

Hammering Out The Facts:

An Analysis of Copper at Mound 34, Cahokia

Lori Belknap

1

Mississippian Reproductions by Gene Stratmann



Photo by Lori Belknap



Photo by Lori Belknap

2

Copper Source and Distribution



Map by Matthew Morfitt

3



Photo from Mineralogical Record Vol 23, Num 2

The 'Mesnard Mass' of Float Copper

Massive Piece of Float Copper being cut up by hand chisels
Photo 1862

4

Copper Found in Southern Ill.



Earspool, Turtle Rattle:
McAdams Collection



Photos by Lori Belknap

Panpipes: Rutherford Mound

5

Archaic Copper 3000 BC – 1000 BC



Photo by Lori Belknap

Archaic Axes: SIUE



Photo by George Stuber

Archaic Tools

6

Hopewell Style Copper Ornament 200 BC - AD 400



Photo By Lori Ballenap

7

Copper Headdress, Hopewell Site Ross County Ohio



Ohio Historical Society

8



Photo Smithsonian Institution

Mississippian Repoussé Work >>

Rogan Plate, Bartow County, Georgia

9



Photo Smithsonian Institution

Copper Repoussé Plate Depicting Birdman Theme >>

Saddle Site, Union County, Illinois

10

Copper at Mound 34



Photo Lori Ballenap

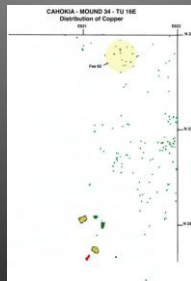


Image By Dr. John Kelly

11

Universal Process: Annealing and Hammering



12

Experimental Research



13

Hammering and Flaking



14



Heating the Nugget to the 'Red Glow' Temp >>

The appropriate temperature for annealing copper has been reported anywhere from 400 to 800 degrees and described by other copper fabricators as the 'red glow' state.

15

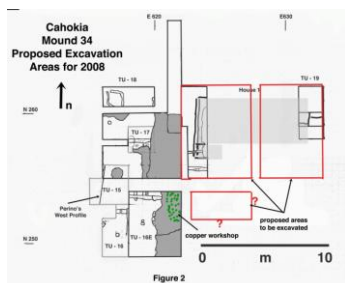


Ground and Polished >>

Thickness is 1 mm on this edge from 5 mm
Total spread of surface width is 10 mm

16

Proposed Excavation 2008



17

Acknowledgements

Dr. Julie Zimmermann Holt for academic support and guidance.
Dr. John Kelly for guidance and providing copper and source material.
Dr. Kathleen Ehrhardt for unlimited sources and copper technology knowledge.
Henry Holt for providing the anvil support.
Matt Migalla from CMSHS for technical annealing guidance.
Gene Stratmann from CMSHS for technical information and reproductions.
Bill Iseminger from CMSHS for input, advice and information Re: Mound 34.
University Museum SIUE for providing artifacts for presentation.
Dr. Matthew McKnight for providing maps of copper distribution.

My family for picking up my slack while I was focused on this project, in addition, they participated in photographing, hauling materials, graphing the plywood and taking notes.

18