ABSTRACT

Archaeological investigations at site 45CL1, Clark County, Washington, demonstrate that the locality is a very large (c. 1.5ha), deeply stratified (2-4m) town site with an occupation spanning at least 1000 years (c. AD 1000 to 1840). Six large, complex depressions have been mapped. Test excavations show that these depressions represent the semi-subterranean portions of residential structures, probably large plankhouses of the type common on the Lower Columbia River and the Northwest Coast in aboriginal times. The depressions may represent as many as 11 such dwellings. A seventh depression is deeply buried beneath midden deposits. The cultural deposits contain very high densities of artifacts, ecofacts (including both faunal and floral remains), debris and features.

The site is near the Columbia River on a very active flood plain, resulting in site stratigraphy produced by a combination of active cultural and alluvial depositional processes. Site 45CL1, given its location and size, is the best candidate to be the site of Cathlapotle, a Middle Chinookan town visited by Lewis and Clark in 1806, as well as by other early Europeans in the area. The site is extraordinarily well preserved, having undergone only minor alterations since its abandonment, probably in the third or fourth decade of the 19th century AD.
Successful archaeological projects are invariably the result of the cooperation of a wide variety of people. We wish to express our gratitude to the following:

Jim Carty, who grew up on the land that holds Cathlapotle, told us where it was, and provided us with considerable information and assistance.

Anan Raymond, US Fish and Wildlife Service (USFWS) Regional Archaeologist instigated the project, actively encourages it and finds financial support. The project very much is a reflection of his vision and his hard work. He also edited previous reports with a sharp pencil. We look forward to the time he needs a good editor. Virginia Parks (USFWS) initiated the public education program in 1994, and has coordinated it, often on her own time, ever since. She has spread knowledge of the Chinookan heritage and Cathlapotle’s archaeology far in this region. She also did the final editing and production of this report.

We have been unfailingly helped by the staff of the US Fish and Wildlife Refuge at Ridgefield, WA. Bruce Wiseman, former Refuge Manager, provided advice and assistance with working on the refuge and with logistics. The staff was continually helpful, interested and sometimes amused by us.

Members of the Chinook Tribal Council, including Tim Tarabocchia, Don Mechals, Clifford Snyder, Gary Johnson, Tony Johnson, and Jeanne Shaffer, visited the site and PSU’s archaeology labs several times and provided advice and enthusiasm. In August, 1995, over 80 tribal members visited the site and brought their excitement with them. One, Ed Nielsen, even wrote a wonderful poem about us and the Cathlapotle town.

The people of Ridgefield, Washington have displayed keen and excited interest in the project, and never failed to be friendly, even when we filled the market with sweaty, grimy people in search of ice cream and pop on hot afternoons. They have packed our Washington Archaeology Week sessions on the project.

Judith Ramaley, then President of Portland State University, exhibited a strong and consistent interest In our work, visiting the site in July of 1994 and 1995. Marvin Kaiser, Dean of the College of Liberal Arts and Sciences at PSU, has provided essential financial Support to keep the project going and invested his thought and energy into fund raising. Richard Dewey, of PSU’s Summer School and Extended Studies acted as liaison between the field school and summer session. Miles Turner, then of Extended Studies, also materially assisted us by his ability to manage our patchwork of funding and support during the summers. No one knows exactly how he does it. Marc Feldsmen, Anthropology Department Chair, has unfailingly supported the project through thick and thin.

Connie Cash, Anthropology Department Office Manager, has handled the logistical and administrative complexities that arise from keeping many people in the field for two months. She also has sometimes served as counselor to the distressed and is one of our most indispensable personnel.

The many members of the Friends of the Wapato Valley have assisted the project with their donations, their interest and excitement.

Ultimately, however, we are in the deepest debt to the many people who have worked at the site itself.

The 1991 student volunteers who first attempted to locate the site are Mary Parchman, Tana Hickey, Darin Molnar, Cameron M. Smith and Debbie Davis.

The 1992 field crew were Steve Hamilton, William Cornett, Mary Parchman, Tana Hickey and Anne Morris. Alliah Kahn served as Lab Director.

The 1993 field crew were William Cornet, John Wolf, Mary Parchman, Anan Raymond and Cameron M. Smith. Debbie Davis, Leanne Penninger and Maia Kabat, veterans of the Wapato Valley Archaeological Project, participated as volunteers, as did Darrel McCorkle. Nicholas Valentine, USFWS, also volunteered and provided candy at crucial moments. Carol Wolf served as Lab Director.

In 1994, the field staff for the summer school included Stephen Hamilton, William Cornett, Doria Raetz, Cameron M. Smith and John Wolf. Carol Wolf was
Field Lab Director, and Debbie Davis served as Lab Director. Bob Church, University of Missouri, was our peripatetic zooarchaeologist, teaching the students the delights of faunal remains. Virginia Butler visited the site on several occasions, offering assistance and advice. James O’Conner, USGS, and Scott Burns of PSU’s Geology Department, visited the site and helped clarify the stratigraphy. Andrew Fountain, also of the USGS, visited the site, and offered suggestions on a wide array of topics.

In 1995, the field staff included Doria Raetz, William Cornett, John Wolf, Melissa Darby, Ann Trieu and David Delyria. Teri Jackson was Field Lab director, while Carolyn Jolly was Lab Director. Scott Burns again visited, providing insights into the site’s complex alluvial history. Liz Sobel, University of Michigan, spent the summer learning the complexities of excavating Northwest Coast towns, even when they aren’t in shell middens.

In 1996, the field staff included William Cornett, Cameron M. Smith and Liz Sobel. Teri Jackson served as Field Lab director, and Carolyn Jolly worked as Lab Director.

Of course, without the field school students, we would be, in Ken Ames’ words “a couple of guys with computers.” And we would not be very accomplished with these machines without the unflagging guidance of resident computer wizard, Darin Molnar, who, among other things, has developed our AIMS database software.

1994 Field School

Catherine Barter, Jessie Berdine, Rowan Bibb, Briana Bird, Greta Camenzind, Bill Clontz, Renee Clugston, Mike Crofton, Melissa Darby, Laura Engstrom, Neal Heupel, Ed Howlett, Teri Jackson, Carolyn Jolly, Lane Justen, Gretchen Kaehler, Dan Kvamme, Darrel McCorkle, Darin McCoy, Kathleen Martin, Jennifer Muller, Darci Nash, Kate Needham, Cherilyn Ronningen, Amy Seaberg, Ann Trieu, Mimi Utsumi, Matt Van Winkle, Tim Vincent, and Michelle Williamson.

1995 Field School:


1996 Field School:


These crews devoted themselves to their work with a diligence and enjoyment that exceeded that of many professional crews.

The maps in this report were digitized by Darin Molnar. The 1994 profiles were digitized by Cameron M. Smith, and the 1995 profiles by Jennifer Muller.

A large number of spouses, parents, siblings, friends, significant others, and associated hominids visited the site, and many volunteered a bit of labor or provided the crew with refreshments. There are too many of you to thank individually, but we want to acknowledge yours contributions.

We would like the thank Collins Ax, of Lewiston, Pennsylvania, whose Pulaskis saved us from a long, wet walk the day a cottonwood tree fell across the road out of the refuge. Finally, of course, we thank our friends at Marshalltown for their excellent trowels.

None of these many people are responsible for any errors in this document. Such errors are ours alone.
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>v</td>
</tr>
<tr>
<td>List of Figures</td>
<td>vi</td>
</tr>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td><strong>INTRODUCTION and BACKGROUND</strong></td>
<td>1</td>
</tr>
<tr>
<td>Geography and Geology</td>
<td>2</td>
</tr>
<tr>
<td>Flora and Fauna</td>
<td>2</td>
</tr>
<tr>
<td>Geological and Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>Wapato Valley Archaeology</td>
<td>8</td>
</tr>
<tr>
<td>Refuge / Vicinity Archaeology</td>
<td>10</td>
</tr>
<tr>
<td>Ethnographic Background</td>
<td>12</td>
</tr>
<tr>
<td>Historic Accounts of Cathlapotle</td>
<td>14</td>
</tr>
<tr>
<td>Other Accounts of Cathlapotle</td>
<td>18</td>
</tr>
<tr>
<td><strong>RESEARCH AND PROBLEM ORIENTATION</strong></td>
<td>19</td>
</tr>
<tr>
<td>Management of Scientific Goals</td>
<td>19</td>
</tr>
<tr>
<td>Outreach Goals</td>
<td>20</td>
</tr>
<tr>
<td>Sampling</td>
<td>20</td>
</tr>
<tr>
<td><strong>CATHLAPOTLE PROJECT HISTORY</strong></td>
<td>23</td>
</tr>
<tr>
<td>Initial Site Search</td>
<td>23</td>
</tr>
<tr>
<td>Augering: 1992</td>
<td>23</td>
</tr>
<tr>
<td>Topographic Mapping: 1993</td>
<td>24</td>
</tr>
<tr>
<td>Augering: 1993</td>
<td>24</td>
</tr>
<tr>
<td>Excavations: 1993</td>
<td>27</td>
</tr>
<tr>
<td>Excavations: 1994</td>
<td>28</td>
</tr>
<tr>
<td>Excavations: 1995</td>
<td>31</td>
</tr>
<tr>
<td>Excavations: 1996</td>
<td>33</td>
</tr>
<tr>
<td>1997 Laboratory Exercises</td>
<td>34</td>
</tr>
<tr>
<td><strong>RESULTS</strong></td>
<td>35</td>
</tr>
<tr>
<td>Site Description</td>
<td>35</td>
</tr>
<tr>
<td>Topography and Horizontal Zonation</td>
<td>36</td>
</tr>
<tr>
<td>Other Structural Features</td>
<td>41</td>
</tr>
<tr>
<td>Site Stratigraphy</td>
<td>42</td>
</tr>
<tr>
<td>Features</td>
<td>45</td>
</tr>
<tr>
<td>Radiocarbon Dating</td>
<td>63</td>
</tr>
<tr>
<td>Artifacts</td>
<td>64</td>
</tr>
<tr>
<td>Artifact Summary Comments</td>
<td>71</td>
</tr>
<tr>
<td><strong>CONCLUSIONS</strong></td>
<td>81</td>
</tr>
<tr>
<td>Topography and Horizontal Zonation</td>
<td>81</td>
</tr>
<tr>
<td>Feature Preservation</td>
<td>81</td>
</tr>
<tr>
<td>Artifact Assemblage</td>
<td>82</td>
</tr>
<tr>
<td>Faunal Assemblage</td>
<td>83</td>
</tr>
<tr>
<td>Botanical Assemblage</td>
<td>84</td>
</tr>
<tr>
<td>Research Plan</td>
<td>85</td>
</tr>
<tr>
<td>Management and Scientific Goals</td>
<td>85</td>
</tr>
<tr>
<td>Outreach Goals</td>
<td>86</td>
</tr>
<tr>
<td>Implications for Future Work</td>
<td>86</td>
</tr>
<tr>
<td>Environmental Reconstruction</td>
<td>87</td>
</tr>
<tr>
<td>Economy</td>
<td>87</td>
</tr>
<tr>
<td>Settlement and Land Use Patterns</td>
<td>88</td>
</tr>
<tr>
<td>Site Formation Processes</td>
<td>88</td>
</tr>
<tr>
<td>Theoretical Issues</td>
<td>88</td>
</tr>
<tr>
<td><strong>REFERENCES CITED</strong></td>
<td>91</td>
</tr>
<tr>
<td><strong>APPENDIX 1:</strong></td>
<td></td>
</tr>
<tr>
<td>Artifact Counts Per Excavation Unit, 1993-1995, Inclusive</td>
<td>97</td>
</tr>
<tr>
<td><strong>APPENDIX 2:</strong></td>
<td></td>
</tr>
<tr>
<td>Informal Excavation Photos</td>
<td>103</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

FIGURE 1.
SALEEBY-HAMILTON ENVIRONMENTAL RECONSTRUCTION FOR THE WAPATO VALLEY, CA. 1850AD ............................................. 3

FIGURE 2.
PACIFIC OCEAN SEA LEVELS 10,000 BP (HUTCHINSON, 1992) .............................................. 7

FIGURE 3.
TERMINAL PLEISTOCENE-HOLOCENE POLLEN SEQUENCE (AFTER HEUSSER 1985) ........................................................ 8

FIGURE 4.
SITE CHRONOLOGY FOR THE WAPATO VALLEY FLOOR .................................................... 10

FIGURE 5.
SITE DISTRIBUTION IN THE VICINITY OF 45CL1, CATHLAPOTLE ........................................ 11

FIGURE 6.
LEWIS AND CLARK MAP OF THE WAPATO VALLEY ................................................................. 17

FIGURE 7.
TOPOGRAPHIC MAP OF BRUSH RIDGE SHOWING 1992 AND 1993 AUGERS ................... 25

FIGURE 8.
TOPOGRAPHIC MAP SHOWING LOCATION OF 1993-1996 EXCAVATION UNITS .................. 27

FIGURE 9.
TOPOGRAPHIC MAP FEATURING DEPRESSIONS 1-6 .............................................................. 38

FIGURE 10.
UNIT N75-77/W76-78 WITH WALL TRENCH BURIED ca.2m BENEATH MODERN SURFACE ................................................................. 40

FIGURE 11.
N159-160/W79-107 SOUTH PROFILE MIDSECTION ................................................................. 44

FIGURE 12.
N159-160/W79-107 WEST DEBRIS FIELD ............ 45

FIGURE 13.
N159-160/W79-107 BERMA EAST OF HOUSE DEPRESSION .................................................. 46

FIGURE 14.
N107-109/W98-100 NORTH PROFILE .............. 47

FIGURE 15.
N107-109/W98-100 EAST PROFILE SHOWING FEATURE 1 ............................................... 48

FIGURE 16.
UNIT N136-138/W94-96 EAST PROFILE SHOWING BURIED WALL TRENCH .................... 50

FIGURE 17.
HEARTH FEATURE 478 SOUTH PROFILE, UNIT N174-176/W88-90, HOUSE 1 ................... 51

FIGURE 18.
POST FEATURE DURING EXCAVATION, UNIT N180-182/W90-92 ........................................ 52

FIGURE 19.
UNIT N107-109/W98-100 LARGE POSTMOLD CROSSCUTTING ALLUVIAL SAND ............. 53

FIGURE 20.
PORTION OF SOUTH PROFILE N159-160/ W79-107 TRENCH SHOWING STRATIFIED CULTURAL AND ALLUVIAL DEPOSITS .......... 54

FIGURE 21.
UNIT N168-172/W88-89 PLANK FEATURES 78 AND 105 ......................................................... 54

FIGURE 22.
DETAIL OF FEATURE 105, SHOWING THAT IT WAS CONSTRUCTED OF LARGE, VERTICAL TIMBERS .................................................. 55

FIGURE 23.
PLAN VIEW OF PLANK AND POST FEATURES ON THE EAST SIDE OF HOUSE 1 IN UNIT N159-160/W97-107 ........................................... 55
FIGURE 24.
CROSS-SECTION OF PLANK AND POST FEATURES SHOWN IN FIGURE 23 .......... 56

FIGURE 25.
PLANKMOLD REPRESENTING CENTRAL RIDGEPOST SUPPORT TIMBER IN N159-160/W79-107 TRENCH ......................... 56

FIGURE 26.
FEATURE 75 POSTMOLDS IN ASSOCIATION WITH FEATURE 71 AFTER FURTHER EXCAVATION ........................................ 57

FIGURE 27.
WALL FEATURE ASSOCIATED WITH THE NORTH END OF DEPRESSION 4. DARK LINE IS WALL, DARK FILL IS PIT ............... 57

FIGURE 28.
WALL FEATURE ASSOCIATED WITH DEPRESSION 4 IN EAST PROFILE ............... 58

FIGURE 29.
WALL FEATURE ASSOCIATED WITH DEPRESSION 6. PIT AT TOP MAY NOT BE ASSOCIATED WITH THE STRUCTURE .......... 58

FIGURE 30.
WALL FEATURES ASSOCIATED WITH THE EAST SIDE OF DEPRESSION 2 ............ 59

FIGURE 31.
PLANKMOLD ON THE EAST SIDE OF DEPRESSION 1 IN NORTH PROFILE .......... 59

FIGURE 32.
PIT EXPOSED IN BEACH SANDS, 2.86MASL, UNIT N107-108/W98-100 .............. 60

FIGURE 33.
CONTACT BETWEEN CULTURAL (TOP) AND ALLUVIAL DEPOSITS IN WESTERN EXTENT OF TRENCH N159-160/W79-107 ....... 60

FIGURE 34.
MIDDEN, SHELL AND STERILE DEPOSITS IN UNIT N75-77/W76-78 SOUTH OF DEPRESSION 2 .............................. 61

FIGURE 35.
PIT FEATURE 490 DURING EXCAVATION IN N157-159/W90-92, HOUSE 1 ............... 61

FIGURE 36.
SECTION VIEW OF SAND-LINED HEARTH FEATURE 478, UNIT N174-176/W88-90 ......... 62

FIGURE 37.
SECTION VIEW OF SAND-LINED HEARTH UNIT N180-182/W90-92 .......................... 62

FIGURE 38.
RADIOSCAMS DATE RANGES (ONE SIGMA) FOR 45CL1 ............................... 65

FIGURE 39.
PERCENT COMPOSITION OF 1991-1995 ARTIFACT ASSEMBLAGE ....................... 66

FIGURE 40.
SMALL, STEMMED PROJECTILE POINTS ....... 67

FIGURE 41.
SMALL, SIDE-NOTCHED PROJECTILE POINTS .............................................. 68

FIGURE 42.
SMALL STEMMED AND SIDE-NOTCHED PROJECTILE POINTS ............................. 69

FIGURE 43.
SMALL AND LARGE SIDE-NOTCHED PROJECTILE POINTS ................................. 70

FIGURE 44.
PUMICE BEADS ......................................................... 71

FIGURE 45.
ANTLER HANDLE ..................................................... 72

FIGURE 46.
PERFORATED GROUND PUMICE OBJECT ...... 73

FIGURE 47.
PERFORATED NET WEIGHT FRAGMENT ...... 74
LIST OF TABLES

TABLE 1.
SALEEBY-HAMILTON HABITAT TYPES .......... 4

TABLE 2.
ETHNOGRAPHICALLY REPORTED RESOURCES OF THE WAPATO VALLEY .......... 5

TABLE 3.
ARCHAEOLOGICALLY COMMON FAUNA IN THE WAPATO VALLEY .......................... 6

TABLE 4.
WAPATO VALLEY VILLAGES AT THE TIME OF THE LEWIS AND CLARK EXPEDITION ...... 13

TABLE 5.
RADIOCARBON DATES FROM 45CL1 ..................... 64

TABLE 6.
CULTURAL CHRONOLOGY OF THE WAPATO VALLEY AND VICINITY .................... 82

TABLE 7.
SUMMARY OF 1994 MAMMALIAN FAUNA ..... 84

TABLE 8.
THE BOTANICAL ARRAYS (% BY WEIGHT) OF WESTERN WASHINGTON SITES BY FLORAL CATEGORY ....................... 85

FIGURE 48.
VARIABLE HISTORIC ARTIFACTS ................. 75

FIGURE 49.
METAL DAGGER OR KNIFE BLADE .................. 76

FIGURE 50.
PAIR OF TOGGING HARPOON VALVES, RECOVERED TOGETHER ........................... 76

FIGURE 51.
BONE PENDANT OR FIGURINE FRAGMENTS ................................................. 77

FIGURE 52.
ZOOMORPHIC FIGURINE .................................................. 77

FIGURE 53.
ANTHROPOMORPHIC FIGURINE ....................... 78

FIGURE 54.
BONE BARB .............................................................. 78

FIGURE 55.
PLAN VIEW OF METAPODIAL CHISEL ........... 79

FIGURE 56.
IRON ADZE BIT (LEFT) DATING TO AD 1400-1500 ......................................... 79

FIGURE 57.
SHOTO CLAY OBJECT ................................................. 80

FIGURE 58.
ROLLED COPPER BEADS, RING AND TUBE .... 80

FIGURE 59.
SCHEMATIC ILLUSTRATION OF MAJOR SITE FEATURES ................................... 83