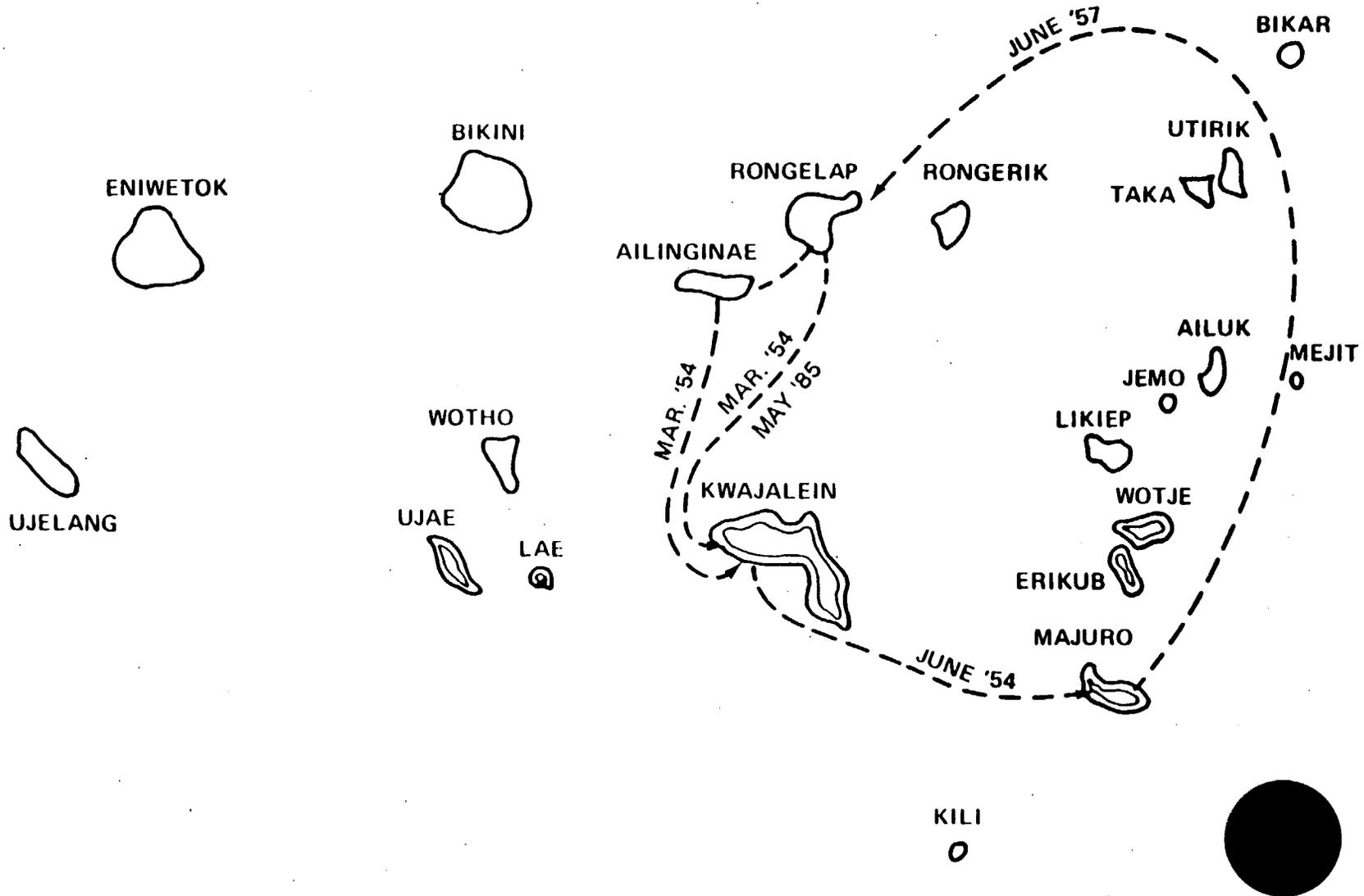


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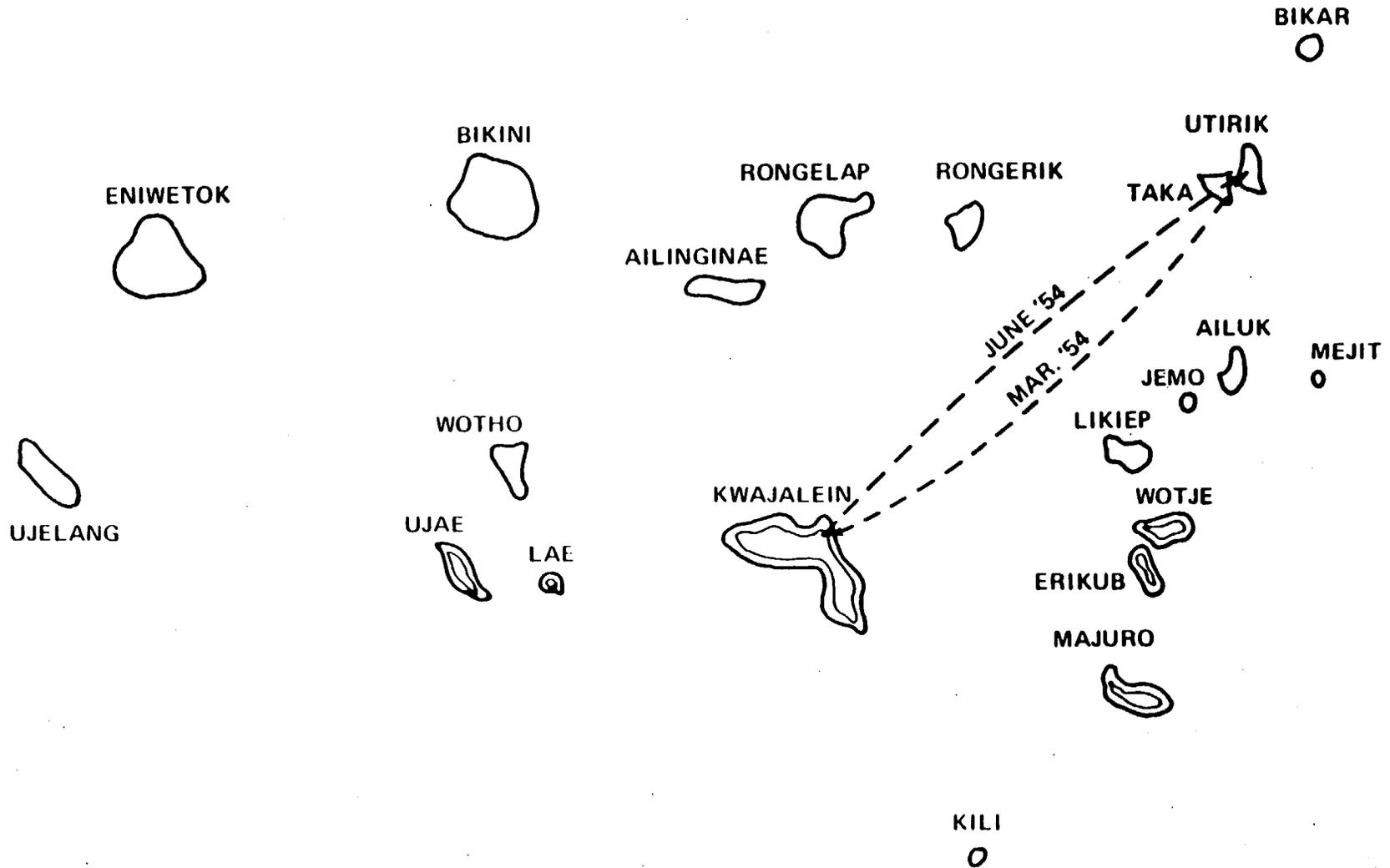
Movement of Rongelap People (current location - Kwajalein)



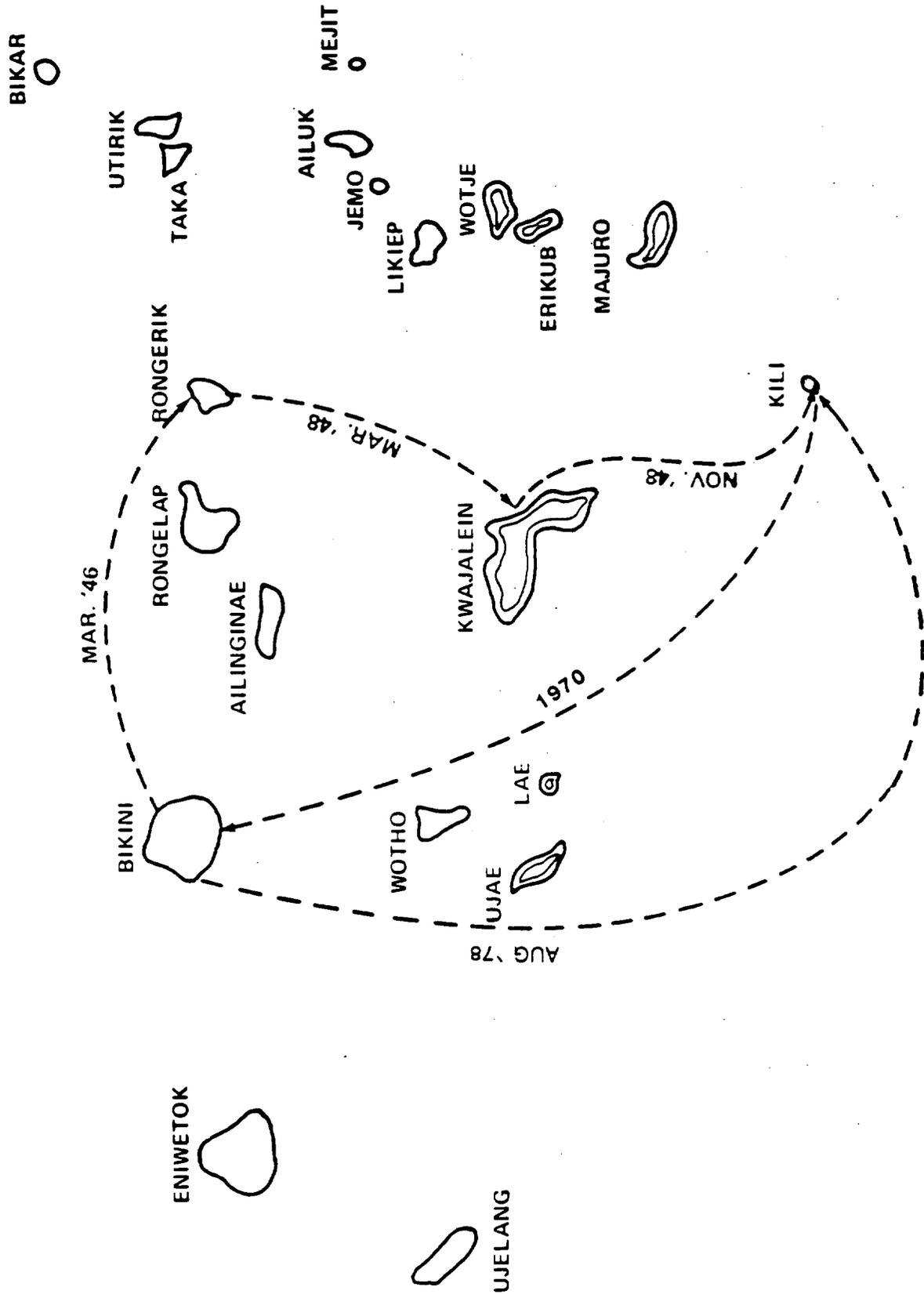
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Movement of Utirik People (current location - Utirik)

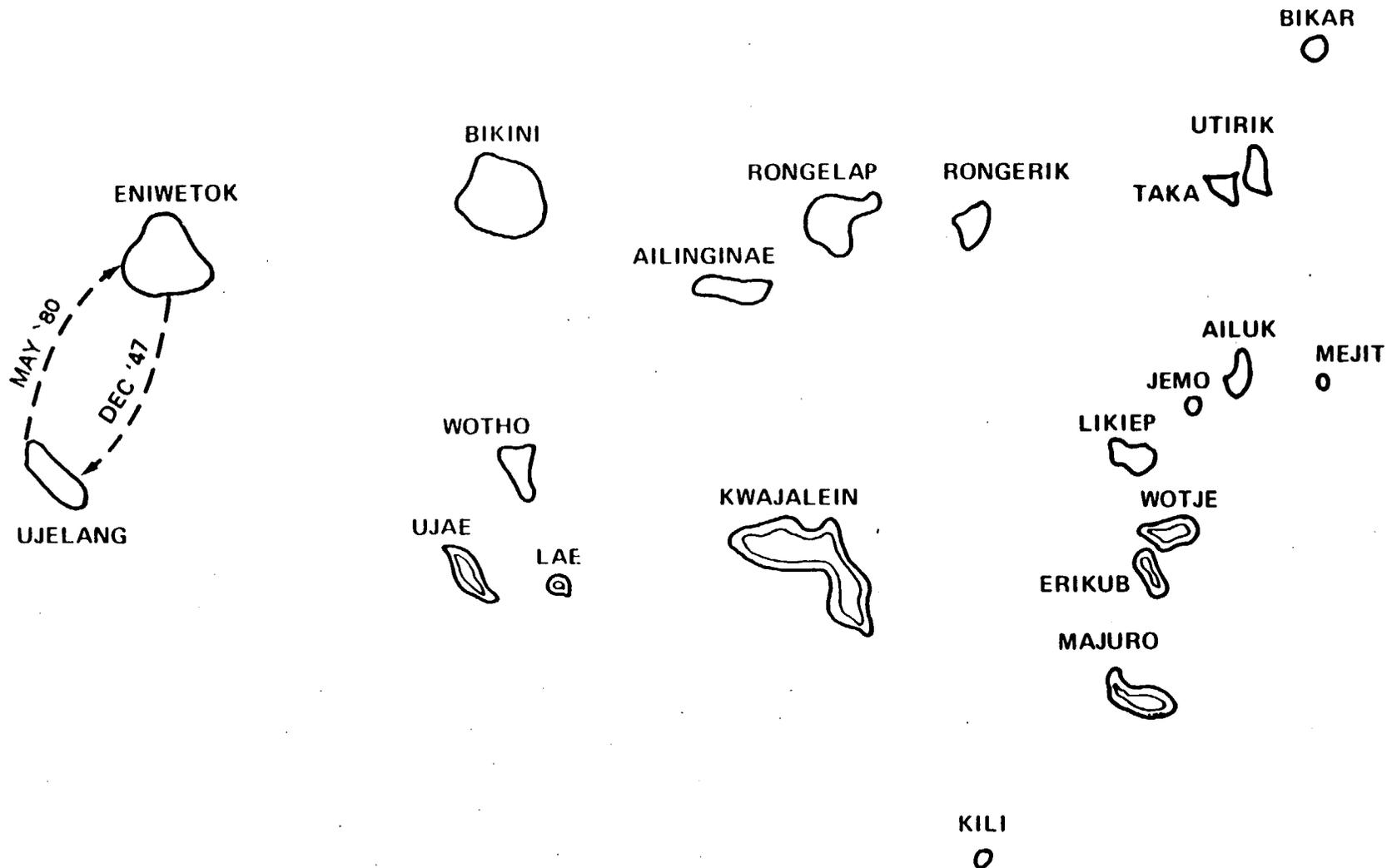


Movement of Bikini People (current location - Kili)



Movement of Enewetak People (current location - Enewetak)

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March 12, 1954

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From CJTF 7, Eniwetok

To: Chairman, AEC; Chief of Staff, Army, & Cincpacflt

SUMMARY OF SURVEY PARTY REPORTS:

- Part 1: Eastern half Rongelap Atoll surveyed 8 March. Readings in milliroentgens per hour: Able-Village Rongelap Island, 280 to 400; Baker-Rongelap Island average 400 maximum 450; Charlie-Eniwetok Island 1200; Dog-Erifirippuu Island 2800 to 3500.
- Part 2: Utirik and Bikar 9 March. Rough weather prevented landing all islands; inhabited islands and as many others as possible surveyed: Able-Utirik Island 30 to 50; Baker-Agn Island 40 to 60; Charlie-Bikar Island 120 to 160.
- Part 3: Rongerik Atoll survey 10 March: Able-Eniwetok Island 220 to 300; Baker-Bock Island 1000.
- Part 4: Alinginae Atoll Islands 10 March: 100 to 140.
- Part 5: Wotje Atoll 5 March Ormed Island 3.5.
- Part 6: Erikub Atoll 5 March Eriku Island 1.5.
- Part 7: Maloelap Atoll 6 March Kaven Island 1.8.
- Part 8: Wotho Atoll 6 March-Wotho Island 0.8.
- Part 9: Majuro Atoll 7 March-Uligo Island 0.5.
- Part 10: Zero SS Rogue departed Ebeye, Kwaj 010804 Mike entered Channel Utirik 021200 Mike; anchored 021524 Mike departed 030700 Mike arrived Majuro 071630 Mike; ship visited Majuro by Dr. White.

BY AUTHORITY OF DOE/OG
REVIEWED BY *J. Diaz* DATE 3/29/88

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Reading (milliroentgens per hour) 10 on open deck, 5 to 8 in sleeping quarters upper deck, 10 to 30 on rope and canvas. Prior radiation levels cannot be estimated because of rainsqualls and

~~SECRET~~
5004701

uncertainty when decks last washed. Master advised to wash decks, and was told that activity not harmful but undesirable.

Part 11: Likiep Atoll 6 March-3.

Part 12: Jemo Island 6 March-3.

Part 13: Ailuk Atoll 6 March-3.

Part 14: Mejit Island 7 March approximately 5.

Part 15: Gilbert Island air survey indicated maximum reading .08.

Part 16: Water and soil samples taken from above locations will be forwarded to NYOO AEC for analysis. Personal property of natives secured and protected where possible. Wild, Trust Territory, accompanied survey evacuated atolls.

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UWFL-79
Biology and Medicine

RADIOACTIVITY IN THE BIOTA AT ISLANDS OF THE CENTRAL PACIFIC
1954 - 1958

Ralph F. Palumbo

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UWFL-79 Laboratory of Radiation Biology
University of Washington
Seattle, Washington

Lauren R. Donaldson
Director

February 15, 1962

Operated by the University of Washington
under Contract No. AT(45-1)1385 with the
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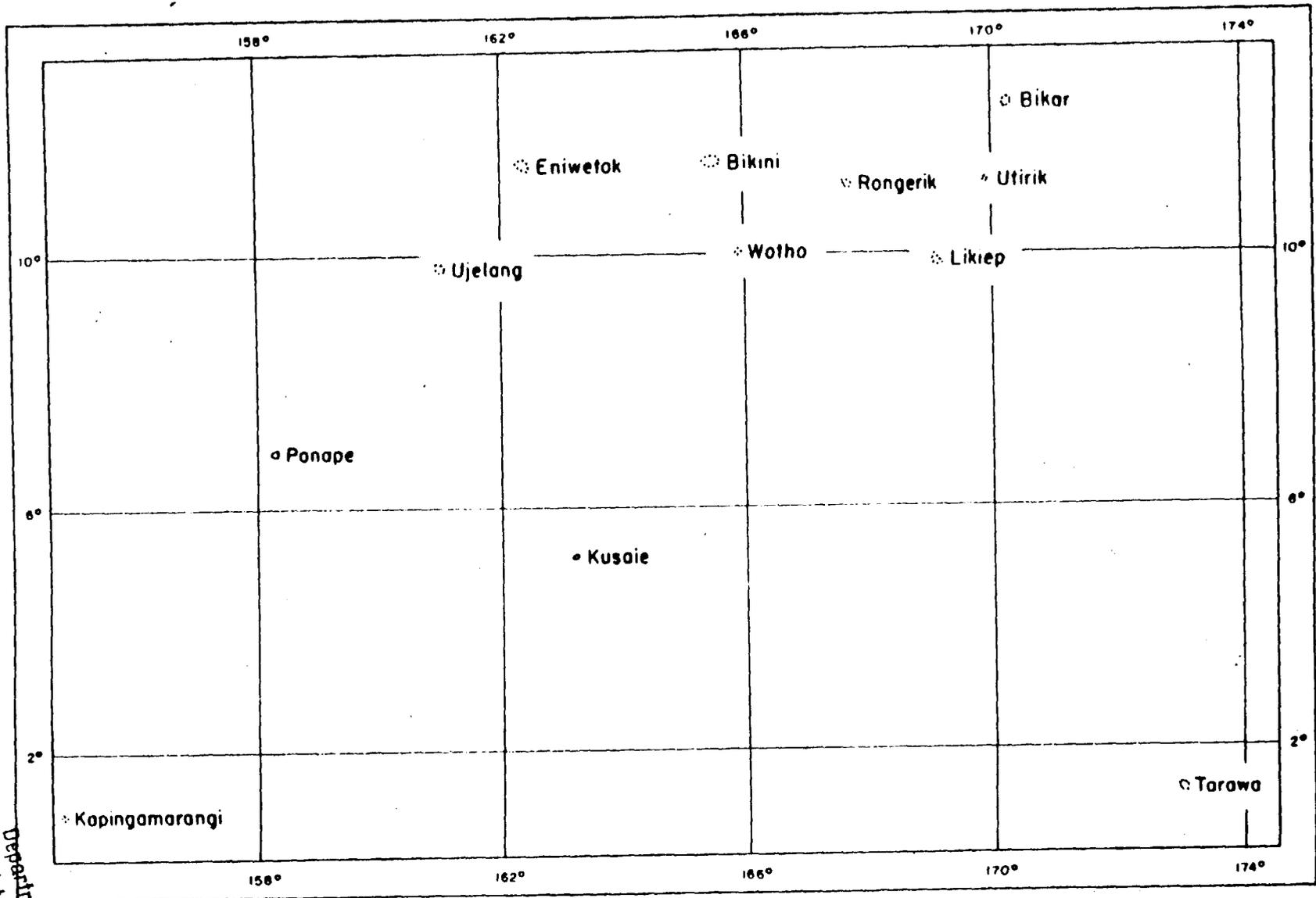


Fig. 1. Collecting stations in the central Pacific in the vicinity of the Eniwetok Test Site.

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samples from Wotho, Tarawa, Ponape, and Kapingamarangi, K^{40} contributed the major portion of the radioactivity. Other samples collected at the same time contained $W^{181,185}$, radioisotopes identified with the 1958 fallout. Some samples, such as coconut crab abdomen and whole fish from Wotho, contained Zn^{65} , whereas others, such as land plants, contained none. Some of the land plants contained measurable amounts of the long-lived fission products Cs^{137} and Sr^{90} . The highest level of Sr^{90} was found in a sample of coconut crab carapace from Wotho (18 $\mu\text{c/g}$ dry). The concentration of this isotope by the carapace of land crabs at Eniwetok has been reported by Held (1957).

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The relatively rapid decay of beta radioactivity in some of the samples collected in 1956 at Tarawa, Ponape and Wotho (Fig. 2 A-E) indicates the presence of short-lived isotopes. A gamma spectrum analysis of one of the samples (leaves and stems of a Messerschmidia plant from Wotho) showed that Zr^{95} - Nb^{95} were the predominant radioisotopes in this sample. Thomas et al. (1958) found that these isotopes contributed approximately 84 per cent of the total radioactivity in a duplicate sample. The presence of short-lived isotopes in the 1956 samples indicated recent fallout at these islands.

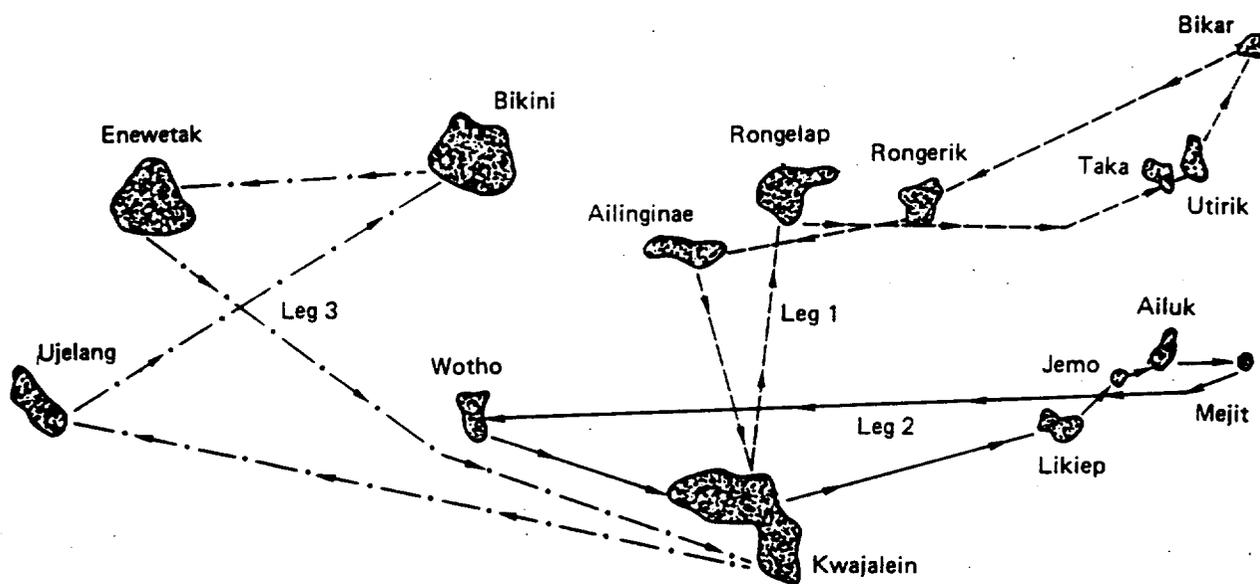


FIG. 1. Sequence of atolls and islands visted during the Northern Marshall Islands Survey.

SUMMARY

1. Surveys were made in 1954 to 1958 to determine the geographical limits of the radioactive contamination from the tests in the central Pacific Ocean.
2. Collections of biological samples and soils were made at one test site island (Bikini) and ten "off-site" islands.
3. The gross beta radioactivity decreased with distance from the test site; in 1956 and 1958 islands within a 130-mile radius contained at least ten times as much radioactivity as the other islands.
4. The levels of radioactivity also were related to direction from the test site. In 1955 the islands to the east contained high levels of radioactivity. In 1956 and 1958 Tarawa, 800 miles southeast of the test site, contained very low levels whereas Kapingamarangi, approximately the same distance to the southwest, contained significantly higher amounts of radioactivity.
5. Zr^{95} - Nb^{95} and $Ru^{103,106}$ - $Rh^{103,106}$ were the predominant radioisotopes present in the majority of the samples.

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