MOCHLOS IB

Period III. Neopalatial Settlement on the Coast:
The Artisans' Quarter and the Farmhouse
at Chalinomouri.

The Neopalatial Pottery



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Frontispiece. **IB.368** and **IB.369** (P 104, 1941), by D. Faulmann.

PREHISTORY MONOGRAPHS 8

Mochlos IB

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The Neopalatial Pottery

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by
Kellee A. Barnard and Thomas M. Brogan

contributions by

Peter M. Day, Louise Joyner, Ann M. Nicgorski, Eleni Nodarou,
Maria Relaki, Mary Ellen Soles, and Jeffrey S. Soles

series editors
Jeffrey S. Soles and Costis Davaras



Published by
INSTAP ACADEMIC PRESS
Philadelphia, Pennsylvania
2003

Design and Production
The Institute for Aegean Prehistory Academic Press

Printing
Sun Printing Co., Philadelphia, Pennsylvania

Binding
Hoster Bindery, Philadelphia, Pennsylvania

Library of Congress Cataloging-in-Publication Data

Barnard, Kellee A., 1968-
Mochlos IB : period III, neopalatial settlement on the coast, the artisans' quarter, and the farmhouse at Chalinomouri : the neopalatial pottery / by Kellee A. Barnard and Thomas M. Brogan ; contributions by Peter M. Day ... [et al.].
p. cm. — (Prehistory monographs ; 8)
ISBN 1-931534-07-1 (hardcover : alk. paper)
1. Mochlos Plain (Greece)—Antiquities. 2. Excavations (Archaeology)—Greece—Mochlos Plain. 3. Pottery, Minoan—Greece—Mochlos Plain. I. Brogan, Thomas M. II. Day, Peter M. III. Title. IV. Series.
DF221.C8B37 2003
939'.18—dc22

2003023716

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Philadelphia, Pennsylvania
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Printed in the United States of America

Table of Contents

LIST OF FIGURES vii

LIST OF PLATES xi

LIST OF CHARTS, TABLES, AND GRAPHS xv

ACKNOWLEDGMENTS xix

ABBREVIATIONS. xix

INTRODUCTION
Kellee A. Barnard, Thomas M. Brogan, and Jeffrey S. Soles 1

1. A MACROSCOPIC ANALYSIS OF THE NEOPALATIAL FABRICS
Kellee A. Barnard. 3

2. A PETROGRAPHIC ANALYSIS OF THE NEOPALATIAL POTTERY
Peter M. Day, Louise Joyner, and Maria Relaki 13

3. THE NEOPALATIAL POTTERY: A CATALOG
Kellee A. Barnard, Thomas M. Brogan, Ann M. Nicgorski, Mary Ellen Soles, and Jeffrey S. Soles. 33

4. CONCLUSIONS: THE DECORATION, CHARACTER, AND RELATIVE CHRONOLOGY OF THE NEOPALATIAL POTTERY
Kellee A. Barnard, Thomas M. Brogan, and Jeffrey S. Soles. 99

APPENDIX A. A STATISTICAL ANALYSIS OF THE POTTERY
Kellee A. Barnard. 113

APPENDIX B. A PETROGRAPHIC ANALYSIS OF A CLAY SAMPLE FROM THE FIELD ADJACENT TO THE ARTISANS' QUARTER
Eleni Nodarou. 171

BIBLIOGRAPHY 175

CONCORDANCE A. 183

CONCORDANCE B. 195

INDEX 203

FIGURES

PLATES

List of Figures

Scale 1:3 unless otherwise indicated.
All figures were drawn by D. Faulmann unless otherwise credited.

1. Conical cups: **IB.10–12**, **IB.14–16**, **IB.25**, **IB.28**, **IB.29**, **IB.31**, **IB.32, IB.35–37, IB.39, IB.44, IB.45, IB.48, IB.49, IB.52**.
2. Conical cups: **IB.53**, **IB.56**, **IB.57**, **IB.59**, **IB.64**, **IB.65**, **IB.67**, **IB.70**, **IB.72**, **IB.73**, **IB.78**, **IB.80**, **IB.82**, **IB.94**, **IB.100**, **IB.102**, **IB.111**, **IB.112**, **IB.116**, **IB.119**.
3. Conical cups, miniature cups, and one-handled conical cups: **IB.123**, **IB.128**, **IB.143–157**.
4. Ogival cups: **IB.158–177**.
5. Ogival cups: **IB.178–185**, **IB.187**, **IB.189–198**.
6. Rounded cups: **IB.199–201**, **IB.203–209**.
7. The Ship Cup: **IB.202**. Scale 1:2.
8. Rounded cups: **IB.210**, **IB.211**, **IB.213**, **IB.214**, **IB.216–221**.
9. Rounded and miscellaneous cups and horizontal-handled bowls: **IB.222–235**, **IB.237**.
10. Horizontal-handled and knob-handled bowls: **IB.236**, **IB.238–245**.
11. "Cooking" bowls, tripod bowls, and miscellaneous bowls: **IB.246–264**.
12. Tray and tripod trays: **IB.265–268**.
13. Basins and vats: **IB.269**, **IB.270**. Scale 1:4.
14. Basins and vats: **IB.271–274**. Scale 1:4.
15. Basins and vats: **IB.275**, **IB.276**, **IB.279**. Scale 1:4.
16. Basins and vats: **IB.280**, **IB.282**, **IB.283**. Scale 1:4.
17. Basins and vats: **IB.284–286**, **IB.290–293**. Scale 1:4.
18. Scoop and alabastra: **IB.294–300**, **IB.304**, **IB.306**. Numbers **IB.297** and **IB.298** drawn by Margaret Reid.
19. Imported alabastron: **IB.305**. Scale 2:5.

20. Alabastra and beak-spouted jugs: **IB**.**301**–**303**, **IB**. **307**–**309**.

21. Beak-spouted jugs: **IB**.**310**–**314**, **IB**.**318**. Number **IB**.**310** drawn by Margaret Reid.

22. Beak-spouted and collared jugs: **IB**.**315**–**317**, **IB**.**319**–**322**.

23. Collared and bridge-spouted jugs: **IB**.**323**–**327**.

24. Bridge-spouted and trefoil-mouthed jugs: **IB**.**328**–**331**, **IB**.**333**.

25. Trefoil-mouthed jugs, miscellaneous jugs, and bridge-spouted jars: **IB**.**332**, **IB**.**334**–**337**, **IB**.**339, IB**.**341**.

26. Bridge-spouted jar: **IB**.**338**.

27. Bridge-spouted and side-spouted jars: **IB**.**342**, **IB**.**343**, **IB**.**345**–**354**.

28. Strainers and pyxides: **IB**.**355**–**367**.

29. Stirrup jars: **IB**.**368**, **IB**.**369**.

30. Stirrup jars: **IB**.**370**, **IB**.**371**, **IB**.**373**, **IB**.**374**, **IB**.**376**, **IB**.**377**.

31. Rhyton, ring vase, and amphorae: **IB**.**378**–**382**, **IB**.**384**.

32. Amphorae: **IB**.**383**, **IB**.**386**–**389**. Scale 1:4.

33. Hole-mouthed jars: **IB**.**390**–**392**. Scale 1:4.

34. Hole-mouthed jars: **IB**.**393**–**396**. Scale 1:4.

35. Hole-mouthed jars: **IB**.**397**, **IB**.**398**, **IB**.**400**, **IB**.**402**–**404**. Scale 1:4.

36. Hole-mouthed jars: **IB**.**401**, **IB**.**405**, **IB**.**407**–**409**. Scale 1:4.

37. Piriform jars: **IB**.**411**–**414**. Scale 1:4.

38. Piriform jars: **IB**.**415**, **IB**.**416**. Scale 1:4.

39. Piriform jars: **IB**.**417**, **IB**.**418**. Scale 1:4.

40. Piriform jars: **IB**.**419**–**421**. Scale 1:4.

41. Miscellaneous jars: **IB**.**424**, **IB**.**425**, **IB**.**427**–**431**.

42. Pithoi: **IB**.**433**–**436**. Scale 1:8. Number **IB**.**435** drawn by Max Kalhammer.

43. Pithoi: **IB**.**437**, **IB**.**439**, **IB**.**440**, **IB**.**442**–**444**. Scale 1:8.

44. Pithoi: **IB**.**445**–**449**. Scale 1:8.

45. Pithoi and lids: **IB**.**453**–**467**.

46. Lids: **IB**.**468**–**476**, **IB**.**479**, **IB**.**480**, **IB**.**483**.

47. Lids and tripod cooking pots: **IB**.**484**–**491**. Scale 1:4.

48. Tripod cooking pots: **IB**.**492**–**496**, **IB**.**498**, **IB**.**500**. Scale 1:4.

49. Tripod cooking pots and cooking dishes: **IB**.**499**, **IB**.**504**, **IB**.**505**, **IB**.**511**–**515**, **IB**.**518**, **IB**.**519**, **IB**.**522**–**525**.

50. Cooking dishes: **IB**.**527**–**534**, **IB**.**536**, **IB**.**538**–**540**, **IB**.**542**–**553**, **IB**.**555**, **IB**.**556**, **IB**.**559**, **IB**.**561**, **IB**.**563**.

51. Cooking dishes and trays: **IB**.**569**, **IB**.**575**, **IB**.**581**–**584**, **IB**.**587**–**590**.

52. Cooking trays and stands: **IB**.**592**, **IB**.**594**–**608**.

53. Scuttles, fireboxes, and miscellaneous vessels: **IB**.**609**–**619**.

54. Miscellaneous vessels: **IB**.**620**–**622**, **IB**.**626**–**629**, **IB**.**631**–**635**. Scale 1:2.

55. Miscellaneous vessels: **IB**.**636**–**644**, **IB**.**646**. Scale 1:2 unless otherwise indicated.

56. Miscellaneous vessels: **IB**.**645**, **IB**.**647**–**650**. Scale 1:2 unless otherwise indicated.

57. Decorative motifs: foliate band (1–7), spiral (8–13), tendril scroll (14–16), dots (17–20). Scale 1:2 unless otherwise indicated.

58. Decorative motifs: wave band (21–25), cross-hatching (26–27), reed (28–30), floral style (31–35). Scale 1:2 unless otherwise indicated.

59. Decorative motifs: Marine Style (36–38), blot (39), rosette (40), ogival canopy (41), ship (42), vertical lines (43–46), scale (47). Scale 1:2 unless otherwise indicated.

List of Plates

1A. Mochlos 95/50 in XP, horizontal dimension = 4 mm. Showing large phyllite inclusions (Petrographic Group 1).

1B. Mochlos 95/60 in XP, horizontal dimension = 4 mm. Showing phyllite and schist inclusions (Petrographic Group 1).

1C. Kavousi 98/64 in XP, horizontal dimension = 4 mm. Illustrating fabric similar to Petrographic Group 1 with frequent low grade metamorphic inclusions.

1D. Mochlos 95/70 in XP, horizontal dimension = 4 mm. Showing Petrographic Group 1.

2A. Mochlos 95/52 in XP, horizontal dimension = 4 mm. Showing granodiorite inclusions, clay striations, and porphyroclasts (Petrographic Group 2).

2B. Kavousi 93/5 in XP, horizontal dimension = 4 mm. Similar to Mochlos Petrographic Group 2 examples.

2C. Mochlos 95/62 in XP, horizontal dimension = 4 mm. Showing angular calcite and dolomite inclusions (Petrographic Group 3).

2D. Hagia Photia 94/11 in XP, horizontal dimension = 4 mm. Showing characteristic dolomite and calcite tempered fabric similar to Mochlos 95/62.

3A. Mochlos 95/56 in XP, horizontal dimension = 4 mm. Showing low grade metamorphic rocks and muscovite mica (Petrographic Group 4).

3B. Mochlos 95/61 in XP, horizontal dimension = 4 mm. Showing Petrographic Group 5, with frequent, small, biotite mica in groundmass.

3C. Mochlos 95/57 in XP, horizontal dimension = 4 mm. Showing Petrographic Group 6, with frequent, low-grade, metamorphic rocks, biotite, and muscovite mica.

3D. Kavousi 93/18 in XP, horizontal dimension = 4 mm. “Silver Mica” fabric common at Kavousi, similar to Mochlos Petrographic Group 6.

4A. Mochlos 95/68 in XP, horizontal dimension = 4 mm. Showing dominant granodiorite inclusions, discrete amphiboles, and micrite (Petrographic Group 7).

4B. Kavousi 93/56 in XP, horizontal dimension = 4 mm. Illustrating fabric similar to Mochlos Petrographic Group 7.

4C. Mochlos 95/77 in XP, horizontal dimension = 4 mm. Showing chlorite laths and schist fragments (Petrographic Group 8).

4D. Mochlos 95/79 in XP, horizontal dimension = 4 mm. Showing large inclusions of quartz-muscovite mica schist (Petrographic Group 11).

5A. Mochlos 95/80 in XP, horizontal dimension = 4 mm. Showing fine phyllite inclusions (Petrographic Group 9).

5B. Mochlos 95/43 (Early Minoan I sample) in XP, horizontal dimension = 4 mm. Illustrating EM I fabric similar to Petrographic Group 9 in this study.

5C. Mochlos 95/73 in XP, horizontal dimension = 4 mm. Showing volcanic fabric with zoned plagioclase feldspar (Petrographic Group 10).

5D. Mochlos 95/72 in XP, horizontal dimension = 4 mm. Showing volcanic fabric with zoned plagioclase feldspar (Petrographic Group 10).

6. Conical cups: **IB.11**, **IB.14**, **IB.15**, **IB.28**–**37**, **IB.39**, **IB.44**, **IB.51**–**53**, **IB.56**; ogival cups: **IB.159**–**165**, **IB.167**–**169**.

7. One-handled ogival cup: **IB.197**; one-handled conical cup: **IB.148**; conical cup lamp: **IB.112**; rounded cups: **IB.201**–**206**.

8. Rounded cups: **IB.207**, **IB.214**; bell cup: **IB.225**; miscellaneous cups: **IB.223**, **IB.228**; horizontal-handled bowls: **IB.235**, **IB.241**–**243**; "cooking" bowl: **IB.248**.

9. Tripod bowls: **IB.250**, **IB.252**–**257**; tripod trays: **IB.265**, **IB.268**.

10. Basins: **IB.270**, **IB.271**, **IB.275**.

11. Alabastra: **IB.296**–**298**, **IB.304**, **IB.306**.

12. Alabastra: **IB.299**, **IB.305**; beak-spouted jugs: **IB.307**–**310**.

13. Collared jugs: **IB.317**, **IB.318**; miscellaneous jugs: **IB.313**, **IB.316**, **IB.321**, **IB.326**.

14. Bridge-spouted jugs: **IB.327**, **IB.328**; trefoil-mouthed jugs: **IB.329**–**331**, **IB.333**.

15. Trefoil-mouthed jug: **IB.335**; miscellaneous jugs: **IB.311**, **IB.336**, **IB.337**; bridge-spouted jars: **IB.339**, **IB.341**.

16. Bridge-spouted jar: **IB.338**; side-spouted jars: **IB.348**, **IB.349**, **IB.353**.

17. Strainers: **IB.356**–**358**; pyxides: **IB.361**, **IB.366**; stirrup-jars: **IB.368**, **IB.369**.

18. Amphorae: **IB.380**, **IB.381**, **IB.387**; hole-mouthed jar: **IB.390**.

19. Hole-mouthed jars: **IB.391**, **IB.394**, **IB.396**, **IB.397**.

20. Piriform jars: **IB.413**, **IB.415**, **IB.417**, **IB.418**.

21. Piriform jars: **IB.419**, **IB.421**; amphoroid jars: **IB.424**, **IB.425**.

22. Type A pithoi: **IB.433**–**435**, **IB.437**.

23. Type A pithos: **IB.443**; Type B pithoi: **IB.445**, **IB.446**; Type C pithos: **IB.448**.

24. Type A lids: **IB.455**–**458**, **IB.460**; Type B lids or "spinning bowls": **IB.464**–**466**; Type E lid: **IB.474**; Type F lid: **IB.484**; miscellaneous lid: **IB.488**.

25. Tripod cooking pots: **IB.490**, **IB.491**, **IB.493**; cooking dishes: **IB.525**, **IB.553**.

26. Cooking trays: **IB.582**, **IB.597**, **IB.602**; stands: **IB.604**–**608**; scuttles: **IB.609**, **IB.613**.

27. Miscellaneous decorated sherds: **IB.618**, **IB.619**, **IB.621**, **IB.622**, **IB.627**, **IB.629**, **IB.631**, **IB.636**, **IB.638**, **IB.641**, **IB.646**, **IB.647**, **IB.650**, **IB.423**.

28A. Mochlos briquette from Artisans' Quarter in XP, horizontal dimension = 4 mm. Showing large phyllite inclusions.

28B. Mochlos P 4673 in XP, horizontal dimension = 4 mm. Showing large phyllite inclusions.

28C. Mochlos P 4674 in XP, horizontal dimension = 4 mm. Showing large phyllite inclusions.

List of Chart, Tables, and Graphs

Chart

1. Concordance of Petrographic Groups with Macroscopic Groups. Generated by Peter M. Day, Louise Joyner, and Maria Relaki.

Tables and Graphs

All tables and graphs were generated by Kellee A. Barnard.

1. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 1.
2. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 2.
3. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 3.
4. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 4.
5. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 6.
6. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 7.
7. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 8.
8. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 9.
9. Statistical Analysis Table and Graph: Artisans' Quarter, Building A, Room 10.
10. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 1.
11. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 2.
12. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 3.
13. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 4E.
14. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 4W, 1st phase.
15. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 4W, 2nd phase.
16. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 5.
17. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 6.
18. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 7E.

19. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 8.
20. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 9.
21. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 10.
22. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 11.
23. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 12.
24. Statistical Analysis Table and Graph: Artisans' Quarter, Building B, Room 13W.
25. Statistical Analysis Table and Graph: Chalinomouri, Room 1.
26. Statistical Analysis Table and Graph: Chalinomouri, Room 2.
27. Statistical Analysis Table and Graph: Chalinomouri, Room 2 sub-floor.
28. Statistical Analysis Table and Graph: Chalinomouri, Room 3.
29. Statistical Analysis Table and Graph: Chalinomouri, Room 5.
30. Statistical Analysis Table and Graph: Chalinomouri, Room 6.

Acknowledgments

The excavation, study, and publication of the pottery from the Artisans' Quarter and Chalinomouri farmhouse have been a collaborative effort stretching over many years, and we are indebted to many institutions and individuals whose valuable support made our work possible.

The project was a Greek-American collaboration (*synergasia*) between the University of North Carolina at Greensboro and the 24th Ephoreia of Prehistoric and Classical Antiquities. Permits for the fieldwork (1990–1994) and study of the excavated finds (1995–2002) were obtained from the Greek Ministry of Culture through the American School of Classical Studies at Athens (ASCSA). We are greatly indebted to colleagues from both institutions for their support, especially the directors of the ASCSA, William D. E. Coulson and James D. Muhly, and their staff members, especially Maria Pilali.

Financial support for the project was drawn from several sources. Funds for the excavation came from the National Endowment for the Humanities, the Institute for Aegean Prehistory, the Samuel H. Kress Foundation, the University of North Carolina at Greensboro, the General Greene Chapter of the American-Hellenic Progressive Association, Merrill Lynch, Inc., and many individual sponsors, especially Marion and Philippe Lambert and Karen Morely Westcott. The creation of the Institute for Aegean Prehistory Study Center for East Crete in 1997 also made a host of new equipment and human resources available for the preparation of the illustrations in this volume. The creation of the Institute for Aegean Prehistory Academic Press in 2001 provided the final step necessary for the production of this volume.

Our staff included a considerable number of Cretan workmen and women from local villages of Exo and Mesa Mouliana, Myrsini, Tourloti, Sphaka, and Mochlos who helped us recover the pottery during the excavation and then clean it for study. We are particularly grateful to Despoina and Evangelia Paspalaraki, Kostoula Roussolaki, Anna Kypraiou, Popi Silignaki, and Aspasia Zervaki, who spent many seasons washing pottery. Our processing of the ceramic material benefited from a large team of students, including Maryanne Schultz, Lori Lytle, Kelly Steagall, Stephanie Larson, Ryan Papson, and Jesse Hastings, who helped the authors sort the pottery, identify fragmentary vessels, and quantify the fabrics and shapes with statistical analyses for each room. The cataloged objects were then processed by a talented group of registrars, catalogers, and conservators, including the registrars of the Mochlos project, Susan Springer and Eleanor Huffman, a number of conservators, especially Giota Guioni, Irena Calinescu, Stephania Chlouveraki, and Michel

Roggenbucke, and the catalogers, Ann Nicgorski and Mary Ellen Soles, who are also contributors to the volume.

We owe a huge debt to the illustrators and photographers, particularly Douglas Faulmann, whose drawings and watercolors capture the form and decoration of the pottery, and Kathy May, who photographed most of the pottery and laid out the plates. Finally, we would like to thank students from the University of North Carolina at Greensboro, especially Jeremy Heffner and Robert Grill, who helped to scan the drawings and complete the concordances.

Our study of the pottery benefited from a long list of scholars who visited the Mochlos pottery tables and who invited us to look at material from their excavations. In particular, we would like to thank Philip Betancourt and Cheryl Floyd, who spent many hours with us discussing the pottery from neighboring Pseira and its relation to the Mochlos pottery. We would like to thank various scholars working at Knossos, especially Eleni Hatzaki, Colin MacDonald, Mervyn Popham, and Peter Warren for their assistance, particularly in identifying central Cretan imports. We would also like to thank a number of other scholars for their opinions and advice, including Tim Cunningham, Jan Driessen, Sandy MacGillivray, Peggy Mook, Jerry Rutter, Hugh Sackett, Metaxia Tsipopoulou, Aleydis Van de Moortel, and Vance Watrous. Among other members of the Mochlos team, we would like to thank Maryanne Schultz and Freya Evenson, who have been studying the contemporary Neopalatial deposits in houses on the island of Mochlos, and Angus Smith, who has been studying the LM II and LM III pottery. Smith's discovery of a small number of LM II imports from the post-destruction, reoccupation levels of the town on the island of Mochlos has been particularly useful. Finally, we owe a great debt to Phil Betancourt and Peter Warren who both took the trouble to read the manuscript of this part of the volume before its publication and offer us invaluable guidance.

The authors take full responsibility for the conclusion to the book and hope that it will make a useful contribution to Minoan ceramic studies.

Kellee A. Barnard
Thomas M. Brogan
Jeffrey S. Soles

Abbreviations

The following abbreviations are used in this part of the volume:

A	Building A, Artisans' Quarter
B	Building B, Artisans' Quarter
ca.	circa
CF	Coarse Ware fabric
c:f:v	coarse:fine:void ratio (Whitbread 1995)
Ch.	Chalinomouri farmstead
CM	Coast Mochlos
cl	centiliter
d.	diameter
est.	estimated
FF	Fine Buff fabric
FM	Furumark Motif number
g	gram
h.	height
HNM	Hagios Nikolaos Museum
HM	Herakleion Museum
IM	Ierapetra Museum
m	meter
mm	millimeters
µm	micrometers
max.	maximum
MPD	maximum preserved dimension
nn.	notes
P	pottery
PPL	plane-polarized light
pres.	preserved
RY	Rear Yard
Sh	shell
s.l.	sensu lato
SM	Siteia Museum
sp.	species
TCF	textural concentration feature
th.	thickness
UF	unfused
vol.	volume
XP	cross-polarized light
vol.	volume
w.	width
-/-	complete/fragments

Introduction

Kellee A. Barnard, Thomas M. Brogan, and Jeffrey S. Soles

The following presentation of the ceramic remains from the Artisans' Quarter and the Chalinomouri farmhouse is divided into five parts. Chapters 1 and 2 discuss the range of fabrics, local and imported, from the LM IB deposits. Using both macroscopic and microscopic analysis, the study aims to describe and classify all of the various fabrics integral to the site and, where possible, correlate this information with the other known fabric types for the Mirabello region. While the analysis of local exchange patterns, local clay sources, and pottery technology is the most significant development from this research, it also considers foreign fabrics and possible long-distance pottery transport. The microscopic evaluation, in addition to defining the petrographic composition of the fabric types, increases the database available for the long-term study of the nature and identification of clays and clay sources in Crete, especially the eastern portion of the island and the Mirabello Bay region. Chapter 3 consists of a typology of the shapes in the Neopalatial ceramic assemblage. It describes all major vase shapes, summarizes their distribution within the buildings, catalogs and illustrates individual examples, and provides comparanda from other Minoan sites. Chapter 4 presents a classification of the decorative techniques and general comments concerning the identification of various local and imported wares. It also discusses the relative chronology of the assemblage in the conclusions to the chapter. Appendix A, at the end of the book, provides a statistical analysis of the deposits, with a complete accounting of all the pottery, whole vessels, and sherd material from the floor levels of the rooms in the three buildings under study. This analysis provides a more complete record of the pottery that was used in these three buildings and illustrates the distribution of specific vessels across the site. It has also permitted the analysis of the way individual rooms functioned over time, which appears in Part A of this volume. Appendix B contains a petrographic analysis of a clay bed located next to the Artisans' Quarter. Concordance A provides a cross reference between the Mochlos field numbers and the catalog numbers (i.e., P 94 = **IB.338**). It should be helpful in locating objects identified by Mochlos field numbers and matching them with the corresponding catalog entries. Concordance B

correlates the catalog numbers with the archaeological context of the objects (i.e., **IB.1**, a conical cup, comes from Building A, Room 2, Locus 212 part 4).

The context of the pottery under discussion makes the deposits unique and important tools for studying Neopalatial ceramics. First of all, at most sites, including the Neopalatial town on Mochlos, the LM IB phase follows a long period of occupation, and, as a result, even closed floor deposits contain a good amount of earlier ceramic material, particularly from the preceding MM III and LM IA phases. At the Artisans' Quarter and Chalinomouri, there is little or no trace of earlier occupation. Both sites are new foundations in the LM IB period. A secure *terminus post quem* for the construction of the Artisans' Quarter at the end of the LM IA period is provided by the Santorini tephra discovered at two locations in the foundations of Buildings A and B. This fact alone leaves little doubt that the foundation of the buildings dates to the beginning of the LM IB period, a point supported by the analysis of the pottery, which revealed only small amounts of material that could be dated to the preceding MM and LM IA periods. Although the farmstead at Chalinomouri did not preserve any tephra remains, its pottery is very similar to that from the Artisans' Quarter, and it must have been constructed at nearly the same time or only slightly later. Both sites, built apart from the primary settlement on the island, provide a telescoped view of the later Neopalatial period with little interference or "background noise" of pottery from earlier periods. Second, both sites are used continuously through the entire LM IB period right through to the time of the final Neopalatial destruction. All three buildings share a homogenous, often identical, ceramic assemblage, which is, in turn, contemporary with material from the major destruction levels recovered in the Minoan houses of the main settlement on what is today the island of Mochlos. The comparison of this assemblage with several recently published LM IB deposits on Crete provides a useful starting point for a more detailed discussion of the pottery's chronology. In some cases, the pottery from these final destruction levels also presents characteristics better known from the LM II pottery styles of central Crete, and the possibility exists that the Neopalatial destruction at Mochlos might belong to the LM II period.

After a period of abandonment, both the Artisans' Quarter and the Chalinomouri site were reused in the LM III period. There is not a great deal of pottery from this period, however, and it has been examined and cataloged separately in Part A of this volume. It is well-stratified in a small area above the earlier levels at Chalinomouri and tends to be isolated in a small number of pits at the Artisans' Quarter. Given the limited extent of this LM III material, the earlier LM IB pottery is largely undisturbed. For these reasons, we have decided to focus on the Neopalatial pottery in this part of Volume I and to postpone further discussion of the later pottery to a subsequent volume, which deals with the LM III period at Mochlos. We have chosen to publish as large a selection as possible, including fragments as well as more complete vessels—virtually everything that seemed remarkable in any way—in order to illustrate the way each site was used in its primary period of occupation, over the whole course of the LM IB period.

1

A Macroscopic Analysis of the Neopalatial Fabrics

Kellee A. Barnard

The following chapter presents only the ceramic fabrics found in the Artisan's Quarter and at the Chalinomouri farmstead and does not include the full range of fabrics, Neopalatial or otherwise, from Mochlos. Discussion of the entirety of fabric types found at Mochlos will appear in the subsequent Mochlos volumes dealing with the main settlement on the island. The first part of this discussion is designed to provide the reader with a general macroscopic description of the fabrics as seen by the naked eye or a simple hand lens (10–16x magnification). The paste color and primary visible inclusions that typify each fabric are characterized in order to give a picture of the general nature of the fabric. This chapter also aims to correlate the Mochlos fabric types with those fabrics presented in earlier studies carried out in the region.[1] A more detailed petrographic identification of the inclusions, which was achieved by analyzing thin-sections of the fabrics, follows in Chapter 2.

Pottery analyses at Mochlos initially sort all ceramic remains into two groups, fine and coarse wares. Fine fabrics (FF) are defined as having an untempered clay paste with small amounts of mineral or organic inclusions (i.e., approximately less than 10%). Coarse fabrics (CF) are made of clays with more than ca. 10% inclusions. The fabric may be actively tempered, or the inclusions may be a naturally occurring part of the clay source not purposefully removed by levigation. One particular coarse fabric (CF Type 1, also sometimes called "coarse phyllite") dominates the Mochlos assemblages throughout most of the Minoan occupation of the site and even in some later periods. The FF and CF Type 1 fabrics combined constitute well over 90% of all ceramic remains from the Artisans' Quarter and Chalinomouri.

Twelve additional coarse fabrics (CF Types 2–13) have been identified from these three buildings.[2] CF Types 1 through 5 all have members of the phyllite[3] series as their primary inclusion, while CF Types 8 and 9 have, in addition, large amounts of silver-colored micaceous inclusions. CF Types 6 and 7 derive from a very different ceramic tradition from that of the phyllite fabrics; their primary inclusion is a granitic-dioritic composite rock, and they have been termed "Mirabello" fabrics because the only source for their mineral inclusions comes

from the Mirabello Bay region around the Isthmus of Ierapetra and the site of Gournia.[4] The much less common CF Types 10 through 13 consist of mineral inclusions that are either foreign or uncommon to the Mochlos region (and, for that matter, even to Crete). CF Type 10 is another micaceous fabric like Types 8 and 9, but it has no connection to the phyllite group. CF Type 11, represented by only two sherds from the Artisans' Quarter, may have origins in the Cyclades, although the type is too rare to make any secure categorizations. CF Type 12, on the other hand, most certainly comes from the Cyclades or another similar volcanic location as it is tempered with obsidian and volcanic rock fragments. CF Type 13, sometimes termed "marble tempered," has white or light gray calcitic inclusions that react when exposed to dilute hydrochloric acid. Recent studies have shown that it is principally a fabric of the Early Minoan I and II periods;[5] examples from the Artisans' Quarter, which are not common, are extremely fragmentary and are probably Prepalatial debris in the soil.

Fine Fabric (FF)

The Fine Fabric group seen at the LM IB coastal settlements is remarkably uniform in nature and, unlike in earlier periods,[6] there are no notable subdivisions into various categories of a "fine" nature. The FF group is made up of clay that can range in color from light buff to tan (pink, 7.5YR 8/3–7/4, white, 10YR 8/2, very pale brown, 10YR 8/3–7/4, but, with reddish yellow, 7.5YR 7/6–6/8, examples also).[7] Many of the large inclusions already present in the clay source were removed by levigation. The small, variable amounts of visible inclusions generally constitute less than 10% of the paste. These visible inclusions always measure less than 2 mm and are usually 1 mm or less in size. The most common and easily identifiable inclusions are small phyllites and/or phyllite siltstones, ranging in color from red and reddish brown to reddish gray. Due to the local geology, phyllite is a naturally occurring element in virtually all clay sources in the surrounding region.[8] Small white to light gray and dark gray to black inclusions are also sometimes apparent.

The only major division in the FF group of the coastal settlements is between the decorated and undecorated versions and, thus, the statistical tables separate fine ceramics into these two categories. While not an absolute rule, most vessels in the FF group that lack any decorative treatment (other than an occasional buff slip) have darker colored and more coarsely grained clay with larger amounts of inclusions than occurs in the decorated FF examples. Moreover, the undecorated FF clay body is often softer and more porous, and less attention was paid to wet-wiping the surface in order to improve these qualities. The rule separating the "FF decorated" vs. the "FF undecorated" examples is not hard and fast as the division seems to originate in the treatment of the clay rather than from different clay sources or recipes. In some cases, vessels with a fabric more in keeping with FF undecorated characteristics may be simply decorated (particularly noted in ogival cups). In the catalog entries in Chapter 3 below, FF objects are further defined as "fine" or "medium" to describe their individual clay characteristics in addition to their state of decoration. As may be expected, the "medium" examples are mostly undecorated or very simply decorated with a light wash, and the fabric is used for more utilitarian shapes such as conical cups, most ogival cups, some bowls, and jugs. The more delicate and elaborately decorated shapes include rounded cups, alabastra, beak-spouted jugs, and spouted jars. The fabric of these vessels is characteristically "finer" in appearance (texture, clay density, and surface treatment) than that of the FF undecorated category.

Because fine wares from most sites around Crete are made with well-levigated, buff-colored clays, it is sometimes difficult to distinguish local products from those that were imported. The vast majority of fine ware at Mochlos is attributed to a local center of production on the basis of the substantial evidence for pottery manufacture in the Artisans' Quarter workshops and the extreme homogeneity in

the characteristics of the fabric as well as in the shape and decorative techniques. Certain examples, however, exhibit clear differences in the color or quality of their clay or slip, which we would attribute to non-local production. Potential imports are noted in the individual catalog entries in Chapter 3.

CF Type 1 (Petrographic Group 9: Fine Phyllite Fabric[9])

CF Type 1 is the standard coarse fabric at Mochlos, not only in the Neopalatial period but in all Minoan periods.[10] It comprises 30–50% or more of the total pottery in each room in the Artisans' Quarter and Chalinomouri farmhouse. The predominant inclusions in this fabric come from the phyllite series, which is prominent throughout Cretan geological formations, particularly in eastern Crete. Phyllite formations surround the entire Mochlos coastal plain region, and outcrops of the rock are present less than 200 m from the Artisans' Quarter.[11] Similar coarse phyllite fabrics are common at other nearby sites as well, especially in the Late Minoan period.[12] Specifically, the Mochlos CF Type 1 group corresponds well to Types I/IV from the Kavousi-Thriphti Survey and the "Phyllite Fabric from LM I" from Pseira.[13]

Color:

Varies from reddish yellow to yellowish red, 5YR 7/6–7/8, 5YR 6/6–6/8, and 5YR 5/6–5/8, but also occasionally deepening to red (2.5YR 6/6–6/8). It often has a gray (2.5YR 6/0, 10YR 5/1–6/1) or grayish brown (2.5Y 5/2) core with diffuse margins.

Inclusions:

The most obvious and frequent inclusions of CF Type 1 are identified as phyllites**,** which are mainly reddish gray or weak red, but also reddish brown in color. They are medium to large in size (up to 6 mm or slightly more), foliated and elongated, and usually appear layered in the clay matrix. Some smaller, rounded, reddish brown inclusions are also present; these are probably also of the phyllite series. White to grayish inclusions (<3 mm), probably quartz or quartzite, are also usually visible.

Comments:

Inclusions are usually densely packed in the matrix, but they are not often visible on the surface. The fabric can be extremely coarse (particularly in large storage vessels such as pithoi) or medium coarse (in smaller jars, basins, etc.). The clay is only of moderate hardness. A buff slip of powdery quality is frequently applied, but it is often poorly preserved.

Cooking vessels of CF Type 1 share many features with the regular CF Type 1 fabric, which is used mainly for storage and pouring vessels; the two are basically indistinguishable microscopically.[14] Macroscopically, the cooking and non-cooking versions of Type 1 "coarse phyllite" fabric are clearly discernable from one another. To the naked eye, the cooking fabric is consistently much redder in color (red, 2.5YR 5/6–6/6), and the inclusions appear more frequently on the surfaces. In addition to the standard range of tripod cooking pots, cooking dishes, and trays, Type 1 cooking fabric was commonly used at Mochlos for utilitarian vessels such as stands, scuttles, and fireboxes as well as in "cooking" and shallow tripod bowls, all of which most likely required contact with fire.

CF Types 2, 3, and 4 (Petrographic Group 1: Low Grade Metamorphic Rocks)

These three fabric types are visually distinct from one another on the macroscopic level so that they are grouped separately during pottery sorting but are made of the same general elements and are not

differentiated by petrographic analysis. They are, like CF Type 1, a phyllitic fabric, but clearly are a different type, both in macroscopic and microscopic evaluation. The main inclusion of the fabric comes from the phyllite series, but it appears rounded or sub-rounded in shape and reddish brown or dark gray in color rather than reddish gray. These types form a common class, second to Type 1 in popularity, and they were probably produced locally in the Mochlos region. Type 2 fabric corresponds well to the published descriptions of Types X/XI from the Kavousi-Thriphti Survey.[15]

Type 2

Color:

Pink to light orange (pink to reddish yellow, 7.5YR 7/4–7/6 to 5YR 7/4–7/6), but can be more tan to light brown in tone (very pale brown, 10YR 7/3–7/4), sometimes with a light red (2.5YR 6/6) core with diffuse margins.

Inclusions:

The main inclusions of CF Type 2 are phyllites, and the most obvious are rounded or elongated and dull reddish brown in color. They can also be quite large in size, but are typically smaller in size (<6 mm), less densely packed in the matrix, and lack the layered appearance of the phyllite inclusions of CF Type 1. Present but not always noticeable are smaller white to light gray (probably quartz or quartzite) and dark gray to black inclusions.

Comments:

The matrix is only moderately packed, and inclusions can appear on the surfaces below the slip, which is a distinctively thick, white to buff color (white, 10YR 8/2, very pale brown, 10YR 8/3–8/4, or occasionally pale yellow, 2.5Y 8/4). This fabric is reasonably hard and is used almost exclusively as a fabric for large closed vessels (especially amphorae), but it is also occasionally used for open shapes like basins.

Type 3

Color:

Darker than Type 2, from dark pink to brown (light red, 2.5YR 6/6, to pinkish gray, 7.5YR 6/2, light brown, 7.5YR 6/3, and light yellowish brown, 10YR 6/4). Cores with diffuse margins (grayish brown, 2.5YR 5/2, to light reddish brown, 5YR 6/3–6/4) are occasionally seen.

Inclusions:

The most obvious inclusions of this fabric are the phyllites of the type described above for Type 2. Type 3 inclusions, however, are dominantly dark gray to black in color, and, on the whole, less rounded and more elongated in appearance.

Comments:

The fabric is quite hard and is used for the same range of vessels as CF Type 2. As with Type 2, a thick, pale, buff slip is used. It is the most popular variant of the three CF Types (2–4) discussed here. The dark color of both the clay and the inclusions is apt to be due to oxidation during firing, indicating a different technique than that of Types 2 or 4, rather than a different clay source or recipe.

Type 4

This fabric type appears as a composite of the elements noted in Types 2 and 3 and is the least frequent of the group.

Color:

Ranges from buff/tan (light brown to brown, 7.5YR 6/4–5/4) to reddish yellow (7.5YR 6/6–6/8) with similar diffuse margin cores as discussed above.

Inclusions:

Both reddish brown and dark gray to black inclusions are noted in CF Type 4. The inclusions are generally smaller in size than in Types 2 and 3, and the white to light gray inclusions are more frequent and always more noticeable in this fabric than the other two. The inclusions are generally smaller than in CF Types 1–3 and more rounded than elongated.

Comments:

A thin buff slip, more like that common to CF Type 1, is either less frequently applied or less well preserved than the thicker, pale slip used on fabric Types 2 and 3. The overall texture of this fabric is gritty to the touch. Unlike Types 2 and 3, this variant is not particularly obvious in the Kavousi-Thriphti fabrics.

Type 5 (Petrographic Group 4: Dark Phyllite Fabric)

This type is clearly a version of the Type 1 phyllite fabric, but it appears different because of overfiring that has completely reduced the clay, giving it a gray or black color (10YR 5/1–2/1). Although it was understood from the beginning to be a firing accident of a Type 1 fabric, this burned type was separated from Type 1 to determine if there was any pattern to the distribution of the burned materials, i.e., as wasters around the area of the kilns in the Artisans' Quarter. Unfortunately, no such pattern was discerned. Because the phyllite inclusions of Type 5 fabric are the same gray or black colors of the clay, they can be difficult to distinguish. As with Type 1, the lighter colored inclusions (i.e., the reddish brown and white to light gray particles) stand out against the dark color of the clay. Petrographic analysis has demonstrated, however, that this type shows some slight differences from the regular Type 1 phyllite fabric, presumably a result of the excessive firing.

Type 6 (Petrographic Group 7: Mirabello Cooking Fabric)

Type 6, along with Type 7, forms the second major fabric group from Mochlos and the surrounding region. Mainly used in cooking vessels, Type 6 is more common to the Mirabello Bay area just to the west of Mochlos, especially in the Early and Middle Minoan periods.[16] The clay sources for this fabric should be located on the Isthmus of Ierapetra near the area of Gournia where the only deposits of the main inclusion, a granitic-dioritic bedrock, are found.[17] Small, fragmentary, and worn sherds in LM IB deposits at Mochlos represent the fabric type, which is generally considered an earlier fabric because it appears with much greater frequency in Prepalatial and Protopalatial deposits. Mochlos' CF Type 6 is equivalent to Types II/VI of the Kavousi-Thriphti region and Pseira's Mirabello fabric.[18]

Color:

Dark red to brown (red, 2.5YR 5/6, reddish brown, 5YR 5/4, or strong brown, 7.5YR 4/6). Occasionally with a greenish core (olive brown, 2.5Y 4/4).

Inclusions:

Type 6 has small to medium black and white inclusions of rock, less than 2 mm in size and roughly round in shape (identified as granodiorite). Other small white to light gray inclusions and occasional small pieces of gold biotite mica are seen.

Comments:

This clay has a very grainy, gritty appearance. Although poor preservation makes identification difficult, shapes found in this fabric include cooking pots, dishes, and trays. Decoration is uncommon, but a buff slip may be present.

Type 7 (Petrographic Group 2: Mirabello Fabric—Jars)

This fabric is closely related to Type 6, except that it was used for jars, pithoi, basins, etc., rather than for cooking vessels. The main inclusion is a granitic-dioritic rock found in the broader region around Gournia. At Mochlos and elsewhere, it seems to be a mainly Early or Middle Minoan fabric. The fabric appears only as fragmentary sherds in the Artisans' Quarter and at Chalinomouri. Based on analysis of MM III deposits from Mochlos, Type 7 vessels were still imported from the Gournia region at the beginning of the Neopalatial period, but they are virtually non-existent by the end of that period. Similar clay fabrics come from Kavousi-Thriphti (Type III) and Pseira (Mirabello fabric).[19]

Color:

Pink or buff to brown (pink, 5YR 8/3–7/4, to pale brown, 7.5YR 7/4, to very pale brown, 10YR 7/3). Sometimes with a slight core of more reddish or darker brown color (yellowish red, 5YR 5/6, to pale brown, 10YR 6/3).

Inclusions:

Medium to large, roundish, black and white granodiorite inclusions are very obvious and densely packed in large jars and pithoi, but they can be sparse in smaller jars. As in Type 6, small white or light gray inclusions and particles of gold biotite mica are also present.

Comments:

Sherds of this fabric are usually from closed vessels, such as jars, amphorae, and pithoi. Examples are almost invariably given a well preserved buff slip, and horizontal bands or vertical drips in dark slip are very common.

Type 8 (Petrographic Group 6: Red Metamorphic Fabric)

Type 8 is a particularly interesting fabric as the most visually apparent inclusions are large pieces of silver-colored micas (muscovite) that are rare on Crete and more often associated with the Cyclades. The phyllite inclusions in this fabric strongly indicate that it belongs to the Mochlos region, however. Appearing as early as MM III at Mochlos, Type 8 is primarily a cooking fabric. It continues in the wider region as the standard LM IIIC cooking fabric at Kavousi where it corresponds to Kavousi-Thriphti Type XVI.[20] At Mochlos, examples of this fabric are more common at the Chalinomouri farmstead (LM IB levels) than at the Artisans' Quarters, and this pattern may be due to the fact that sources for silver mica schists can be found at Exo Mouliana and Myrsini (the latter in the mountains above Chalinomouri). It is even possible that the residents of the farmstead were accessing clays from this area. Type 8 cooking vessels are somewhat more common in the earliest Neopalatial levels from Mochlos than from the late LM IB levels of the Artisans' Quarter and Chalinomouri.[21]

Color:

Red to dark red (2.5YR 5/6–6/6, 2.5YR 4/4–3/6).

Inclusions:

Primary notable inclusions are roughly round pieces of silver mica schist up to 4 mm in size. Phyllites described in Type 1 are also obvious, as are some smaller white to light gray inclusions. The clay is not particularly hard-fired and has a slightly more gritty texture than the phyllitic CF Types 1–5.

Comments:

This clay is used for cooking pots, dishes, trays, and also "cooking" bowls. Occasionally, it is used for basins and, in one case, an amphora (**IB.380**, P 97). It is usually not decorated.

Type 9 (Petrographic Group 11: Micaceous Fabric)

This type is a much less common version of the Type 8 fabric; the silver mica inclusions are prominent, but phyllites are not as obvious or are lacking altogether. The clay color is dark orange (yellowish red, 5YR 5/8, to reddish yellow, 7.5YR 7/6–6/8), sometimes with brown to greenish core (light brown, 7.5YR 6/4, to brown, 10YR 5/3). The fabric is fairly soft, clearly not suitable for use in cooking vessels, and differs enough from Type 8 for it to be considered a separate type both macroscopically and microscopically. The range of shapes made from this fabric appears to be confined to smaller closed vessels and bowls rather than cooking vessels.

Type 10 (Petrographic Group 5: Biotite Fabric)

Fabric Type 10 is represented by only one fragmentary jar (**IB.431**, P 2932) from the Chalinomouri farmstead, which, unfortunately, does not preserve a full profile. At first glance, this hard and dense red fabric resembles that of the other red micaceous fabric, Type 8, but it lacks the phyllites and has gold (biotite) rather than silver (muscovite) mica as the most obvious inclusion. Day, Joyner, and Relaki suggest a possible origin in the Cyclades.[22]

Color:

Red (yellowish red, 5YR 4/6) exterior, brown (light reddish brown, 5YR 6/4) interior with a greenish gray (light yellowish brown, 2.5Y 6/4) to gray (2.5Y 6/0) core.

Inclusions:

This fabric has numerous small to large (up to 4 mm) rounded gold biotite mica inclusions. Various small rounded to sub-rounded dark gray or black and white to gray inclusions are noticeable.

Type 11 (Petrographic Group 8: Greenschist [?] Fabric)

This type is extremely difficult to discuss as it is represented by only two small sherds from the Artisans' Quarter. They were selected from other standard coarse fabric types because they were not consistent with any of them. Unfortunately, the two samples are not even entirely consistent with each other, and because of this it is hard to give the general characteristics for the type. Petrographic analysis suggests that the type may come from the Cyclades, or at least it has more in common with the geology of that area.

Color:

Buff to brown (very pale brown, 10YR 7/4, to brown, 10YR 5/3).

Inclusions:

The CF Type 11 clay is quite soft, with only a few small to medium sized inclusions. Round to angular dark gray or black and light gray inclusions are the most prominent. One of the two examples has obvious pieces of silver mica while small particles of gold mica biotite are present in both.

Type 12 (Petrographic Group 10: Volcanic Fabric)

Type 12 is perhaps the most interesting and unique fabric in this discussion. Its main inclusion consists of volcanic rock and glass, making it very clear that vessels in this fabric originated outside of Crete, probably in the Cyclades or another similarly volcanic region. All of the sherds of this fabric appear to come from jars of medium to large size. Unfortunately, nearly all examples from Mochlos are highly fragmentary, with the best preserved jar from the coastal settlements (**IB.432**, P 2969) being only one quarter extant and not preserving a full profile or any diagnostic features. Interestingly, petrographic analysis indicates a fabric sample with very similar features from Makrygialos.[23]

Color:

Color ranges in each sherd are quite large, and the exterior and interior surfaces often seem to fire different colors. Exterior surface is orange-red to brown (reddish yellow, 5YR 6/6 and 7.5YR 6/6, light brown, 7.5YR 6/4, and brown, 7.5YR 6/3). Interior surface is brown to greenish gray (pale brown, 10YR 6/3, light gray, 2.5Y 7/2, and grayish brown, 2.5Y 5/2). A bluish gray core (gray, 2.5Y 6/0–5/0) is common, and it is usually, but not always, diffuse.

Inclusions:

Many clear to slightly cloudy, glassy, rounded to subrounded inclusions that can be large (up to 3 or 4 mm) or appear as small glittery bits are overwhelmingly obvious in Type 12. In one case, where the example had perhaps been slightly misfired, the glass takes on a black color. Small to large rounded white or light gray and elongated dark gray or black inclusions are also present.

Comments:

One example of this fabric has a thick pale yellow slip with a greenish tinge (white, 2.5Y 8/2) on the exterior.

Type 13 (Petrographic Group 3: Calcite Tempered Fabric)

Type 13, like Types 6 and 7, appears in the Artisans' Quarter only as worn sherd material, presumably as remnants from earlier periods. It is much more commonly seen in the Early Minoan levels of the main island settlement of Mochlos, and this interpretation is born out by similar fabrics at other EM sites in Crete.[24] It corresponds to Kavousi-Thriphti Type IX and Myrtos Type 8.[25] Most sherds of the type show signs of burning, suggesting a primary use of this fabric in cooking vessels. The primary inclusion is a marble or calcite rock, which is not typical of Cretan geology but is present in small outcrops on the island of Mochlos itself.

Color:

Dark red to brown (red, 2.5YR 4/6, dark red, 2.5YR 3/6, reddish brown, 5YR 4/3–4/4, and dark reddish brown, 5YR 3/3). A dark brown to black (very dark grayish brown, 10YR 3/2, to very dark brown, 10YR 2/2) core is not unusual.

Inclusions:

Type 13 has many medium to large round to angular calcareous[26] white inclusions (marble or limestone) and a few other small white to light gray inclusions.

Comments:

This fabric tends to be friable, and it disintegrates easily because of exposure to fire.

Chapter 1 Notes

1. For example, Warren 1972; Betancourt et al. 1979; Myer 1984; Day 1991; Haggis and Mook 1993; Betancourt and Myer 1995; Myer, McIntosh, and Betancourt 1995; and Floyd 1998.
2. For caution against excessive categorization in fabric studies, see Floyd 1998, p. 179.
3. Phyllites are a dominant feature of the geology not only of the immediate Mochlos region but of an extensive area of eastern Crete from the Lasithi plateau to Siteia and Palaikastro (Papastamatiou et al. 1959).
4. Papastamatiou et al. 1959.
5. Haggis and Mook 1993.
6. Early Minoan to Middle Minoan III/Late Minoan IA diachronic variations in "fine" fabrics will be discussed in forthcoming volumes dealing with the earlier periods at Mochlos.
7. Colors are taken from the Munsell Soil Color Charts; both the verbal description and corresponding numerical formula are given.
8. Large phyllite schist outcrops are present in substantial quantities south of the modern town and all over the mountains along the shore to the south of the site from which clay sources were probably accessed.
9. Termed "fine" phyllite fabric by Day, Joyner, and Relaki because of the fine grained nature of the phyllite stones, not because of the nature of the paste. See Chap. 2.
10. It will be the aim of future studies to determine exactly what differences can be seen in clay, inclusions, etc. of the local "phyllite" fabrics across different periods.
11. Papastamatiou et al. 1959.
12. See discussion in Chap. 2 on phyllite-rich fabrics from the Mirabello Bay area, Petrographic Group 1.
13. Haggis and Mook 1993, pp. 273–274 (Kavousi-Thriphti); for Pseira, see Myer, McIntosh, and Betancourt 1995, pp. 145–146, and Floyd 1998, pp. 179–180.
14. See Chap. 2.
15. Haggis and Mook 1993, pp. 275–276.
16. See Betancourt et al. 1979, p. 6; Myer 1984, pp. 60–66.
17. Papastamatiou et al. 1959. For the evidence that clay and temper sources are not located far from the centers of ceramic production in eastern Crete, see Day 1997, p. 228.
18. Haggis and Mook 1993, pp. 273–274 (Kavousi); Myer et al. 1995, pp. 144–145 (Pseira). Day 1991 has also noted this fabric at Gournia, as well as at Diaskari and Makrygialos on the south coast.
19. Haggis and Mook 1993 (Kavousi); Myer, McIntosh, and Betancourt 1995.
20. Haggis and Mook 1993, pp. 273–274; Mook 1999.
21. Barnard 2001, pp. 268–272.
22. See Chap. 2.
23. See Chap. 2.
24. For references, see Haggis and Mook 1993, p. 275, n. 37.
25. Warren 1972, p. 95 (Myrtos); Haggis and Mook 1993, p. 275 (Kavousi).
26. The inclusions dissolved when suspended in a solution of 10% hydrochloric acid.