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ACTIVITIES OF THE CENTRE FOR ARCHAEOLOGICAL RESEARCH, UNIVERSITY OF AUCKLAND 1993

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The following is a paraphrased version of the Centre's first annual report, covering the 1992-1993 year, which went recently to the Auckland University Research Committee pro forma. It may also be of interest to readers of Archaeology in New Zealand. The Centre had a busy first year which is described here under the following headings: field Research, laboratory work, conference participation, and publications.

FIELD RESEARCH

Centre for Archaeological Research (CAR) members undertook field research in Northland-Auckland, the Hauraki Gulf, the Bay of Plenty and Fiji. In Northland-Auckland three periods of fieldwork occurred. Two were related to the colonization project and the third in November 1993 began the obsidian hydration research.

In the Hauraki Gulf: Geoff Irwin has taken a three-year contract with the Department of Conservation to provide an archaeological inventory of Motutapu. This work will be run in conjunction with the Department's teaching and research programme and is seen explicitly as a contribution to the Motutapu Restoration Working Plan which is being drafted between DOC and Ngai Tai.

In the Bay of Plenty: Yvonne Marshall, was employed as a Post-doctoral Research Fellow, with an iwi-based fieldcrew, to survey archaeological sites in advance of logging on Matakana Island. Her contract, covering the interval June 1993 - April 1994, was negotiated between Ngai Te Rangi and ITT Rayonier.

Doug Sutton directed a research project on Matakana Island comprising paleogeomorphological research (with Drs McFadgen and Shepherd, of DOC and Massey University respectively), a palynological study (with John Flenley and Harley Betts of Massey) and mapping a sample of the archaeological landscape of the island.

In Fiji: Yvonne Marshall visited the Sigatoka Dune site, sampled prehistoric ceramics there and negotiated access to the site for a salvage excavation. This occurred in November/December when a fieldcrew of six, directed by Liz Hudson, and including Dilys Johns excavated for one month an eroding portion of the Sigatoka site. A report on this work was prepared for the Fiji Museum.

LABORATORY WORK

Laboratory work occurred at Auckland, Massey, Victoria and in Toronto.

At Auckland: a substantial amount of geochemical research occurred at the AURA2 linear accelerator under the direction of Assoc. Prof. Paul Barker and doctoral candidate Suzanne Neve.

- Samples collected from 20 of the major sources of obsidian in the North Island were analysed using the PIXE facility and a database of their elemental compositions was constructed.
- Samples were collected from sixteen distinct locations on Mayor Island and analysed using the PIXE facility to discriminate between the different sources of obsidian on the island.
- The AURA2 database of the elemental compositions of North Island obsidians was used to identify the sources of obsidian artefacts recovered from archaeological sites on the Hauraki Plains, Matakana Island and elsewhere.
- The PIGME analysis method is being developed at AURA2 to determine fluorine content in obsidian. This to be used in an investigation of the correlation between elemental variation and hydration rates in Mayor Island obsidian, as part of the FORST-funded research on obsidian hydration dating.
- The assessment of basalt sourcing by PIXE analysis has begun with analysis of samples from Tahanga quarry on the Coromandel.
- A stylistically distinctive basalt adze, collected by Capt. J. Bollons from Mercury Bay (deposited 24/5/1915), has been analysed at the AURA2 PIXE facility, to establish its geological source for the Museum of New Zealand.

In the Geology Department, University of Auckland, an ongoing research programme between Dr. Robin Parker and Dr. Peter Sheppard is focused on using petrographic and geochemical data to characterize Pacific Island adzes, and their potential source basalts, with a view to studying patterns and rates of prehistoric inter-island interaction. As part of this work a substantial geochemical analytical programme was undertaken with Dr Richard Walter (Univ. of Otago) on adzes and basalts from the Cook Islands. A total of 89 adzes and basalts were analyzed by X-ray fluorescence (XRF) spectrometry and high quality data was obtained for 24 major and trace elements for each sample. This data along with that from petrographic thin sections is currently being analyzed. Preliminary results were presented at the Society of American Archaeology Meetings symposium on Pacific Basalt Characterization (Anaheim, April 21st 1994).

Additional projects included the characterization of a major North Island basalt quarry (Tahanga at Opito Bay) using XRF. The results of this work formed the basis of a Masters research essay by Matthew Felgate.

In the Anthropology Department at Auckland, Chris Stevenson, the Centre's FORST-funded Research Fellow, began work on obsidian hydration dating, with

experimental rate determinations (conducted in Columbus, Ohio) and computer-based measurement of hydration bands on obsidian artefacts. The preliminary results of this work were presented at the New Zealand Archaeological Association Conference in May.

Dr Rod Wallace made 3742 individual wood and charcoal identifications from 500 samples submitted by 18 researchers.

Dilys Johns completed conservation projects for the following:

West Auckland Historical Society
Auckland Institute and Museum
Te Awamutu District Museum
Waiuku Museum Society
Anthropology Department, University of Otago
Pompallier House - New Zealand Historic Places Trust
Bathhouse Museum, Rotorua
Taranaki Museum
Department of Conservation, Northland
Tauranga Museum

In the Geography Department at Massey: John Flenley, with two research assistants and a laboratory technician, continued palynological and sedimentological research to establish the date of first human colonization of Northland-Auckland. Mike Shepherd analysed sediment samples from Matakana Island and the Tauranga Harbour. Palynological analysis of a core from lake Te Paritu on Mayor Island was also carried out.

In the Geology Department, Victoria University: Paul Froggatt identified tephra samples from Matakana Island

At the University of Toronto: Peter Sheppard investigated the feasibility of sourcing Pacific marine shell using neutron activation. A paper on the results of this work was presented at the International Archaeometry Conference in Ankara Turkey (May 1994).

CONFERENCE PAPERS

Members of the Centre presented 15 papers to 14 conferences and colloquia.

EDUCATIONAL ACTIVITIES

Members of the Centre presented seminars to the groups at Massey and Waikato University, and on marae (Matakana, Otiria, Rangihouhiri and Tane-nui-a-rangi). Two seminar on the goals and workings of the Centre occurred in the Anthropology Department during July 1993, the Centre was discussed on Varsity

Hour radio in September.

Associate Professor David Burley, Simon Fraser University, Burnaby, British Columbia, Canada visited the Centre early in 1994, funded by the University of Auckland Foundation and the Anthropology Department. Dave gave a series of seminars on recent research on Tonga and the historical architecture of the Metis of Western Canada.

RESEARCH FUNDING

Funds, totalling \$593,146 were obtained from seven agencies: In alphabetical order these are: Auckland University Research Committee, Bay of Plenty Regional Committee of the New Zealand Historic Places Trust, Department of Conservation, Science and Research Division, European Community via Fiji Museum, Foundation of Science, Research and Technology, ITT Rayonier, Lottery Environmental Heritage Fund, Lotto Science.

PUBLICATIONS

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(c) Books

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