED STONE FEATURES

7NC-J-227

Artifact Distribution Analysis: Feature 5

The following comparison of artifacts recovered from Feature 5 and the surrounding sediments are based on data from units N69-71/ E464-466 within Blocks I and H. In total, 515 thermally altered stone and chipped stone artifacts are included in this analysis. There was virtually no chipped stone in Feature 5, while it accounted for over three-quarters of the total in the Ao horizon. E and B horizon sediments had approximately 40 percent chipped stone artifacts (Table K-1).

Table K-1. Artifact Frequency, Feature 5 and Surrounding Sediments

	Feature 5		Ao horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	4	2%	69	78%	59	37%
thermally altered stone	224	98%	20	22%	90	63%
total	228		89		149	
			B horizon		**C horizon**	
			count	freq	count	freq
chipped stone			51	40%	3	
thermally altered stone			75	60%	--	
total			126		3	

The mean weight of thermally altered stone fragments within the feature was greater (>2x) that those in the sediments. Mean weights and frequencies within the sediments vary, frequencies were highest in the E horizon and first level of the B horizon coinciding with the vertical extents of Feature 5 (Table K-2). However, mean weight was lowest in the E horizon (with the highest frequency) suggesting smaller fragments not recognized as being part of Feature 5 or movement of smaller fragments through natural dispersion. Mean weights were similar between the Ao horizon and first level of the B horizon with slightly more and smaller fragments in the Ao. The second through fourth and final level of the B horizon contained larger fragments with a mean weight of 119 g, however seven of 24 fragments weighed over 100 g (some over 500 g) skewing the mean.

Table K-2. Thermally Altered Stone Size (Weight), Feature 5 and Surrounding Sediments

	Feature 5	Ao horizon	E horizon
total (g)	52,888	1,409	3,336
mean	236.1	70.5	37.1
	B horizon level 1	**B horizon level 2-4**	
total (g)	4,146	4,787	
mean	81.3	119.1	

The horizontal distribution of non-feature thermally altered stone within the examined units differs among the three sediment layers (Figure K-1). Fragments were concentrated to the northeast of Feature 5 in the Ao, to the southwest in the E, and to the west in the B (the majority within the first level).

Raw material distributions for the thermally altered stone fragments were similar (78-86 percent quartzite) between the sediments and Feature 5 (Table K-3).

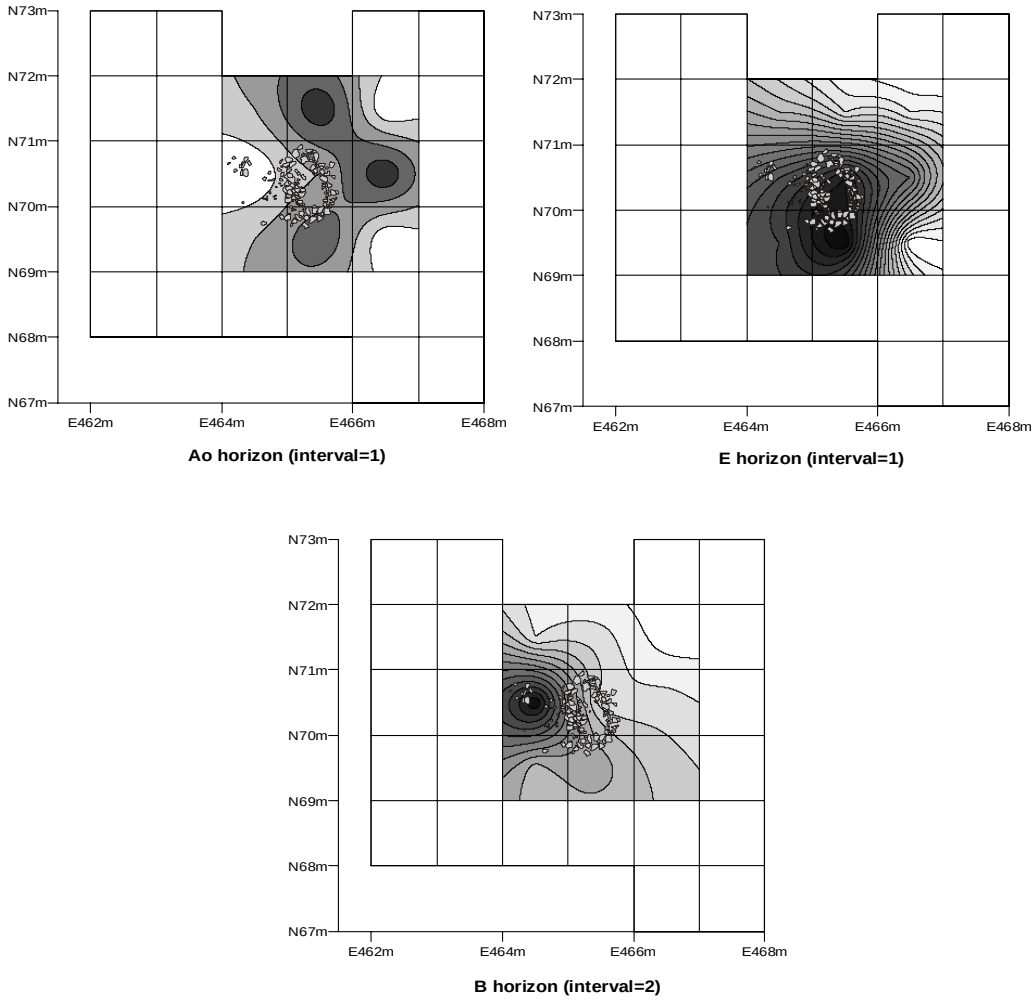


Figure K-1. Frequency Distribution of Non-Feature Thermally Altered Stone (Contours) By Soil Horizon with Feature 5 (Drawn Stones) Superimposed

Table K-3. Thermally Altered Stone Material, Feature 5 and Surrounding Sediments

	Feature 5		**Ao horizon**		**E horizon**	
	count	freq	count	freq	count	freq
quartzite	192	86%	16	80%	70	78%
quartz	24	10%	4	20%	11	12%
other	7	3%	--	--	5	5%
sandstone	1	1%	--	--	4	5%
total	224		20		90	
	B horizon				**B horizon level 4**	
	count	freq			count	freq
quartzite	62	82%			--	--
quartz	6	8%			2	50%
other	6	8%			2	50%
sandstone	1	2%			--	--
total	75				4	

Although there were not enough chipped stone artifacts within Feature 5 to make comparison with the sediment layers useful, any linkage of thermally altered stone within the surrounding sediments with Feature 5 has implications for the chipped stone artifacts contained within those same sediments. Cryptocrystalline materials were in the majority within each sediment layer, with a greater proportion of quartz in the Ao (Table K-4). Overall, there was a moderate density of chipped stone artifacts within the nine units examined with an average of 20 artifacts per unit. However, there was a concentration (79 percent) in the northwestern four units of the examined area, likely related to the cluster of chipped stone artifacts in the northwestern portion of Block I. Vertically, the majority (70 percent) of the chipped stone artifacts were contained within the Ao and E horizons.

Table K-4. Chipped Stone Material, Feature 5 and Surrounding Sediments

	Feature 5		Ao horizon		B horizon		E horizon	
	count	freq	count	freq	count	freq	count	freq
cryptocrystalline	3	75%	42	61%	41	80%	44	74%
quartz	1	25%	25	36%	9	18%	15	26%
quartzite	--	--	1	1%	1	2%	--	--
other	--	--	--	--	--	--	--	--
total	4		69		51		59	

Based on the analysis of the available data, the thermally altered stone fragments contained in the E and B horizons were likely related to the feature and do not represent separate activity or occupation. The above analyses show that raw material frequency and spatial distributions were similar among the examined proveniences. The fragments not included within Feature 5 were generally smaller suggesting some excavation bias and movement throughout the profile, especially in the E horizon closest to the bulk of the feature.

Artifact Distribution Analysis: Feature 17

The following comparison of artifacts recovered from Feature 17 and the surrounding sediments are based on data from units N68-70/ E462-463 within Block I. In total, 514 thermally altered stone and chipped stone artifacts are included in this analysis. There was virtually no chipped stone in Feature 17, while it accounted for one-quarter to two-thirds within the sediments (Table K-5). The lack of chipped stone artifacts within the feature was likely the result of excavator bias, as some of the soil matrix within the feature boundaries was removed as over or underlying sediment.

Table K-5. Artifact Frequency, Feature 17 and Surrounding Sediments

	Feature 17		Ao horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	1	1%	22	34%	32	20%
thermally altered stone	103	99%	44	66%	128	80%
total	104		66		160	
	B horizon level 1		**B horizon level 2**		**B horizon level 3**	
	count	freq	count	freq	count	freq
chipped stone	38	30%	21	46%	6	60%
thermally altered stone	90	70%	25	54%	4	40%

total	128		46		10	

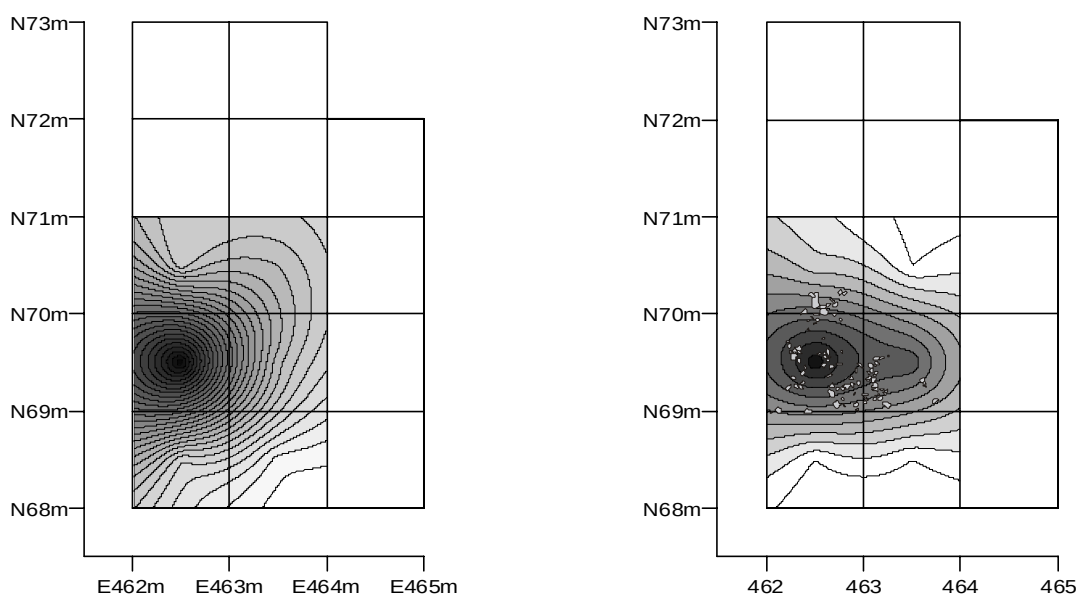
The mean weight of thermally altered stone fragments within the recognized feature was greater that those in the sediments. Mean weight within the sediments was highest in the first level of the B horizon coinciding with the depositional surface of Feature 17 (Table K-6). Mean weights were nearly half as much in the sediments over and underlying the B horizon. Frequency of thermally altered stones was highest in the E horizon just above the feature plane, but consisted of small fragments as indicated by the mean weight.

Table K-6. Thermally Altered Stone Size (Weight), Feature 17 and Surrounding Sediments

	Feature 17	**Ao horizon**	**E horizon**
total (g)	11,835.9	673.8	4,395.2
mean	114.9	15.3	34.3
	B horizon level 1	**B horizon level 2**	**B horizon level 3**
total (g)	6,948.1	1,130.3	93.9
mean	*77.2*	45.2	23.4

The horizontal distribution of non-feature thermally altered stone within the examined units was similar among the three sediment layers (Figure K-2). Horizontal artifact frequencies were similar between the sediment layers and Feature 17 with the wider distribution within the sediments as the feature was not recognized in all six units.

Raw material distributions for the thermally altered stone fragments were similar between the E horizon, the first level of the B horizon, and Feature 17 (Table K-7). Differences in the remaining proveniences were due mainly to small sample size and a lack of or reduced frequency of non-quartzite materials.



Combined Sediment Layers (interval=5) **Feature 17 (interval=5)**

Figure K-2. Frequency Distribution of Thermally Altered Stone within Feature 17 (includes plan view) and the Sediment layers

Table K-7. Thermally Altered Stone Material, Feature 17 and Surrounding Sediments

	Feature 17		Ao horizon		E horizon	
	count	freq	count	freq	count	freq
quartzite	69	67%	36	81%	96	75%
quartz	20	19%	8	19%	19	15%
other	6	6%	--	--	10	8%
sandstone	8	8%	--	--	3	2%
total	103		44		128	
	B horizon level 1		**B horizon level 2**		**B horizon level 3**	
quartzite	60	66%	16	64%	3	75%
quartz	16	18%	8	32%	1	25%
other	9	10%	1	1%	--	--
sandstone	5	6%	--	--	--	--
total	90		25		4	

There were not enough chipped stone artifacts within Feature 17 to make comparison with the sediment layers useful. Cryptocrystalline materials were in the majority within each sediment layer (Table K-8). Overall, there was a moderate density of chipped stone artifacts within the 6 units examined with an average of 20 artifacts per unit. Ninety-five percent of the chipped stone artifacts were recovered from the four northern units of the examined area. Vertically, the majority (67 percent) chipped stone artifacts were contained within the B horizon. There also was a similar vertical distribution of chipped stone raw materials. One Late Woodland Levanna point (#613-1) was recovered from the E horizon in N68/E462. With the exception of the point and one core, the remaining chipped stone artifacts consisted of flaking debris.

Table K-8. Chipped Stone Material, Feature 17 and Surrounding Sediments

	Feature 17		Ao horizon		B horizon		E horizon	
	count	freq	count	freq	count	freq	count	freq
cryptocrystalline	1	100%	14	64%	52	77%	26	81%
quartz	--	--	6	27%	14	21%	5	15%
quartzite	--	--	2	6%	1	2%	1	4%
other	--	--	--	--	--	--	--	--
total	1		22		67		32	

The thermally altered stone fragments in the sediment layers that surrounded Feature 17 were likely related to the feature. The above analyses show that raw material frequency and spatial distributions were similar among the examined proveniences. The fragments not included within Feature 17 were generally smaller suggesting some excavation bias and movement throughout the profile, as mean weight and fragment frequency decreased both above and below the feature's plane at the top of the B horizon.

Artifact Distribution Analysis: Feature 19

The following comparison of artifacts recovered from Feature 19 and the surrounding sediments are based on data from units N73-75/ E475-478 within Block G. With respect to artifact types, there was virtually no chipped stone in Feature 19, while it accounted for

almost two-thirds of the total in the plow zone (Ap) and B horizon. However, this discrepancy was likely related to the small volume of soil excavated in association with the dispersed stones of Feature 19 (Table K-9).

Table K-9. Artifact Frequency, Feature 19 and Surrounding Sediments

	Feature 19		Ap horizon		B horizon	
	count	freq	count	freq	count	freq
chipped stone	2	4%	84	59%	28	56%
thermally altered stone	47	96%	58	41%	22	44%
total	49		142		50	

The mean weight of thermally altered stone fragments within the feature was greater that those in the sediments (Table K-10). Mean weights within the sediments were similar when taken as a whole: Ap =89 g and B =110 g. However, when the B horizon is broken down by 10 cm level, larger fragments were evident (by mean weight) in the first level (148 g) than in the second (28 g) with 15 and 7 fragments respectively. Given the disturbed nature of the Ap, a vertical breakdown may not be meaningful, although field notes indicate very few artifacts were recovered from the first 5-10 cm (humus layer).

Table K-10. Thermally Altered Stone Size (Weight), Feature 19 and Surrounding Sediments

	Feature 19	Ap horizon	B horizon
total (g)	9,846.1	5,196.4	2,423.7
mean	209.5	89.6	110.2
	B horizon level 1	**B horizon level 2**	
total (g)	2,224.5	199.2	
mean	148.3	28.4	

Raw material distributions for the thermally altered stone fragments also were different, both between the feature and either sediment stratum, and between the two sediment deposits themselves (Table K-11). The difference between the B horizon and Feature 19 was related to sample size within the B horizon, which had a few more sandstone fragments, otherwise the sediment had a similar distribution to the feature. The Ap had more quartz thermally altered stone fragments than the were in the B horizon, which corresponded with a higher frequency of quartz chipped stone artifacts in the Ap. This may be the result of a misidentification of quartz shatter as thermally altered stone, however the 16 fragments have a mean weight of 30 g. Given the small size of the fragments and the overall small sample size of the thermally altered stone assemblage throughout the area examined here, the higher frequency of quartz may represent one fractured cobble.

Table K-11. Thermally Altered Stone Material, Feature 19 and Surrounding Sediments

	Feature 19		Ap horizon		B horizon	
	count	freq	count	freq	count	freq
quartzite	40	85%	28	48%	15	68%
quartz	3	6%	16	28%	1	5%
other	3	6%	6	10%	3	14%
sandstone	1	2%	8	14%	3	14%
total	**47**		**58**		**22**	

There were not enough chipped stone artifacts within Feature 19 to make comparison with the sediment layers useful. Cryptocrystalline materials were in the majority within each sediment layer, with a greater proportion of quartz in the Ap (Table K-12). Overall, there was a low density of chipped stone artifacts within the 12 units examined with an average of 7 artifacts per unit. However, there was a concentration in units N75-74/E475 (n=22, 14) likely related to the cluster of chipped stone artifacts in the northwestern portion of Block G. There was one Poplar Island/Lackawaxen point (#978-4) in the B horizon.

Table K-12. Chipped Stone Material, Feature 19 and Surrounding Sediments

	Feature 19		Ap horizon		B horizon	
	count	freq	count	freq	count	freq
cryptocrystalline	1	50%	45	53%	21	75%
quartz	1	50%	37	44%	7	25%
quartzite	--	--	--.	--	--	--
other	--	--	2	3%	--	--
total	**2**		**84**		**28**	

Based on the analysis of the available data, it would seem that the thermally altered stone fragments above and below Feature 19 were related and do not represent separate activity or occupation (Figure K-3). Fragments not included within the delineated boundaries of the feature consisted of smaller fragments contained in the overlying Ap, the underlying second level of the B horizon, and similar to slightly smaller fragments in the first level of the B horizon, closer to the feature's depositional surface at 10.22 m amsl (in unit N74/E476, the Ap is 10.51-10.22 m and the B horizon is 10.22-9.37 m). The relatively low numbers of thermally altered stone (127 in 12 square meters) would suggest one thermal episode, as they are concentrated in and around the identified feature.

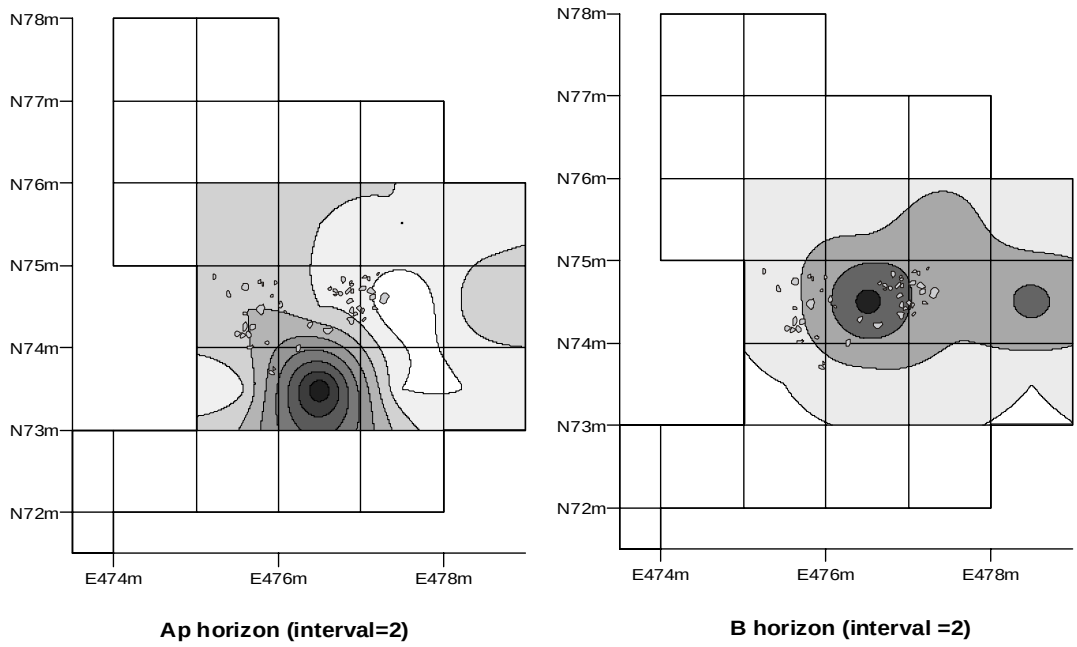


Figure K-3. Frequency Distribution of Non-feature Thermally Altered Stones (Contours) with Feature 19 (Drawn Stones) Superimposed

Artifact Distribution Analysis: Feature 36

The following comparison of artifacts recovered from Feature 36 and the surrounding sediments are based on data from units N72-73/E470-472 within Block H. In total, 229 thermally altered stone and chipped stone artifacts are included in this analysis. There was only one chipped stone artifact (flake) recovered from Feature 36 and only 39 from the surrounding sediments (Table K-13). The Ao and E horizons consisted of one arbitrary level each in the examined units, whereas the B horizon consisted of three or more.

Table K-13. Artifact Frequency, Feature 36 and Surrounding Sediments

	Feature 36		Ao horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	1	1%	6	67%	24	33%
thermally altered stone	81	99%	3	33%	46	67%
total	82		9		70	
	B horizon level 1		**B horizon level 2**		**B horizon level 3**	
	count	freq	count	freq	count	freq
chipped stone	4	7%	2	25%	3	50%
thermally altered stone	50	93%	6	75%	3	50%
total	54		8		6	

The mean weight of thermally altered stone fragments within the recognized feature was greater (>3x) than those in the surrounding sediments (Table K-14). Thermally altered stone frequency within the sediments was nearly even in the overlying E horizon and first level of the B horizon containing Feature 36. Fragment size within the E horizon was slightly larger than that of the B horizon. Mean weights and frequencies decreased considerably in the sediments over and underlying the E horizon and first level of B horizon.

Table K-14. Thermally Altered Stone Size (Weight), Feature 36 and Surrounding Sediments

	Feature 36	Ao horizon	E horizon
total (g)	12,737.0	36.5	2,260.4
mean	157.2	12.1	49.1

	B horizon level 1	B horizon level 2	B horizon level 3
total (g)	1,669.8	118.3	88.1
mean	33.3	19.7	29.3

Raw material distributions for the thermally altered stone fragments were most similar between the first level of the B horizon and Feature 36, which contained more non-quartzite materials (Table K-15). There was a higher frequency of quartzite in the E horizon, while the remaining proveniences consisted entirely of quartzite.

Table K-15. Thermally Altered Stone Material, Feature 36 and Surrounding Sediments

	Feature 36		Ao horizon		E horizon	
	count	freq	count	freq	count	freq
quartzite	61	75%	3	100%	42	91%
quartz	12	15%	--	--	1	3%
other	1	1%	--	--	3	6%
sandstone	7	9%	--	--	--	--
total	81		3		46	
	B horizon level 1		**B horizon level 2**		**B horizon level 3**	
	count	freq			count	freq
quartzite	39	78%	6	100%	3	100%
quartz	3	6%	--	--	--	--
other	8	16%	--	--	--	--
sandstone	--	--	--	--	--	--
total	50		6		3	

The horizontal distribution of non-feature thermally altered stone within the examined units was similar among the three sediment layers. The majority of the stones were contained in the western four units of the examined area, nearest the densest portion of Feature 36 (Figure K-4).

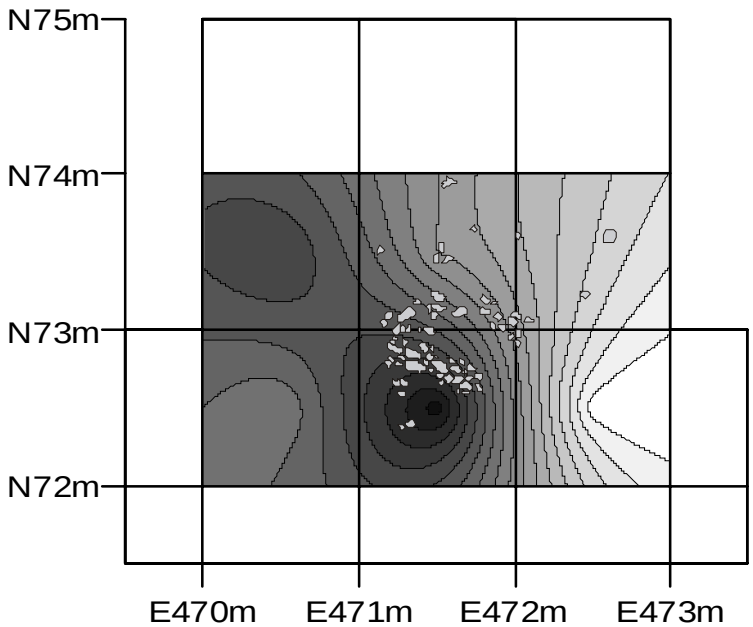


Figure K-4. Distribution of Non-Feature Thermally Altered Stone (Contours) with Feature 36 (Drawn Stones) Superimposed

Despite the small sample sizes of the chipped stone artifacts examined here, some patterns were evident. Sixty-two percent of the lithic materials represented were cryptocrystalline with nearly one-half exhibiting remnant cortex. With the exception of the one Levanna point (#528-1) recovered in the B horizon within unit N72/E470, all of the chipped stone artifacts consisted of flaking debris. The majority (61 percent) of which was contained in the E

horizon overlying Feature 36. Horizontally, the bulk of the flaking debris was recovered from the northern three units of the area examined.

Based on the analysis of the available data, the thermally altered stone fragments in the sediment layers that surrounded Feature 36 were likely related to the feature. The above analyses show that raw material frequency and spatial distributions were similar among the examined proveniences. The fragments not included within the recognized boundaries of Feature 36 were generally smaller suggesting some excavation bias and movement throughout the profile, as mean weight and fragment frequency decreased both above and below the feature's plane at the top of the B horizon. The spatial distribution of the chipped stone artifacts suggests that the flaking activity occurred after the deposition of the stones identified as Feature 36.

Artifact Distribution Analysis: Feature 40

The following comparison of artifacts recovered from Feature 40 and the surrounding sediments are based on data from units N65-67/ E471-473 within Block H. In total, 231 thermally altered stone and chipped stone artifacts are included in this analysis (Table K-16). The E horizon is presented by arbitrary level in order to provide the highest degree of vertical resolution, as the depositional surface of Feature 40 was identified within the second level of the E horizon.

Table K-16. Artifact Frequency, Feature 40 and Surrounding Sediments

	Feature 40				Ao horizon	
	count	**freq**			**count**	**freq**
chipped stone	--	--			27	82%
thermally altered stone	28	100%			6	18%
total	28				33	
	E horizon level 1		**E horizon level 2**		**B horizon**	
	count	**freq**	**count**	**freq**	**count**	**freq**
chipped stone	34	72%	23	32%	22	43%
thermally altered stone	13	28%	49	68%	29	57%
total	47		72		51	

The mean weight of thermally altered stone fragments within the recognized feature was greater that those in the surrounding sediments (Table K-17). Mean weight within the sediments was highest in the first level of the B horizon, just below the depositional surface of Feature 40. Thermally altered stone was recovered from the first three levels of B horizon in the examined area. With the exception of three larger fragments (approx. 200 g /each) in the second level of the B horizon, fragment size and counts decreased with depth (Table K-17). The number of thermally altered stone fragments within the E horizon was twice the count of the B horizon, although mean weights were considerably less than those of the B horizon and Feature 40. Raw material distributions for the thermally altered stone fragments were similar between the sediments and Feature 40 (Table K-18).

Table K-17. Thermally Altered Stone Size (Weight), Feature 40 and Surrounding Sediments

	Feature 40		Ao horizon
total (g)	2,288.4		52.6
mean	81.7		8.7
	E horizon level 1	**E horizon level 2**	**B horizon**
total (g)	132.0	1,236.0	1,214.6
mean	10.15	25.2	41.8

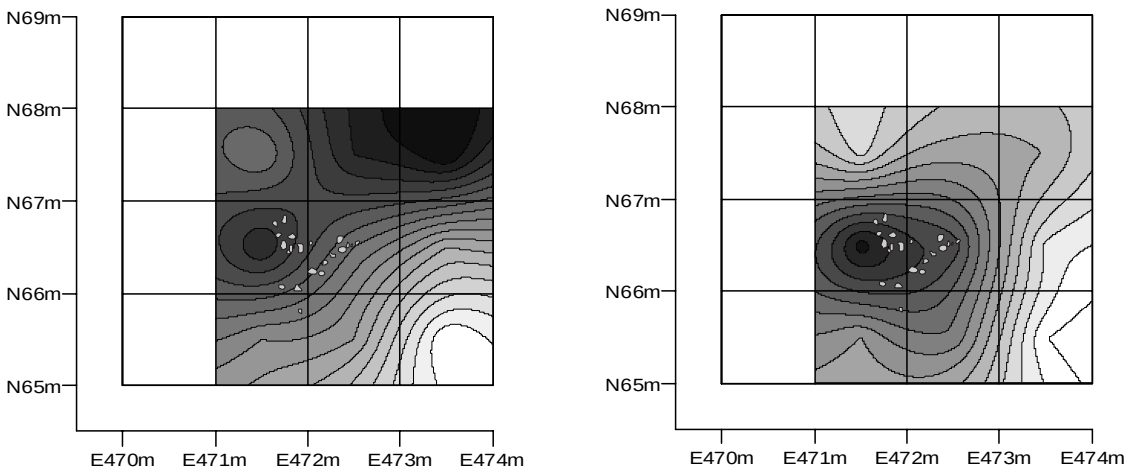
Table K-18. Thermally Altered Stone Material, Feature 40 and Surrounding Sediments

	Feature 40				Ao horizon	
	count	freq			count	freq
quartzite	15	53%			2	33%
quartz	9	32%			3	50%
other	--	--			1	17%
sandstone	4	15%			--	--
total	28				6	
	E horizon level 1		**E horizon level 2**		**B horizon**	
	count	freq			count	freq
quartzite	8	61%	32	65%	21	72%
quartz	2	16%	14	29%	7	24%
other	3	23%	3	6%	1	4%
sandstone	--	--	--	--	--	
total	13		49		29	

The horizontal distribution of non-feature thermally altered stone within the examined units was similar among the three sediment layers, with the majority concentrated in the six northern units. Counts were highest within the E and B horizon in units N67/E471-473, however mean weights were greater in units N66/E471-473 (Figure K-5) suggesting horizontal movement of small fragments to the north with larger fragments closer to the recognized boundaries of Feature 40. Given the proximity of several larger thermally altered stone features (Features 30 and 35), the origin of the smaller fragments cannot be definitively attributed to Feature 40.

Although no chipped stone artifacts occurred within Feature 40, any connections made between the thermally altered stone within the surrounding sediments and Feature 40 has implications for the chipped stone artifacts contained within those same sediments. There were 106 chipped stone artifacts in the surrounding sediments with a density ranging from 8 to 20 artifacts per unit. Artifact types included two points and one biface with the remainder consisting of flaking debris. Vertically, just over one-half of the chipped stone artifacts were contained within the E horizon with the remaining split between the Ao and B horizons (Table K-19). The vertical distribution suggests that the activities that created the flaking debris occurred contemporaneously or after the deposition of Feature 40 and the similarity of chipped stone materials also suggests movement throughout the profile.

Chronologically diagnostic artifacts within the examined area included two Poplar Island/Lackawaxen (small stemmed Woodland I) points, seven Mockley ceramic sherds, and two Townsend ceramic sherds. All were contained within the E horizon.



By Count (interval=1) **By Weight (interval=50 gm)**

Figure K-5. Distribution of Non-Feature Thermally Altered Stone (Contours) by Count and Weight with Feature 40 (Drawn Stones) Superimposed

Table K-19. Chipped Stone Material, Feature 40 and Surrounding Sediments

	Feature 40				**Ao horizon**	
	count	freq			count	freq
cryptocrystalline	--	--			18	67%
quartz	--	--			9	33%
quartzite	--	--			--	--
other	--	--			--	--
total	--	0%			27	
	E horizon level 1		**E horizon level 2**		**B horizon**	
	count	freq			count	freq
cryptocrystalline	18	53%	12	52%	13	59%
quartz	15	44%	9	39%	9	41%
quartzite	--	--	--	--	--	--
other	1	3%	2	9%	--	--
total	34		23		22	

Based on the analysis of the available data, the thermally altered stone fragments in the sediment layers that surrounded Feature 40 were likely related to the feature. The above analyses show that raw material frequency and spatial distributions were similar among the examined proveniences. However, given the intensity of thermal activities in this portion of the excavation block, fragments examined outside the units in which Feature 40 was identified cannot be confidently attributed to the same thermal event. The fragments in vertical association with, but not included within the recognized boundaries of Feature 40, were generally smaller suggesting some excavation bias and movement throughout the profile, as mean weight and fragment frequency decreased both above and below the feature's depositional plane at the bottom of the E horizon.

THERMALLY ALTERED STONE FEATURES

7NC-J-228

Artifact Distribution Analysis: Feature 21

Feature 21 was a well-defined cluster of thermally altered stone fragments located near the center of Block A. As drawn in excavation, the feature was centered at N229/E448, with the boundaries drawn to include small portions of four additional units: N228/E447 and 449, and N229/E447 and E449. For contextual analysis, nine units were examined, in a 3-by-3-m block around the central unit: N228-230/E447-449.

The difference between the feature and the surrounding deposits was comparatively distinct. There was little chipped stone included in the feature, while in contrast, chipping debris comprised approximately 20 percent by count of the artifacts in the A and E horizons of the surrounding units (Table K-20).

Table K-20. Artifact Frequency, Feature 21 and Surrounding Sediments

	Feature 21		A horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	14	6%	47	22%	70	19%
thermally altered stone	223	94%	167	78%	290	81%
total	237		214		360	

There was a clear distinction in the size of the thermally altered stone fragments between the feature and the sediments (Table K-21). Mean fragment weight was almost four times as high in the feature. Raw material types among thermally altered stone fragments in the feature also appeared to be different (Table K-22).

Table K-21. Thermally Altered Stone Size (weight), Feature 21 and Surrounding Sediments

	Feature 21	A horizon	E horizon
total (g)	13,645	2,718	4,622
mean	62.2	16.3	15.9

Table K-22. Thermally Altered Stone Material, Feature 21 and Surrounding Sediments

	Feature 21		A horizon		E horizon	
	count	freq	count	freq	count	freq
quartzite	148	66%	93	56%	149	51%
quartz	68	30%	65	39%	122	42%
other	3	1%	9	5%	16	06%
sandstone	4	2%	0	0	3	1%
total	223		167		290	

The difference between the materials in the feature and in the A horizon was less pronounced and suggested that there may have been some spreading of feature material beyond the boundaries drawn in the field (Tables K-22 and K-23).

Table K- 23. Chipped Stone Material, Feature 21 and Surrounding Sediments

	Feature 21		A horizon		E horizon	
	count	freq	count	freq	count	freq
jasper	4	29%	20	43%	20	29%
quartz	7	50%	2	4%	16	23%
chert	3	21%	21	45%	25	36%
quartzite	0	0	4	9%	7	10%
other	0	0	0	0	2	3%
total	14		47		70	

Comparative Analysis: Feature 22 and Feature 7

The following analyses were conducted to determine whether Features 22 and 7 were separate features or whether Feature 22 was actually part of the fill of Feature 7. Feature 7 was a large, deep pit feature that contained artifacts throughout its depth. Feature 22 was identified in the field as a scatter of thermally altered stone that overlay Feature 7.

Artifact frequency in Feature 7 was positively correlated with depth (Figure K-6). Linear relationships were present between 10-cm excavation level and the frequency of occurrence of both chipped stone (r^2=0.956) and thermally altered stone fragments (r^2=0.915).

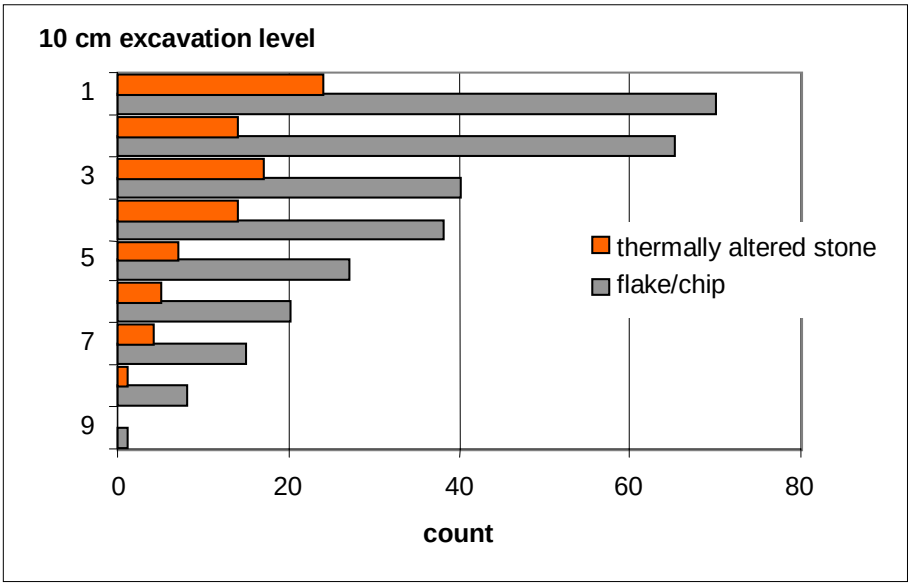


Figure K-6. Feature 7 Artifact Frequency by Depth.

The rock fragments included in the plan views of Feature 22 ranged in depth from ~9.85 to ~10.0 m. The first three levels of Feature 7 were 40-60 cm below datum (datum A-3, 10.42 m), placing them in the same range: 9.82–10.02 m. Therefore, the thermally altered stone fragments in those levels were used in the comparative analysis.

The two proveniences, the first three levels of Feature 7 and Feature 22, appeared to have been different in terms of their artifact content. A considerably greater amount of chipped

stone occurred in Feature 7 than in Feature 22 (Table K-24). The ratio of flaking debris to thermally altered stone fragments in the upper levels of Feature 7 was over 3:1 (flakes/chips=284, thermally altered stone=86), while almost no chipped stone was included in Feature 22. The sizes of the thermally altered stone fragments in Feature 7 were very low in comparison with those in Feature 22, based on mean weight calculation (Table K-25). The range of means (the mean weights calculated for the several intra-feature proveniences or levels) was between 99 and 106 g for Feature 22, in contrast with between 7 and 34 g for Feature 7.

Table K-24. Artifact Frequency, Features 22 and 7

	Feature 22		Feature 7			
	count	**freq**	**count**	**freq**		
chipped stone	2	4%	261	67%		
thermally altered stone	52	96%	129	33%		
total	54		390			

Table K-25. Thermally Altered Stone Size (Weight), Features 22 and 7

	Feature 22	Feature 7	
total (g)	6,420	3,022	
mean	123.5	23.4	

The raw material distribution among the thermally altered stone fragments also differed (Table K-26). While Feature 22 contained a lower proportion of quartzite than most of the thermally altered stone concentrations at the site—less than one-half of the rock in Feature 22 was quartzite, in comparison to two-thirds in most of the thermally altered stone features—Feature 7 contained an even lower proportion, about one-third. Quartz was less frequent in Feature 7 as well, with the difference made up in other materials, particularly sandstone and siltstone, which comprised 17 and 21 percent of the total, respectively.

Table K-26. Thermally Altered Stone Material, Features 22 and 7

	Feature 22		Feature 7			
	count	**freq**	**count**	**freq**		
quartzite	25	48%	41	32%		
quartz	20	38%	32	25%		
other	5	10%	39	30%		
sandstone	2	4%	17	13%		
total	52		129			

Based on the size and raw material attributes analyzed, the thermally altered stone fragments in Feature 22 appeared to be unrelated to those in the fill in Feature 7, and so it was considered to have been a separate feature.

Artifact Distribution Analysis: Feature 23

Feature 23 was a widely scattered group of thermally altered stone fragments. As drawn during excavation, the boundaries of the feature occurred in portions of eight units: N226-

227/E447-450. A continuous scatter of thermally altered stone fragments was documented across 16 units, including those eight units and others to the south and east: N225/E449-52, N226/E448-452, N227/E447-452, and N228/E448. These 16 units were used in the contextual analysis.

While there were similarities between the artifacts in Feature 23 and in the sediments around and beneath the feature, there were substantial differences as well (Table K-27). The relative proportion of thermally altered stone fragments varied, for example. There was virtually no chipped stone in Feature 23, while chipped stone accounted for one-quarter of the total in the A horizon and one-third in the E horizon (Table K-27).

Table K-27. Artifact Type Frequency, Feature 23 and Surrounding Sediments

	Feature 23		A horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	2	1%	160	25%	224	33%
thermally altered stone	108	96%	170	87%	71	70%
tas	141	99%	476	75%	459	67%
total	143		636		683	

The mean weight of thermally altered stone fragments was considerably higher in the feature than in the surrounding sediments, implying that there were larger fragments in the feature than in the surrounding matrix (Table K-28). This may have been a consequence of either different activities that produced different sized stone fragments in the two proveniences, or of small spalls from the stones in the feature that were not recognized as part of the feature the matrix.

Table K-28. Thermally Altered Stone Size (weight), Feature 23 and Surrounding Sediments

	Feature 23	A horizon	E horizon
total (g)	11,904	10,262	6,901
mean	84.4	21.6	15.0

Raw material distributions for the thermally altered stone fragments were different, both between the feature and either sediment stratum, and between the two sediment strata themselves (Table K-29). In each case the variation was in the proportion of quartzite and the minority materials, jasper, chert, and siltstone. More quartzite was present in Feature 23 than in the A horizon, and more in the A horizon than in the E horizon. The variation in quartzite frequency between the A and E horizons was not as obvious as in comparison with the feature, but the difference was statistically significant (*chi-sq*=23.72; *df*=2; *p*=0.000).

Table K-29. Thermally Altered Stone Material, Feature 23 and Surrounding Sediments

	Feature 23		A horizon		E horizon	
	count	freq	count	freq	count	freq
quartzite	125	89%	299	63%	276	60%
quartz	11	8%	139	29%	100	22%
other	1	1%	33	7%	73	16%

sandstone	4	3%	5	1%	10	2%
total	141		476		459	

With almost no chipped stone in the feature, there was no need (or basis) for raw material comparison. The chipped stone material distributions did vary somewhat between Stratum A and Stratum E (Table K-30). The difference was significant statistically (*chi-sq*=11.38; *df*=3; *p*=0.010), which was probably related to higher frequencies of jasper and quartzite seen in Stratum E.

Table K-30. Chipped Stone Material, Feature 23 and Surrounding Sediments

	Feature 23		***A horizon***		***E horizon***	
	count	**freq**	**count**	**freq**	**count**	**freq**
jasper	1	50%	73	46%	123	55%
quartz	0	0	23	14%	31	14%
chert	1	50%	57	36%	51	23%
quartzite	0	0	5	3%	19	8%
other	0	0	2	1%	0	0
total	2		160		224	

Based on the analysis so far, most of the larger thermally altered stone fragments in the units in the southeastern part of the block have been identified as part of Feature 23, which is an admittedly scattered surface feature. Many if not most of the smaller thermally altered stone fragments in the units are probably associated with the scatter as well. The amount of other material in the units, though, suggests that additional deposits were present, which isn't surprising, given the fairly large area involved.

The relatively uniform horizontal distributions in the A and E horizons make it difficult to determine whether there may have been more than one artifact scatter present (thinking specifically of thermally altered stone concentrations). Artifact frequencies between the two strata (vertically) are about the same in most of the units, as well.

Artifact Distribution Analysis: Feature 26

Feature 26 was a widely scattered group of thermally altered stone fragments along the northern edge of Block A, located on a single plane at the top of the E horizon (average elevation 9.61 m amsl). The feature, as defined during excavation, occurred within 10 units in a group bounded by N235-238/E445-448. The greatest concentration of fragments occurred in three units, N236/E447-448, N237/E448.

The analysis that follows used those units and three additional units that were largely covered by the feature: N235/E446, N236/E445-447, N237/E446, E448. The artifacts in the sediment around and beneath Feature 26 appeared similar in terms of artifact type distribution to those in the feature, with roughly the same proportion of thermally altered stone and chipped stone in the A horizon, but a slightly lower proportion of thermally altered stone fragments in the E horizon (Table K-31).

Table K-31. Artifact Type Frequency						
	Feature 26		A horizon		E horizon	
	count	freq	count	freq	count	freq
chipped stone	4	4%	26	13%	31	30%
thermally altered stone	108	96%	170	87%	71	70%
total	112		196		102	

The mean weight of thermally altered stone fragments was nearly identical in each of the three proveniences, decreasing only slightly with depth in the E horizon (Table K-32). Raw material distributions were also nearly identical, while chipped stone raw material distributions varied between the feature and both of the two sediment layers (Tables K-33 and K-34).

Table K-32. Thermally Altered Stone Size (weight)			
	Feature 26	A horizon	E horizon
total (g)	13,077	6,560	2,798
mean	31.1	38.6	27.4

Table K-33. Thermally Altered Stone Material						
	Feature 26		A horizon		E horizon	
	count	freq	count	freq	count	freq
quartzite	76	68%	105	0.58%	55	69%
quartz	29	26%	58	0.32%	12	15%
other	7	6%	17	0.09%	12	15%
sandstone	0	0	0	0.00%	1	1%
total	112		180		80	

Table K-34. Chipped Stone Material						
	Feature 26		A horizon		E horizon	
	count	freq	count	freq	count	freq
jasper	4	57%	11	27%	16	24%
quartz	0	0	16	39%	21	31%
chert	3	43%	13	32%	28	42%
quartzite	0	0	1	2%	0	0
other	0	0	0	0	2	3%
total	7		41		67	

Based on the attributes analyzed, much of the thermally altered stone in the units surrounding Feature 26 appeared to have been associated with the feature, possibly consisting of slightly smaller fragments that were not included in the delineation of the feature in the field.

A higher frequency of thermally altered stone fragments was observed in both the A and E horizons in one unit, N236/E447, suggesting that this unit may have been the original center of the cluster (Table K-35). The analyses were conducted for the thermally altered stone data from that unit alone and a form of control.

Table K-35. Artifact Frequency, Feature 26 and Unit N236/E447						
	Feature 26		N236/E447-A horizon		N236/E447-E horizon	
	count	freq	count	freq	count	freq
chipped stone	4	4%	2	4%	6	21%
thermally altered stone	108	96%	50	96%	23	79%
total	112		52		29	

The difference between the feature and Stratum A appeared to have been negligible: the ratios of thermally altered stone fragments to chipped stone artifacts were nearly identical (Table K-35), mean weights were similar (Table K-36), as was the raw material distribution among the thermally altered stone fragments (Table K-37). The sample from the E horizon was small, making comparison using the same criteria difficult. The relative proportions of chipped stone and thermally altered stone fragments were slightly different from those in the feature, but the sizes of the heated rock fragments were similar, as was the ratio of quartzite to other materials. Thus, the data seemed to suggest that most of the artifacts in the unit were associated with the artifact scatter designated Feature 26.

Table K-36. Thermally Altered Stone Size (weight)			
	Feature 26	N236/E447-A horizon	N236/E447-E horizon
total (g)	13,077	2,599	917
mean	31.1	52.0	39.9

Table K-37. Thermally Altered Stone Material						
	Feature 26		N236/E447-A horizon		N236/E447-E horizon	
	count	freq	count	freq	count	freq
quartzite	76	68%	26	52%	18	78%
quartz	29	26%	18	36%	2	5%
other	7	6%	6	12%	2	5%
sandstone	0	0	0	0	1	2%
total	112		50		23	

PIT FEATURES

7NC-J-228

Artifact Distribution Analysis: Feature 7

Feature 7 was a large pit feature that was oval in plan view at its opening (as first identified in the E horizon), and containing with deep, sloping side walls. Artifact content was compared with that of the surrounding deposits. The feature was fully or partly contained in six units (N228-230/E445-446), while most of the basin was located within three of those units (N228-229/E445 and N229/E446). For context, non-feature proveniences from the six units, plus sediments from three units to the east and three to the west, were examined. Although there was little direct overlap of features in this part of the excavation block, the area was relatively crowded, so that the meter buffer selected for analysis around the basin did intersect several of the thermally altered stone clusters. The sediment sample thus contained material from Feature 21, Feature 22, Feature 23, Feature 43, Feature 45, as well as from the two natural disturbances (excavated as Features 3 and 8, but later determined to have been non-cultural).

The difference in the proportions of chipped stone and thermally altered stone fragments in Feature 7 and the surrounding sediments (Table K-38), was due largely to stones from the thermally altered stone features in the units around Feature 7. Mean fragment weight was lower for thermally altered stone fragments in Feature 7 (Table K-39), as might be expected if the debris had been washed in over time. Quartzite fragments tend to be larger than fragments of burned chert, jasper, or sandstone, due to larger cobble size (Appendix E) and the tendency of quartzite to shatter less regularly than other materials (House and Smith 1975; Topping 1998), so that fewer quartzite fragments may have found their way into the basin as it infilled.

Table K-38. Artifact Frequency, Feature 7 and Surrounding Sediments

	Feature 7		Sediments	
	count	freq	count	freq
chipped stone	378	68%	527	48%
thermally altered stone	176	32%	566	52%
total	554		1,093	

Table K-39. Thermally Altered Stone Size (Weight), Feature 7 and Surrounding Sediments

	Feature 7	Sediments
total (g)	4,049	25,623
mean	23.0	45.3

The distribution of raw material types among the fragments in Feature 7 was different from the distribution in the sediments (Table K-40), with considerably less quartzite and more stone in the “other” category (including sandstone, siltstone, and cryptocrystalline rocks). In contrast, the sediments and thermally altered stone features had similar raw material distributions, which was expected since there appeared to have been a substantial amount of fugitive debris from the features present in the surrounding sediments (see the analyses of the individual thermally altered stone features in this appendix for details). The difference in material types in Feature 7 may have been related to artifact size.

Table K-40. Thermally Altered Stone Material, Feature 7 and Surrounding Sediments

	Feature 7		Sediments		TAS features	
	count	freq	count	freq	count	freq
quartzite	60	34%	244	54%	71	61%
quartz	47	27%	149	33%	30	26%
other	65	37%	56	12%	16	14%
total	176		449		117	

Raw material frequencies among chipped stone artifacts were roughly the same in Feature 7 and the sediments (Table K-41). Yet, the mean weight of the fragments was lower, indicating that smaller artifacts were present in the basin than in the surrounding sediments (Table K-42). An analysis of the size-grade distribution of flaking debris showed little difference between the two proveniences at the scale employed in the analysis (1 cm interval). While the implication of the higher frequency of size-grade 1 debris in the sediments was unclear, since that interval represented an incomplete sample, the distributions in the larger grades were almost identical.

Table K-41. Chipped Stone Material, Feature 7 and Surrounding Sediments

	Feature 7		Sediments	
	count	freq	count	freq
cryptocrystalline	211	56%	336	64%
quartz	154	44%	171	32%
quartzite	13	3%	20	4%
total	378		527	

Table K-42. Chipped Stone Size, Feature 7 and Surrounding Sediments

	Feature 7		Sediments	
	count	freq	count	freq
mean weight	2.2		3.1	
size grade				
	count	freq	count	freq
s-grade 1	51	14%	119	23%
s-grade 2	261	70%	307	59%
s-grade 3	49	13%	69	13%
s-grade 4	6	2%	15	3%
s-grade 5	3	1%	5	1%
s-grade 6	2	1%	7	1%

The conclusion drawn from these analyses was that the artifacts in the basin were smaller in size than those in the sediments surrounding the feature. There were differences in the proportions of artifact type and raw materials, but these could generally be attributed to the fact that the excavation units surrounding the feature contained several thermally altered stone features that influenced the artifact frequency data.

Artifact Distribution Analysis: Feature 9

Feature 9 was a large pit feature that was oval in plan view at its opening as identified at the base of the A horizon at an average elevation of 9.63 m amsl. The pit was relatively shallow, with sloping side walls and a vaguely rounded base. Artifact content was compared with that of the surrounding deposits. The feature was centered at N233/E451 covering almost all of the area defined by the boundaries of that excavation unit. It overlapped five other units (N232/E450, N233/E452, and N234/E451-452). Since the feature occupied less than one-half of each of these surrounding units, they were used as the basis for the contextual analysis. There was only one additional feature in the immediate vicinity of Feature 9, a large thermally altered stone cluster, designated Feature 1, that was located directly adjacent to the basin on its northwest side. The sediment sample thus contained thermally altered stone fragments from Feature 1.

The difference in the proportions of artifact types—chipped stone and thermally altered stone fragments—between the proveniences was due largely to the burned rock from Feature 1 in the units to the north and west of the basin (Table K-43). The sizes of the thermally altered stone fragments, as measured by mean artifact weight, were similar in both proveniences (Table K-44). The distribution of raw material types among the thermally altered stone fragments in Feature 9 was different from the distribution in the sediments, with considerably less quartzite present (Table K-45) but more stone in the "other" category (sandstone, siltstone, and cryptocrystalline rocks).

Table K-43. Artifact Frequency, Feature 9 and Surrounding Sediments

	Feature 9		Sediments	
	count	freq	count	freq
chipped stone	38	48%	194	33%
thermally altered stone	42	52%	393	67%
total	80		587	

Table K-44. Thermally Altered Stone Size (Weight), Feature 9 and Surrounding Sediments

	Feature 9	Sediments
total (g)	2,245	17,583
mean	53.5	44.7

Table K-45. Thermally Altered Stone Material, Feature 9 and Surrounding Sediments

	Feature 9		Sediments	
	count	freq	count	freq
quartzite	9	21%	187	48%
quartz	21	50%	156	40%
other	12	29%	50	13%
total	42		393	

The chipped stone artifact sample from Feature 9 was small, and it showed a different raw material distribution from the sample in the sediments around the basin. The artifacts in the feature consisted solely of cryptocrystalline and quartz, with a slightly higher proportion of

the former present (Table K-46). The sediments contained mostly cryptocrystalline artifacts, with quartz comprising a minority type along with a small amount of quartzite, sandstone and schist. Notably, both proveniences contained a small number of fragments of a material that was unusual at the site, petrified wood (the material was not included in the tables, since it did not appear to have been artifactual). The mean weight of the chipped stone artifacts recovered from Feature 9 was lower than in the surrounding sediments, indicating that smaller artifacts were present in the basin (Table K-47). An analysis of the size-grade distribution of flaking debris supported this finding, showing more artifacts in the larger grades, size-grade 3 and above, in the sediments.

Table K-46. Chipped Stone Material, Feature 9 and Surrounding Sediments

chipped stone material				
	Feature 9		**Sediments**	
	count	**freq**	**count**	**freq**
cryptocrystalline	22	58%	134	71%
quartz	16	42%	45	24%
quartzite	--	--	9	5%
other	--	--	2	1%
total	38		190	

Table K-47. Chipped Stone Size, Feature 9 and Surrounding Sediments

	Feature 9		**Sediments**	
	count	**freq**	**count**	**freq**
mean weight (g)	1.4		32.1	
size grade				
	count	**freq**	**count**	**freq**
s-grade 1	3	8%	21	11%
s-grade 2	27	68%	109	58%
s-grade 3	4	10%	38	20%
s-grade 4	1	3%	9	5%
s-grade 5	3	8%	5	3%
s-grade 6	2	5%	5	3%

In summary, there were different artifact types in the feature than in the surrounding sediments, as based on relative proportions. The thermally altered stone content of the sediments was influenced by material from Feature 1. There were also different proportions of raw materials among the chipped stone artifacts, while the chipped stone in the basin occurred as smaller fragments, on average. While the relationship between feature and sediments was not clear-cut, the characteristics of the artifacts in the two proveniences was different.

Artifact Distribution Analysis: Feature 34

Feature 34 was a large pit feature that was oval in plan view at its opening as it was first identified in the E horizon). It was deep with sloping side walls. Artifact content was compared with that of the surrounding deposits. The feature was fully or partly contained in

four units (N225-226/E446-447). For context, those units plus 11 surrounding units were examined. The sediment sample contained material from the thermally altered stone cluster, Feature 23.

The proportions of chipped stone and thermally altered stone fragments in Feature 34 and the surrounding sediments were almost identical, with each artifact group representing approximately 50 percent of the total count from each provenience (Table K-48). The thermally altered stone fragments in Feature 34 were smaller than those in the sediment proveniences (as measured by mean fragment weight) (Table K-49). The distribution of raw material types among the thermally altered stone fragments in the feature was slightly different from that in the sediments (Table K-50), with less quartzite and more stone in the "other" category (the latter including sandstone, siltstone, ironstone and cryptocrystalline rocks) present in the basin fill. Notably, among the "other" category, both proveniences contained a small amount of a material type unusual at the site, ironstone. This difference in the overall distributions of material types may ultimately have been related to artifact size. Quartzite fragments tend to be larger than fragments of other burned rock, such as chert, jasper, or sandstone, both because the initial cobble size is typically larger (Appendix E) and because quartzite often does not shatter as readily as other materials. If the process by which the feature was filled in were mainly through the erosion of surface materials, fewer quartzite fragments may have been carried into the basin because they were on average larger than fragments of other material types.

Table K-48. Artifact Frequency, Feature 34 and Surrounding Sediments

	Feature 34		Sediments	
	count	freq	count	freq
chipped stone	487	49%	630	53%
thermally altered stone	500	51%	567	47%
total	987		1197	

Table K-49. Thermally Altered Stone Size (Weight), Feature 34 and Surrounding Sediments

	Feature 34	Sediments
total (g)	5,205	8,801
mean	10.4	15.5

Table K-50. Thermally Altered Stone Material, Feature 34 and Surrounding Sediments

	Feature 34		Sediments	
	count	freq	count	freq
quartzite	228	46%	362	64%
quartz	129	26%	136	24%
other	143	29%	69	12%
total	500		567	

Raw material frequencies among chipped stone artifacts were roughly the same in Feature 34 and the sediments (Table K-51). As was the case with thermally altered stone fragments, both proveniences contained correspondingly small amounts of two minority raw material types, ironstone and argillite. The mean weight of all of the chipped stone fragments recovered from the basin was lower than those in the sediments, indicating that smaller

artifacts were present in the feature (Table K-52). An analysis of the size-grade distribution of flaking debris showed relatively little difference between the two proveniences at the scale used in the analysis (1 cm interval). Yet there was a slightly higher proportion of artifacts in the larger grades, size-grade 3 and above, in the sediments around the basin.

Table K-51. Chipped Stone Material, Feature 34 and Surrounding Sediments

chipped stone material				
	Feature 34		**Sediments**	
	count	**freq**	**count**	**freq**
cryptocrystalline	409	84%	486	77%
quartz	55	11%	115	18%
quartzite	9	2%	23	4%
other	14	3%	6	1%
total	487		630	

Table K-52. Chipped Stone Size, Feature 34 and Surrounding Sediments

	Feature 34		**Sediments**	
	count	**freq**	**count**	**freq**
mean weight (g)	1.0		7.4	
size grade				
	count	**freq**	**count**	**freq**
s-grade 1	126	26%	162	26%
s-grade 2	294	62%	331	53%
s-grade 3	42	9%	82	13%
s-grade 4	10	2%	29	5%
s-grade 5	2	0%	8	1%
s-grade 6	2	0%	10	2%

The conclusion drawn from these analyses was that the artifacts in the basin were similar in type and raw material to the artifacts in the surrounding sediments, but were smaller in size. Differences in the proportions of raw materials among thermally altered stone fragments may have been related to artifact size.

Artifact Distribution Analysis: Feature 38

Features 38 was small pit feature. It was oval in plan view as first identified in the E horizon, and it had sloping side walls and was relatively deep for its diameter. Artifact content was compared with the distribution of artifacts in the surrounding deposits. The feature was centered at the intersection of four units: N225-226/E442-443. Because of its size, the pit occupied only about one-quarter of each of the units in which it was located. Thus there was sufficient sediment in those four units that was unrelated to the feature to provide an adequate sample for contextual analysis.

The difference in overall artifact content between the feature and surrounding sediments was striking—there were only 15 artifacts present in the feature fill (Table K-53). The mean weights of thermally altered stone fragments (Table K-54) and chipped stone artifacts (K-55)

recovered from the feature were considerably smaller than those recovered from the surrounding sediments, but, confident interpretation was hindered by the small sample from the basin feature. Type and raw material frequency comparisons were made, but the results were difficult to interpret due to the small sample from the feature (Tables K-56 and K-57).

Table K-53. Artifact Frequency, Feature 38 and Surrounding Sediments

	Feature 38		Sediments	
	count	freq	count	freq
chipped stone	11	73%	222	71%
thermally altered stone	4	27%	92	29%
total	15		314	

Table K-54. Thermally Altered Stone Size (Weight), Feature 38 and Surrounding Sediments

	Feature 38	Sediments
total (g)	35	3,620
mean	8.7	39.3

Table K-55. Chipped Stone Size, Feature 38 and Surrounding Sediments

	Feature 38		Sediments	
	count	freq	count	freq
mean weight (g)	0.7		1.9	

Table K-56. Thermally Altered Stone Material, Feature 38 and Surrounding Sediments

	Feature 38		Sediments	
	count	freq	count	freq
quartzite	1	25%	49	53%
quartz	1	25%	32	35%
other	2	50%	11	12%
total	4		92	

Table K-57. Chipped Stone Material, Feature 38 and Surrounding Sediments

	Feature 38		Sediments	
	count	freq	count	freq
cryptocrystalline	4	37%	143	65%
quartz	7	63%	74	34%
quartzite	--	--	2	1%
other	--	--	1	<1%
total	11		220	

The conclusion drawn from the analyses was that the artifacts in the basin were probably not directly related to the artifacts from the surrounding sediments.

Artifact Distribution Analysis: Feature 39

Features 39 was small pit feature. It was oval in plan view and first identified in the E horizon. It had sloping side walls and was relatively deep for its diameter. Artifact content

was compared with that of the surrounding deposits. The feature was centered at the intersection of four units: N225-226/E444-445. Because of its size, the pit occupied only about one-quarter of each of the units in which it occurred. Thus there was sufficient sediment in those four units to provide and adequate sample for contextual analysis.

The most obvious difference between the artifact contents of Feature 39 and the surrounding sediments was in the low frequency of occurrence of artifacts in the pit feature in general—there were only 12 artifacts present in the feature fill (Table K-58). Mean artifact size, type, and raw material frequency comparisons were made, but the results were difficult to interpret due to the small sample from the feature (Tables K-59 through K-62).

Table K-58. Artifact Frequency, Feature 39 and Surrounding Sediments

	Feature 39		Sediments	
	count	freq	count	freq
chipped stone	11	92%	382	72%
thermally altered stone	1	8%	150	28%
total	12		532	

Table K-59. Thermally Altered Stone Size (Weight), Feature 39 and Surrounding Sediments

	Feature 39	Sediments
total (g)	353.4	3,256
mean	353.4	21.7

Table K-60. Thermally Altered Stone Material, Feature 39 and Surrounding Sediments

	Feature 39		Sediments	
	count	freq	count	freq
quartzite	1	100%	116	77%
quartz	--	--	19	13%
other	--	--	15	10%
total	1		150	

Table K-61. Chipped Stone Material, Feature 39 and Surrounding Sediments

	Feature 39		Sediments	
	count	freq	count	freq
cryptocrystalline	5	45%	235	62%
quartz	4	36%	143	37%
quartzite	11	18%	4	1%
total	11		382	

Table K-62. Chipped Stone Material, Feature 39 and Surrounding Sediments

	Feature 39		Sediments	
	count	freq	count	freq
mean weight (g)	2.7		4.0	

The conclusion drawn from the analyses was that the artifacts in the basin were probably not directly related to the artifacts from the surrounding sediments.

Artifact Distribution Analysis: Feature 43

Features 43 was large pit feature that was oval in plan view as first observed in the E horizon at an average depth of 10.47 m amsl. It had sloping side walls and was relatively deep. Artifact content was compared with the distribution of artifacts in the surrounding deposits. The feature occurred along the E444 gridline, covering parts of six units: N226-228/E443-444. Because of its elongated configuration, the pit occupied less than one-half of each of the units in which it occurred. Thus there was sufficient sediment in the six units that was unrelated to the feature to provide an adequate sample for contextual analysis. Feature 45, a thermally altered stone concentration was centered 2 to 3 m to the northwest of Feature 43. While the majority of the burned rock feature was relatively tightly clustered, fragments were widely scattered, especially to the south. Some occurred in the units on the north edge of Feature 43 and are included in the artifact frequencies for those proveniences.

The relative proportion of thermally altered stone fragments was lower in the pit feature than in the surrounding sediment layers, in part due to the amount of rock from Feature 45 that was present in the sediment sample (Table K-63). The fragments in the feature were smaller in size, as measured by mean weight (Table K-64). The relative frequencies of raw material types among the fragments was roughly the same in both proveniences (Table K-65).

Table K-63. Artifact Frequency, Feature 43 and Surrounding Sediments

	Feature 43		Sediments	
	count	freq	count	freq
chipped stone	195	86%	326	63%
thermally altered stone	33	14%	189	37%
total	228		515	

Table K-64. Thermally Altered Stone Size (Weight), Feature 43 and Surrounding Sediments

	Feature 43	Sediments
total (g)	763	9,562
mean	23.1	50.6

Table K-65. Thermally altered stone Material, Feature 43 and Surrounding Sediments

	Feature 43		Sediments	
	count	freq	count	freq
quartzite	16	48%	103	54%
quartz	10	30%	51	27%
other	7	21%	35	19%
total	33		189	

The raw material distributions of chipped stone fragments were also similar in the two proveniences, the main variation being a small amount of quartzite present in the sediment layers but not in the feature fill (Table K-66). Artifacts in the feature were smaller, as measured by mean weight, while the size-grade distributions indicated slightly fewer artifacts in the larger size intervals, size-grades 3 and above (Table K-67).

Table K-66. Chipped Stone Material, Feature 43 and Surrounding Sediments

	Feature 43		Sediments	
	count	**freq**	**count**	**freq**
cryptocrystalline	99	51%	180	55%
quartz	96	49%	137	42%
quartzite	--	--	9	3%
total	195		326	

Table K-67. Chipped Stone Size, Feature 43 and Surrounding Sediments

	Feature 43		sediments	
	count	**freq**	**count**	**freq**
mean weight (g)	1.0		3.2	
size grade				
	count	**freq**	**count**	**freq**
s-grade 1	74	38%	101	32%
s-grade 2	104	54%	177	55%
s-grade 3	12	6%	35	11%
s-grade 4	1	1%	2	1%
s-grade 5	1	1%	3	1%
s-grade 6	2	1%	2	1%

The conclusion drawn from the analyses was that the artifacts in Feature 43 were probably related to the artifacts in the surrounding sediments. Differences in the proportions of artifact types could be attributed to the fact that the excavation units surrounding the feature contained material from the thermally altered stone cluster, Feature 45, that influenced the artifact frequency data. Raw material frequencies were similar, but the artifacts in the feature were smaller than those in the sediments.