World’s Greatest Depth in the Challenger Deep (Mariana Trench)
By Kunio Yashima, Japan Hydrographic Association

Japanese S/V TAKUYO carried out precise submarine topographic survey by using a Narrow Multi-Beam Echo Sounder (Sea Beam) for about 500 miles in sounding lines covering an area of about 140km² in Challenger Deep in Mariana Trench for three days from 17 to 19 February 1984.

Correction for sound velocity was made with the data on water temperature and salinity obtained by observations carried out in the area using the CTD system (-4,500m). Employing the data thus obtained, a bathymetric chart covering the area was prepared, and it was found that the Challenger Deep is flat-bottomed axial pocket about one nautical mile in N-S direction, four n.m. in E-W direction, with trend about 075°.

TAKUYO’s survey results were examined by some GEBCO experts including Dr. Robert Fisher of SIO and confirmed her record as world’s deepest depth instead of 11,034m by VITYAZ (1957) shown in GEBCO 5.06 at the 1993 GEBCO Guiding Committee.

Location of Challenger Deep
HMS Challenger ’Ⅷ’
Survey of Challenger Deep in 1951

Challenger voyage of 1950 to 1952
HMS Challenger visited JHOD in 1952
TAKUYO (2,600ton), JHOD, JCG

Tracklines of TAKUYO
Bathymetric Chart by TAKUYO

1993 GEBCO GC at SIO

World’s deepest depth in Challenger Deep in Mariana Trench by GEBCO

Depth: 10,920±10m
Position: 11°22.4′N, 142°35.5′E
Soundings: Seabeam
Ship: Japanese S/V TAKUYO, JHOD, JCG
Scientists: Hideo Nishida, Kenji Muneta and Tadashi Kondo
Year: 1984