

**Preliminary Assessment of the Archaeological Context of Human
Skeletal Remains at Atsena Otie Key, Levy County, Florida**

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Technical Report Series, Number 1, December 1999

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Abstract. A human burial eroding from the beach at Atsena Otie Key, Levy County, Florida in November 1999 was removed for immediate reburial by personnel from the University of Florida. Artifacts eroding from the adjacent shell midden place the burial in the range of 2500 to 300 years before present (B.P.). Ongoing boat wake and tidal action continues to erode the 1.5-m thick midden along a 100-m stretch of the beach. At least one additional feature currently exposed at low tide may likewise contain human remains.

On Thursday, November 18, 1999 a team from the C.A. Pound Laboratory of Forensic Science, University of Florida, removed the skeletal remains from a Native American burial that was eroding from the west beach of Atsena Otie Key, Levy County, Florida. In agreement with the Office of Florida State Archaeologist, the Seminole Tribe of Florida, and the U.S. Department of Fish and Wildlife, the Pound Lab team, under the direction of Dr. Anthony Falsetti, exhumed the burial remains for the express purpose of immediate reburial. In order to document the greater site context of the burial, Dr. Falsetti enlisted the assistance of archaeologists of the Department of Anthropology, University of Florida. This report details the limited mapping and reconnaissance work conducted by the author, Rhonda Quinn, and Christopher Lydick.

Atsena Otie Key is the largest of several major islands south of Cedar Key on the Gulf Coast of Florida (Figure 1). As part of the Cedar Key archaeological district, Atsena Otie is home to several archaeological sites, including the remains of the 18th-century town of Atsena Otie (8LV235), the Eberhard Faber Cedar Mill (8LV237),

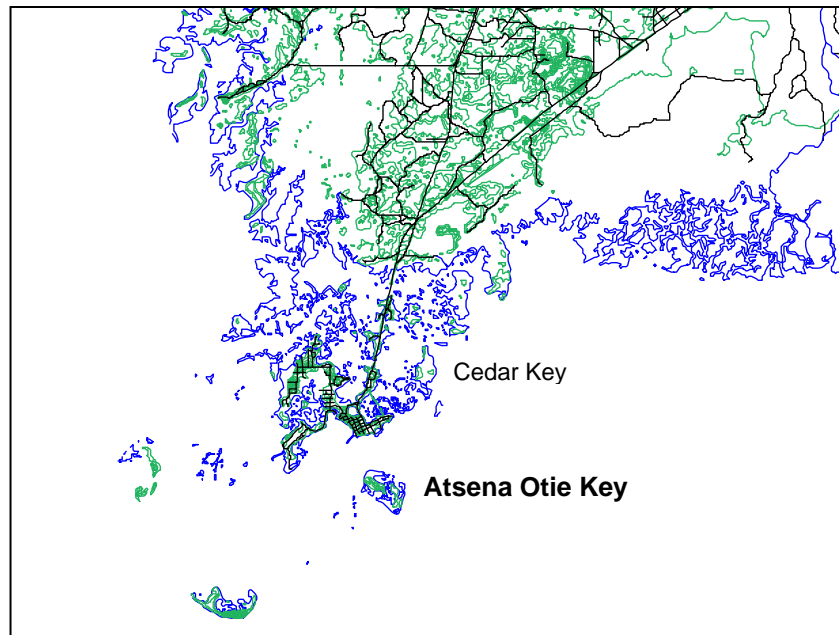


Figure 1. Location of Atsena Otie Key, Cedar Key, and other gulf coastal barrier islands of Levy County, Florida

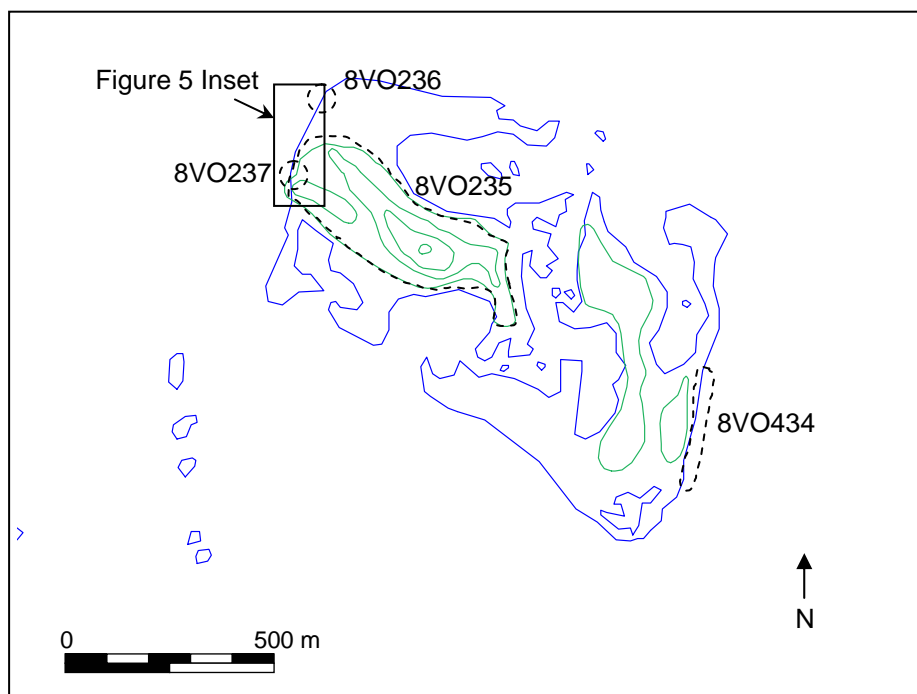


Figure 2. Recorded archaeological sites on Atsena Otie, Levy County, Florida.

the Suwannee Mill (8VO236), and at least two prehistoric shell middens, only one of which (8LV434) is apparently recorded in the state site files (Figure 2).

Survey of the Cedar Key region by archaeologists from the University of Florida documented many post-2500 B.P. shell middens eroding along the sea island beaches (Borremans 1991). Weeden Island components, dating to roughly 1800-1100 B.P., were most commonly observed. Zooarcheological analysis of two middens from outer islands in the keys, Seahorse and North Keys, suggest year-round occupation by Weeden Island groups. A Weeden Island cemetery (8LV4) and mound (8LV43) in Cedar Key proper were investigated by C. B. Moore (1918). In addition to Weeden Island components, the region has produced sherds diagnostic of virtually all cultural phases spanning the past 2500 years; however, the ceramic series of these various phases are not well enough established for the Cedar Keys area to draw definitive conclusions about specific times of occupation.

The reported human skeletal remains were eroding from the beach along the western margin of Atsena Otie, in the vicinity of the cedar mill site (8VO237). The burial location was some 20 meters north of the docking pier that provides visitor access to the island (Figure 3). Prior to the November 18 effort, the Pound Lab team had established that the individual bore biological indicators of Native American ancestry. Its apparent association with prehistoric shell-midden deposits corroborated this initial assessment. Paralleling the beach for some 100 meters is an eroded midden deposit as much as 1.50



Figure 3. View from pier at Atsena Otie looking east.



Figure 4. View from pier of location of human skeletal remains eroding from beach at Atsena Otie.

m thick. The burial laid at the high tide margin of the beach, several meters seaward and perhaps 90 cm lower than the base of the exposed midden (Figure 4). Despite the spatial displacement of the burial from the intact midden, the burial pit was in a position consistent with the projected slope of the base of the midden, and its fill was generally consistent with the midden soil. Because the Seminole Tribe had arranged for immediate reburial nearby, without scientific analysis, assessment of the cultural affiliation of the burial hinges on the larger site context and its position relative to the midden deposits.

Mapping of the site proceeded by establishing a temporary datum on the top of the eroded midden profile, several meters north and east of the burial. A Nikon Total Station was used to establish a base line along the top of the eroded midden, oriented roughly with magnetic north. Transit shots were taken of the high- and low-tide water lines, the base and top of the midden, the burial pit, additional features and artifacts eroding on the beach, and miscellaneous topographic shots. Two existing benchmarks in the vicinity of the midden were shot to establish permanent reference points for the current topographic data: a cement survey marker (#2979) in the tidal flat ca. 44 meters north of the burial, and a metal survey marker sign (#1092) on the upper edge of the beach ca. 29 meters north of the burial. Arbitrary elevations established at transit stations were converted to actual values by calculating the median topographic line between high- and low-tide lines and setting it at 0.0 meters above mean sea level. All transit readings are appended to this report and are available from the author in a variety of electronic formats. A preliminary topographic map of these data is provided here as Figure 5.

The most prominent topographic feature of the site is the shell midden itself, in particular the erosional escarpment that parallels the beach line for some 100 meters. The scarp is steepest in the vicinity of the exposed burial, where midden deposits exceed 1.5 meters thick. (Respecting the wishes of the Seminole Tribe, no photographs were taken of the burial and its immediate surroundings.) North of the burial location the midden thins gradually (Figure 6), leaving a poorly defined, shallow profile that is actively eroding with tidal surges and boat wakes. Shells and an occasional artifact are strewn along the beach north of the midden for some 120 meters. South of the burial location the midden is poorly defined due to land alterations from mill operations and more recent activities. Without subsurface testing, we were unable to establish the southern edge of the midden; it clearly continues well to the south of the limits imposed in Figure 5. Likewise, the landward (eastward) extent of the midden was not determined for lack of subsurface testing. The topography in this area of the site is more varied than shown in Figure 5.

A cursory inspection of the eroded midden profile and adjacent beach revealed several prehistoric ceramic sherds. Most notable was a check stamped rim sherd in the profile near the base of the midden north of the burial location (Figures 7, 8 [top]). This item is either a Deptford-period sherd (ca. 2500-1800 B.P.) or an example of Wakulla Check Stamped (ca. 1500-1000 B.P.; Willey 1949:437-439; George Luer, personal communication, 1999). One other sherd of probable Deptford cultural affiliation was observed on the adjacent beach. These items place the onset of midden formation no

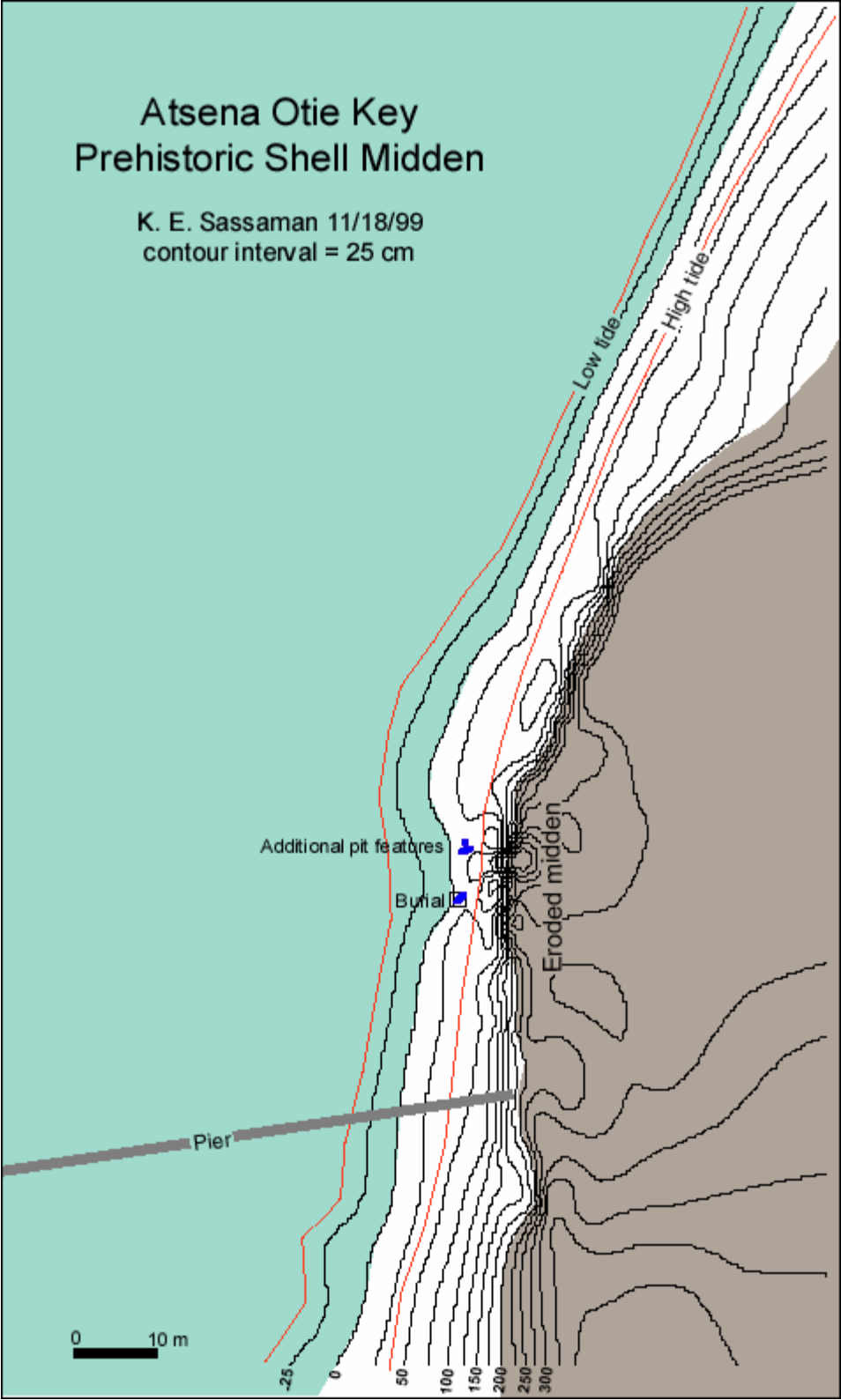


Figure 5. Topographic map of the eroded prehistoric shell midden on the western shore of Atsena Otie Key, showing burial location, high- and low-tide lines, and other features



Figure 6. View of eroded shell midden at north end of the deposit.



Figure 7. Reverse view of check stamped rim sherd at base of shell deposit.



Figure 8. Deptford Linear Check Stamped or Wakulla Check Stamped (top), St. Johns Check Stamped (middle), and Lake Jackson Incised sherd (bottom) from eroded midden at Atsena Otie Key.

later than ca. 2500-1800 radiocarbon years ago (B.P.). Other diagnostic artifacts collected from the beach include a St. Johns Check Stamped sherd (post 1200 B.P.; Figure 8 [middle]), a plain rim sherd of probable Weeden Island age (1800-1100 B.P.) and a Lake Jackson Incised rim sherd, a small limestone-tempered specimen with an embossed node or lug (Figure 8 [bottom]). Lake Jackson Incised is associated with both Safety Harbor phases (post 1100 B.P.) and Fort Walton phases (post-1000 B.P.). According to George Luer (personal communication, 1999), the limestone temper may suggest a local origin in Herando, Citrus, and Levy counties. The Cedar Key region lies to the north of the cluster of gulf coastal sites classified as Northern Safety Harbor and is generally not as well known, especially during late prehistory, as areas farther south (Milanich 1994:393). Still, the St. Johns and Safety Harbor sherds can be used to infer site occupation in the interval of 1100 B.P. to contact (Milanich 1994:389). Thus, the accumulation of midden at Atsena Otie may have spanned as much as 2200 years, ca. 2500-300 B.P.

The contact between midden and underlying substrate is very distinct. The midden consists of a dense accumulation of oyster, clam, and large univalves (whelk/conch) in a matrix of dark brown fine sandy loam. The substrate is relatively clean sand. Clearly the midden formed when sea level was lower than present. Indeed, at about 2500 B.P., sea level was at least 0.9 and as much as 3 meters below present levels (cf. Stapor et al. 1991; Tanner 1991). It rose thereafter but was interrupted on several occasions by transgressions caused by cooler climate. What little evidence we have for the chronology of occupation conforms nicely to episodes of depressed sea level. Certainly better dating is needed, but it appears that the midden began to form when sea level was at its lowest point in the past 2500 years and abandoned sometime after about 700 B.P., when sea level had risen sufficiently to submerge and erode the seaward margin of the midden, as it continues to do today.

The location of the eroded burial west of the midden escarpment and roughly at the depth of stratigraphic contact between midden and submidden sand makes it most likely no earlier than Deptford age (i.e., 2500-1800 B.P.). Likewise, the burial may have been placed in a grave pit emanating from the upper portion of the now-eroded midden, dating as late as the Contact Period. The fully extended treatment of the individual is consistent with one of the alternative mortuary treatments known from the nearby Weeden Island period cemetery (8LV4; Moore 1918), including its placement in sand and shell-midden fill. Alternatively, the grave may have been a shallow feature placed in the sand after the midden eroded. However, given that the eroded burial was surrounded by matrix consistent with the midden matrix of shell and loam, it was almost certainly placed in a shallow pit at the base of the midden. Again, the agreement not to analyze the burial context for scientific evidence precludes a more definitive description of the feature.

Two other features to the immediate north of the eroded burial (Figure 5) provide some corroboration of the inferences made above. One is an oblong deposit of clay-rich

midden-like soil similar to the burial feature in orientation and size. It may very well contain human skeletal remains. The other is a circular stain of charcoal-rich clay loam approximately 90 cm in diameter. Both of these features lie at the projected stratigraphic contact between beach sands and midden and most likely emanated from a surface within the now-eroded midden. Charcoal collected from the oblong feature is curated at the Laboratory of Southeastern Archaeology for possible future dating. If nothing else, the feature dates a sea level stand of at least 25 cm below the present level. It almost certainly could be used to cross date the reinterred burial if one so desired.

In sum, preliminary archaeological assessment of the greater context of a human burial eroding from the west beach of Atsena Otie Key suggests an age of between 2500 and 300 B.P. Given the stratigraphic position of the burial pit relative to eroding midden, its location in the present tidal zone, and indirect archaeological evidence, the burial most likely dates to the Weeden Island period, ca. 1800-1100 B.P. The shell midden eroding from the beach face is apparently unrecorded in the state site files (or at least the Florida Geographic Data Library version of recorded sites), and will require subsurface testing and more thorough mapping to document adequately its extent and internal configuration. The U.S. Department of Fish and Wildlife is advised to conduct a comprehensive assessment of all its properties in the Cedar Key area to enable a more proactive approach to site management. Future incidences of exposed and/or vandalized burials can be more thoroughly documented for scientific as well as repatriation purposes if more time is allocated for recovery and analysis before reburial.

Acknowledgments. Rhonda Quinn and George Luer read a draft of this report and provided comments that improved its content and grammar. I am especially grateful to George Luer for help in identifying some of the sherds observed at Atsena Otie and for sharing his knowledge of coastal geomorphology.

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Transit point	Northing (m)	Easting (m)	ArbElev (m)	AbsElev (m)
Benchmark 1092	118.75	107.63	6.21	1.59
Benchmark 2979	133.96	101.37	4.91	0.29
Bot. Midden Profile	80.69	97.69	5.53	0.91
Bot. Midden Profile	73.39	97.67	5.49	0.87
Bot. Midden Profile	65.78	97.10	5.49	0.87
Bot. Midden Profile	57.46	96.69	5.48	0.86
Bot. Midden Profile	49.33	94.91	5.58	0.96
Burial Square (NE)	91.65	93.44	4.77	0.15
Burial Square (NW)	91.90	91.51	4.61	-0.01
Burial Square (SE)	89.77	93.31	4.82	0.20
Burial Square (SW)	90.02	91.33	4.60	-0.02
Cranium	91.43	93.10	4.64	0.02
Distal Femur	90.57	92.23	4.71	0.09
Base of Burial	91.01	92.64	4.65	0.03
High Tide Line	62.56	91.06	5.05	0.43
High Tide Line	71.06	92.08	4.99	0.37
High Tide Line	78.32	92.86	5.01	0.39
High Tide Line	85.74	94.13	5.03	0.41
High Tide Line	95.04	95.72	5.06	0.44
High Tide Line	103.79	96.17	5.00	0.38
High Tide Line	113.49	98.54	5.01	0.39
High Tide Line	122.82	101.43	4.99	0.37
High Tide Line	130.12	104.05	5.01	0.39
High Tide Line	137.36	106.70	4.99	0.37
High Tide Line	146.11	110.26	5.02	0.40
High Tide Line	155.82	114.16	5.02	0.40
High Tide Line	164.00	118.31	5.04	0.42
High Tide Line	174.88	123.30	5.00	0.38
High Tide Line	183.20	127.31	5.01	0.39
High Tide Line	190.58	130.99	5.01	0.39
High Tide Line	197.82	135.43	5.04	0.42
High Tide Line	206.09	140.33	4.99	0.37
High Tide Line	213.46	144.58	5.02	0.40
High Tide Line	37.11	84.89	4.97	0.35
High Tide Line	45.72	87.73	4.98	0.36
High Tide Line	57.59	90.45	5.04	0.42
Loose Femur	128.38	99.73	4.67	0.05
Low Tide Line	225.86	140.16	4.21	-0.41
Low Tide Line	215.38	135.51	4.26	-0.36
Low Tide Line	201.08	127.24	4.25	-0.38
Low Tide Line	191.08	122.75	4.24	-0.38
Low Tide Line	182.56	118.68	4.23	-0.39
Low Tide Line	173.92	114.81	4.27	-0.35
Low Tide Line	165.07	110.54	4.24	-0.38
Low Tide Line	156.43	106.46	4.25	-0.38
Low Tide Line	147.42	102.41	4.26	-0.36
Low Tide Line	139.47	98.10	4.25	-0.38

Low Tide Line	132.65	93.45	4.23	-0.39
Low Tide Line	126.36	88.74	4.25	-0.37
Low Tide Line	122.56	84.29	4.20	-0.42
Low Tide Line	120.41	84.38	4.22	-0.40
Low Tide Line	113.63	82.79	4.26	-0.36
Low Tide Line	105.30	81.54	4.25	-0.37
Low Tide Line	96.99	82.78	4.22	-0.40
Low Tide Line	87.90	83.20	4.26	-0.37
Low Tide Line	79.40	81.24	4.22	-0.40
Low Tide Line	67.20	79.05	4.21	-0.41
Low Tide Line	57.64	77.11	4.22	-0.40
Low Tide Line	49.17	76.21	4.21	-0.41
Low Tide Line	41.83	75.31	4.45	-0.17
Low Tide Line	35.19	71.23	4.20	-0.42
Low Tide Line	22.44	61.61	4.20	-0.42
Marsh Grass Line	26.53	71.29	4.44	-0.18
Marsh Grass Line	31.14	75.72	4.49	-0.13
Marsh Grass Line	36.57	80.92	4.68	0.06
Marsh Grass Line	33.38	86.68	5.18	0.56
Marsh Grass Line	35.52	90.77	5.50	0.88
Misc. Topo.	100.96	104.75	6.66	2.04
Misc. Topo.	98.07	105.87	6.65	2.03
Misc. Topo.	95.46	107.23	6.66	2.04
Misc. Topo.	98.31	110.52	6.64	2.02
Misc. Topo.	95.52	112.01	6.69	2.07
Misc. Topo.	93.82	110.46	6.71	2.09
Misc. Topo.	92.99	114.14	6.80	2.18
Misc. Topo.	91.03	113.46	6.81	2.19
Misc. Topo.	88.19	105.04	6.82	2.20
Misc. Topo.	92.29	102.30	6.81	2.19
Misc. Topo.	91.45	100.63	6.82	2.20
Misc. Topo.	88.28	102.07	6.84	2.22
Misc. Topo.	85.44	102.31	6.92	2.30
Misc. Topo.	103.94	110.43	6.70	2.08
Misc. Topo.	107.95	109.07	6.55	1.93
Misc. Topo.	110.10	107.53	6.42	1.80
Misc. Topo.	112.53	108.90	6.47	1.85
Misc. Topo.	112.57	111.52	6.56	1.94
Misc. Topo.	106.06	104.73	6.46	1.84
Misc. Topo.	103.64	103.98	6.70	2.08
Misc. Topo.	101.41	102.63	6.79	2.17
Misc. Topo.	83.59	100.04	6.76	2.14
Misc. Topo.	72.28	100.77	6.72	2.10
Misc. Topo.	69.71	104.92	6.74	2.12
Misc. Topo.	65.15	109.90	6.87	2.25
Misc. Topo.	61.93	106.79	6.82	2.20
Misc. Topo.	60.84	101.69	6.95	2.33
Misc. Topo.	55.86	101.61	6.52	1.90
Misc. Topo.	56.24	103.27	7.25	2.63

Misc. Topo.	54.80	104.86	7.27	2.65
Misc. Topo.	52.36	102.16	6.48	1.86
Misc. Topo.	48.55	102.59	6.48	1.86
Misc. Topo.	50.12	103.97	7.47	2.85
Misc. Topo.	46.05	103.94	7.60	2.98
Misc. Topo.	47.64	108.86	7.53	2.91
Misc. Topo.	45.66	113.36	7.65	3.03
Other Pit Feature	97.65	92.69	4.69	0.07
Other Pit Feature	97.29	93.46	4.76	0.14
Other Pit Feature	97.85	94.09	4.80	0.18
Other Pit Feature	98.30	93.41	4.73	0.11
Other Pit Feature	98.88	93.24	4.73	0.11
Other Pit Feature	99.43	93.98	4.83	0.21
Pier	62.28	90.22	6.14	1.52
Pier	61.14	82.94	6.15	1.53
Pier	60.00	75.67	6.14	1.52
Pier	58.87	68.38	6.15	1.53
Pier	57.71	61.21	6.14	1.52
Pier	41.47	-42.53	6.12	1.50
Pot Sherd	125.20	107.64	5.47	0.85
Pot Sherd	115.48	106.73	6.07	1.45
Pot Sherd	135.66	102.12	4.65	0.03
Pot Sherd	139.55	104.31	4.69	0.07
Pot Sherd	147.76	107.87	4.68	0.06
Pot Sherd	170.02	118.99	4.79	0.17
Pot Sherd	178.26	122.34	4.72	0.10
Top Midden Profile	48.16	99.01	6.12	1.50
Top Midden Profile	55.56	98.88	6.15	1.53
Top Midden Profile	63.86	99.48	6.21	1.59
Top Midden Profile	70.58	99.32	6.26	1.64
Top of Midden Profile	83.93	99.56	6.72	2.10
Top of Midden Profile	85.33	99.49	6.67	2.05
Top of Midden Profile	86.82	98.76	6.80	2.18
Top of Midden Profile	89.37	99.41	6.66	2.04
Top of Midden Profile	91.77	99.26	6.81	2.19
Top of Midden Profile	94.87	98.39	6.76	2.14
Top of Midden Profile	97.38	99.15	6.69	2.07
Top of Midden Profile	102.89	101.34	6.62	2.00
Top of Midden Profile	103.91	102.04	6.51	1.89
Top of Midden Profile	104.18	102.19	6.39	1.77
Top of Midden Profile	105.45	102.56	6.33	1.71
Top of Midden Profile	106.71	102.02	6.19	1.57
Top of Midden Profile	107.52	103.71	6.32	1.70
Top of Midden Profile	109.18	104.53	6.24	1.62
Top of Midden Profile	111.22	105.64	6.24	1.62
Top of Midden Profile	114.96	106.63	6.27	1.65
Top of Midden Profile	117.89	107.66	6.23	1.61
Top of Midden Profile	121.64	107.80	6.07	1.45
Top of Midden Profile	124.33	108.64	5.91	1.29

Top of Midden Profile	127.16	109.20	5.69	1.07
Top of Midden Profile	130.29	110.40	5.66	1.04
Top of Midden Profile	133.88	112.55	5.78	1.16
Top of Midden Profile	138.06	113.06	5.61	0.99
Upper Beach Line	171.19	128.34	5.53	0.91
Upper Beach Line	164.39	125.26	5.35	0.73
Upper Beach Line	157.74	121.86	5.42	0.80
Upper Beach Line	150.23	118.54	5.35	0.73
Upper Beach Line	142.96	115.33	5.55	0.93
Upper Beach Line	140.61	114.39	5.56	0.94
Upper Beach Line	137.83	112.86	5.50	0.88
Upper Beach Line	133.88	112.26	5.50	0.88
Upper Beach Line	131.20	110.42	5.53	0.91
Upper Beach Line	126.79	108.81	5.54	0.92
Upper Beach Line	123.29	107.62	5.55	0.93
Upper Beach Line	120.74	107.28	5.49	0.87
Upper Beach Line	116.94	106.52	5.65	1.03
Upper Beach Line	112.72	105.16	5.63	1.01
Upper Beach Line	109.33	102.88	5.53	0.91
Upper Beach Line	107.63	100.41	5.46	0.84
Upper Beach Line	102.26	98.58	5.20	0.58
Upper Beach Line	97.30	98.26	5.19	0.57
Upper Beach Line	94.37	98.34	5.25	0.63
Upper Beach Line	90.49	98.67	5.55	0.93
Upper Beach Line	86.74	97.74	5.46	0.84
Upper Beach Line	83.57	98.52	5.53	0.91