ANTARCTIC RECORD Vol. 35 CONTENTS

No. 1 (March 1991)

Scientific Papers

Estimation of vertically integrated liquid water contents in the atmosphere
Numerical estimation of 10 ⁴ years later equilibrium ice sheet profile in the Shirase Glacier drainage basin, East Antarctica
Shuji Fujita, Norikazu Ikeda, Nobuhiko Azuma, Takeo Hondoh and Shinji Mae 12
Estimates of primary production by ice algae and phytoplankton in the coastal ice-covered area near Syowa Station, Antarctica
Scientific Notes
Oxygen isotope profiles of deposited snow in different depositional environ- ments of the Antarctic ice sheet (in Japanese)
Yutaka Ageta, Kokichi Kamiyama, Hideki Narita and Kazuhide Satow 39
Dirt bands in the bare ice area around the Sør Rondane Mountains in Queen Maud Land, Antarctica (in Japanese)
Three-dimensional topographic and gravity anomaly maps in the vicinity of Mizuho Plateau, East Antarctica (in Japanese)
Toshiyasu Nagao, Masaru Awara and Katsutada Kaminuma 56
Reports
Activities of the wintering party at Syowa Station by the 29th Japanese Ant- arctic Research Expedition in 1988–1989 (in Japanese)
Status report for the development of the Antarctic penetrator:
No. 1. 1989-year program (in Japanese)
Kazuo Shibuya, Katsutada Kaminuma, Hitoshi Mizutani, Akio Fujimura, Shigeki Tsukamoto, Isao Yamada, Kiyoshi Ito, Toshihiko Kanazawa, Masayuki Takasaki and Akira Iga
(Antarctic Penetrator Research Group) 92
Report on geological, biological and geodetic field survey in the Amundsen Bay region, 1990 (JARE-31) (in Japanese)
Noriyoshi Tsuchiya, Shin-ichi Hiruta, Tamotsu Hayashi,
Toshinori Konno, Masashi Sano and Kei Terai118
Core processing, analysis and transportation procedures at Site J, Greenland
(JAGE-89) (in Japanese)

No. 2 (July 1991)

Scientific Notes Polar Patrol Balloon (PPB) experiment of the 30th Japanese Antarctic Research Expedition (1989–1990) Akira Kadokura, Masaki Ejiri, Shigeo Ohta and Hiromitsu Akiyama.... 143 Copepods collected along 13°E longitude of the Antarctic Ocean in the 1973 summer **Reports** Activities of the wintering party of the 30th Japanese Antarctic Research Expedition, 1989–1990 (in Japanese) Masaki Ejiri and Shigemi Meshida....161 A plan for observation of the Antarctic ozone hole in 1991 under the Polar Patrol Balloon (PPB) project Biological surveys in the Sør Rondane Mountains, Dronning Maud Land, in 1989 and 1990 seasonsYoshikuni Ohyama, Seigo Higashi, Hiromi Miyawaki, Shin-ichi Hiruta and Hiroshi Kanda....238 Mental and physical changes of wintering members of the 30th Japanese Antarctic Research Expedition in 1988–1990 (in Japanese) Shunji Takami and Tadashige Sakamoto.....247 Report on the marine biological research in ice-covered waters of the Beaufort Sea, March 1990 (in Japanese) No. 3 (November 1991) Scientific Papers Lecideoid lichens of Prince Olav Coast and Sôya Coast, Enderby Land, Analysis of Antarctic soil algae by the direct observation using the contact

slide method...... Shuji Ohtani, Masaru Akiyama and Hiroshi Kanda....285

Reports

Meteorological observations at Syowa Station in 1989 by the 30th Japanese Antarctic Research Expedition (in Japanese)

.....Yasuo Shudo, Yoshiyuki Fukuyama, Yoshio Kato and Hitomi Miyamoto....296

Seismological observations by a three-component broadband digital seismograph at Syowa Station, Antarctica (in Japanese)

..... Ken-ichi Nagasaka, Katsutada Kaminuma and Kazuo Shibuya.... 335

Report on the geomorphological, geological, geodetic, and glaciological fieldwork in the Sør Rondane Mountains, 1990/91 summer (JARE-32) (in Japanese)......Shuji Iwata, Kazuyuki Shiraishi, Yoritoshi Ebina, Norikazu Matsuoka, Tsuyoshi Toyoshima, Masaaki Owada,

Hirohiko Hasegawa, Hugo Decleir and Frank Pattyn.....355

Japanese activities for BIOMASS

... Takao Hoshiai, Masaaki Murano, Keiji Nasu and Makoto Terazaki....402