HEADQUARTERS JOINT TASK FORCE SEVEN APO 187 (HOW) c/o POSTMASTER SAN FRANCISCO, CALIFORNIA

18 March 1954

SUBJECT: Radiological Surveys of Several Marshall Island Atolls

410608

RG

326 US ATOMIC ENERGY

TO:

Distribution

Folder Kraws

1. Attached herewith for your information and retention are copies of radiological surveys made on certain Marshall Island Atolls. The surveys were conducted as a result of contamination deposited on the affected atolls by BRAVO Shot, Operation CASTLE, fired from a reef approximately one and one half nautical miles southwest of Namu, Bikini Atoll. BRAVO Shot time was 1845 Zebra, 28 February 1954.

2. Water and soil samples were shipped to the Health and Safety Laboratory, New York Operations Office, Atomic Energy Commission (Attention: Mr. Merrill Eisenbud) for analysis.

FOR THE COMMANDER:

BEST COPY AVAILABLE

	(. ·	
DISTRIBUTION:	ζ,	M. Zunh
CTG 7.1	- Cupy 1-30	E. McGINLEY
CTG 7.2	- Copy 31	Brigadier General, U.S. Army
CTG 7.3	- Copy 32	Chief of Staff
CTG 7.4	- Сору 33	
CTG 7.5	- Copy 34	
CINCPAC	- Copy 35	
CINCPACELT	- Copy 36	
HICOMTERPACIS	- Copy 37	
COMNAVSTAKWAJ	- Copy 38	
DM:/AEC	- Сору 39	CLASSIFICATION CANCELLED ##
DBM/AEC	- Copy 40	BY AUTHORITY OF DOE OF The
Ch AFSWP	- Copy 41	BY AUTHORITY 01 1/2/87
CG FldComd(DWET)	- Copy 42	DATE
c/s usa, Exagt	- Copy 43	* Per DNA LTR 3/31/86
LASL H Div.	- Copy 44	** w/anc/6. # 1. on/2 3/87
HASL, NYOO (c/o Mgr Opns)	- Copy 45-46	XX W/4 nc/0. 3/23/81
USS RENSHAW (DDE-499)	- Copy 47	Care Care
USS PHILIP (DDE-498)	- Сору 48	- 17 190)
uss nicholis (DDE-449)	- Copy 49	THE NAME OF THE PARTY OF THE PA
2 T1	• ,	

3 Incls:

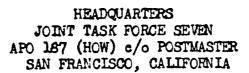
COPIED/DOF Report on Soil and Water Sampling

AHI RC Mission by Maj R. D. Crea

2. Report on Soil and Water Sampling Mission by Dr. T. N. Lhite, LASL

747 3. Rad. Survey of Downwind Atolls Contaminated by BRAVO by Dr. Herbert Scoville:





CLASSIFICATION CANCELLED
BY AUTHORITY OF DOE/OC

REVIEWED BY

1 1889

COMPT

SUBJECT: Report on Soil and Water Sampling Mission

To:

Commander

Joint Task Force SEVEN

APO 187 (HOW) c/o Postmaster

San Francisco, California

RG 326 US ATOMIC ENERGY COMMISSION

Location

Collection RC JDO C2 D44

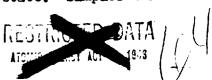
Folder Bravo Fallow

1. In compliance with your oral instructions, the undersigned visited LIKIE and AILUK Atolls, JEMO Island and MEJIT Island in the Eastern Marshalls between the period 5-8 March 1954 for the purpose of collecting soil and water samples an measuring level of gamma radiation present at those places in connection with BRAVO. The mission, consisting of the undersigned and a Marshallese interpreter, Lan Lakapun, embarked on the USS RENSHAW (DDE499) at Kwajalein, visited the four sites and returned to Bikini, where the remainder of the trip to Eniwetok was performed by PEM. There follows a detailed discussion of the findings at each location:

a. LIKIEP ATOLL. The samples were taken on Likiep Island, which had the largest native population. Access to the lagoon was gained through South Pass. Poor light at the end of the day and numerous coral heads necessitated anchoring about 4 miles from Likiep Island. Trip in was made by whaleboat the following morning. A water sample was taken from a large cistern fed from the roof of the Catnolic rectory, and earth samples were taken from random spots about the island which were unsheltered by trees or other growth at approximately 0800 M 6, March 1954. Radiation readings were taken with a MX-5 instrument between 0800 M and 0900 L and showed a maximum of 3 milliroentgens per hour. No variations from this reading were noted on clothing or bare feet of individuals. According to account received by Bishop Feeney, S.J., the population was greatly excited by the light and blast wave, the latter which reportedly arrived about 30 minutes subsequent to the light flare. According to Bishop Feeney, church attendance was greatly stimulated on the day of the test.

b. JEMO Island. This location was reached at 1100 M, 6 March 1954. It consists of a small heavily wooded island, surrounded by a line coral reef with heavy surf on three sides. There being no place for landing a whaleboat, personne and equipment were transferred from the whaleboat to the reef by a one man rubber raft. The undersigned transferred himself by swimming. The island proved to be uninhabited, and reportedly is a sea turtle preserve. Turtle hunters erected several houses, a rain barrel of which provided a water sample. Earth samples were gathered at random from open areas, including one of beach sand above the high tide mark. The party was led straight across the island and back to the landing area via the beach, in order to verify its uninhabited state. Samples were

NO DOCUMENT CONSISTS OF 2 PAGE(S)
NO DOCUMENT CONSISTS OF 2 PAGE(S)
SRD- 213-54-16



COPIED/DOE

COMPT

SUBJECT: Report on Soil and Water Sampling Mission

collected at approximately 1200 M, 6 March 1954. Instrument readings with the MX-showed a maximum of 3 mr/hr, however this was not considered reliable, since a higher scale showed a lower reading.

- c. AILUK ATOLL. The ship reached this atoll at approximately 1600 M, 6 March 1954, and slowly moved to an anchorage off Ailuk Island, the most heavily populated. The lagoon has not been swept, and numerous coral heads and pinnacles provided considerable hazard to ship movement. The landing party moved ashore by whaleboat without difficulty, and again obtained water samples from the most promitent cistern and soil samples from random unsheltered spots. Readings with the MX-showed approximately 3 mr/hr (off the 2 mr scale). An AN/PDR-27E showed a high reading of 7 mr/hr, however, on a different scale a reading of 12 or 15 mr/hr was obtained. The MX-5 reading is probably nearest correct. No significant variation were detected on bare feet or clothing of individuals. Samples and readings were taken at approximately 1700 M, 6 March 1954.
- d. MEJIT Island. This single coral island is also surrounded by a reefast is JEMO, but landing was possible with a whaleboat, due to an area protected fithe surf. The island was found to be heavily populated in view of its size, the total number of people being 327, according to the island magistrate. Soil and water samples were taken as in the previously described manner, at approximately 1300 M, 7 March 1954. Readings with the MX-5 showed maximum of approximately 3 mr/hr (off the 2 scale, but approximately 1.5 on the 20 scale); the maximum readinith a PDR 27 E was 10 mr/hr. The true figure was probably somowhere between the two.
- 2. CONCLUSIONS. Low level (less than 10 mr/hr) radiation measurements with field instruments of the type used are highly unsatisfactory. One MX-5 and three N/PDR 27 E instruments all showed widely variant readings on different scales, and varied among each other when exposed to the same radiation. An AN/PDR T1-B proved completely useless not holding to zero even after an hours warm-up, and also showing widely variant readings on different scales.
- 3. RECOMMENDATIONS. Landing parties in islands such as JEMO and MEJIT shoul be provided with a rubber 6-man or 8-man pneumatic boat, to provide greater safet; to personnel and equipment. This will permit landing directly on live coral reefs with less danger of the boat being stove in. Ships assigned to such missions should draw such equipment prior to departure.
- 4. The successful accomplishment of the mission was greatly facilitated by the interest and enthusiasm of the Commanding Officer of the USS RENSHAW, CDR L. Halford, USN, and his officers and men. Their material contributions were necessar to the mission, however, the many valuable suggestions and assistance in solutions of problems proved invaluable.

COPIEDIDOE

/s/ R. D. Crea R. D. CREA MAJ, USA

