

OFFICE MEMORANDUM

TO : John S. Malik, J-DOT
 FROM : Gordon E. Jacks, J-DO
 SUBJECT:
 SYMBOL : JNMS-79-83
 MAIL STOP: 900

DATE: April 17, 1979

411097

RG 326 US ATOMIC ENERGY
 COMMISSION
 Location LANL
 Collection ~~Research Center~~ J. Div
 Folder HARDTACK I-
RAD SAFE

J-DO Routing

JCH	<input checked="" type="checkbox"/>
IRHC	<input checked="" type="checkbox"/>
JFS	<input checked="" type="checkbox"/>
RAJ	<input checked="" type="checkbox"/>
CRR	<input checked="" type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
Action	

R

According to the Hardtack dosimetry records, [redacted] was issued his first film badge on 8 April, 1958; his last film badge was turned in on 15 August, 1958. A copy of this record is attached. I have no idea as to why his DD 214 Record of Ionizing Radiation shows only the exposure recorded on his first film badge. [redacted] was issued his film badges in keeping with the Joint Task Force Seven order requiring film dosimetry for each person in the Task Force during the actual period of time that the Task Force was responsible, approximately 1 April, 1958 to 31 August, 1958.

He was not issued a film badge for the period of 27 November, 1957 to 8 April, 1958 as none was necessary. During that period of time the radiation levels on Japtan Island were background only. The radiation levels on Japtan Island after 15 August, 1958 were low enough to preclude the requirement for film dosimetry under the existing FRC requirements, per AEC procedures. See TG 7.5 Rad Safe Report for Hardtack. Information with respect to the film packet is correct. "Supposedly", as used by [redacted] in his letter, is not correct. The ceresin wax and vinyl plastic holder were absolutely necessary to protect the film packet. Reference WT 1635, Operation Hardtack, Radiological Safety.

I cannot account for the excessively high exposure record shown for [redacted]. A search through the exposure records of all other personnel in his particular organization (Task Group 7.2, Task Unit 0, Org. 1) shows only one individual with equal or higher exposure record, 3,578 mr. Where this one individual was located within the Atoll is not known. He could have been on Japtan with [redacted] he may well have been on Eniwetok Island with the vast majority of the Task Group 7.2 personnel. The exposure records on the other members of [redacted] organization show exposures of a few hundreds of mr to 2100 mr. A few have exposures below this range, a few others have exposures of 2200-2400 mr.

Japtan Island was kept "clean" in so far as possible with respect to radiation. This island was used as a recreation area by many people in the Task Force. Every effort was made to retain the ecology of the island in a clean mode. No radioactive materials or sources were placed on the island; this was true, also, during those weapons testing operations conducted prior

BEST COPY AVAILABLE

PRIVACY ACT MATERIAL REMOVED

John S. Malik
JNTS-79-83

April 17, 1979

to Hardtack. The one thing that could not be controlled was the winds, and as a result, Japtan Island was hit by fallout from the Fir event, as were Parry Island and Eniwetok Island, fired on Bikini Atoll on 12 May, 1958 (M.I. time). According to WT 1685, "fallout from the Fir event on Bikini contributed approximately 1,200 to 1,500 mr total dose to those living at Eniwetok Atoll---".

With regard to high exposure, one can speculate based on knowledge acquired during the operation. (1) On recreation, or shell-hunting trips, wearing his film badge, went into areas that were contaminated as a result of shots fired at Eniwetok where he had no business being or (2) he left his film badge in his quarters, hanging or laying against the outside wall where it received excessive exposure from the radioactive debris from the Fir fallout that was concentrated by rain water run-off from the eaves of the quarters.

One other general comment is in order before tackling the specific questions that raised. has mixed apples and oranges in his remarks about "the background intensity" or the "background" at Site Nan "began to rise". Site Nan was Enyu Island at Bikini Atoll and radiation levels there had no bearing on Japtan Island at Eniwetok Atoll, some 180 miles or more from Bikini. Further, his references to the rise in background at Site Elmer Rad Safe Center (Parry Island at Eniwetok) are of no consequence. Such incidents were not mentioned or discussed in WT 1685 for the simple reason that they were of no consequence or concern.

Handwritten note: I don't get it

Now, as to questions, in order:

a. I believe that the badges were accurate within 20 percent. There were errors; see WT 1685, Chapter 5, on personnel dosimetry. On the whole, the dosimetry program was reasonably accurate and satisfactory. The program had been repeatedly blessed and approved by knowledgeable people from a variety of agencies and was never criticized as lacking in adequacy. The biggest single "hole" in the program was created by people. Many did not wear their film badge or wore it improperly. You can drive a horse to water but you can't make him drink.

COPIED/DOE
LANL RC

b. No, not unless an individual never went swimming, never took a shower, never washed in any manner. Normal clothing provided adequate protection over most of the body.

c. Doses required to produce "reversal" in the film far exceeded those that show in the dosimetry records. Film fogging, normally, will not mask a higher dose; fogging darkens the film and thus increases the dose.

d. In case, yes. The dosimetry records show continuous coverage for the period of interest.

Handwritten mark: 2

John S. Malik
JNTS-79-83

3 PRIVACY ACT MATERIAL REMOVED 7, 1979

e. The dosimetry records speak for themselves. They are valid records.

f. The drinking water was safe. Enclosure 1 has no bearing on the drinking water. These measurements were made on the lagoon floor in the immediate vicinity of a shot.

g. Swimming in the lagoon was perfectly safe as far as radiation levels were concerned.

h. The FRC guidelines in effect at that time were followed.

i. There was a flat ban on eating sealife as a precautionary measure with respect to radiation. Sealife was migratory within the lagoon, and it concentrated various isotopes. That was a good rule. The ban on coconuts on Japtan Island was primarily in effect to keep people from stripping the trees and destroying the ecology of the island. With regards to the adequacy of the briefings on radiation safety provided by the Commander, Task Group 7.2, I cannot comment. Nor can I comment on how much attention the Army GIs paid to what they were told.

j. This is impossible to answer as we have found no records that tell us the names of the individuals on Japtan during the operational period. If one assumes that all personnel on Japtan were members of Task Group 7.2, Task Unit 0, Org. 1, then either the unnamed individual mentioned in paragraph 3 of this memo, or showed the highest exposure. this assumption may not be valid. As to the classification answer given to by if that be so it was a mistake. I know of no reason for classifying that information.

k. As a general safety rule, all individuals were mustered by a physical head count prior to firing. As to "stand on the beach, facing the shot area", perhaps for orientation, education or the like.

l. Not necessary. I don't know what CTG 7.2 may have instructed personnel to do immediately after the Fir fallout.

COPIED/DOE
LANL RC

m. Not necessary per FRC guidelines.

n. The answer to this question must come from the DoD.

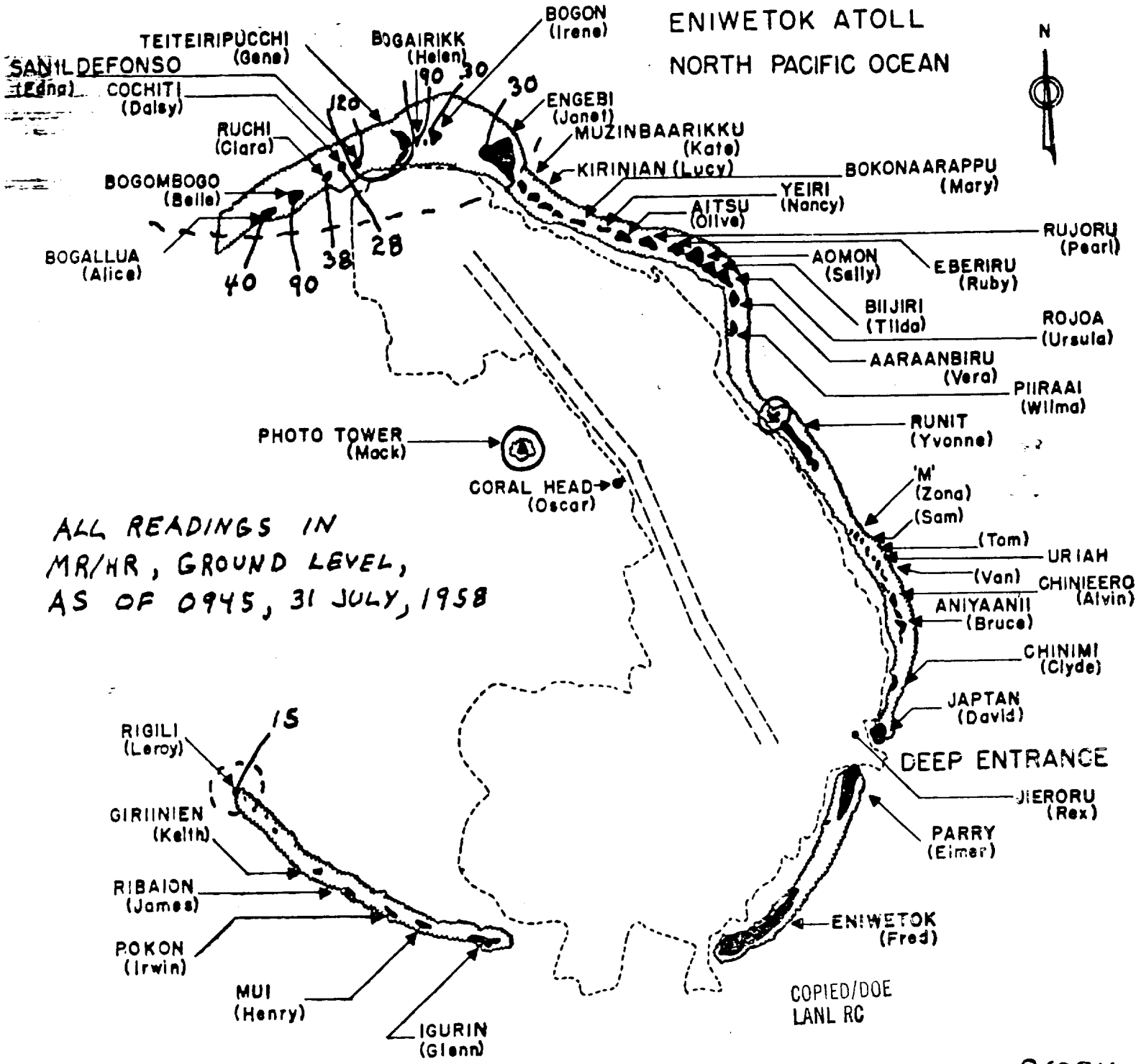
o. WT 1685, referenced above. The DNA library should have a copy. Also, the Rad Safe report from TG 7.5 (actually an H&N report), referenced above.

C: John C. Hopkins, J-DO/LASL, MS 670 ←
R. H. Campbell, J-DO/LASL, MS 670
G. L. Jacks, J-DO/NTS, MS 900
T. T. Scolman, J-DO/NTS, MS 900

PRIVACY ACT MATERIAL REMOVED

3

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



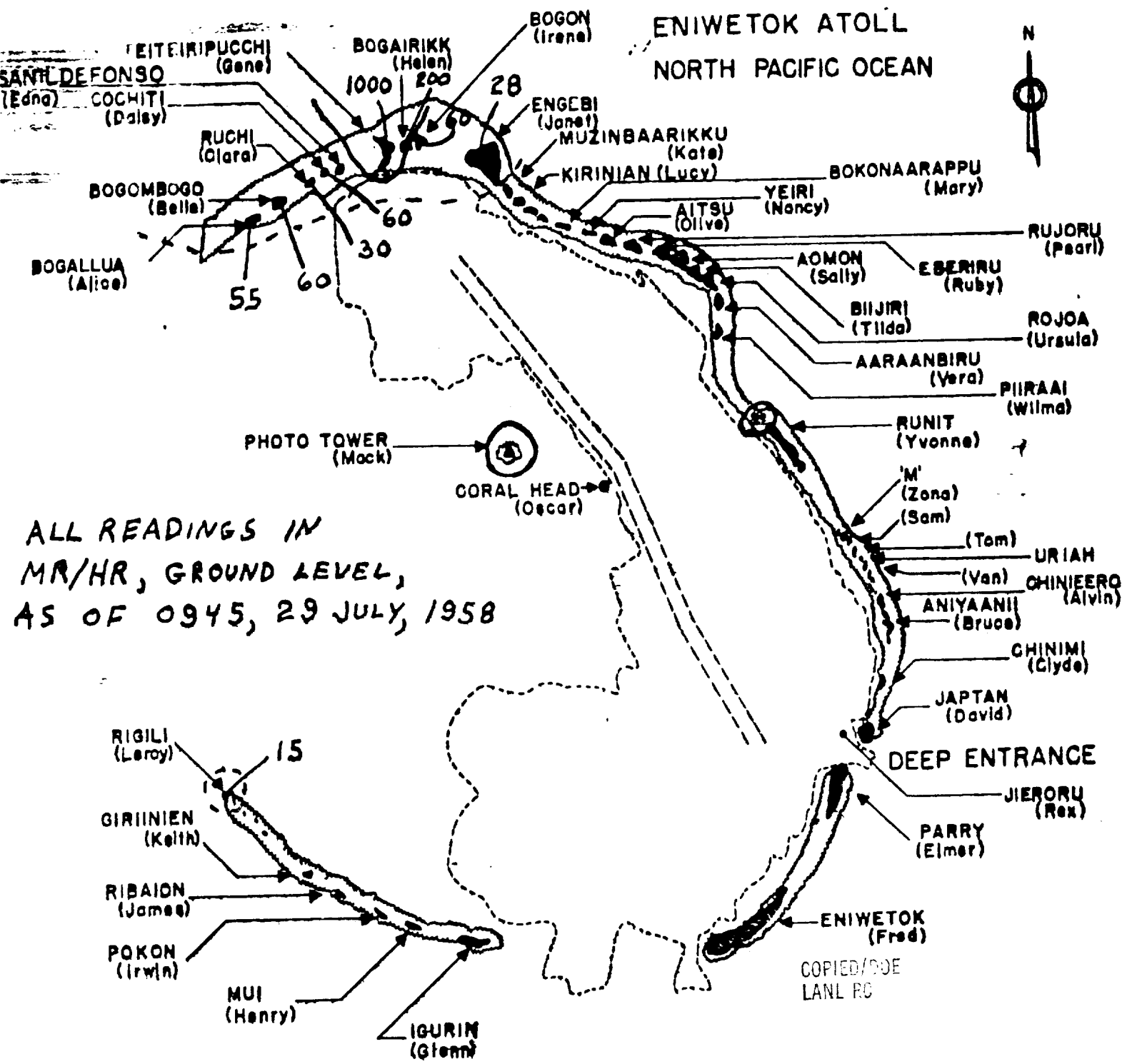
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0945, 31 JULY, 1958

COPIED/DOE
LANL RC

--- LIMITED RADEX
— FULL RADEX

Note: Sand Spit North of
Oak G. 2. Reading
450 m/hr at 25'

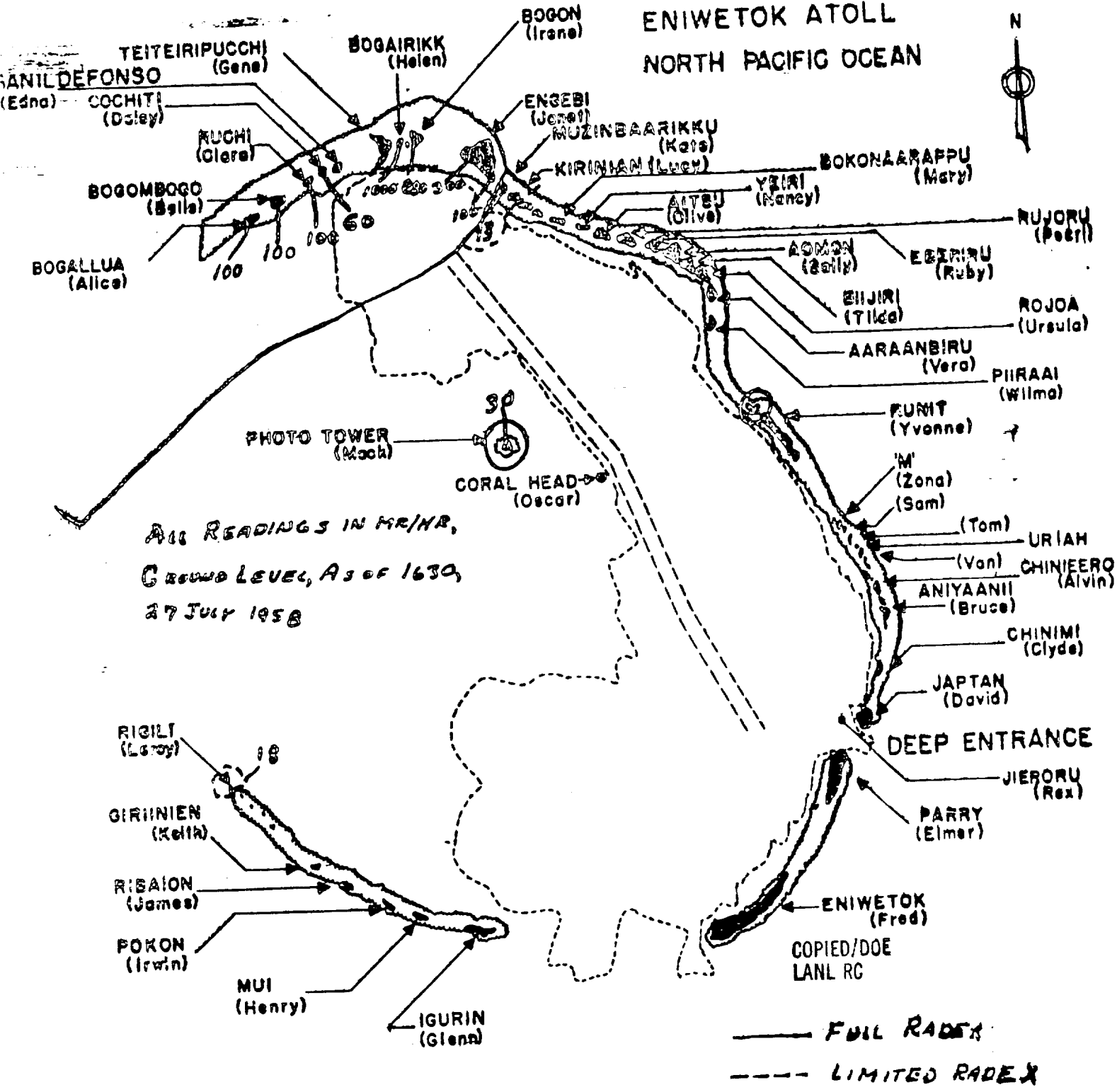
ENIWETOK ATOLL
NORTH PACIFIC OCEAN



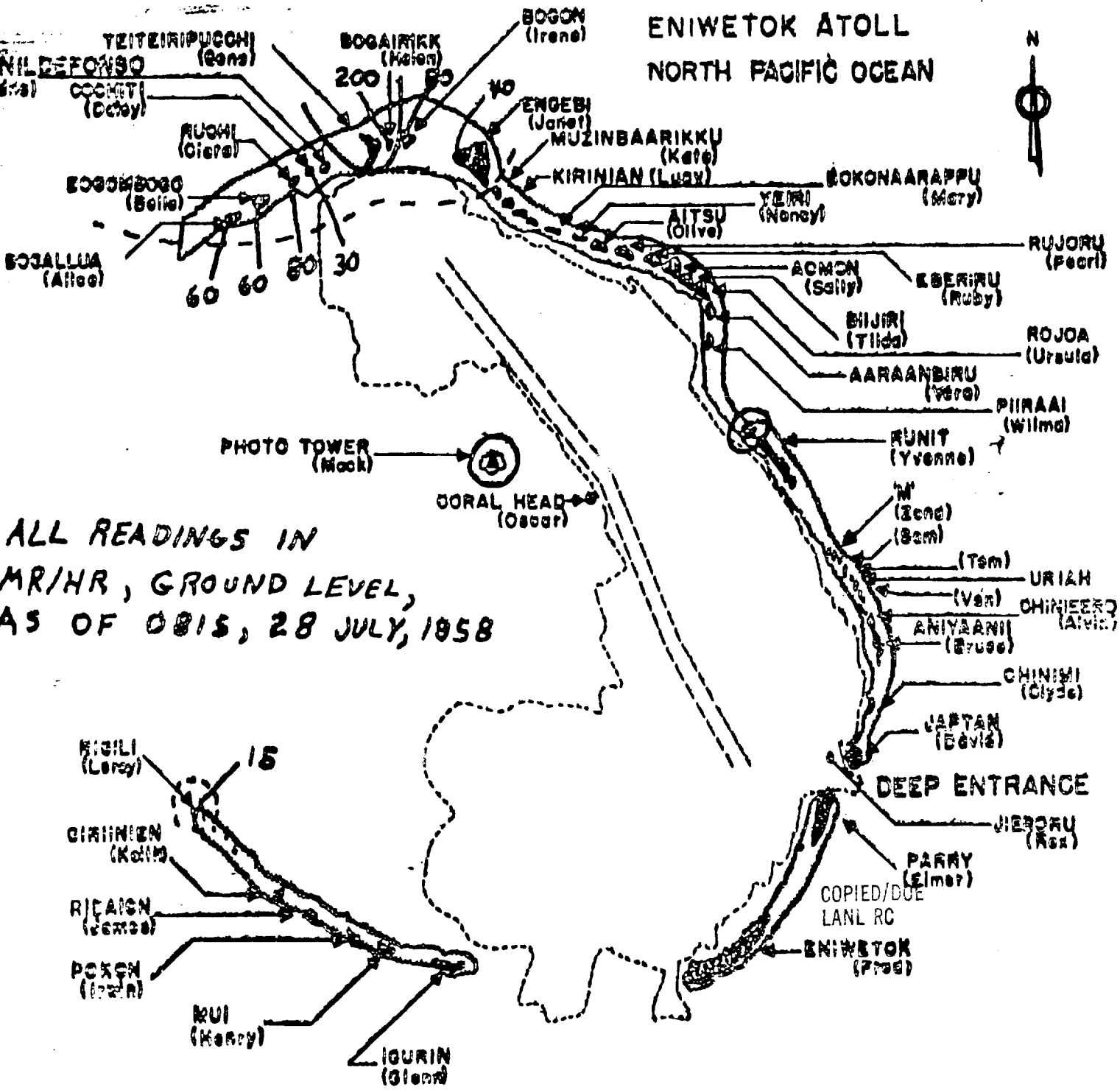
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0945, 29 JULY, 1958

--- LIMITED RADEX
— FULL RADEX

ENIWETOK ATOLL NORTH PACIFIC OCEAN

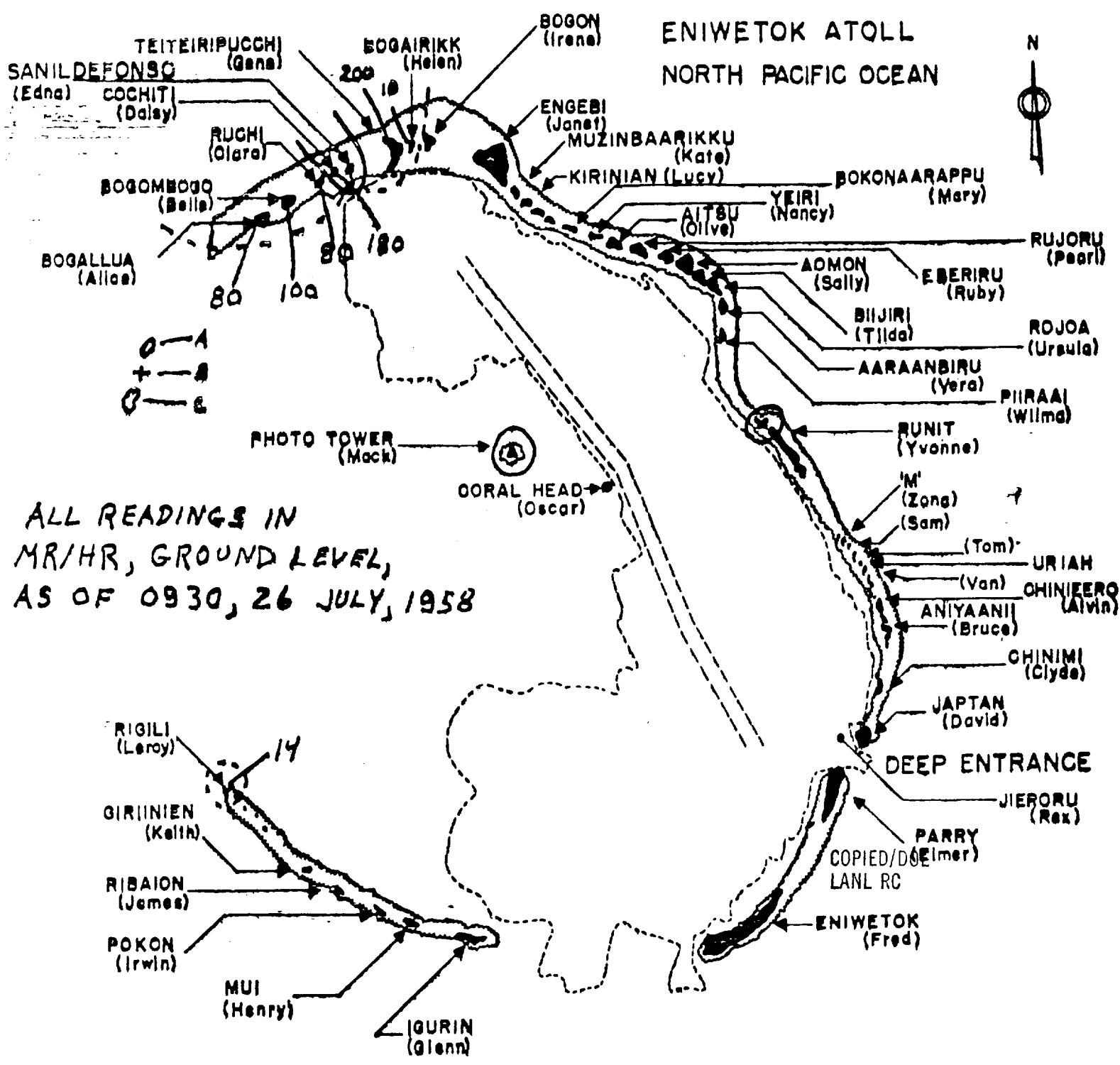


ENIWETOK ATOLL NORTH PACIFIC OCEAN



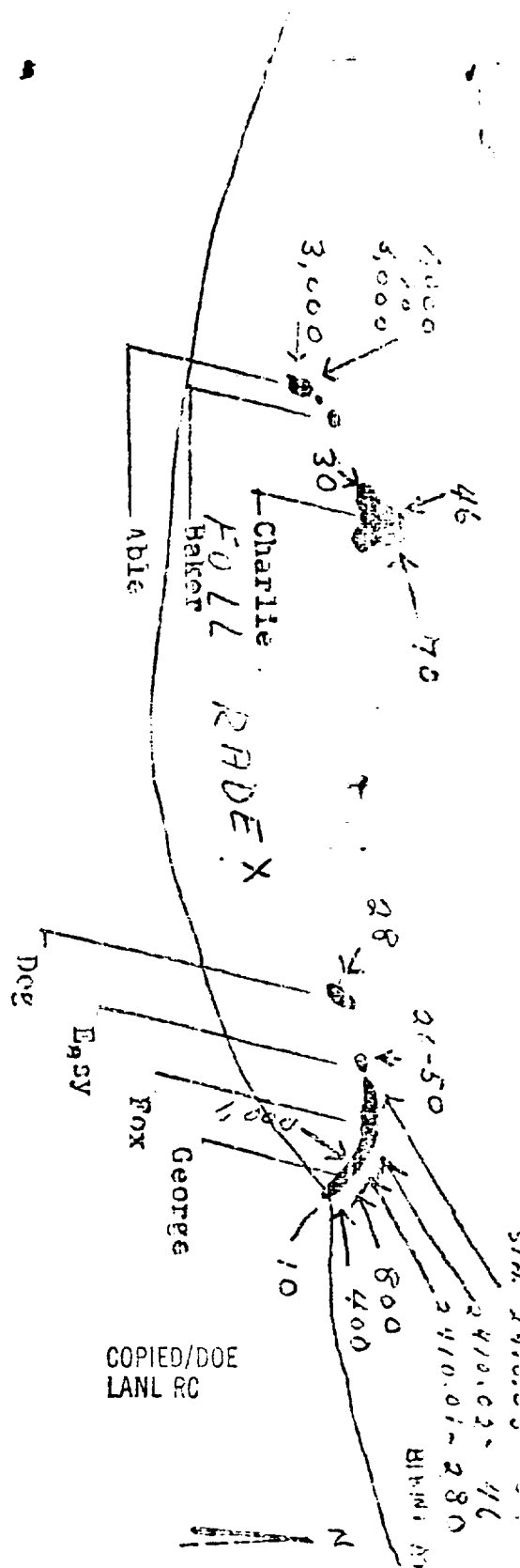
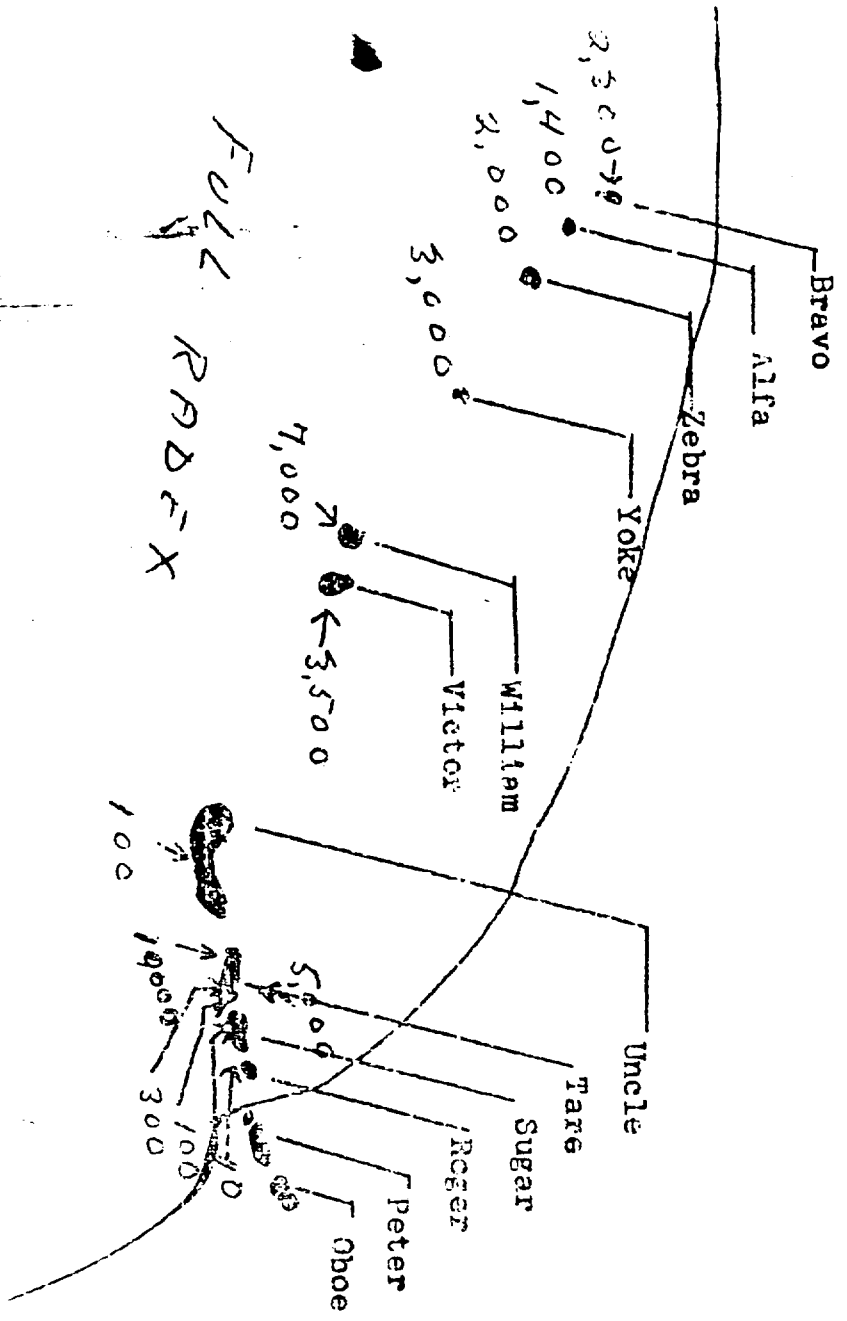
Note: Water off lagoon side
of Janet reading 400 m/hr.

--- LIMITED RADEX
— FULL RADEX



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0930, 26 JULY, 1958

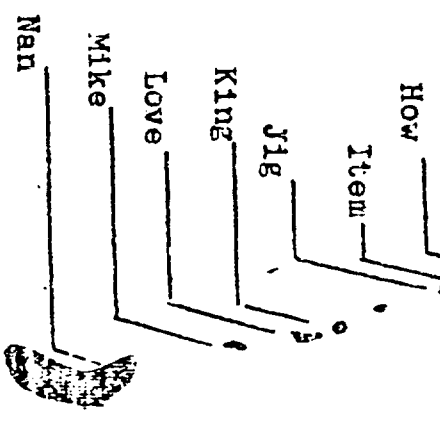
- A Sand Spit North of Oak G.2. — 800 mr/hr at 25'
- B Oak G.2. — 1 mr/hr at 25'
- C Sand Spit South of Oak G.2. — 100 mr/hr at 25'.

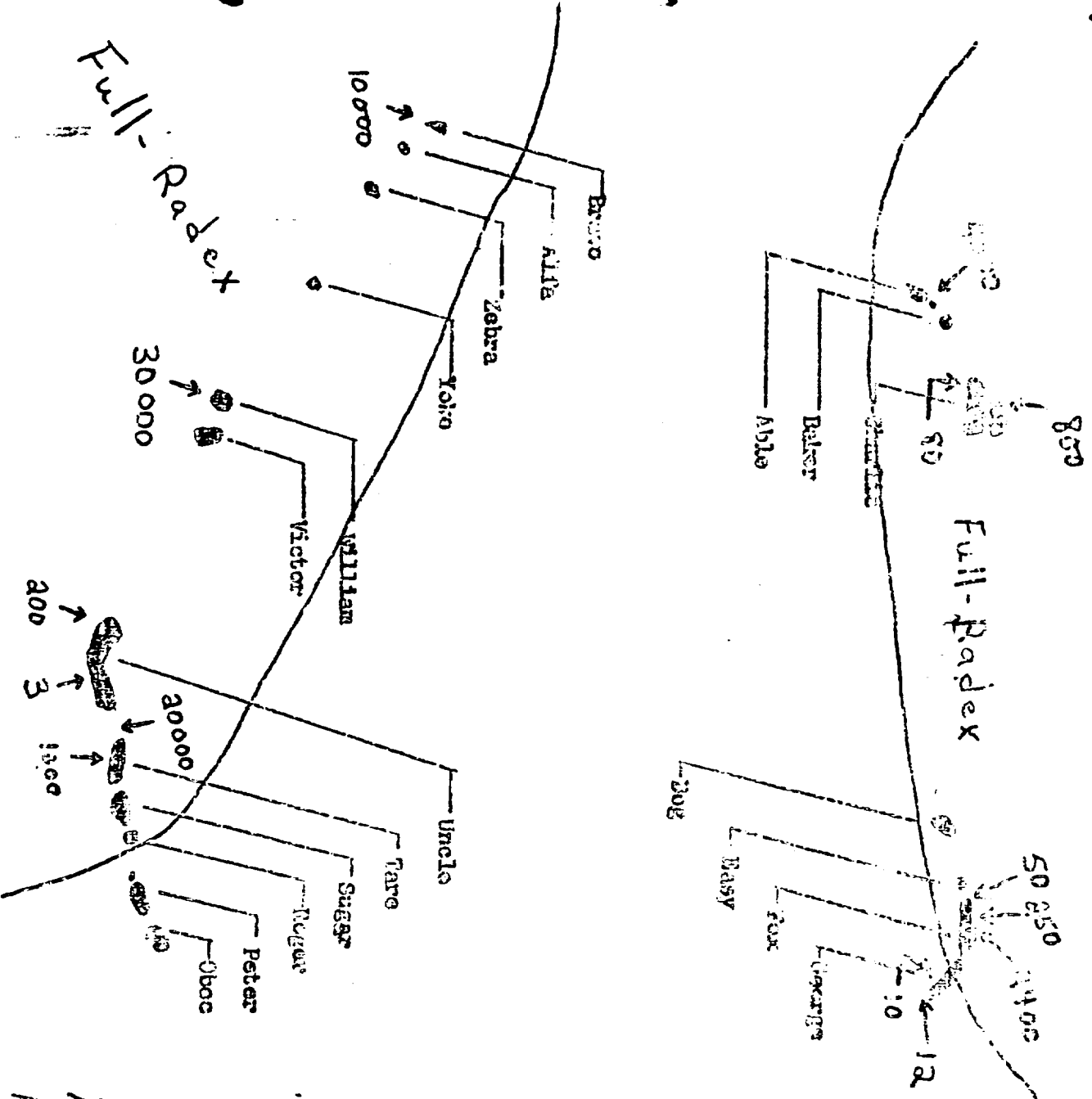


COPIED/DOE
LANL RC

SLIP - TONIPER
TIME - D + 3

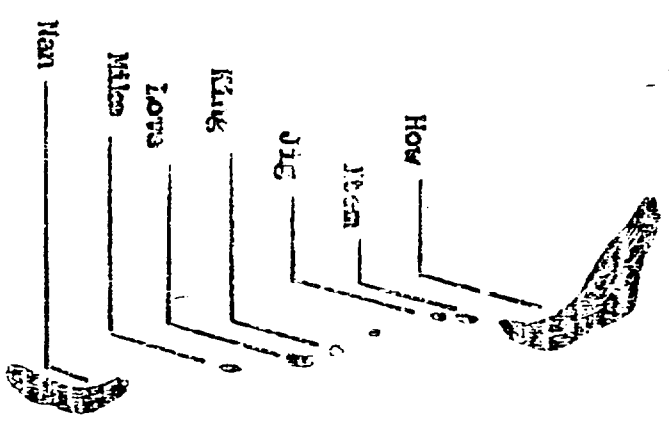
ALL READINGS IN MR/HR
AT GROUND LEVEL AS OF
1510 HRS. 24 JULY 58





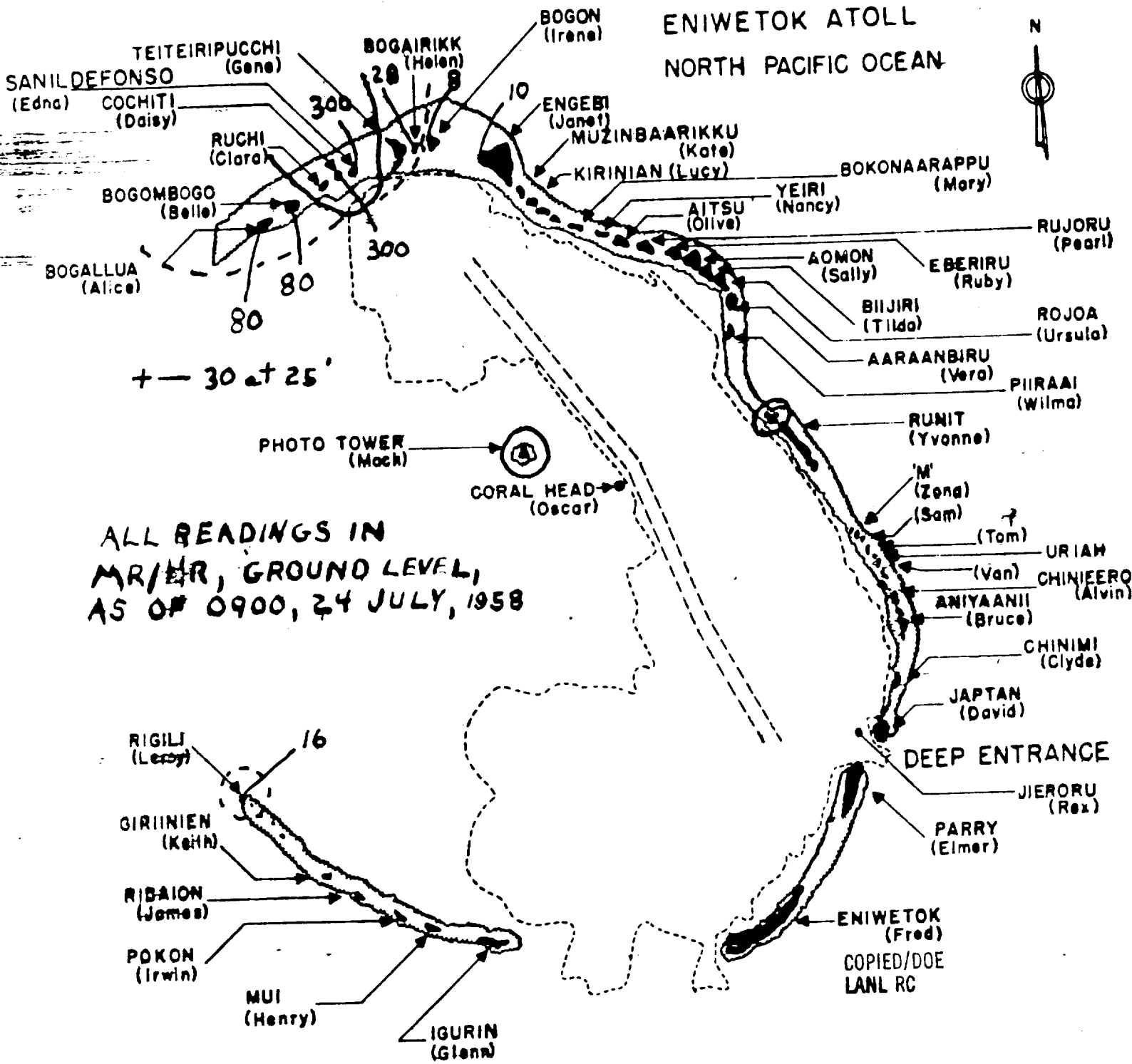
COPIED/DOE
LANL RC

SURVEY STATIONS
N
↑



ALL Readings In MR/HR
At Ground Level As of
0800 HRS 23 July 58

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

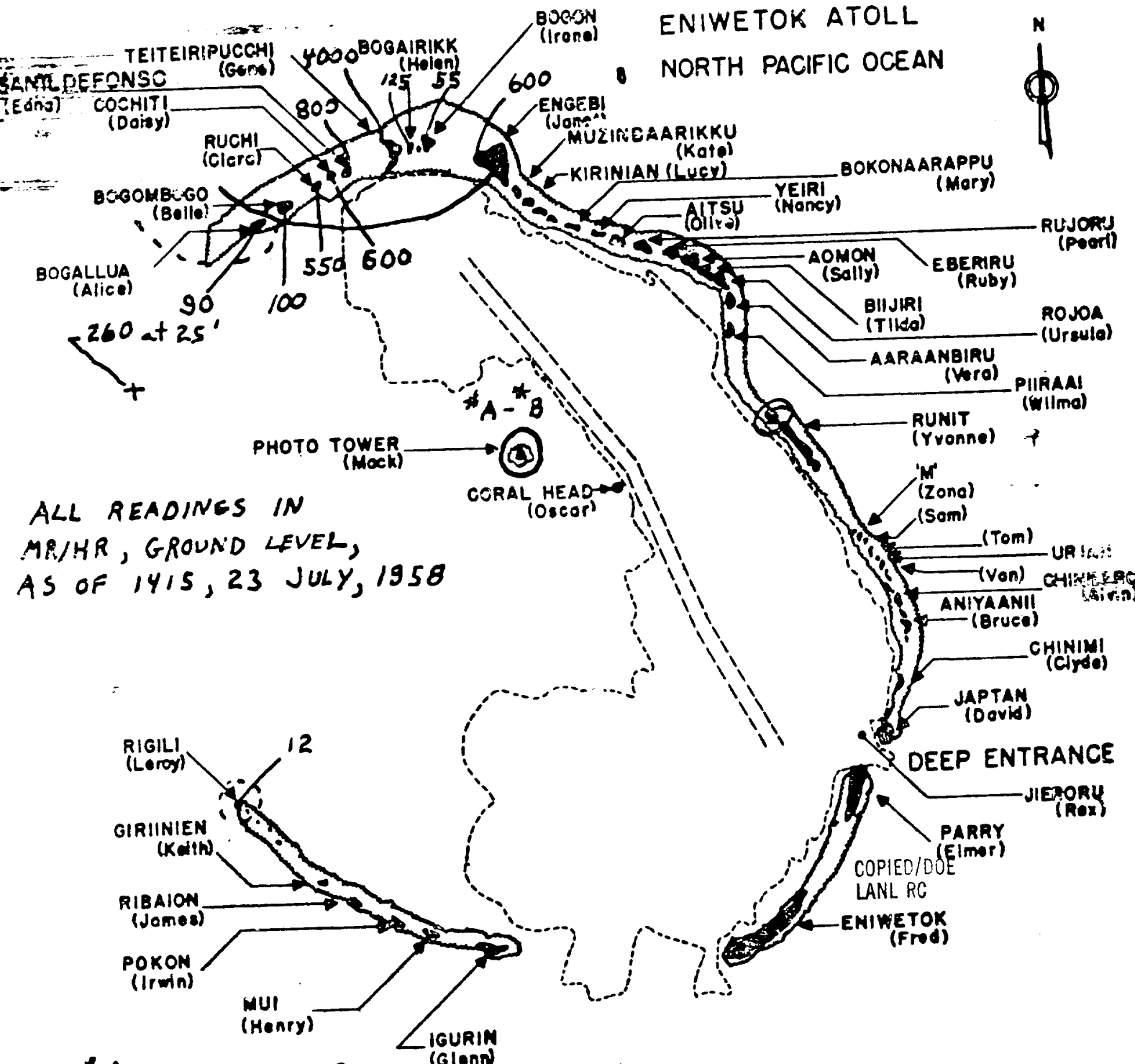


ALL READINGS IN
M/R/R, GROUND LEVEL,
AS OF 0900, 24 JULY, 1958

--- LIMITED RADEX

— FULL RADEX

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

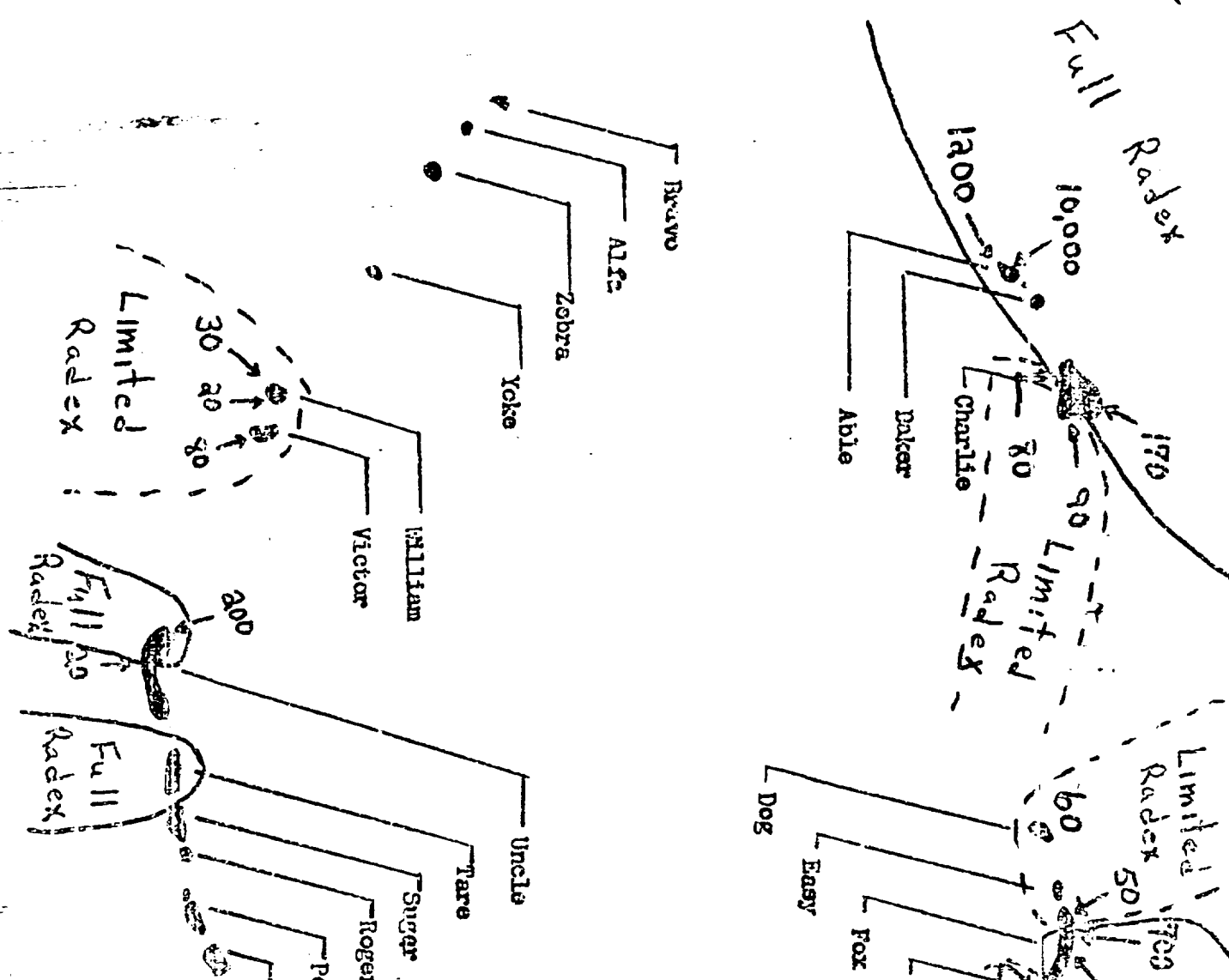


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1415, 23 JULY, 1958

*A
GAMMA
Room - 110 mr/hr
Camera Room - 600 cpm
10 mr/hr
Top - 300 cpm

*B
ALPHA
Bottom - 750 cpm
Camera Room - 600 cpm
Top - 300 cpm

----- LIMITED RADEX
_____ FULL RADEX



COPIED/DOE
LANL RC

BIKINI ATOLL

Full Radex

Limited Radex

1600

1700

501

160

95 Limited Radex

George

Fox

Easy

Dog

16

30

22

12

60

280

4000

100

22

1

1630 HRS.

17 July 58 Mike

1630 HRS.

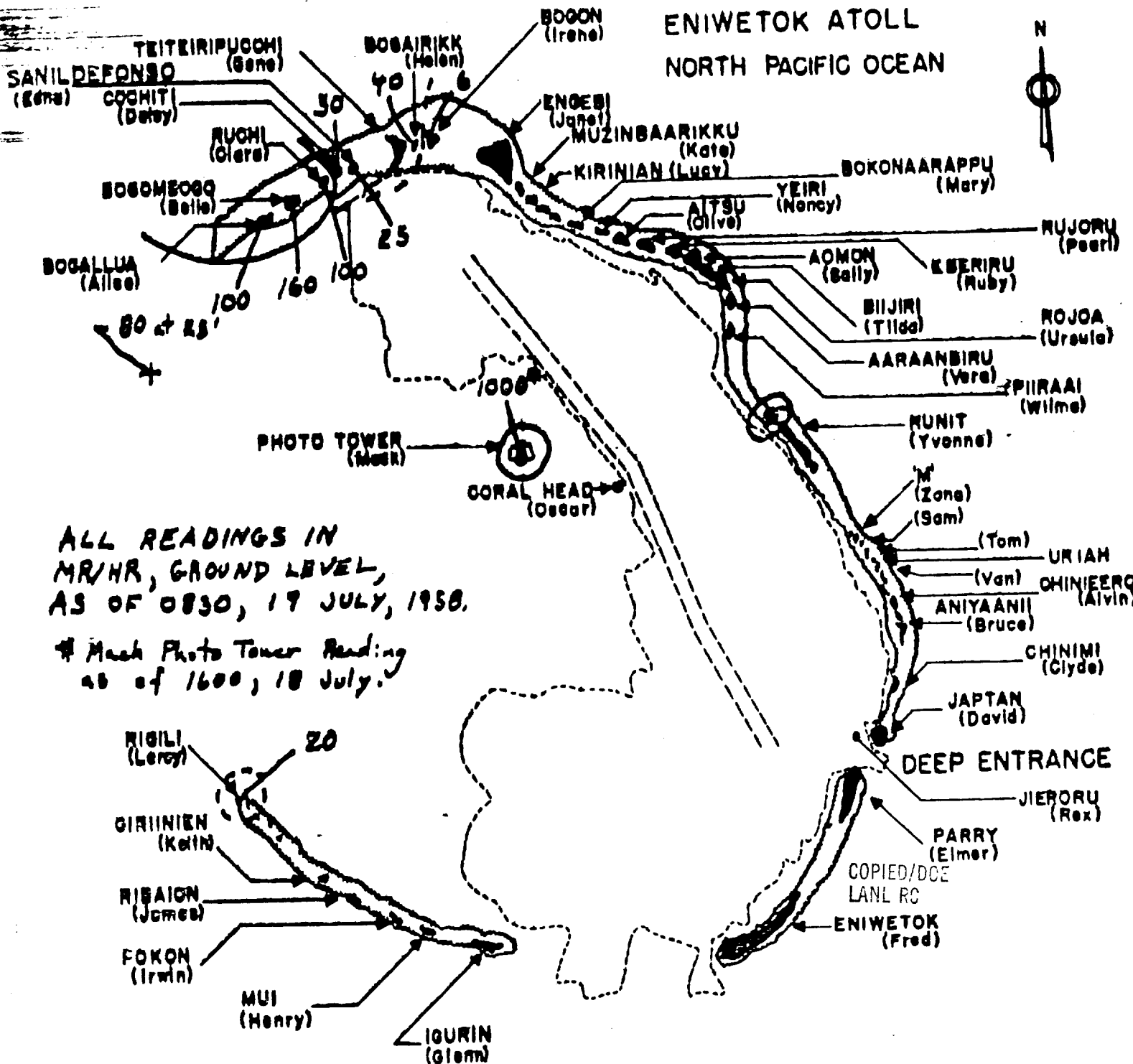
16 July 58

TARE Readings

2270	16	How
2210	30	How
2230.01	22	How
2230.02	12	How
630.01	60	How
2420.01	280	How
2420.02	100	4000
630.02	22	Item
630.03	1	King

ALL Readings IN MATH
Northern Half of Atoll
1100 HRS 18 July 58
Southern Half of Atoll
0830 HRS 16 July 58

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



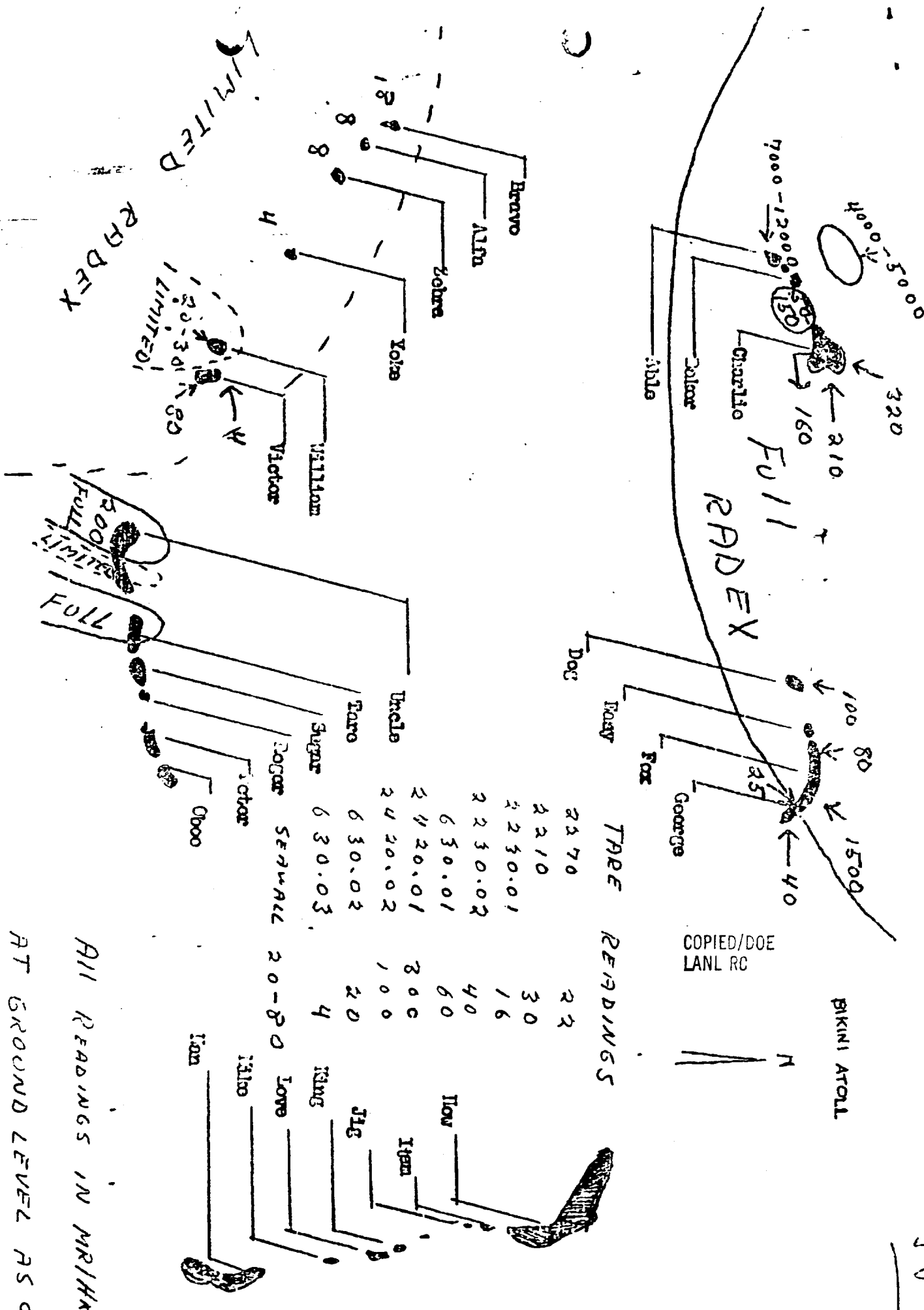
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0830, 17 JULY, 1958.

Mach Photo Tower Reading
as of 1600, 18 July.

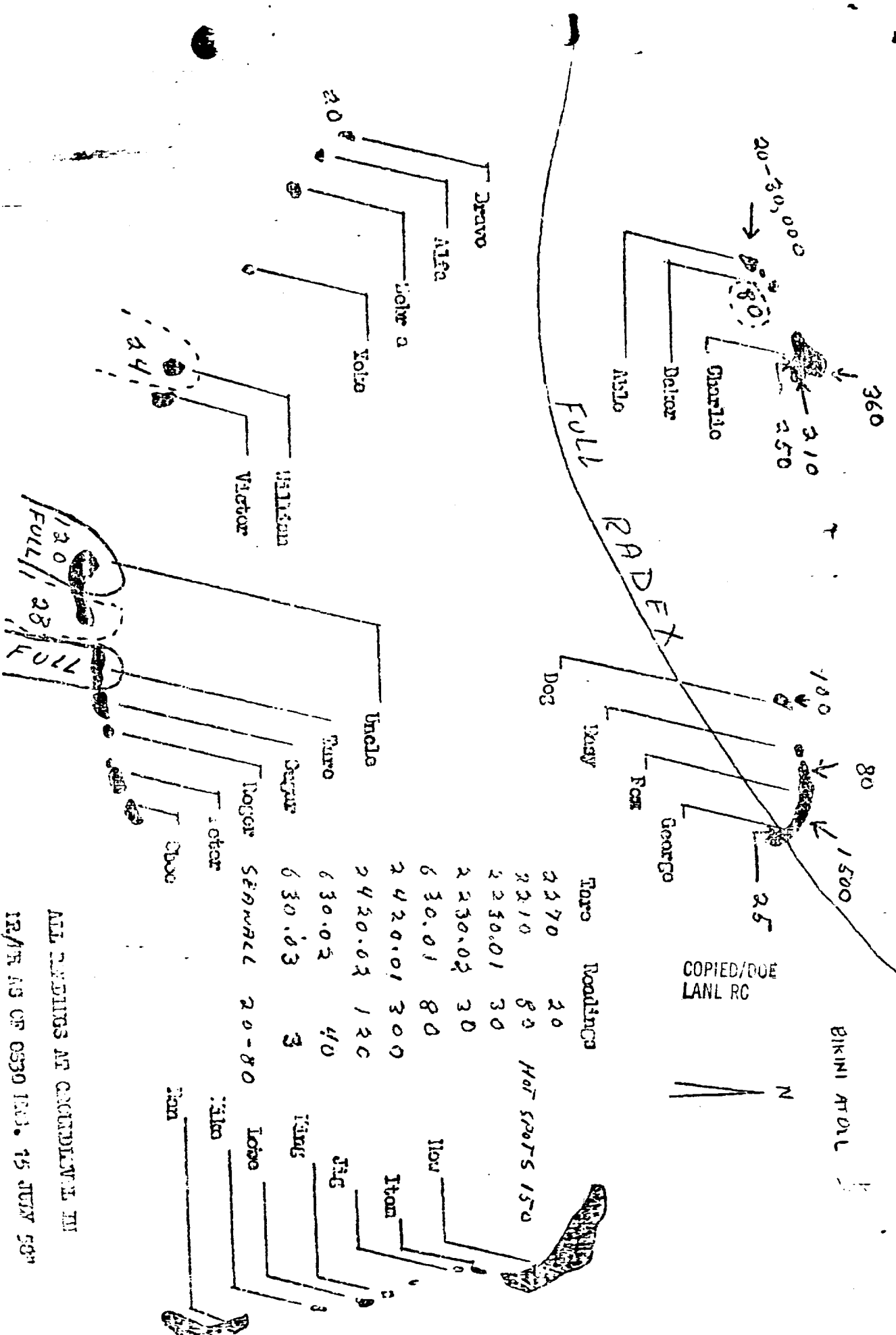
--- LIMITED RADEX

— FULL RADEX

H



All READINGS IN MRHR
AT GROUND LEVEL AS OF
0900 HRS. 16 JULY 58



360

20-30,000

250
310

FULL
RADEX

80

100
1500

COPIED/DUE
LANL RC

BIKINI ATOLL

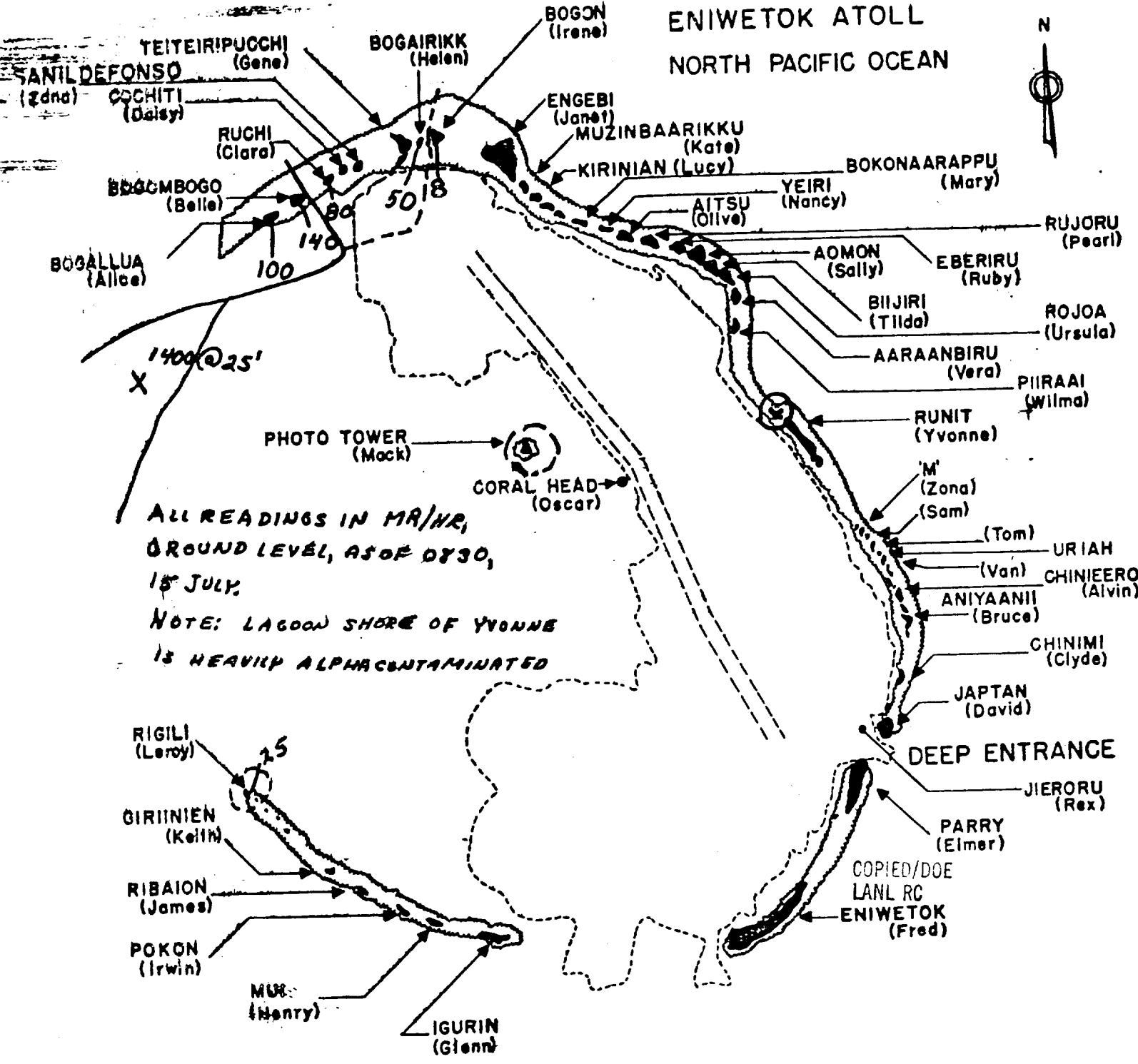
N

Topo Readings

2570	20	Hot spots 150
2210	80	
2250.01	30	
2230.02	20	
630.01	80	
2420.01	300	
2430.02	120	
630.02	40	
630.03	3	
Doger Senwack	20-80	
other		
Oboc		
Tom		
Irom		
Jon		
William		
Victor		
Uncle		
Turbo		
Roger		
Doger		
Senwack		
other		
Oboc		
Tom		
Irom		
Jon		

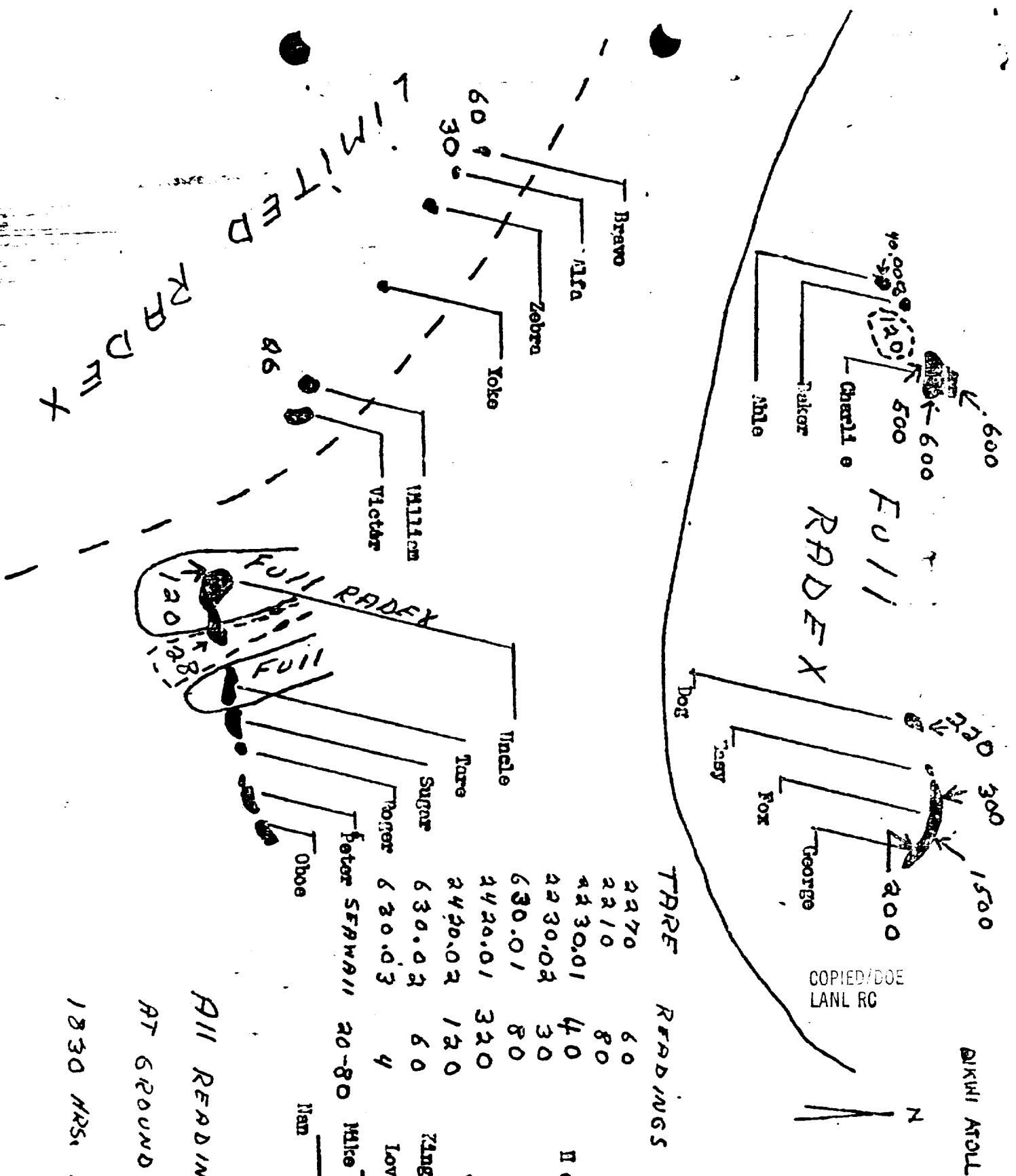
ALL READINGS AT CONCORDIA IN
 R/R AS OF 0530 HRS. 15 JULY 58

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN MR/HR,
GROUND LEVEL, AS OF 0730,
15 JULY.
NOTE: LAGOON SHORE OF YVONNE
IS HEAVILY ALPHA CONTAMINATED

———— FULL RADEX
----- LIMITED RADEX

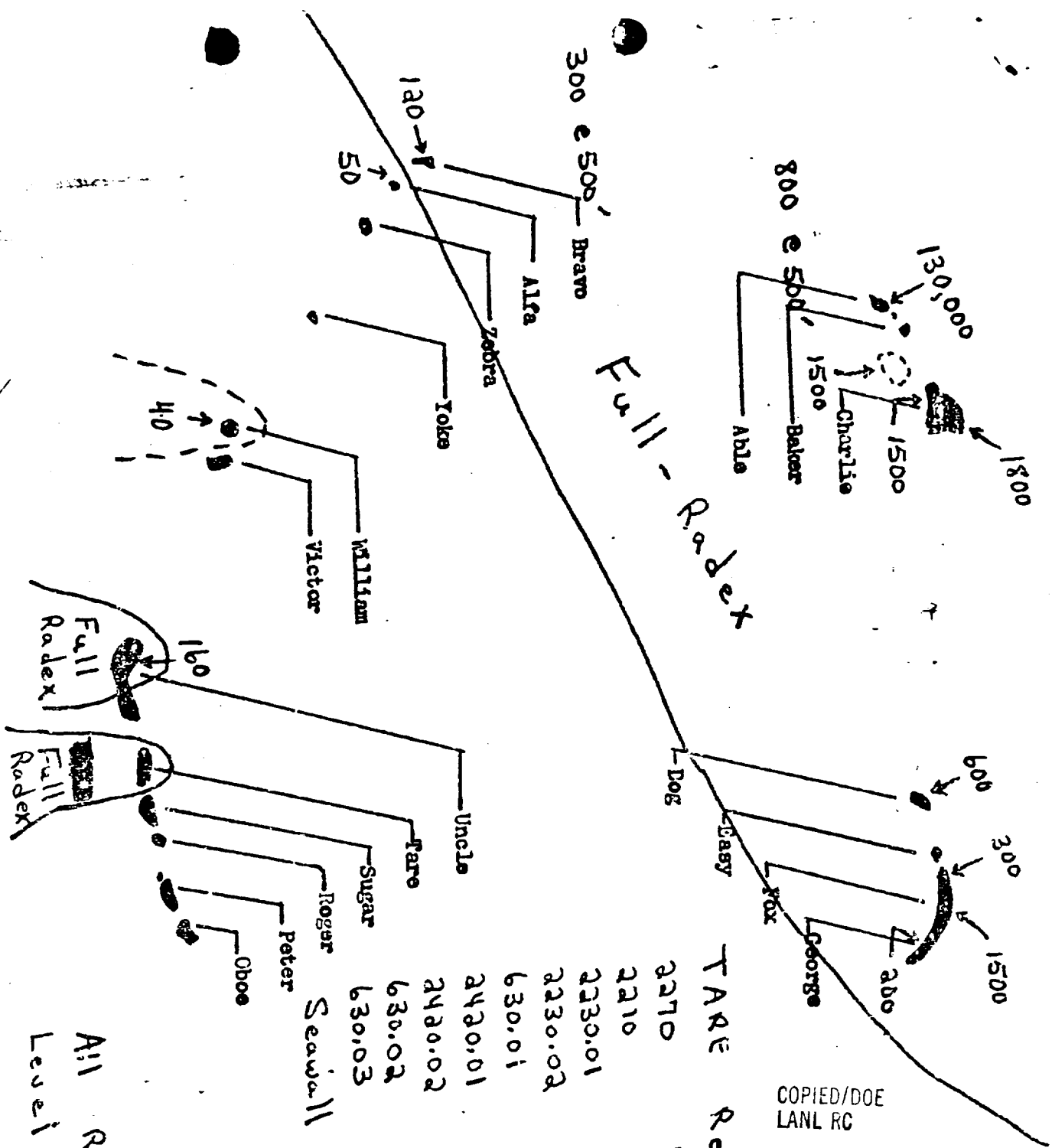


NAME	TRUE READINGS	ITEM
Alfa	2270	60
Zebra	2210	80
Yoke	4230.01	40
Victor	2230.02	30
William	630.01	80
Charlie	4420.01	320
Mike	2420.02	120
Fuller	630.02	60
Dog	620.03	4
Fox	Peter SEPRW 11	20-80
George	Obso	
Tare		
Sugar		
Peter		
Obso		
Tangle		

ALL READINGS IN METERS
 AT GROUND LEVEL AS ON
 1830 HRS. 14 JULY 58

COPIED/DOE
 LANL RC

AIKI ATOLL



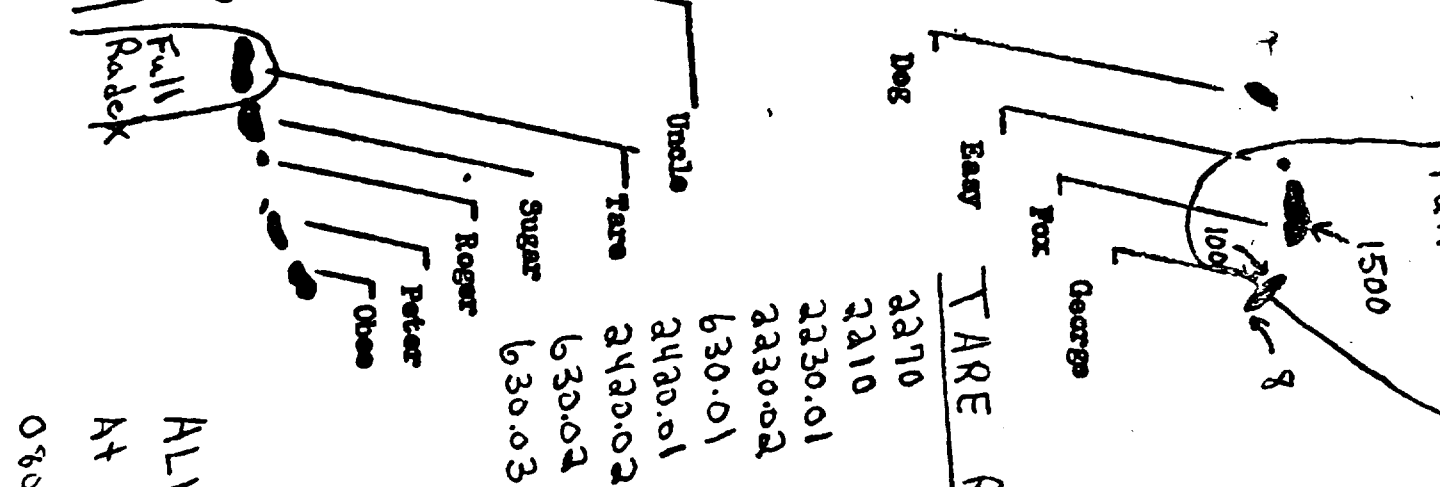
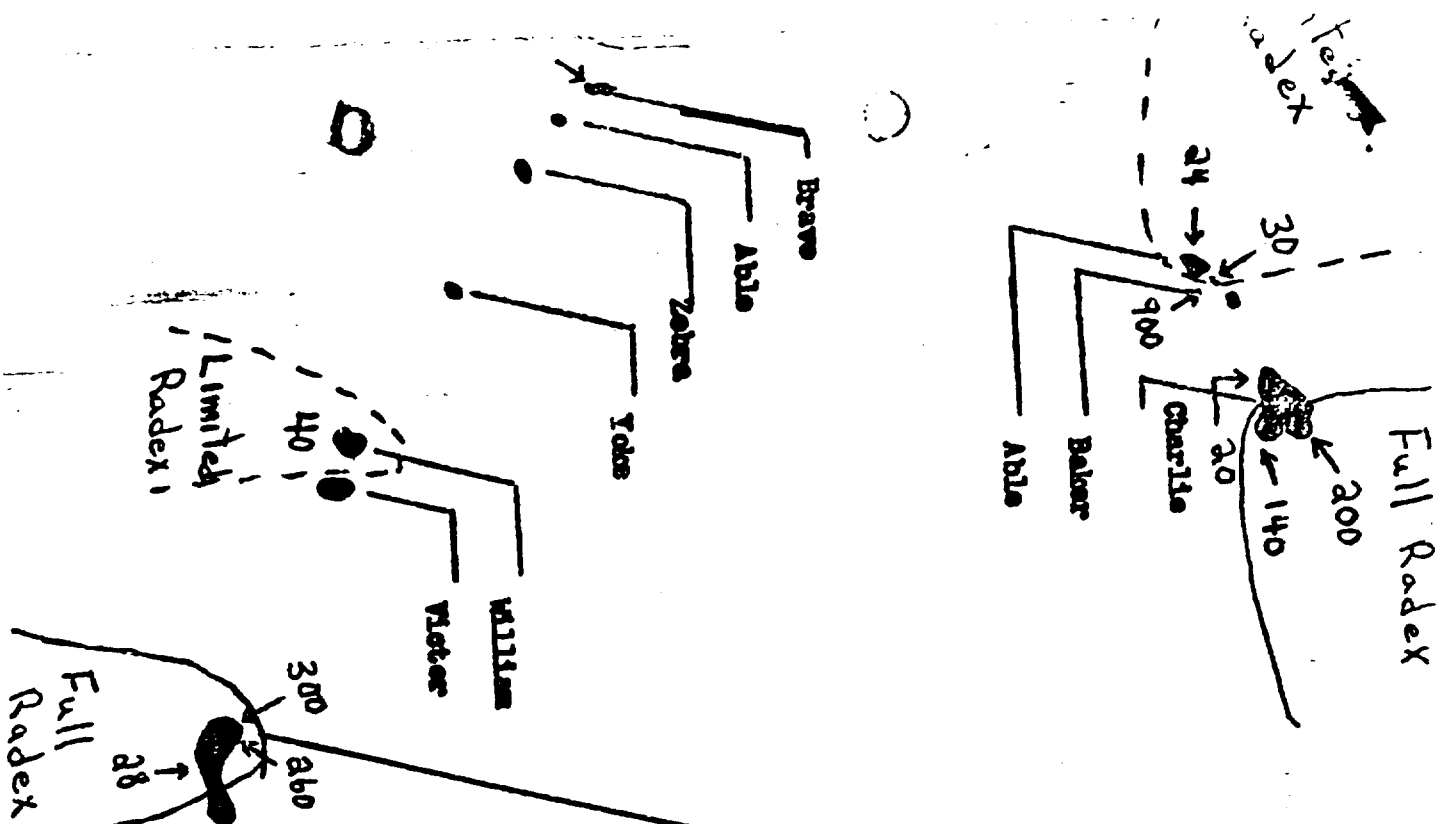
COPIED/DOE
LANL RC

BIKINI ATOLL

TARE Readings

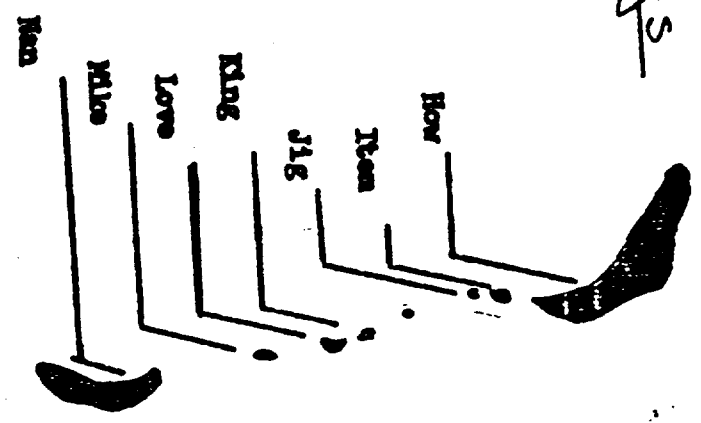
TARE	Readings	Item
2270	140	How
2210	80	Item
2230.01	60	Jig
2230.02	30	King
630.01	140	Love
2420.01	400	Seawall
2420.02	60	Yoke
630.02	160	Uncle
630.03	4	Victor

All Readings At Ground
Level In MR/HR As of
1500 HRS. 13 July 58



TARE Readings

2270	160
2210	100
2230.01	20
2230.02	30
630.01	140
2420.01	500
2420.02	250
630.02	200
630.03	4

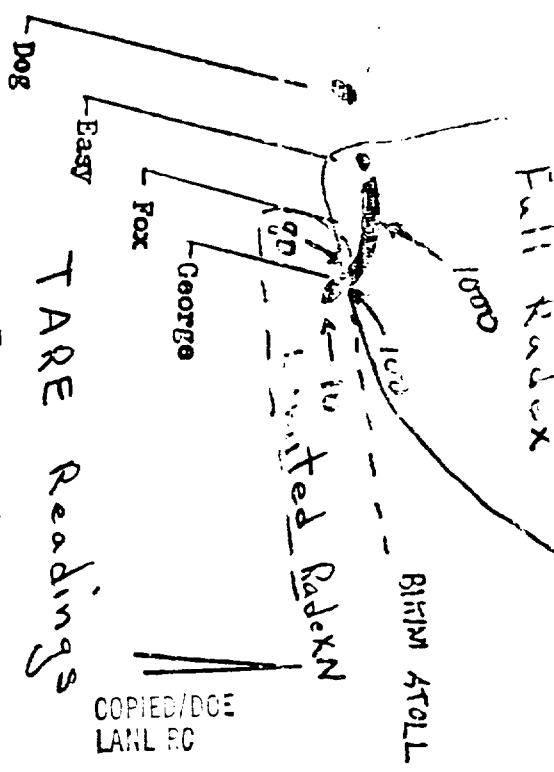
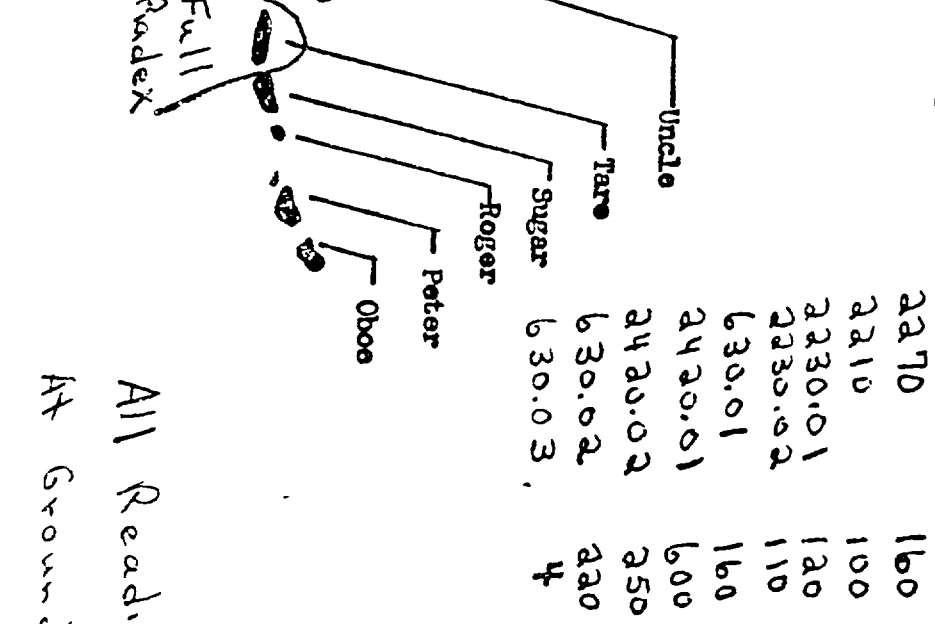
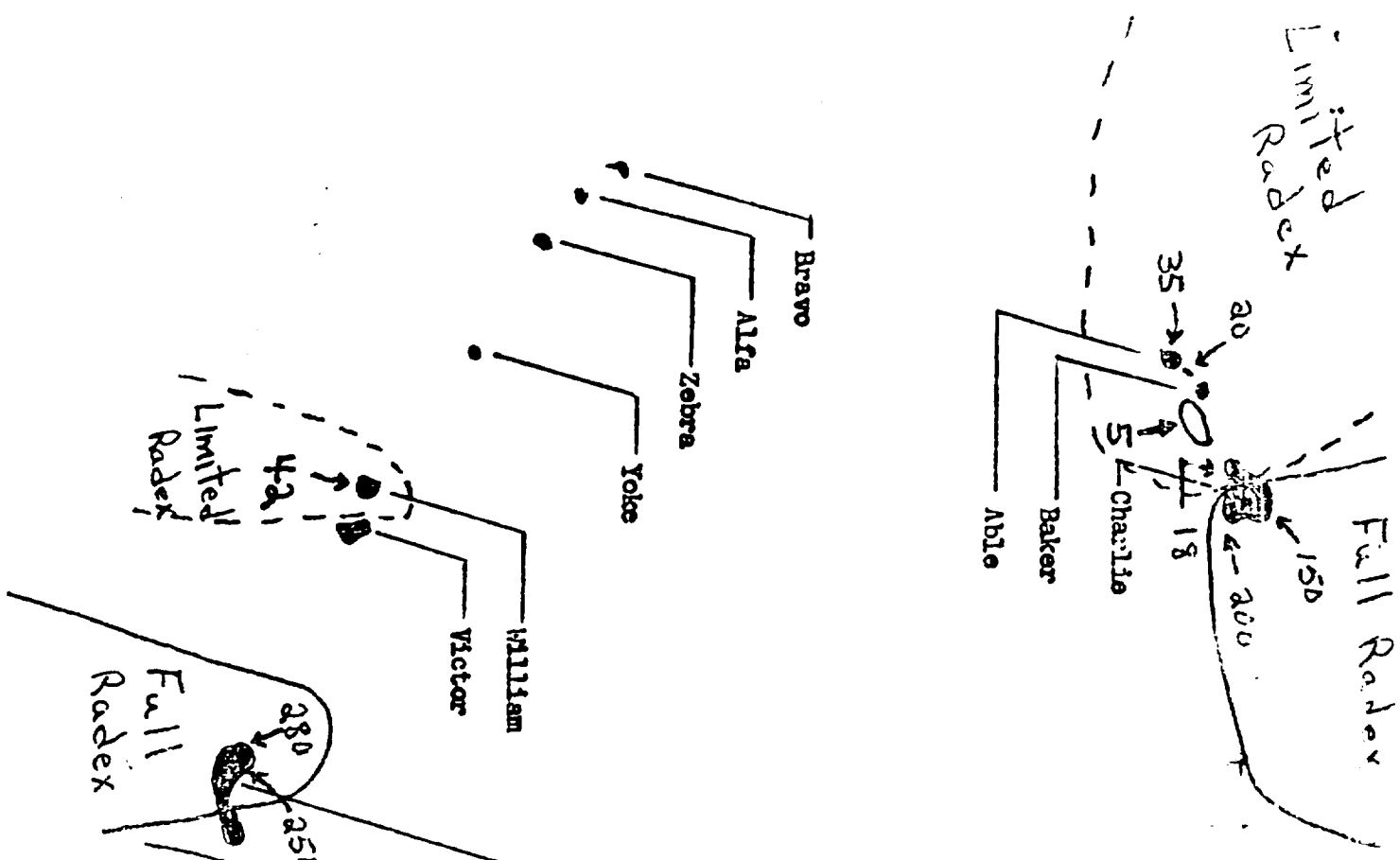


COPIED/DOE
LANL RC



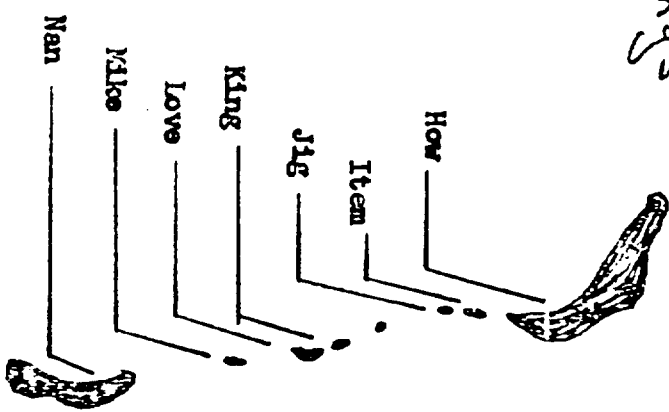
BIKINI ATOLL

ALL Readings IN MR/HR
At Ground Level AS OF
0800 HRS. 11 July 58



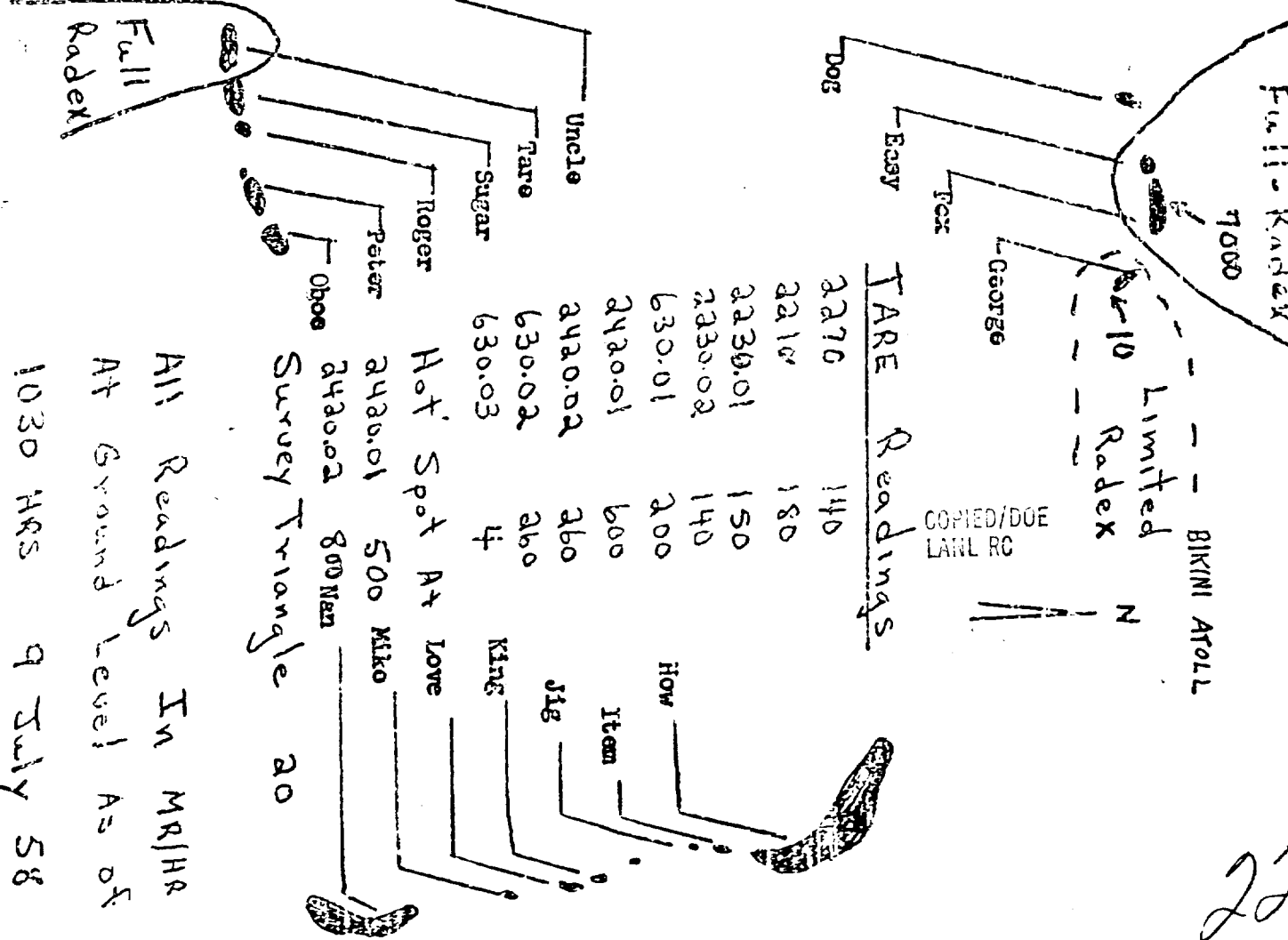
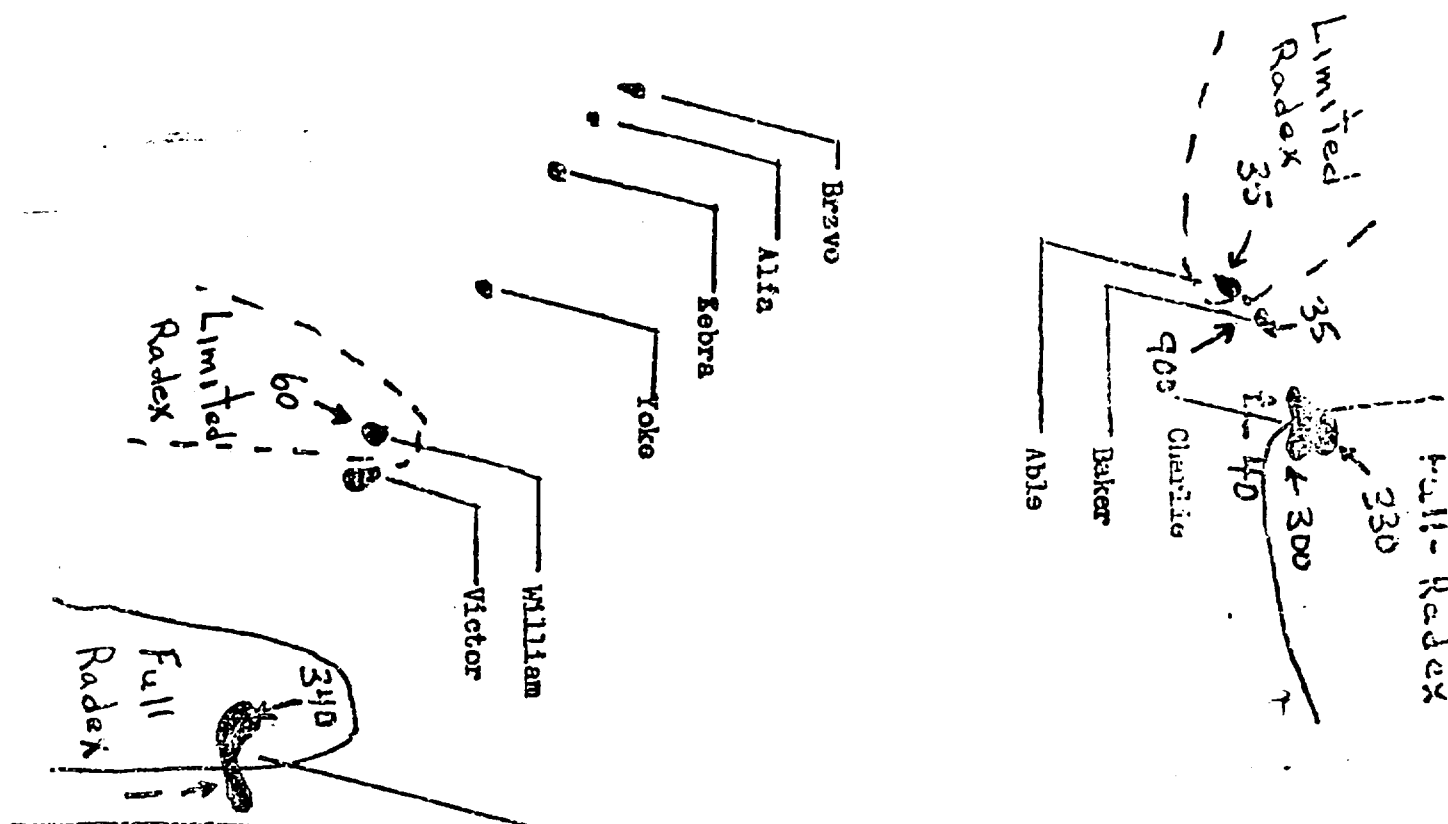
TARE Readings

2270	160
2210	100
2230.01	120
2230.02	110
630.01	160
2420.01	600
2420.02	250
630.02	220
630.03	4



COPIED/DGE
LAWL PC

All Readings In MRA
At Ground Level As of
0800HRS 10 July 58



TARE Readings

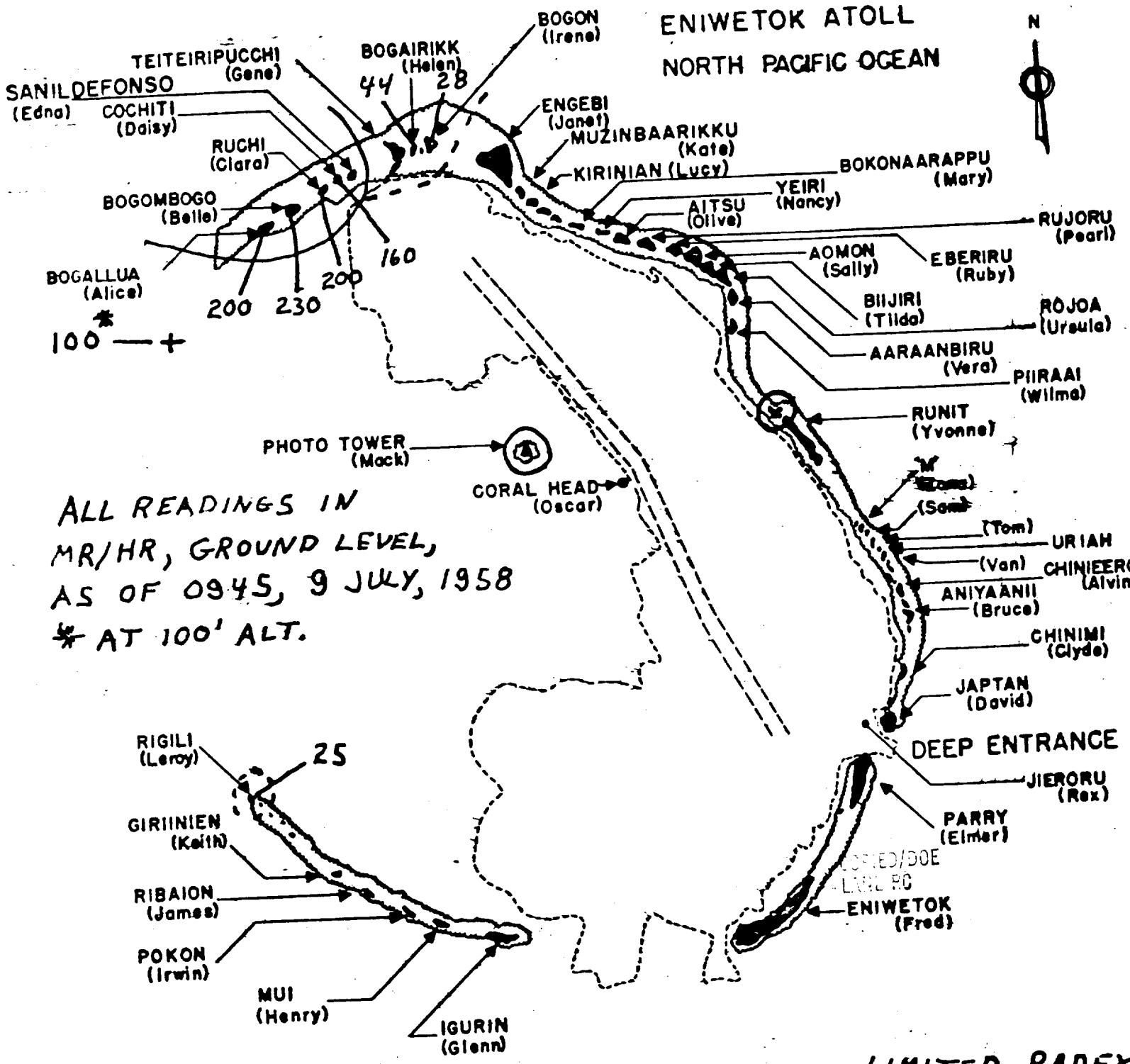
2270	140
2210	180
2230.01	150
2230.02	140
630.01	200
2420.01	600
2420.02	260
630.02	260
630.03	4

Hot Spot At Love
 2420.01 500 Miko
 2420.02 800 Naz
 Survey Triangle 20

All Readings In MR/HR
 At Ground Level As of
 1030 HRS 9 July 58

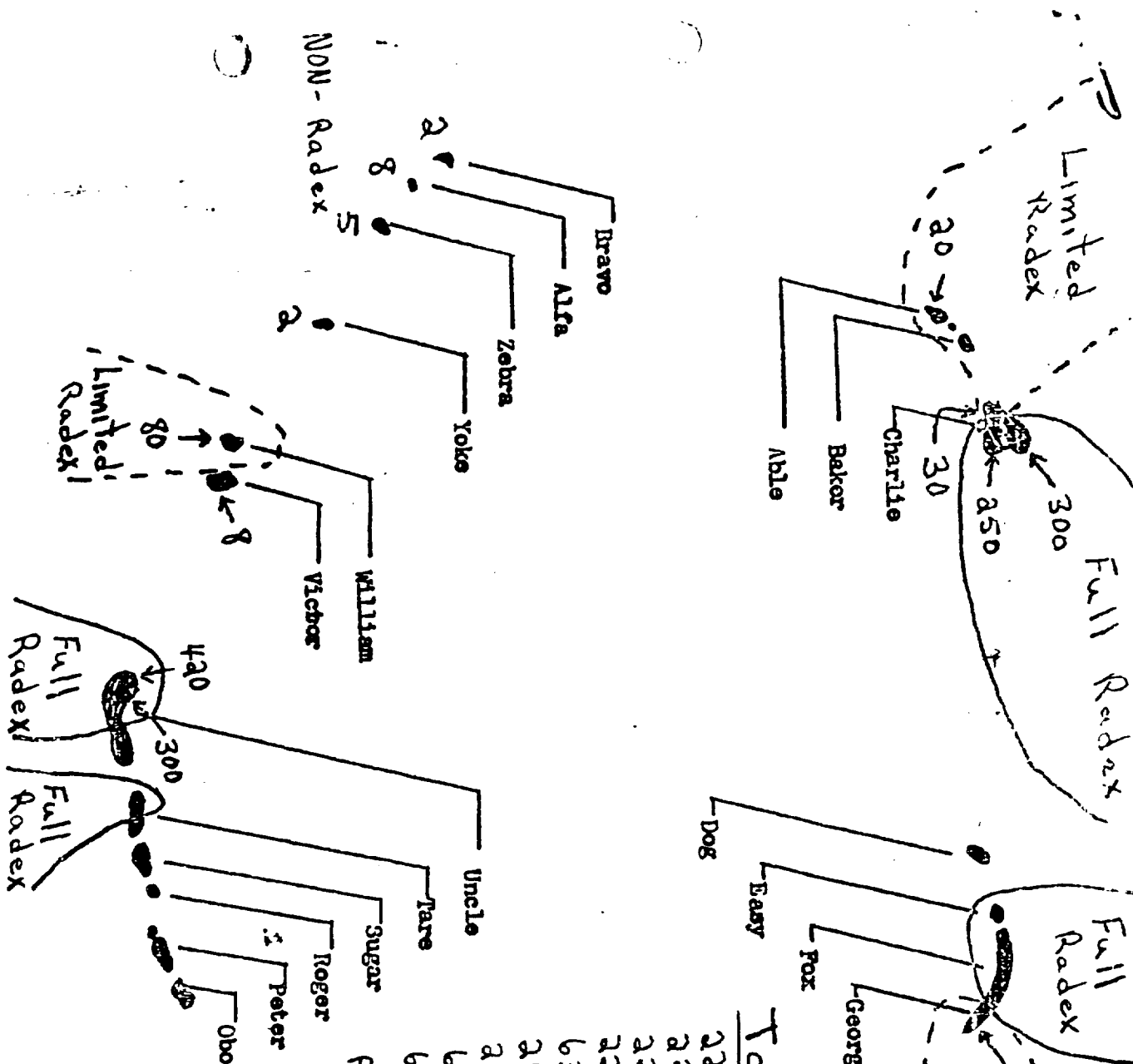
COPIED/DOE
 LANL RC

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



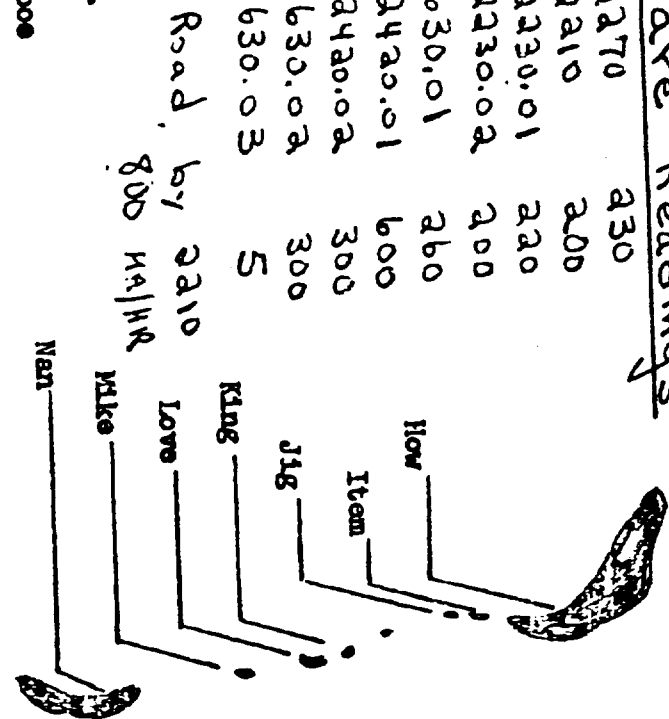
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0945, 9 JULY, 1958
* AT 100' ALT.

--- LIMITED RADEX
— FULL RADEX



Tare Readings

2270	230
2210	200
2230.01	220
2230.02	200
630.01	260
2420.01	600
2420.02	300
630.02	300
630.03	5

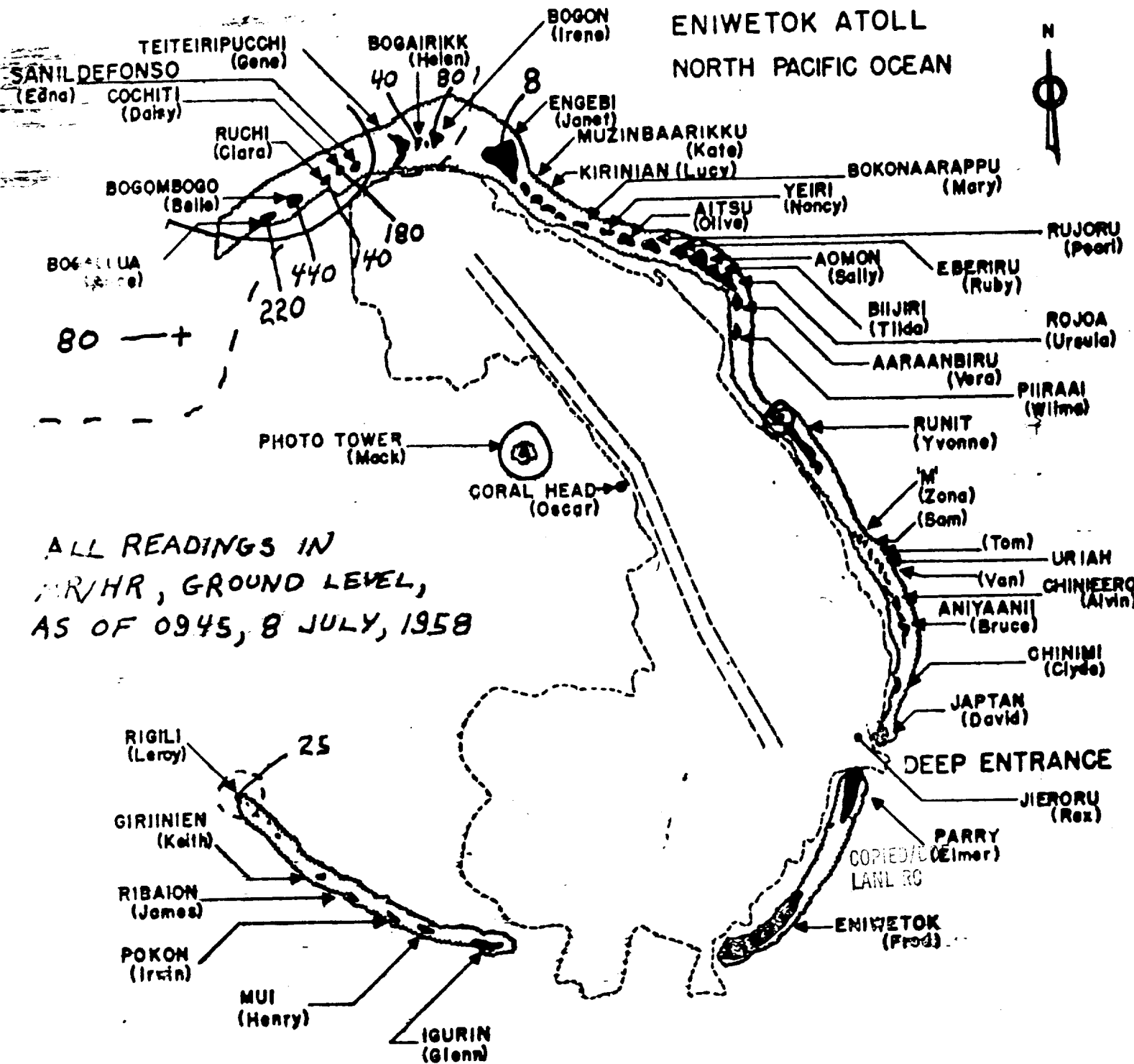


ALL Readings IN MR/HR
 At Ground Level AS OF
 0800 HRS. 8 July 58

COPIED/DUE
 LANT EC

2

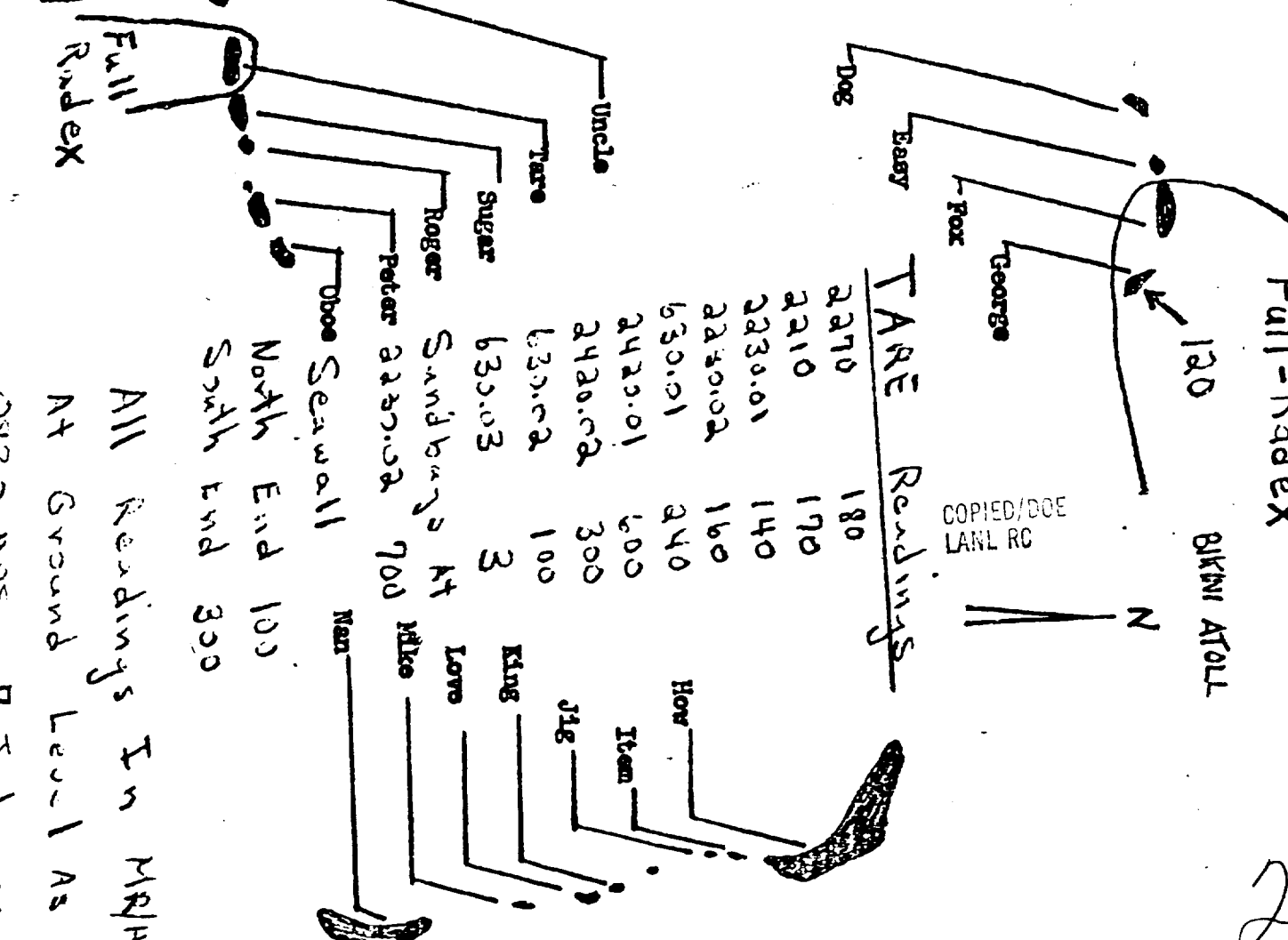
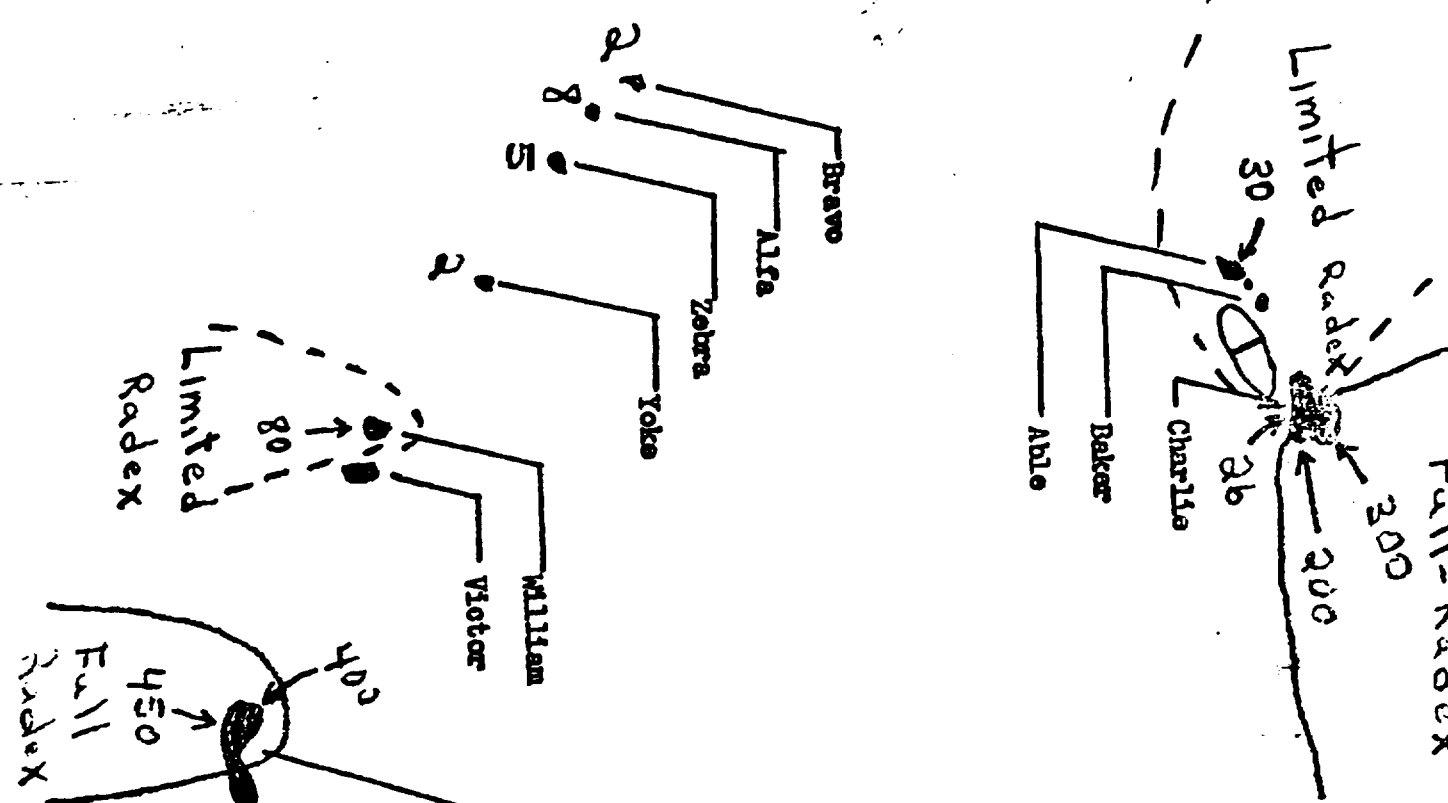
ENIWETOK ATOLL NORTH PACIFIC OCEAN



ALL READINGS IN
IN/HR, GROUND LEVEL,
AS OF 0945, 8 JULY, 1958

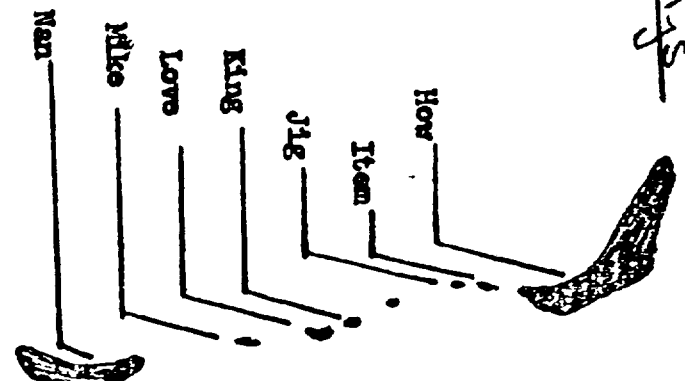
--- LIMITED RADEX
— FULL RADEX

20



TARE Readings

2270	180
2210	170
2230.01	140
2240.02	160
630.01	240
2420.01	600
2420.02	300
630.02	100
630.03	3



COPIED/DOE
LANL RC



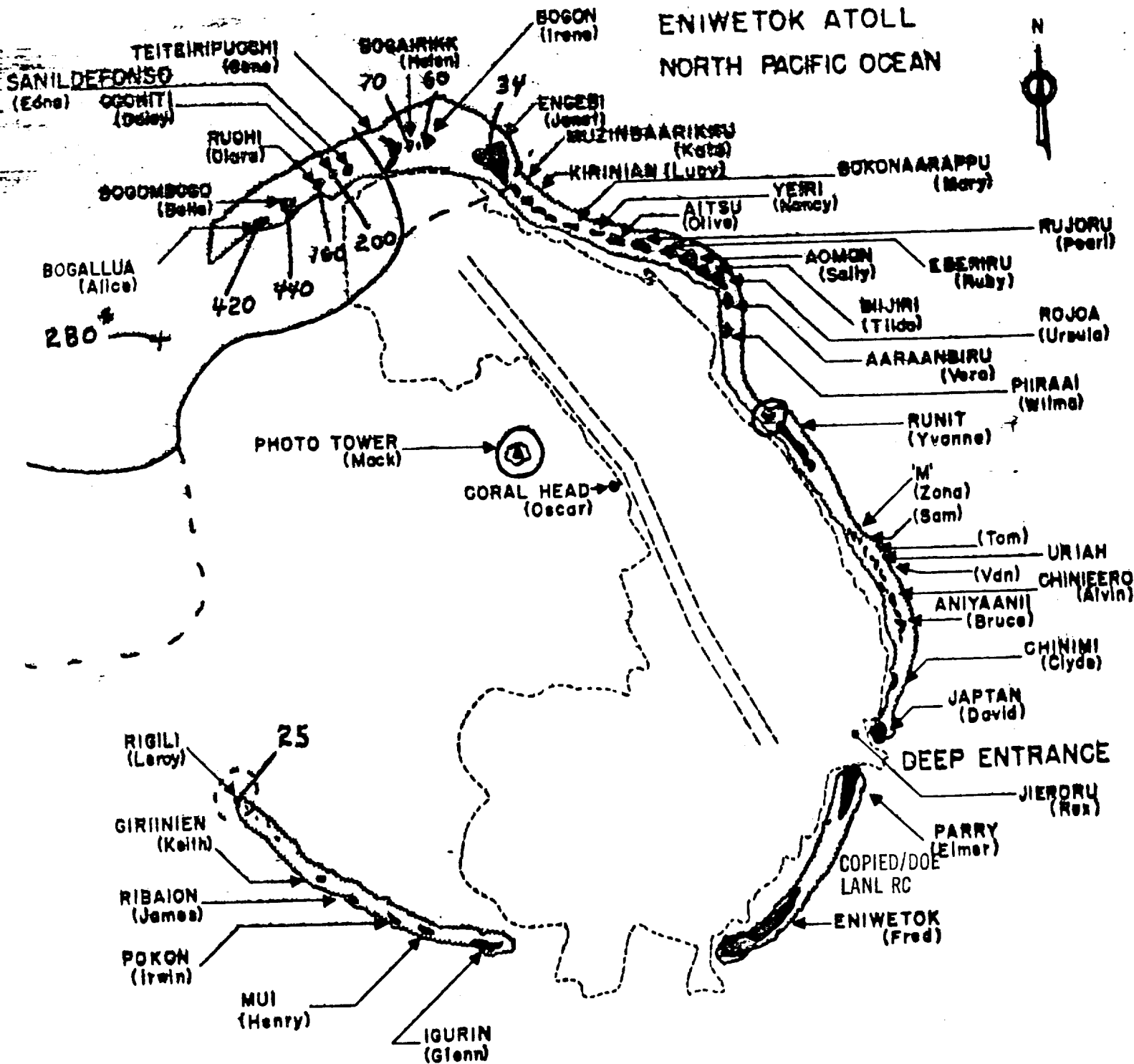
North End 100
South End 300

All Readings In M/R/H/R
At Ground Level As of

0930 hrs. 7 July 58

2

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

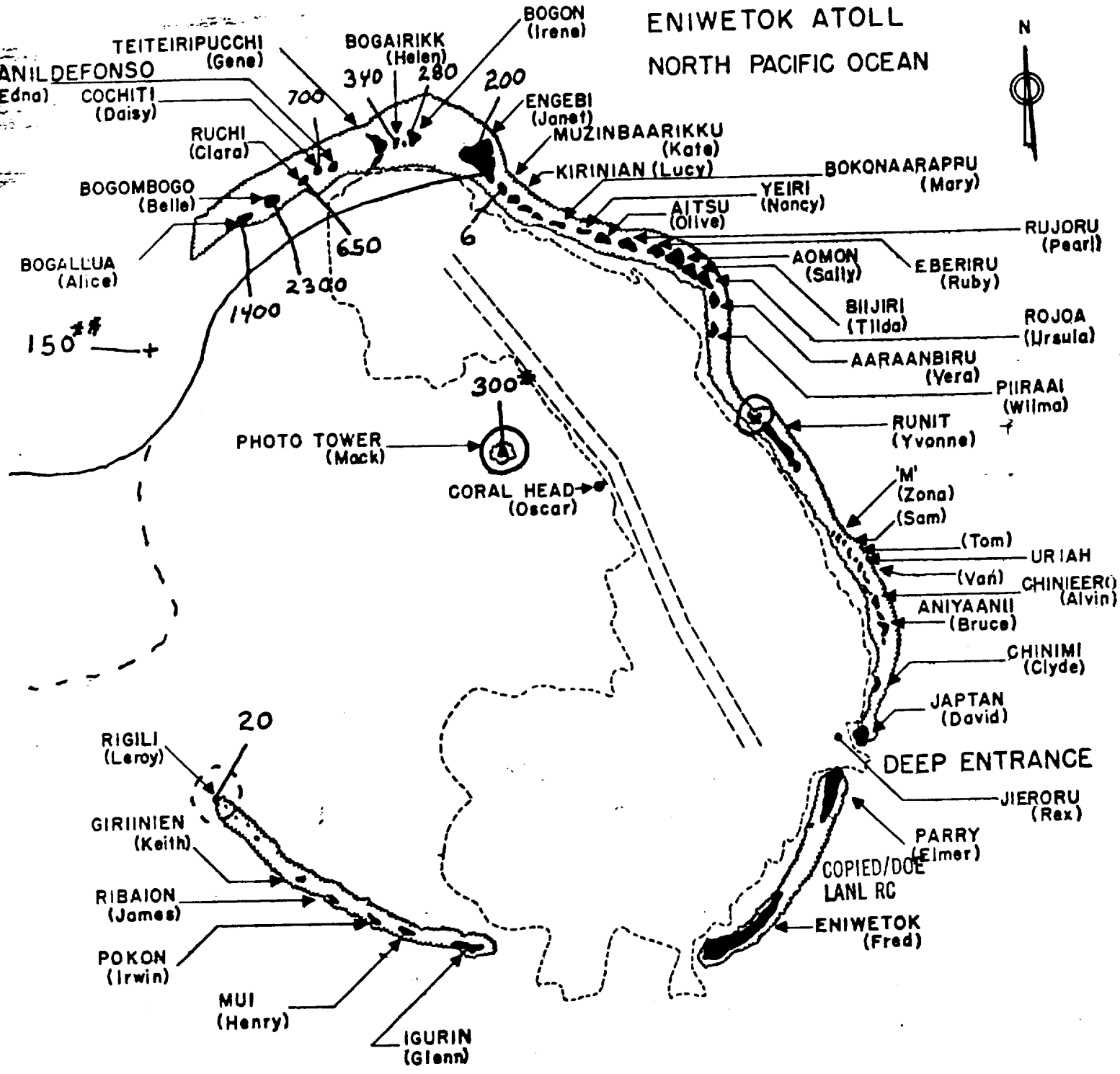


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0945, 7 JULY, 1958
* AT 100' ALT.

--- LIMITED RADEX
— FULL RADEX

2

ENIWETOK ATOLL NORTH PACIFIC OCEAN

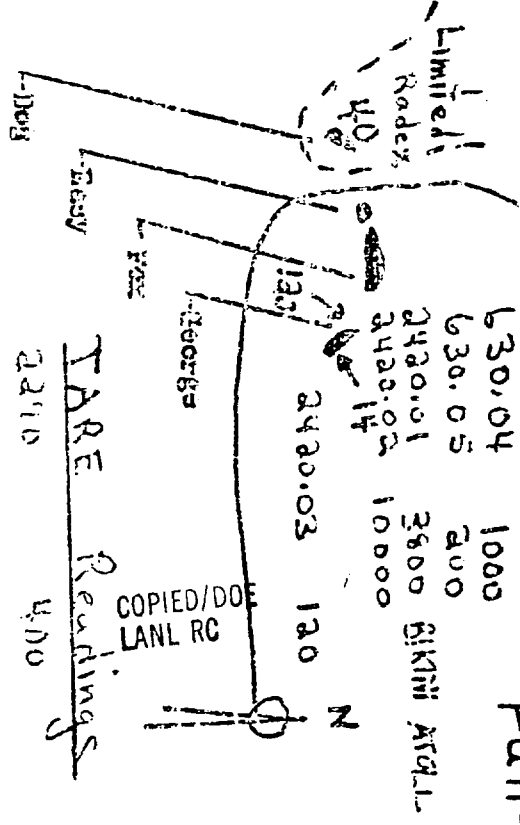
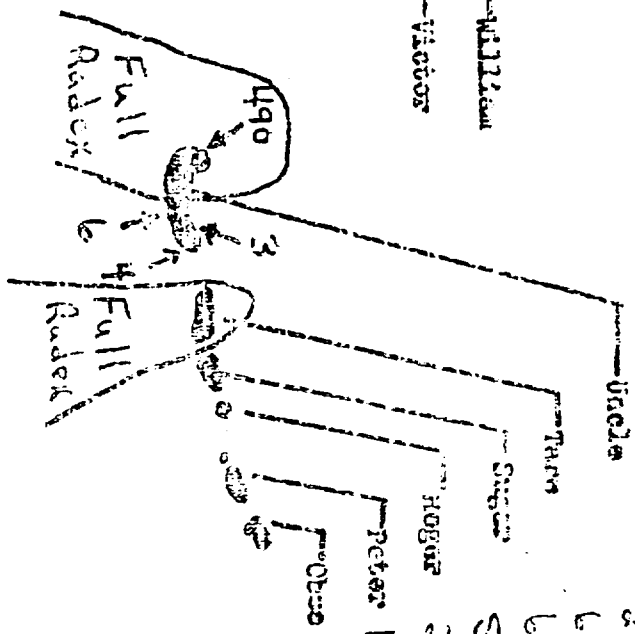
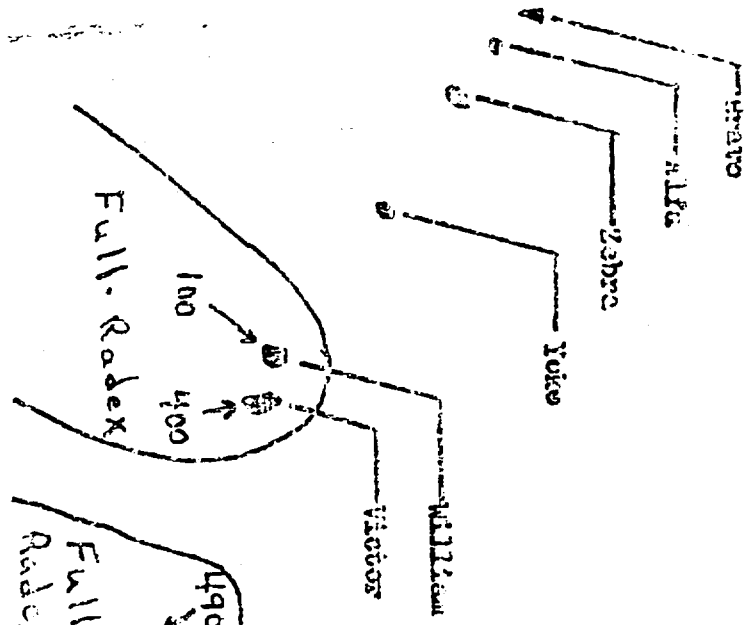
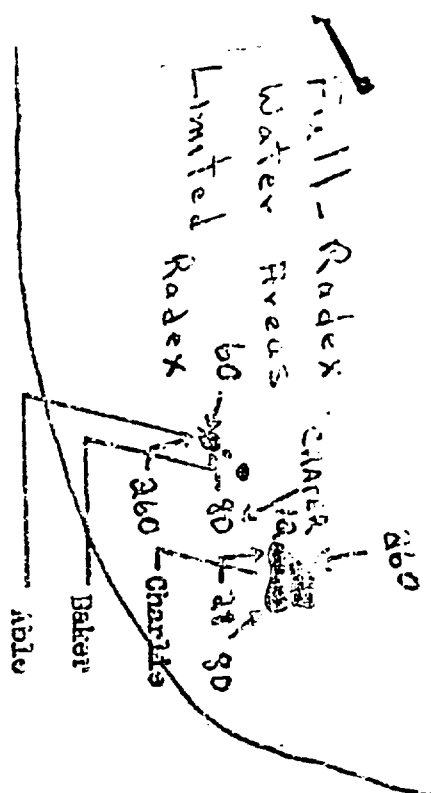


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1400, 6 JULY, 1958
* 1045 HRS., 6 JULY, 1958
** AT 200' ALT.

--- LIMITED RADEX
— FULL RADEX

28

Full - Radex
Water Frens
Limited Radex



TARE Readings

2210	400	1000	630.04
2210	110	200	630.05
2230.01	105	3600	2420.01
2230.02	103	10000	2420.02
630.01	180		2420.03
2420.01	1800		130
2420.02	300		133
630.02	25		137
630.03	5		140
Sand bags	At		
Hoggar	200		
Peter North Sewall	100		
Ouse	600		
South End of Sewall			
King			
Iron			
Now			

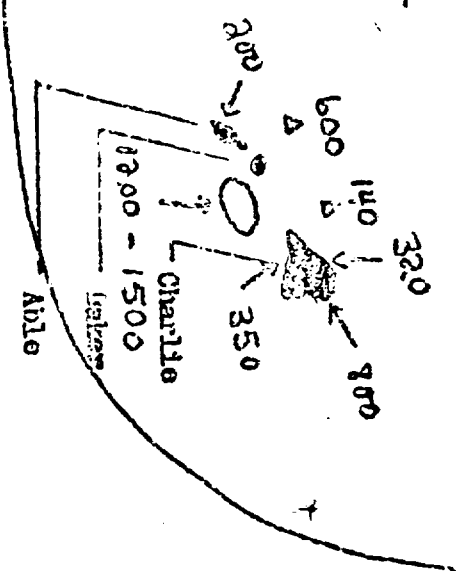
COPIED/DOE
LANL RC

ALL Readings In MR1HR
At Ground Level As of

0830 HRS. 5 July 58

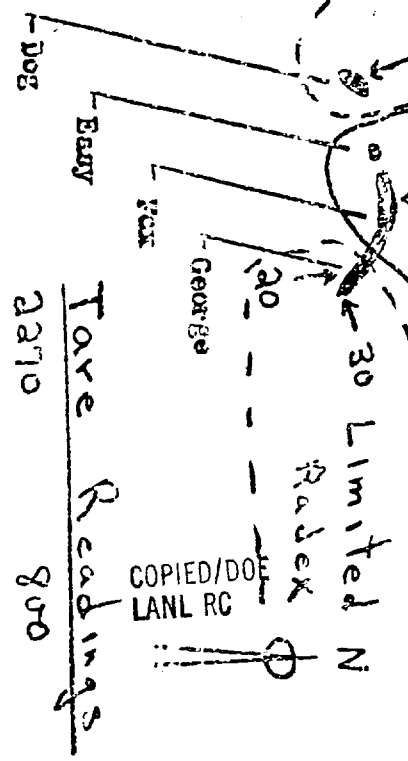
Full - Radex
2

Full-Radex



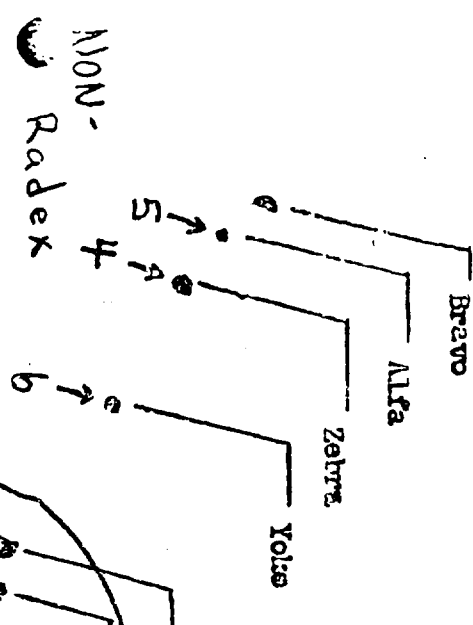
Limited Radex 35
 Full-Radex 1000
 30 Limited N
 Radex
 BIKINI ATOLL

COPIED/DO
 LANL RC



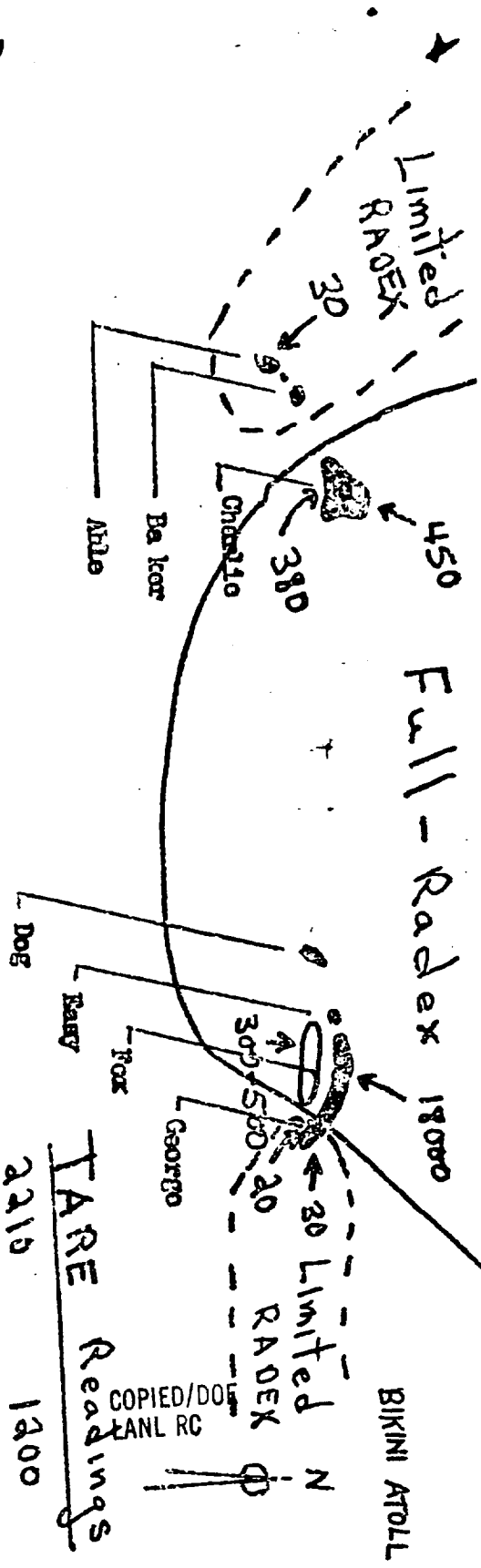
Tare Readings

2270	800	Item
2230.01	800	
2230.02	1000	
2420.01	2800	
2420.02	600	How
630.03	4	
630.02	200	
2210	500	Jig
2260	2000	King
Survey	Triangles	
Rogur	40	Mike
Peter	630.01	800
Steve		Next



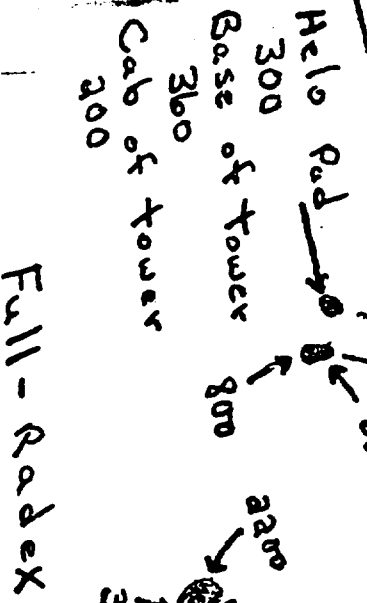
Full-Radex

ALL Readings In MJ/HA
 At Ground Level as of
 1440 HRS 3 July 58



TARE Readings

2219	1800	Itan
2270	2000	Itan
2230.01	3000	Itan
2230.02	2000	Itan
2420.01	3800	Itan
2260	10000	Itan
630.02	200	Itan
630.01	800	Itan
630.03	3000	Itan
Survey Triangle Love	400	Itan

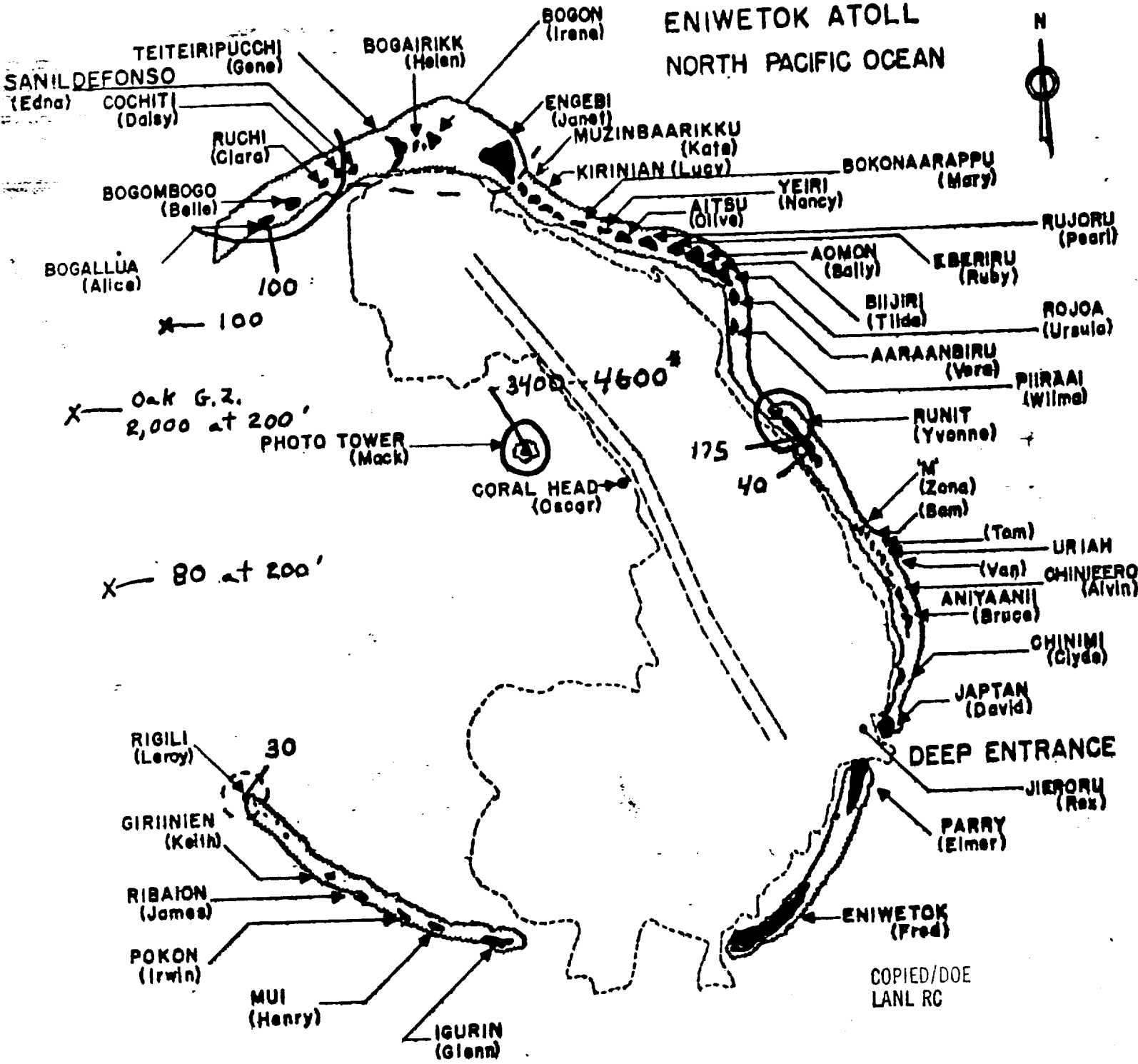


Full-Radex

ALL Readings In MR/HK
 AT Ground Level As of
 1500 HRS 2 July 58

Handwritten signature

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



X — Oak G.Z.
2,000 at 200'

X — 80 at 200'

ALL READINGS IN
MR/HR, AS OF 1500,
2 JUNE, 1958

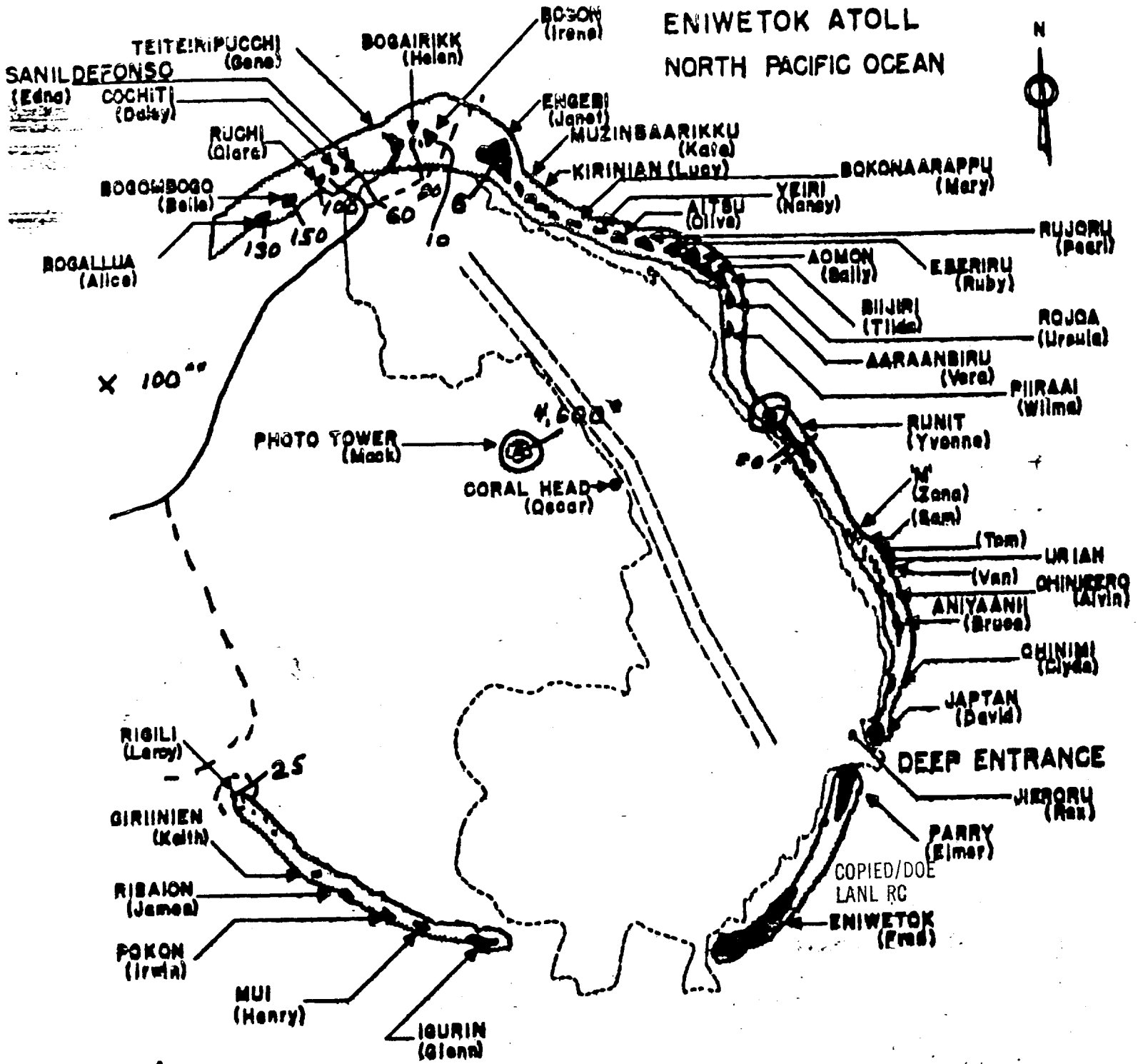
* Lower Platform - 3400
Upper Platform - 4600

COPIED/DOE
LANL RC

--- LIMITED RADEX
— FULL RADEX

32

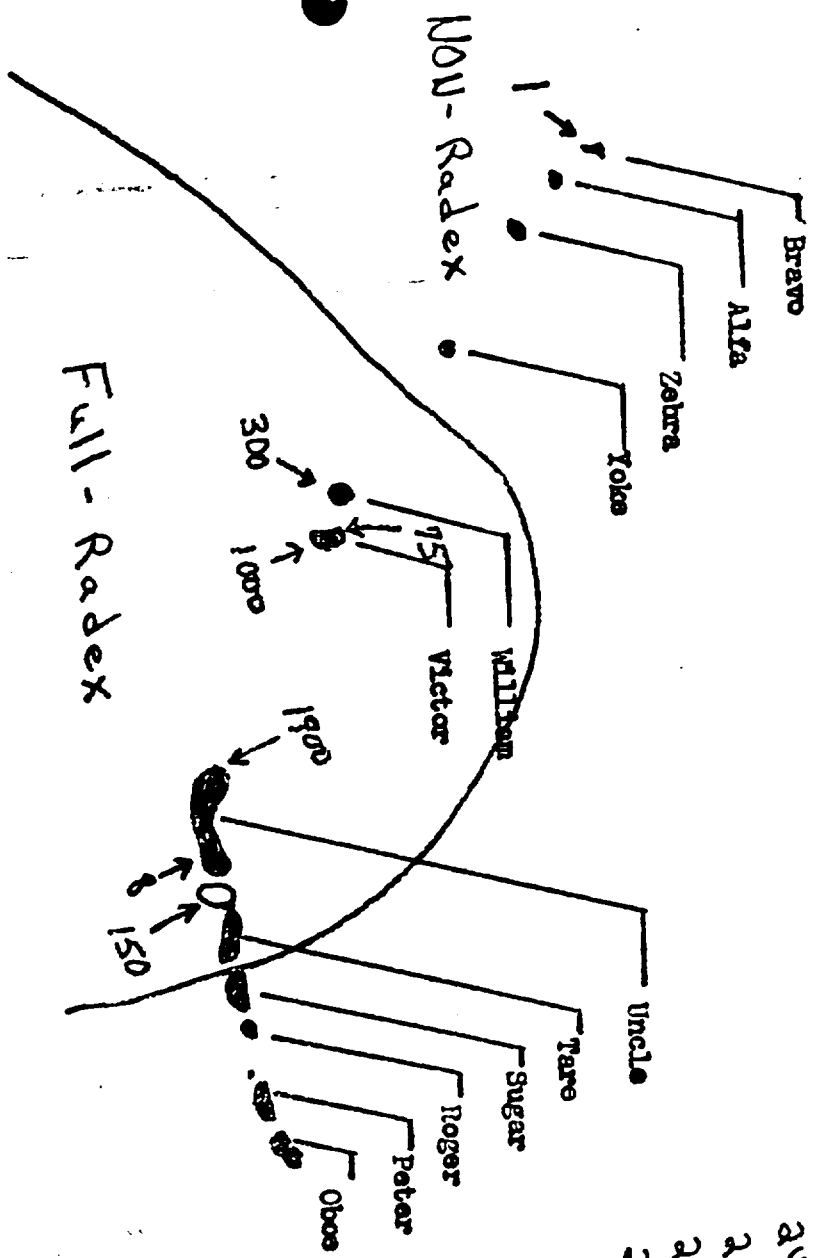
ENIWETOK ATOLL NORTH PACIFIC OCEAN



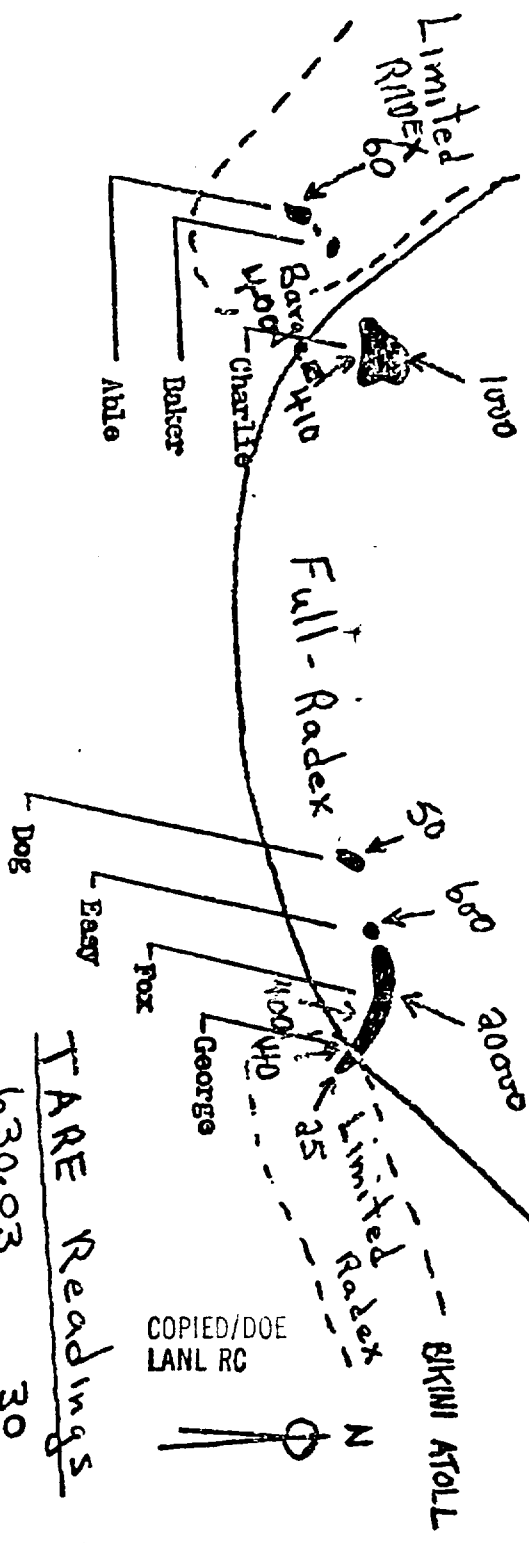
ALL READINGS IN METERS.
GROUND LEVEL, AS OF 0815
HRS, 2 JULY 1958
* 1415 HRS 2 JULY
** READING AT 200' ACT.

———— FULL RADER
----- LIMITED RADER

33

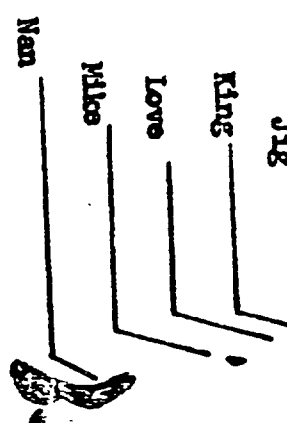


Full-Radex



TARE Readings

630.03	30
630.02	3-4000
2420.02	8,000
2230.02	2000 How
2230.01	3000
2270	2270 Item



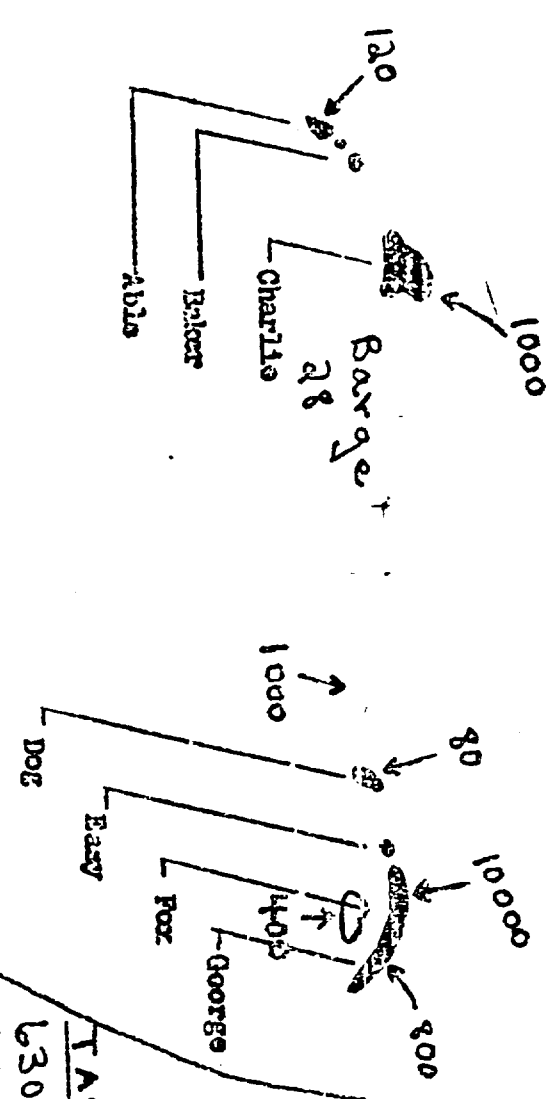
ALL Readings In MR/MR
 At Ground Level As of
 1400 HRS. 1 July 58

COPIED/DOE
 LANL RC



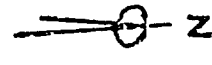
Handwritten initials or signature.

4

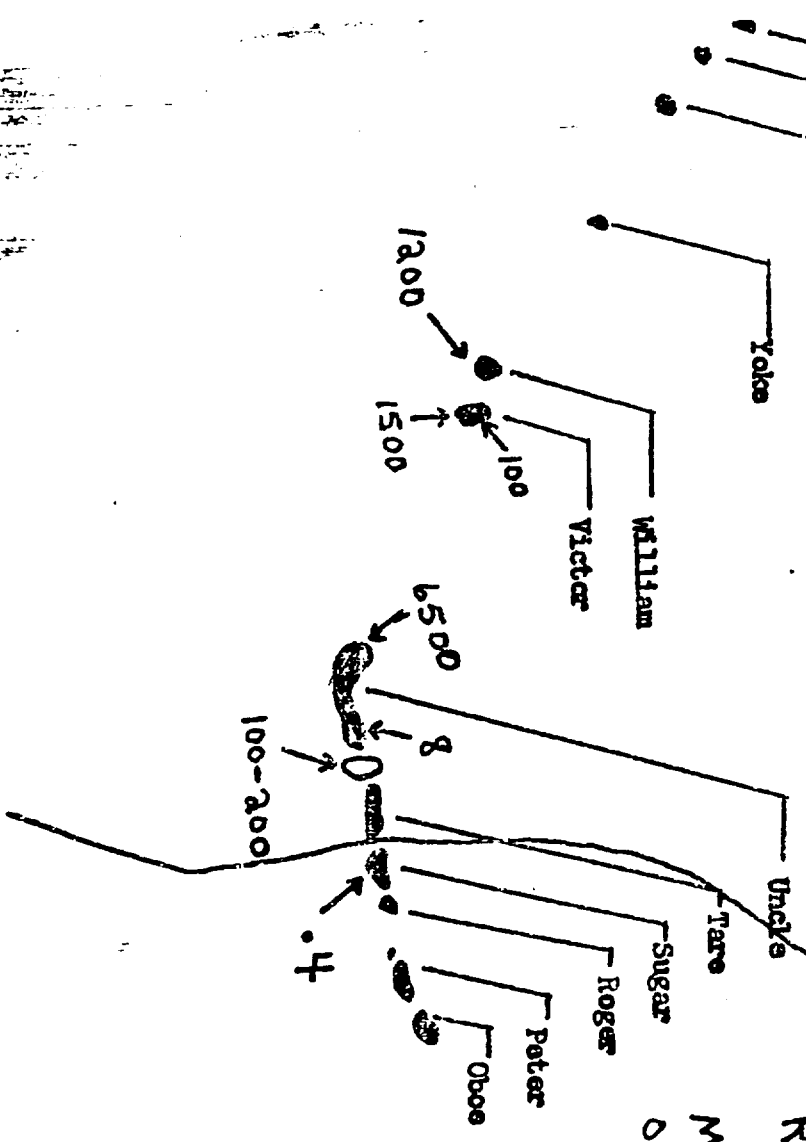


BIKINI ATOLL

COPIED/DOE
LANL RC



Full - Radex
Full Protective Clothing



TARE Readings

630.03	80
630.02	8000
2420.02	10000
2420.01	4500
2270	4-5000 How
	1000

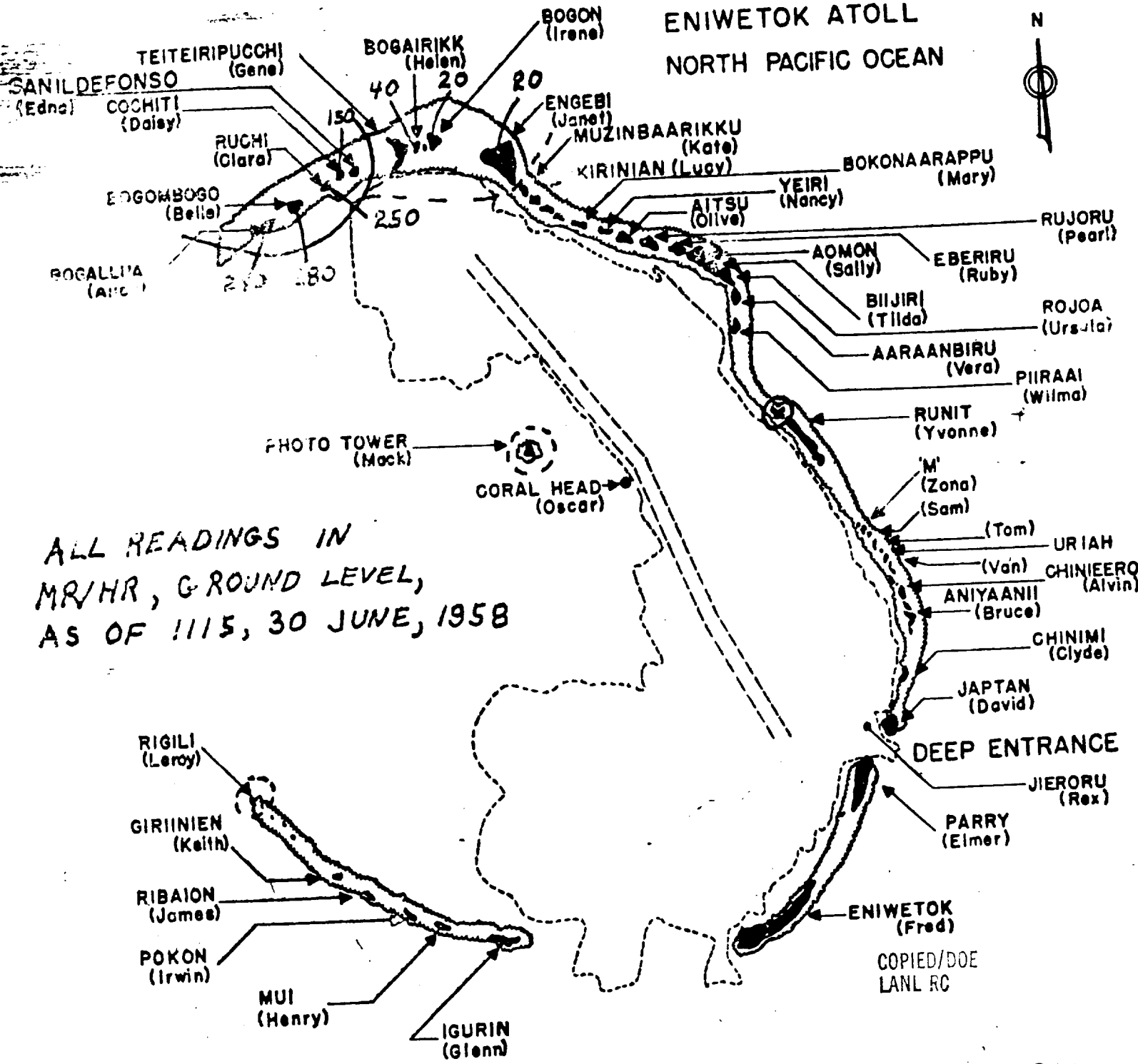
Max Reading King
On TARE 12,000

Mike
Love
Hann

ALL Readings In M/H
At Ground Level As of
1430 HRS. 30 June 58

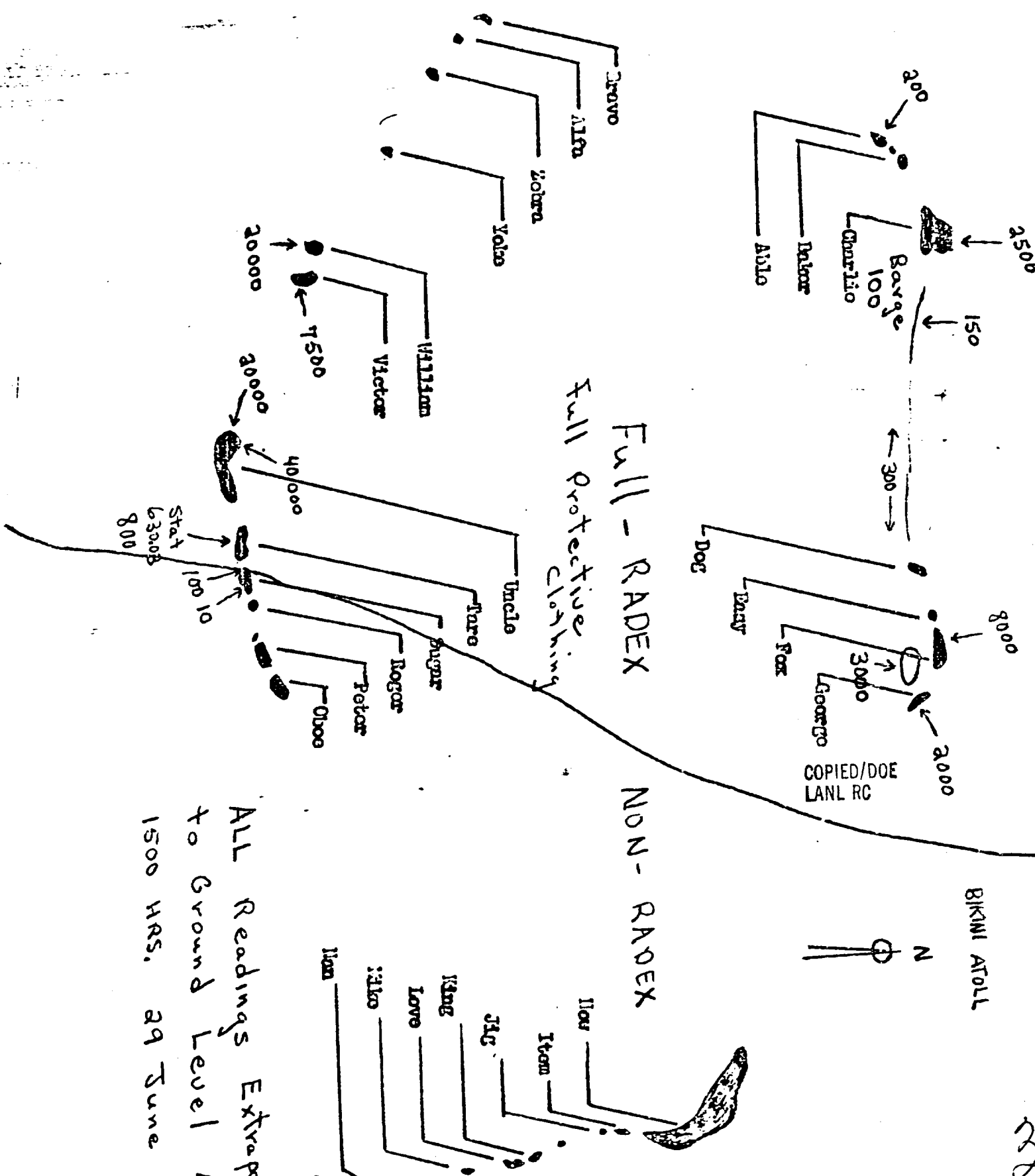
32

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MP/HR, GROUND LEVEL,
AS OF 1115, 30 JUNE, 1958

--- LIMITED RADEX
— FULL RADEX



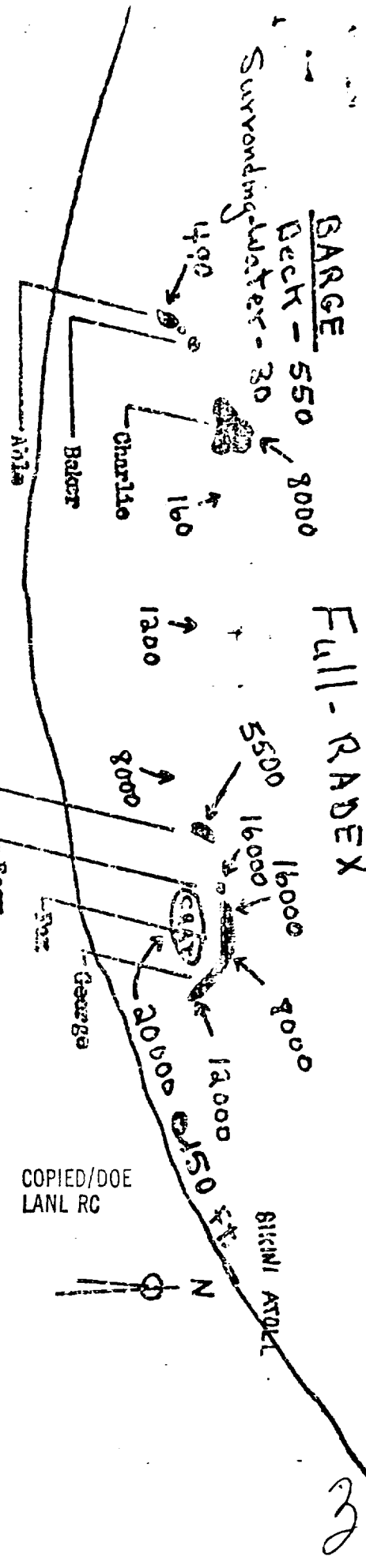
ALL Readings Extrapolated to Ground Level At 1500 HRS. 29 June 51

BARGE

DECK - 550 8000

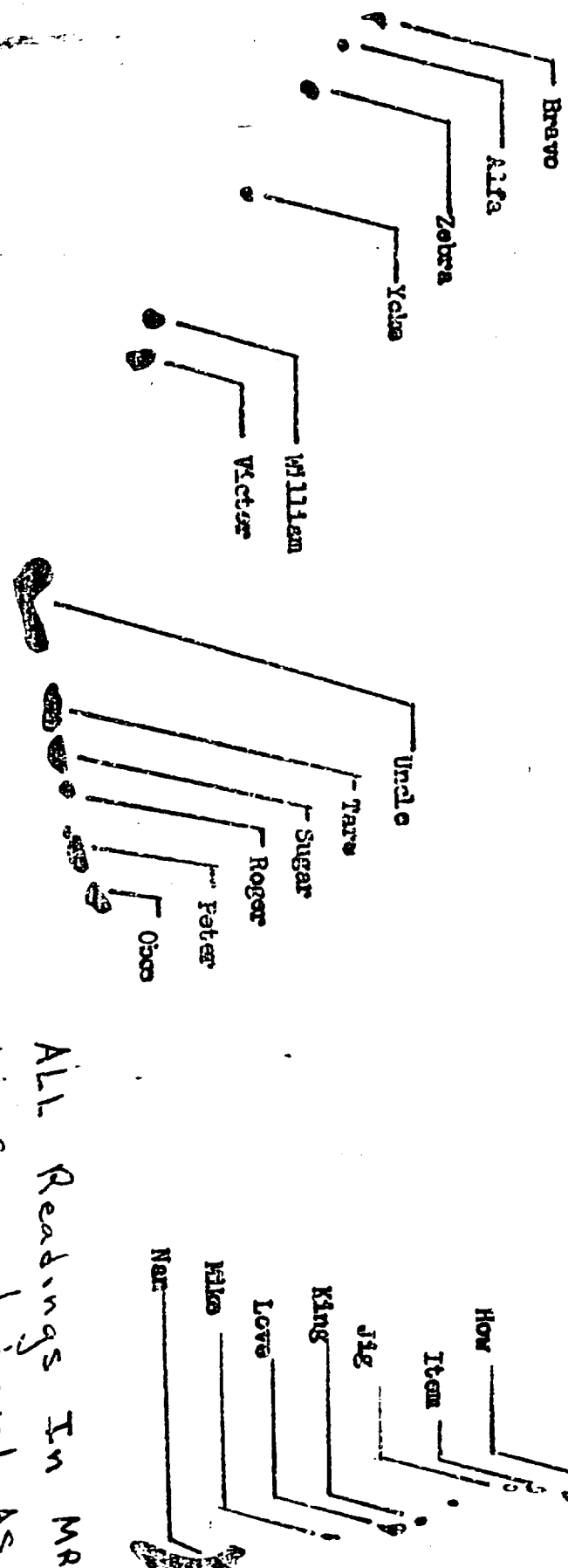
Surrounding Water - 30

Full - RADEX



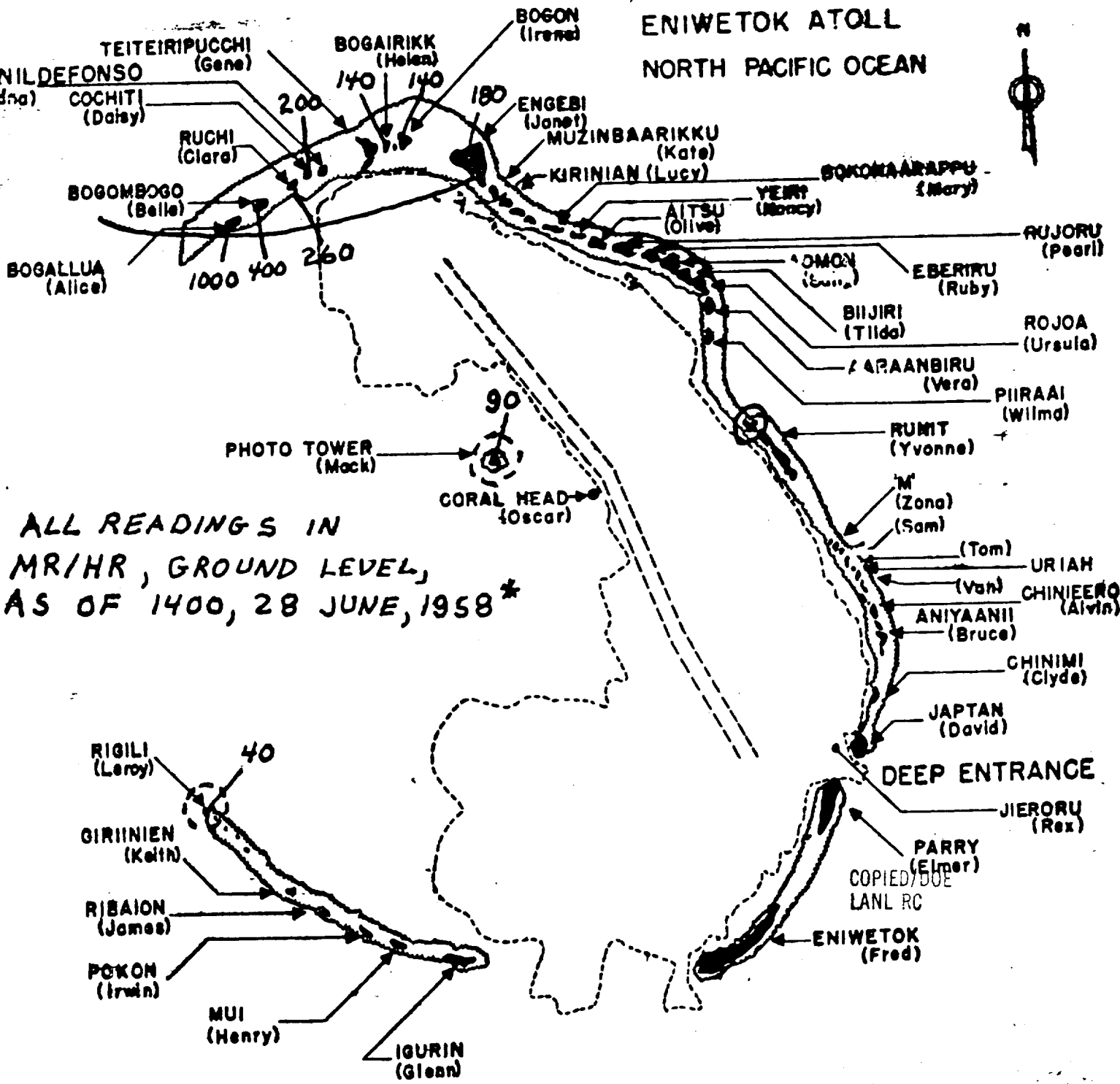
COPIED/DOE
LANL RC

TARE Readings
Remain Unchanged



ALL Readings In M/H
At Ground Level AS OF
1715 HRS. 28 June 58

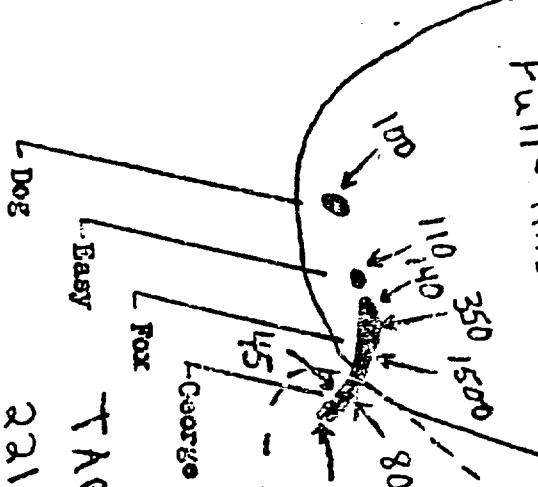
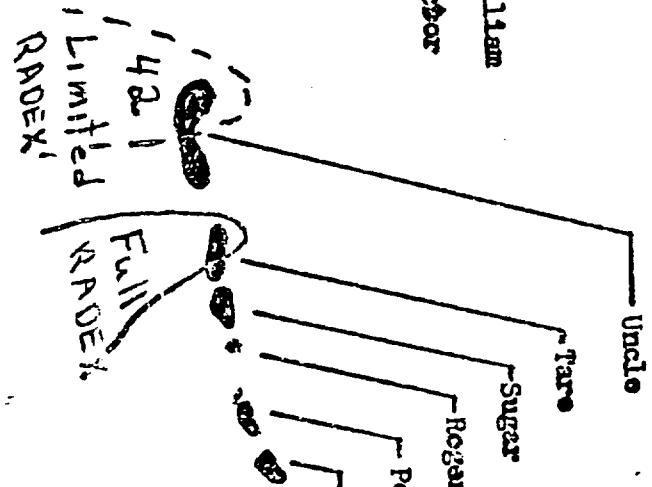
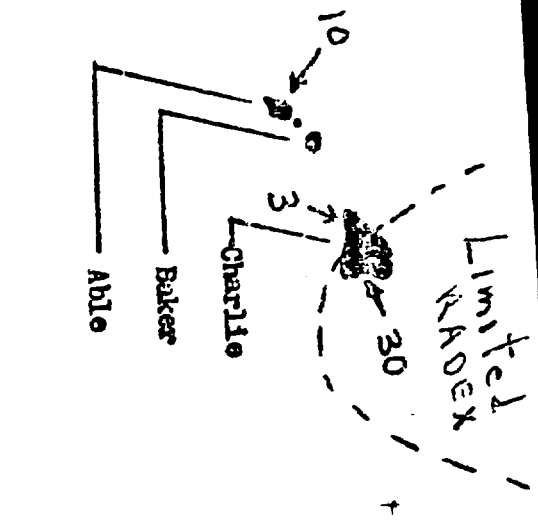
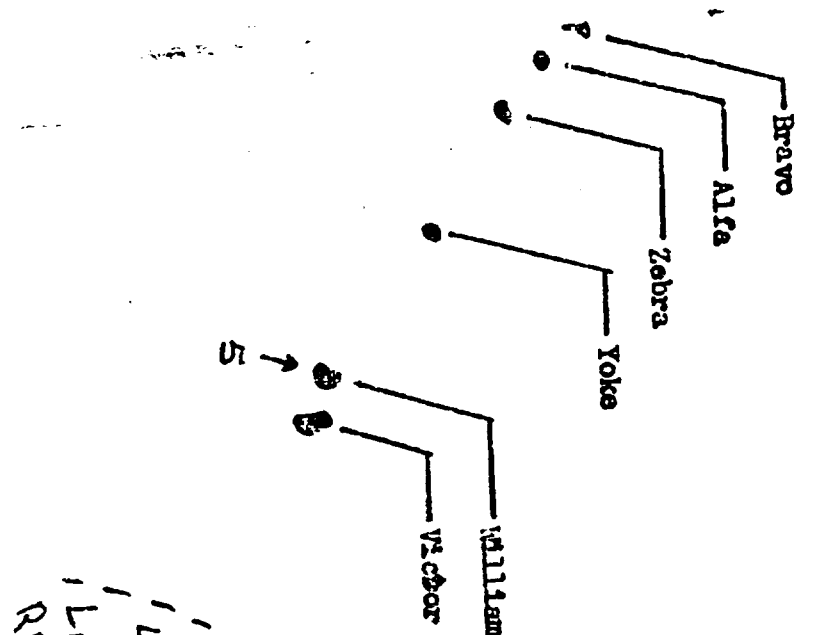
ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1400, 28 JUNE, 1958*

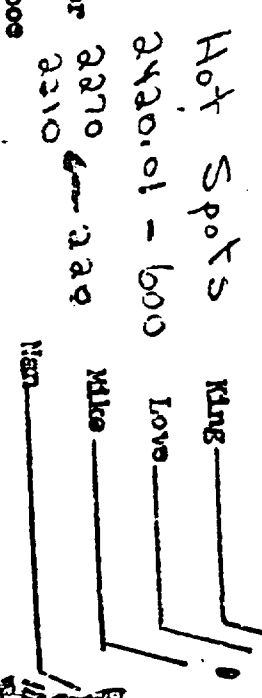
* MACK PHOTO TOWER READING
AS OF 1100, 28 JUNE, 1958

--- LIMITED RADE
— FULL RADEX

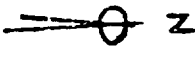


TARE Readings

2210	10
2270	5
2230.01	10
630.02	2
2420.01	30
2230.02	8
2420.02	10

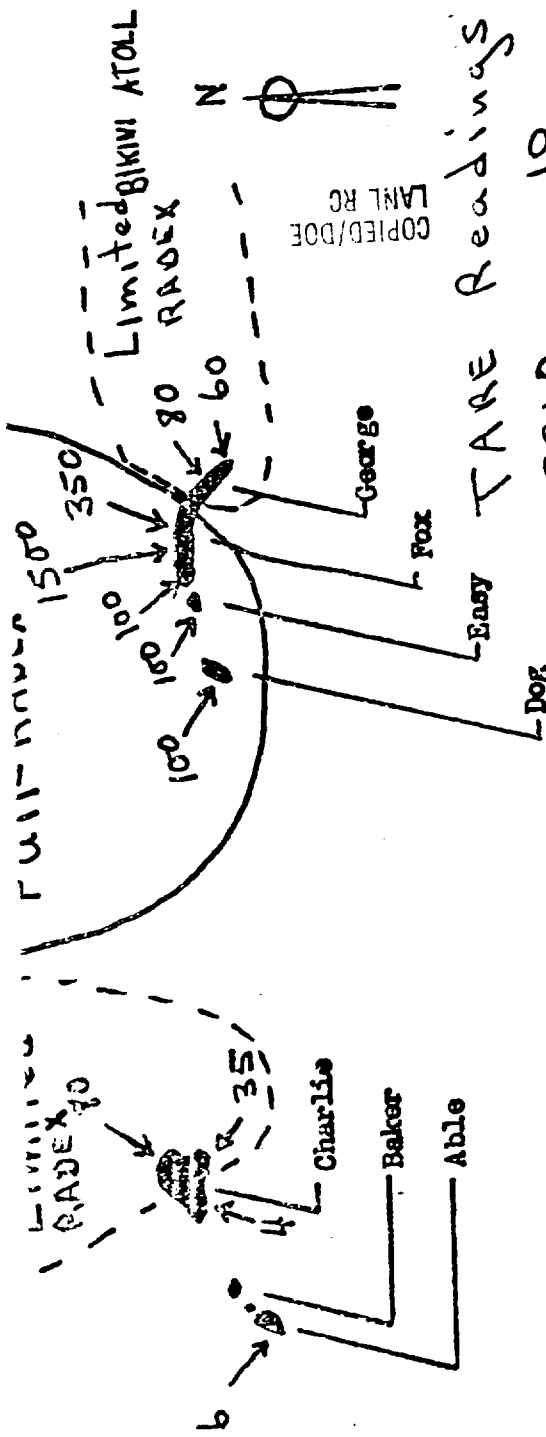


COPIED/DOE
LANL RC



ALL Readings In MR/H
At Ground Level As of
0930 HRS 26 June 58

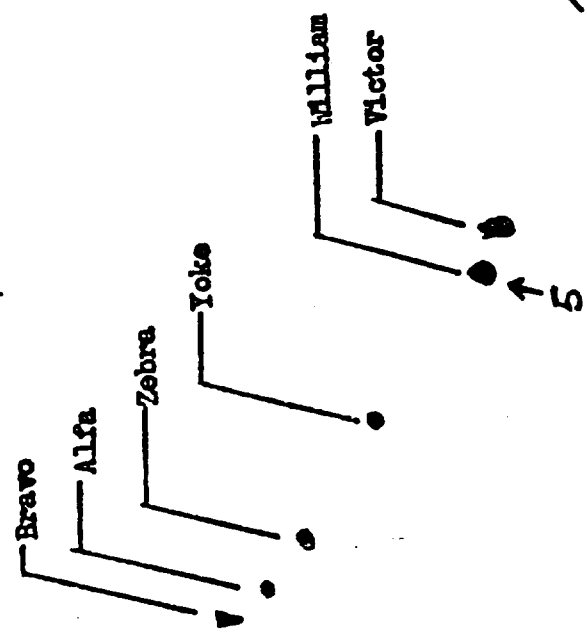
11



COPIED/DOE
LAML RC

TARE Readings

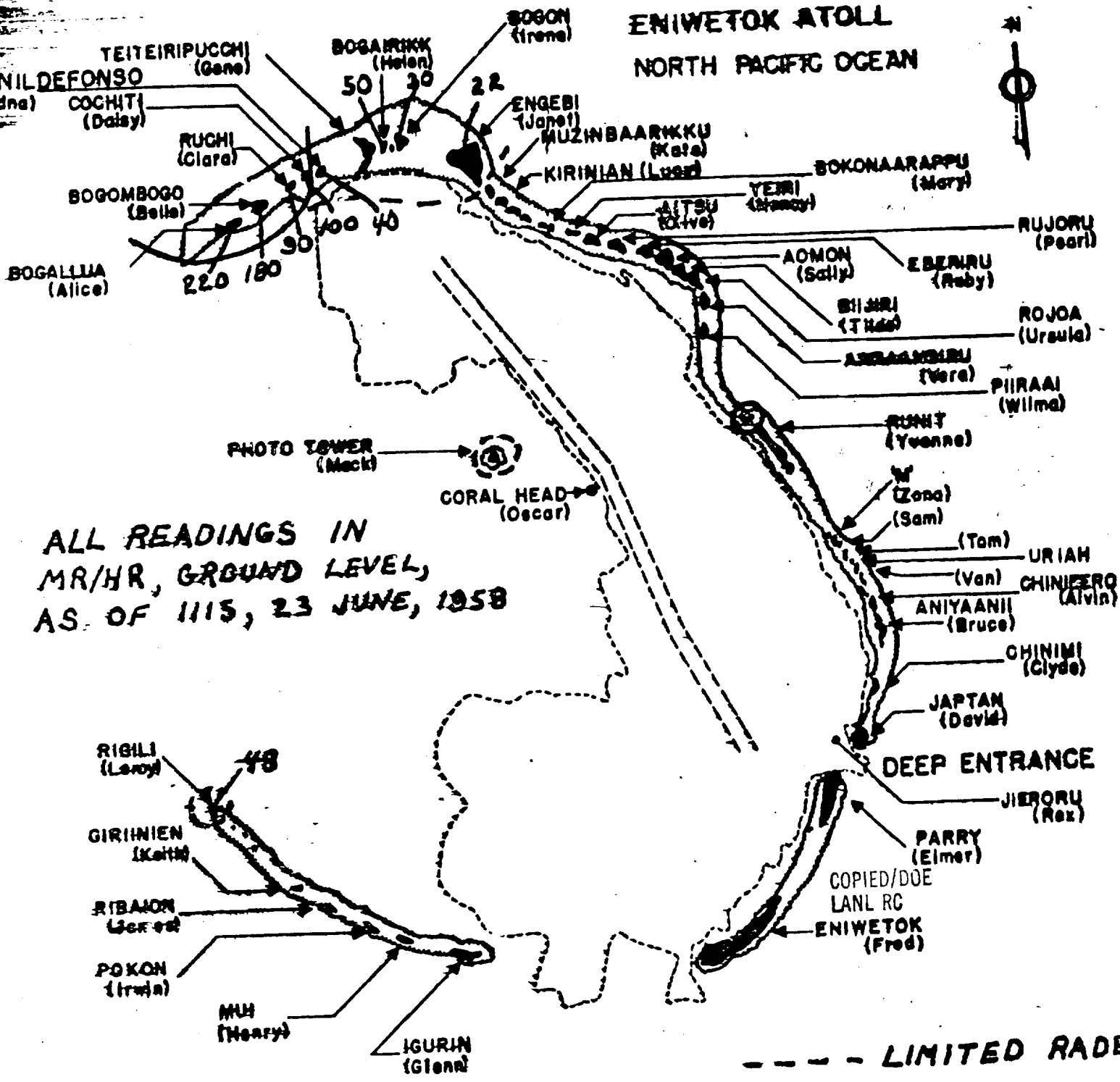
Item	How	Reading
How	10	2210
Item	10	2270
Jig	10	630.01
King	10	2230.01
Love	2	2230.02
Mike	30	630.02
Nan	15	2420.01
Other	15	2420.02



All Readings In MA
 At Ground Level As
 0930 HRS 23 JUNE



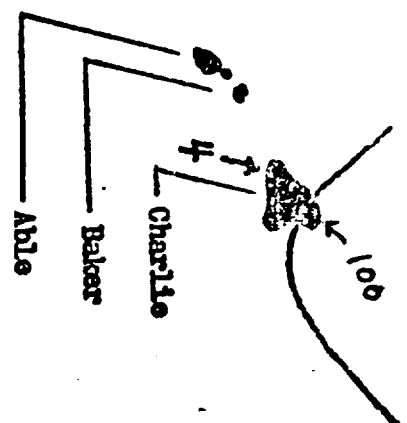
ENIWETOK ATOLL
NORTH PACIFIC OCEAN



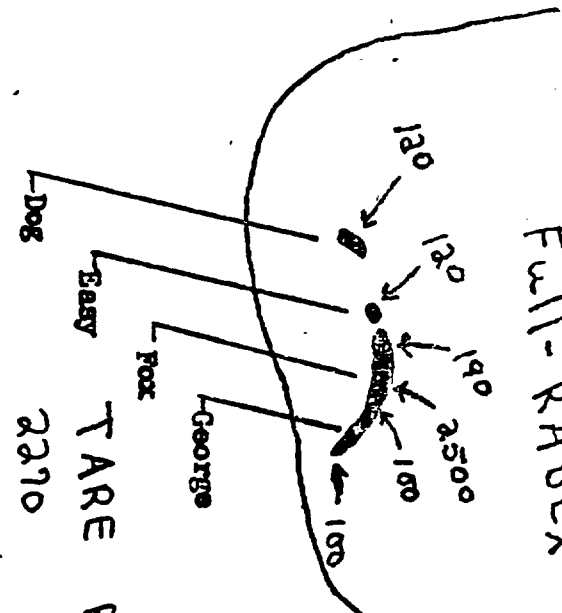
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1115, 23 JUNE, 1958

COPIED/DOE
LANL RC
ENIWETOK
(Fred)

Full - RADEX

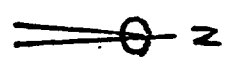


Full - RADEX



BIKINI ATOLL

COPIED FROM
LANL RC



TARE Readings

2270	5	
2230.01	10	
2230.02	10	
2420.01	30	
2420.02	15	
2260	10	
630.02	4	
2210	10	

Hot Spot At Love

2420.01

1000 MA/HR

Mean

W/ks

King

Team

How

318

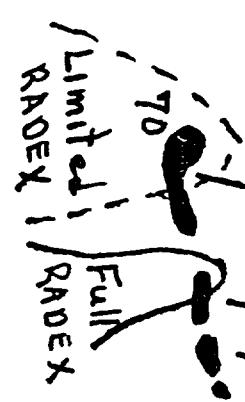
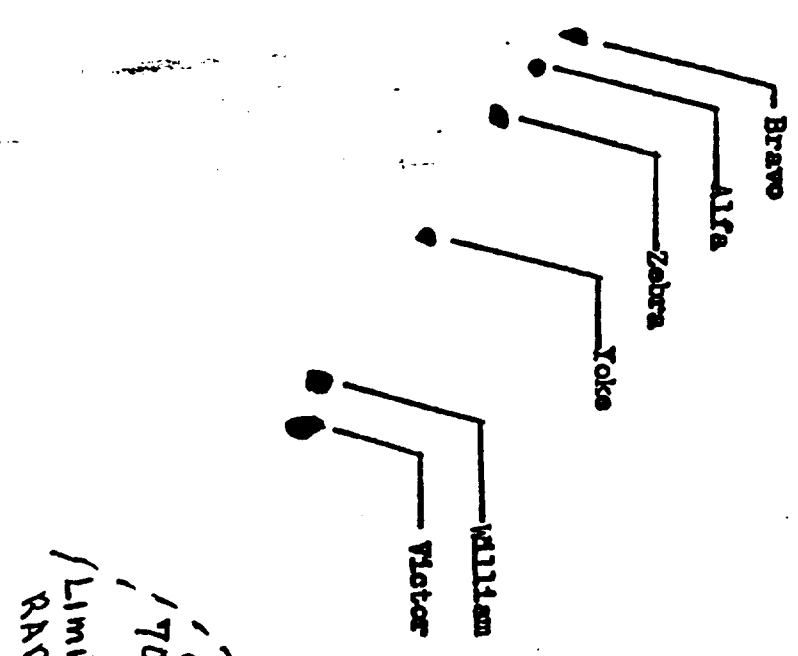
Item

How

Team

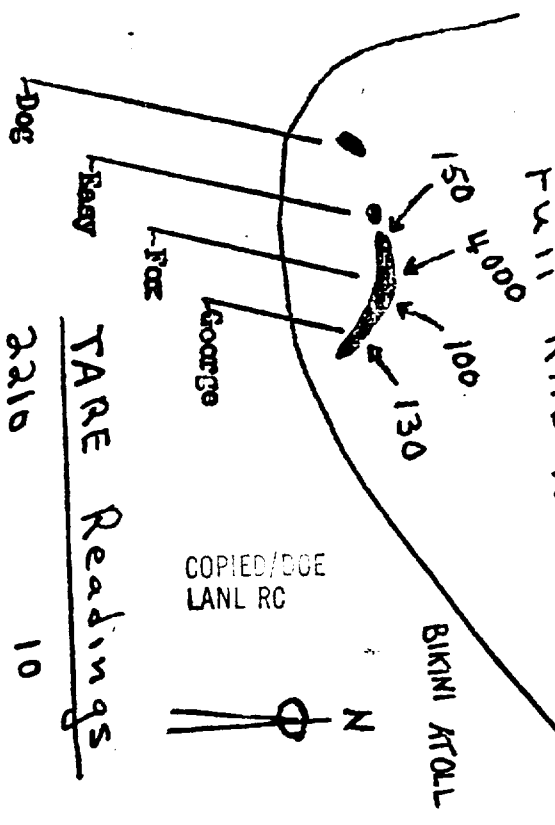
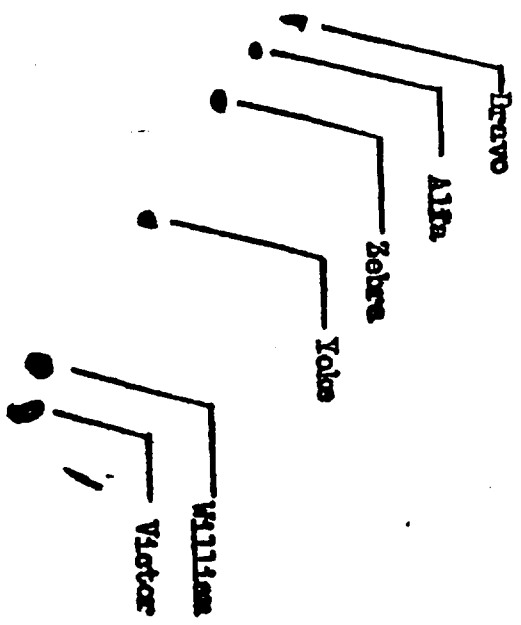
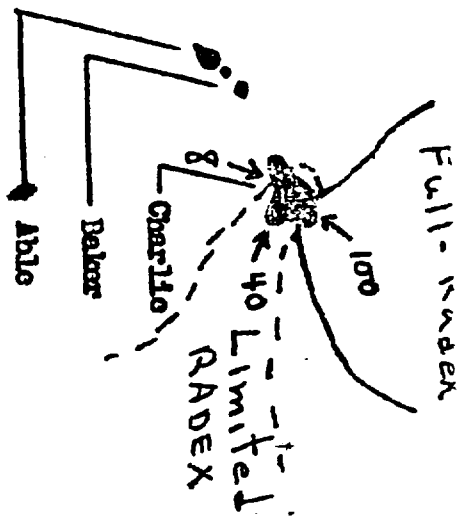
318

Item



ALL Readings In MA/HR
At Ground Level As of
0815 HRS 21 June 58

40

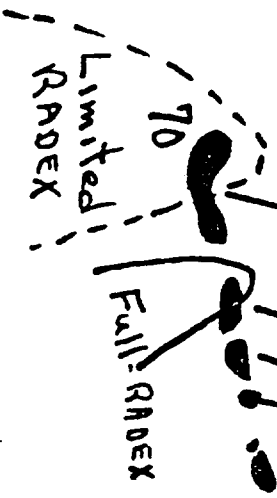


TARE Readings

2216	10	Row	Item
2270	5	Row	Item
2230.01	10	Row	Item
2230.02	10	Row	Item
2420.01	30	Row	Item
2420.02	15	Row	Item
630.01	10	Row	Item
630.02	4	Row	Item

Hot Spot At

2420.01 1000 MR/HR

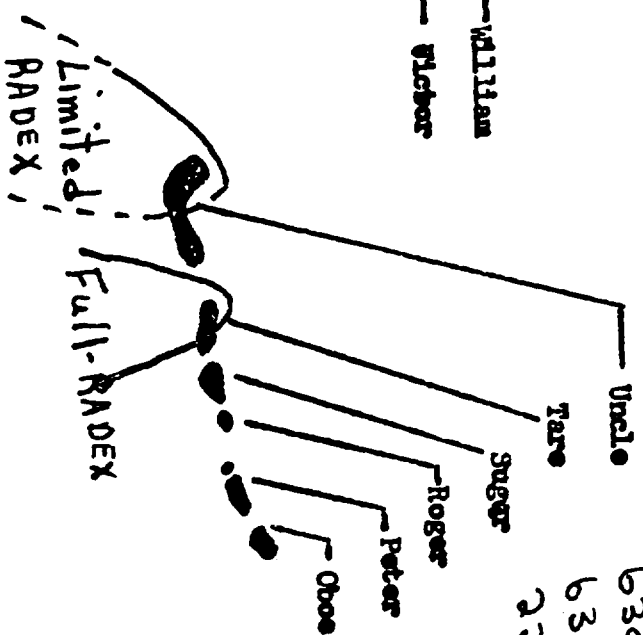
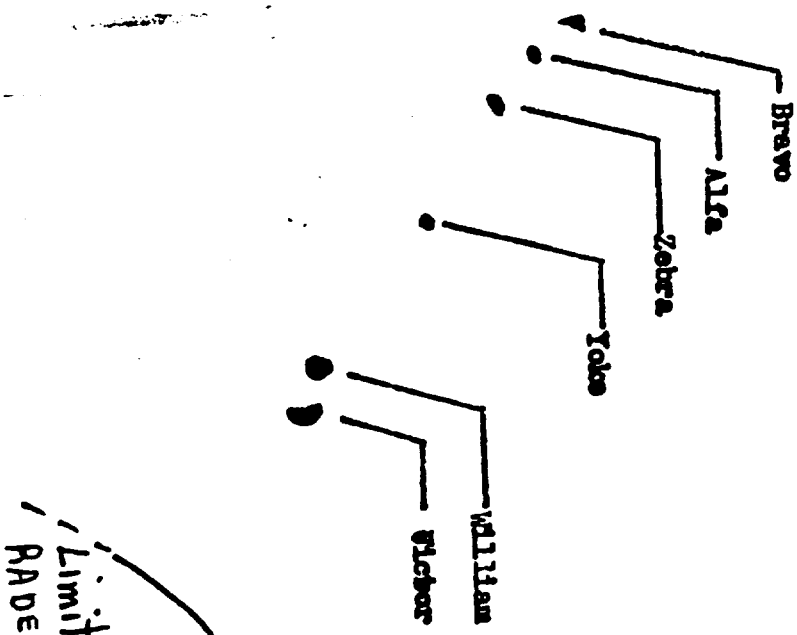


ALL Readings In MR/HR
 At Ground Level As of
 1815 HRS 20 June 58

COPIED/DGE
 LANL RC

BIRKINI ATOLL

40

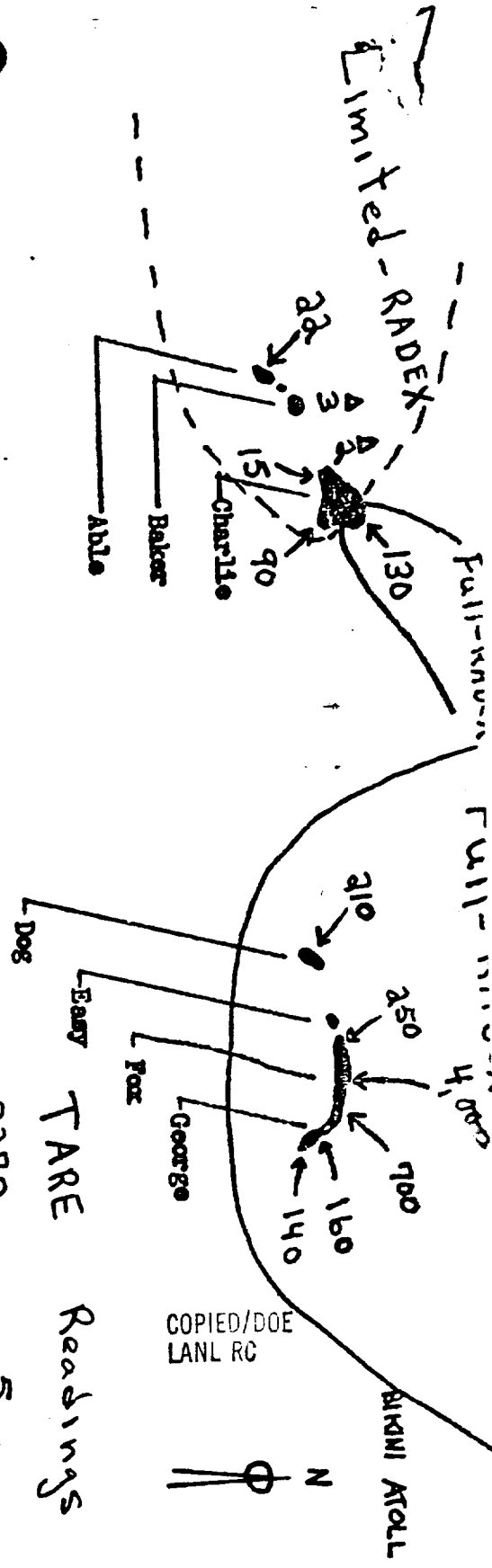


ALL Readings In MR/H
As of 19 June 58
1815 HRS.

Hot Spot At Love

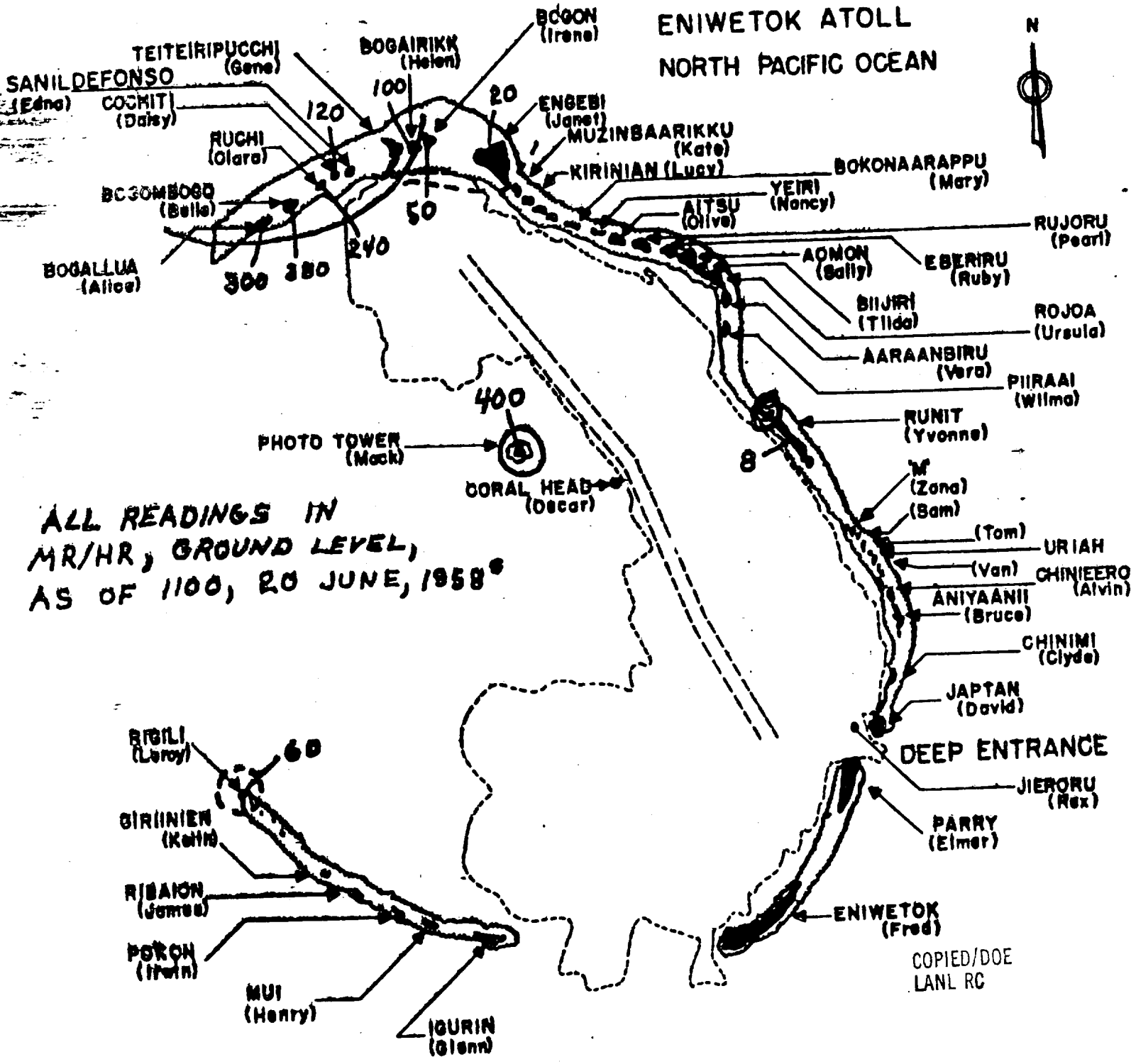
TARE	Readings	How	Item
2270	5		
2230.01	15		
2230.02	15		
2420.01	35		
2420.02	15		
630.01	10		
630.02	4		
2210	10	King	

1500 MR/H



COPIED/DOE
LANL RC

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1100, 20 JUNE, 1958*

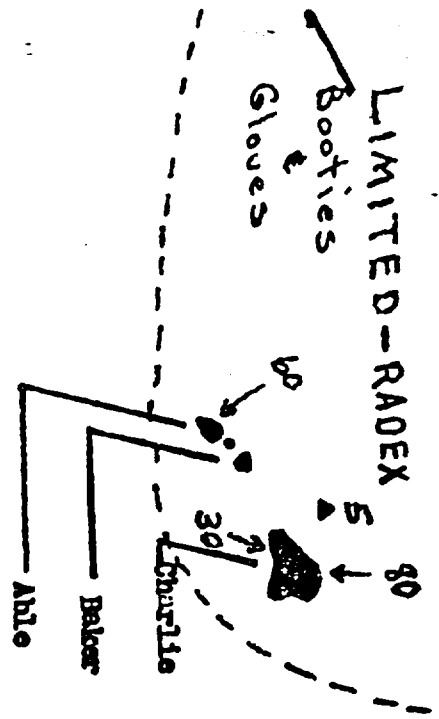
* MACK PHOTO TOWER READING
AS OF 1300, 19 JUNE, 1958.

--- LIMITED RADEX
— FULL RADEX

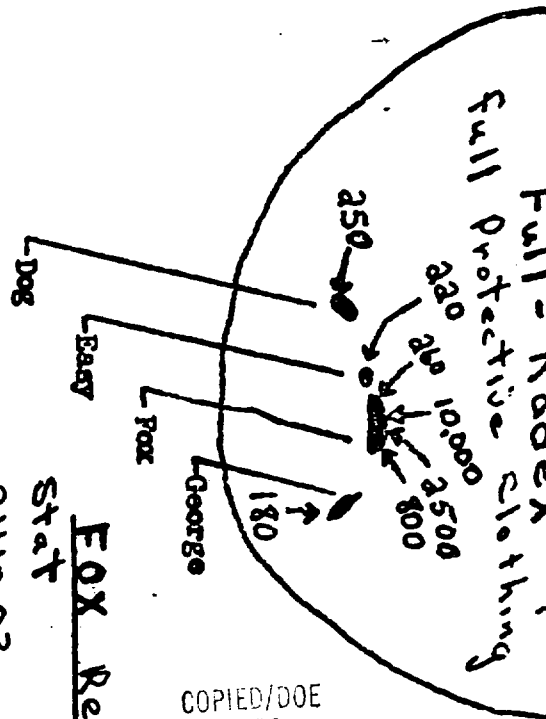
COPIED/DOE
LANL RC

4/1

LIMITED-RADEX



Full Protective Clothing

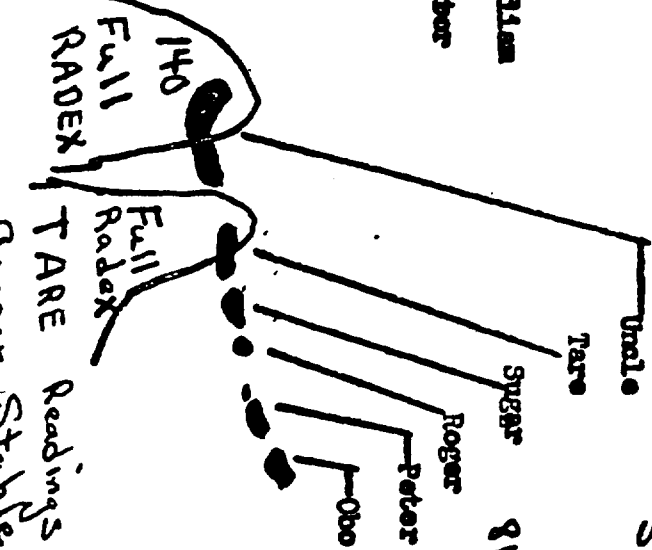
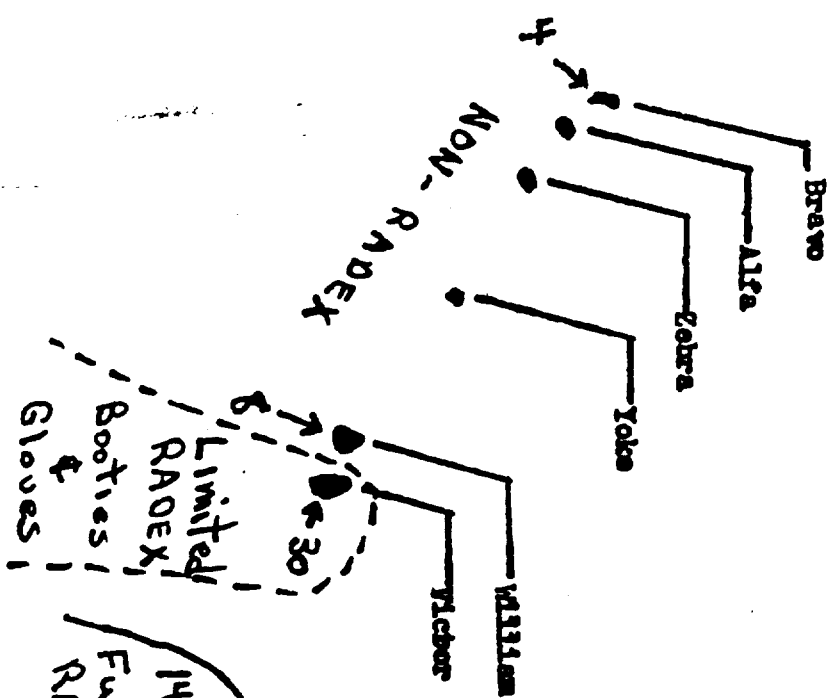


BIKIWI ATOLL

COPIED/DOE
LANL RC

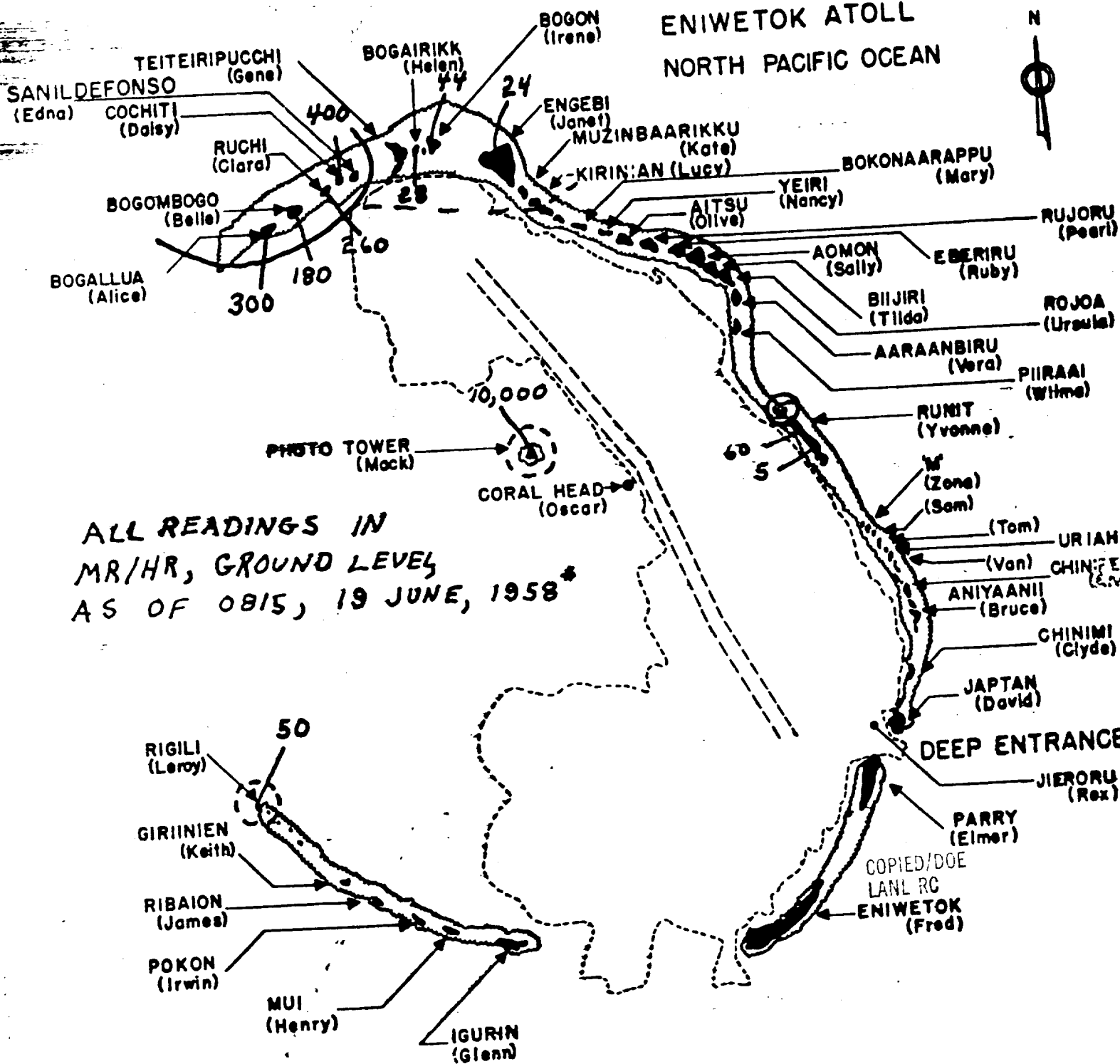
FOX Readings
M/R/M.R.

Stat	M/R/M.R.
2410.03	240
630.05	260
630.04	800
2410.02	3,000
2410.01	8,000
Sack # 3	10-32500
" # 5	1745800
" # 7	300
910.03	180



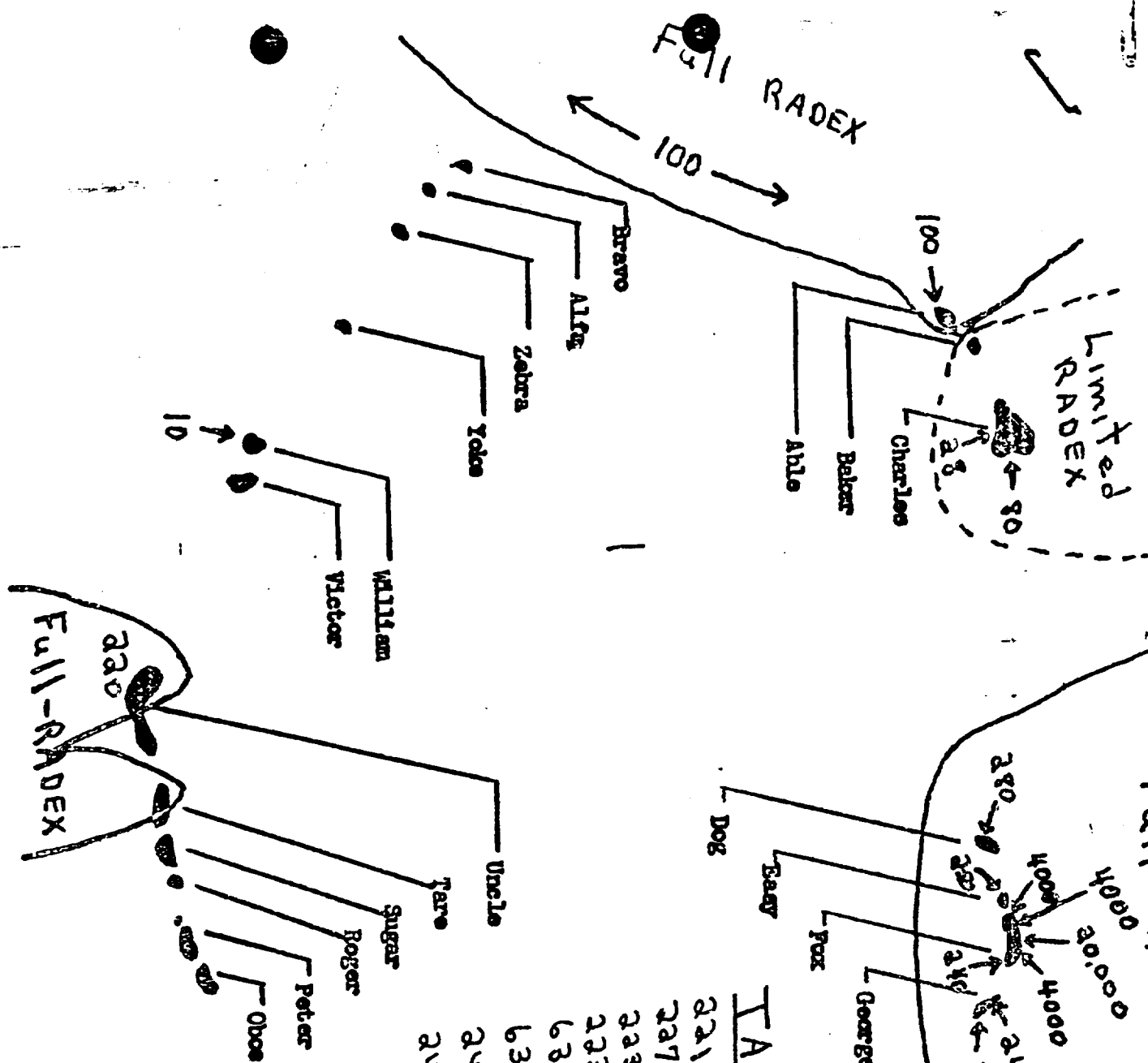
ALL Readings In M/R/M.R.
At Ground Level As of
0815 HRS. 18 June 58

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0815, 19 JUNE, 1958*

* Mack Photo Tower As
OF 1700, 18 June, 1958.



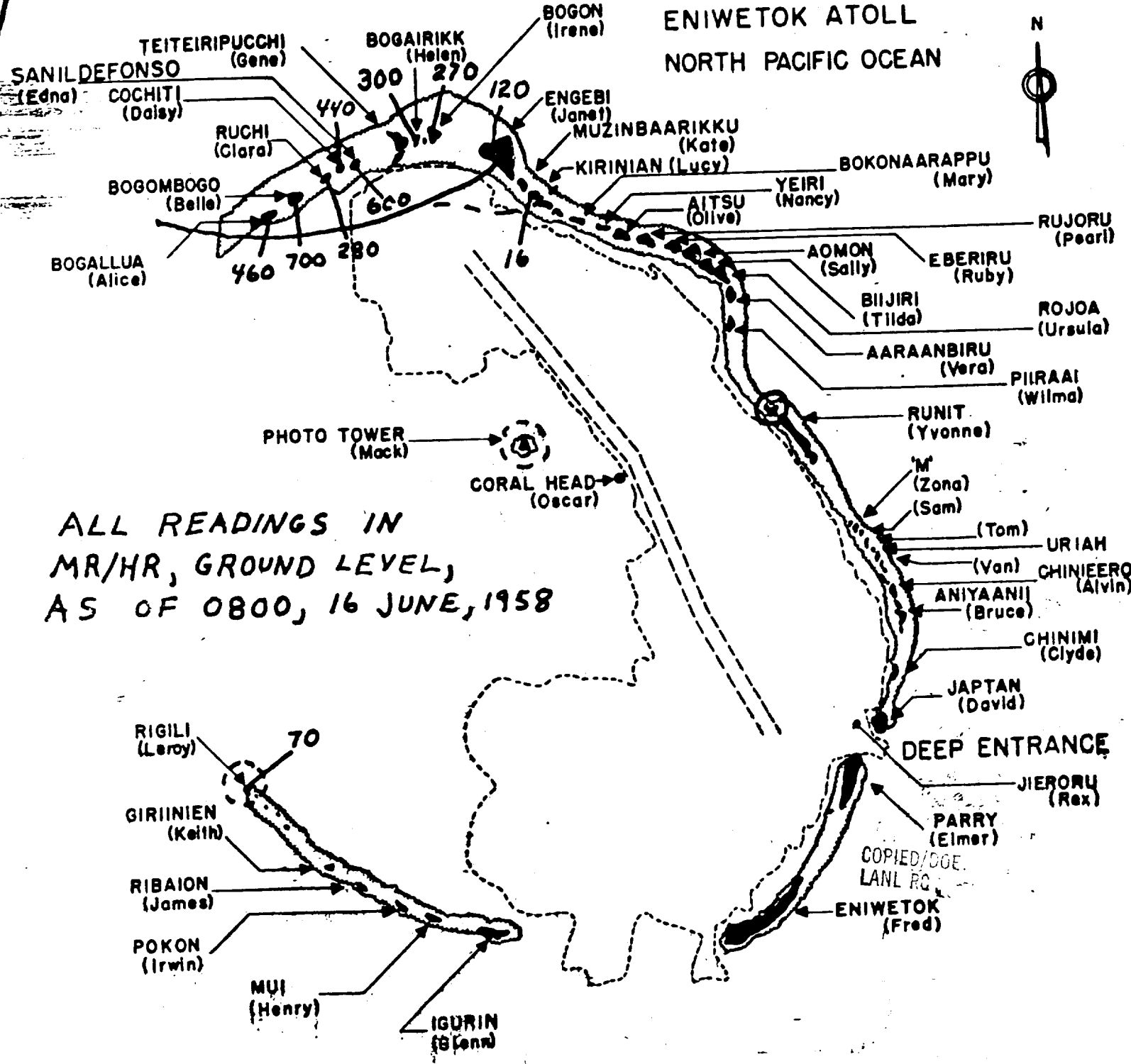
TARE Readings

2216	10	King
2270	20	Love
2230.01	10	Jig
2230.02	20	How
630.01	20	Item
630.02	4	
2420.01	40	
2420.02	15	

ALL Readings, In MR/HI
 At Ground Level As of
 1615 HRS. 17 June 51

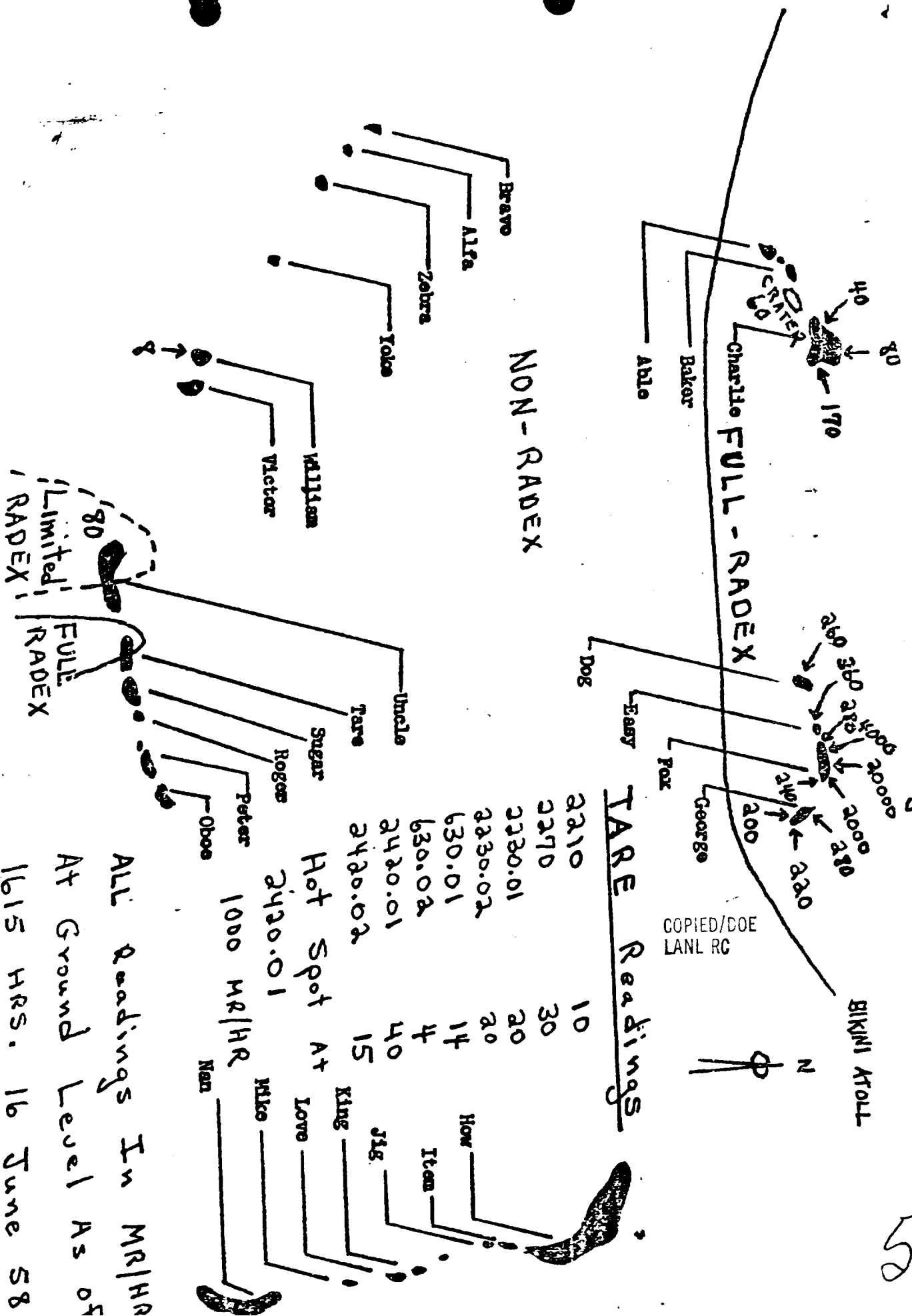
COPIED/DCE
 LANL RC

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0800, 16 JUNE, 1958

--- LIMITED RADEX
— FULL RADEX



NON-RADEX

FULL-RADEX

TARE Readings

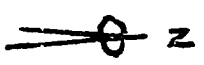
2210	10	Mike
2270	30	Love
2230.01	20	King
2230.02	20	Jig
630.01	14	How
630.02	14	Item
2420.01	40	
2420.02	15	
2420.03	15	

Hot Spot At
2420.01
1000 MR/HR
Nan

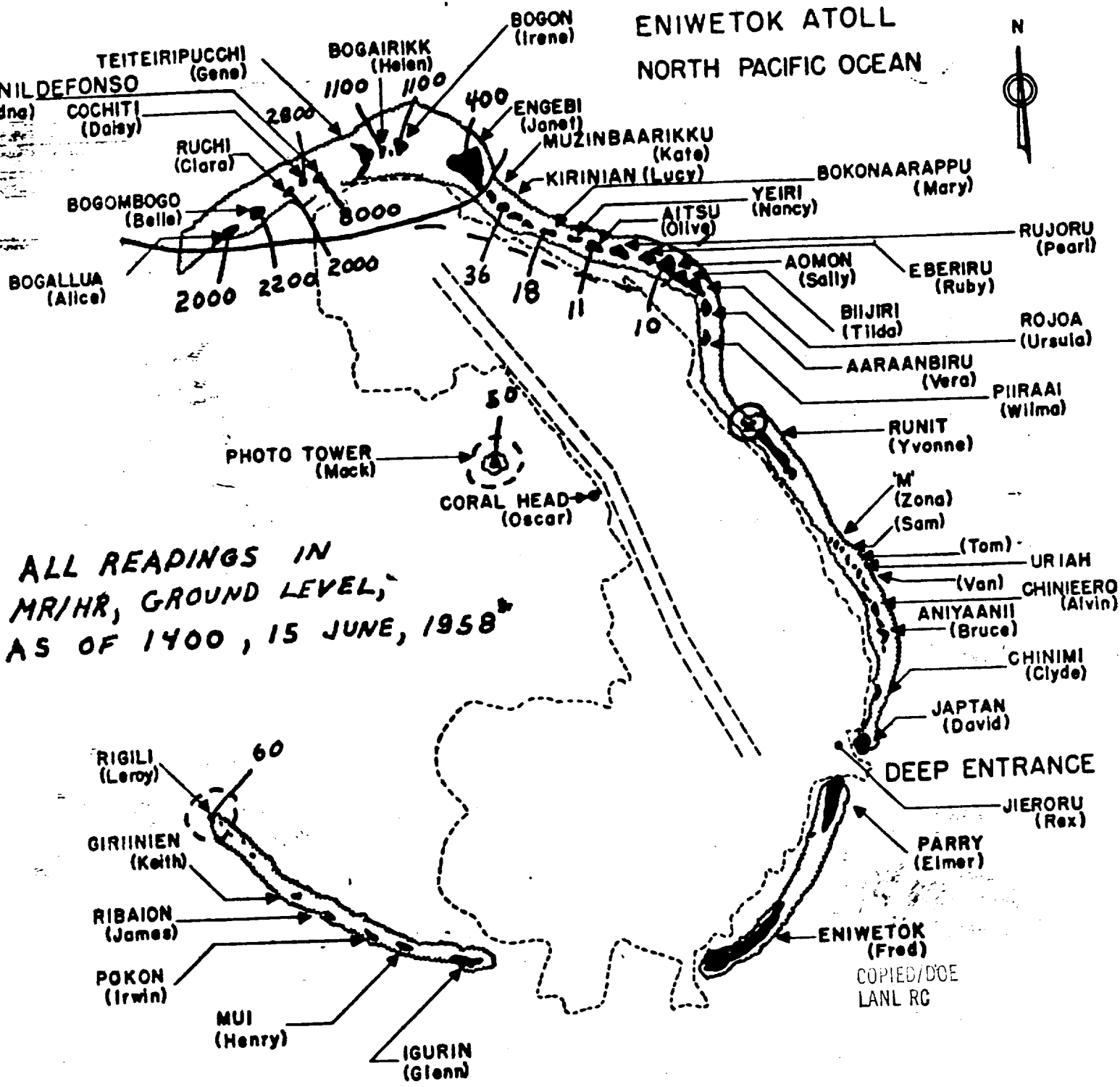
ALL Readings In MR/HR
At Ground Level As of
1615 HRS. 16 June 58

COPIED/DOE
LANL RC

BIKINI TOLL



ENIWETOK ATOLL
NORTH PACIFIC OCEAN

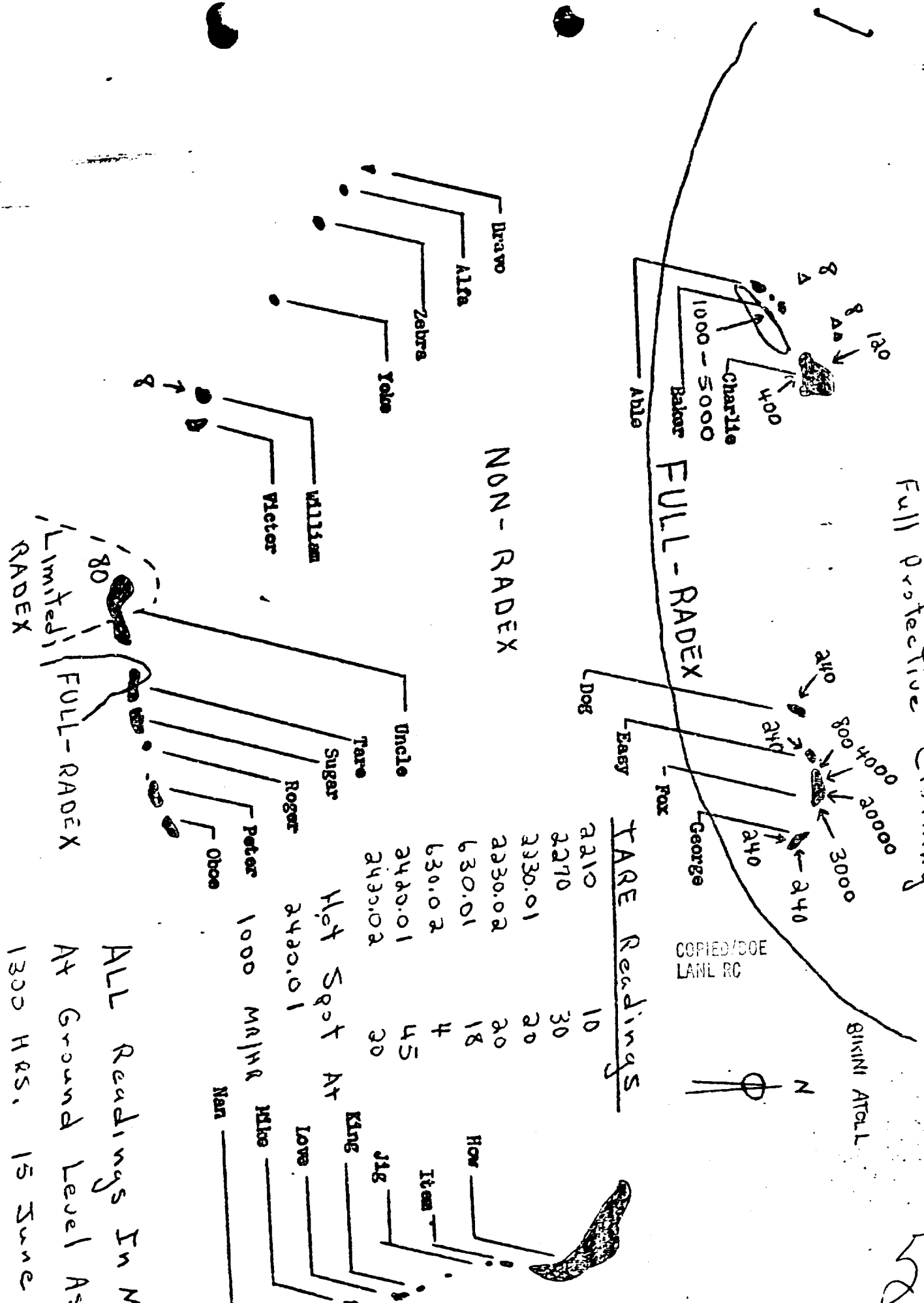


ALL READINGS IN
M/HR, GROUND LEVEL,
AS OF 1400, 15 JUNE, 1958*

* Reading for Mack Photo
Tower as of 1000, 15 June.

--- LIMITED RADEX
— FULL RADEX

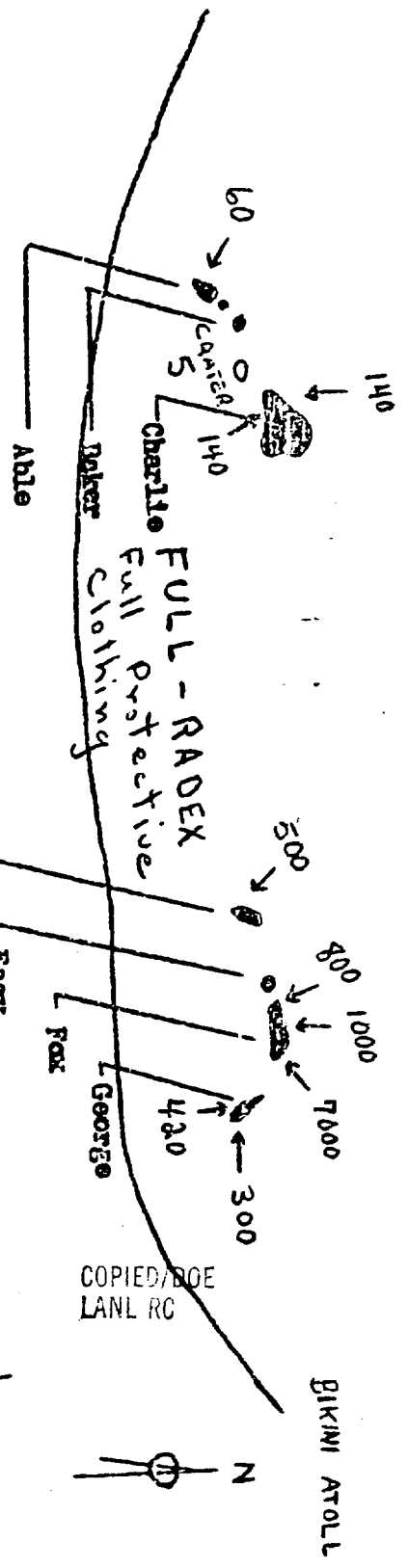
Full protective Clothing



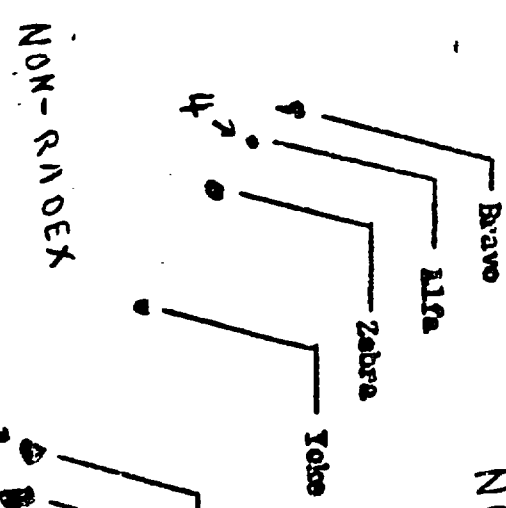
COPIED/DOE
LANL RC

ALL Readings In MRJ
At Ground Level As
1300 HRS. 15 June 5

158



NON-RADEX

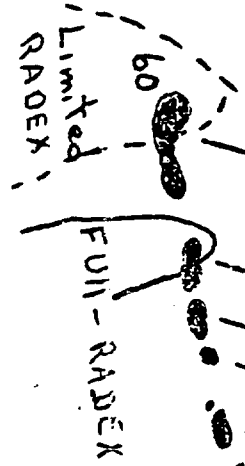


TARE Readings

2220.01	45	How
2230.02	20	Item
2230.01	20	
2270	30	
2210	16	
630.02	4	
630.01	18	
2420.02	20	

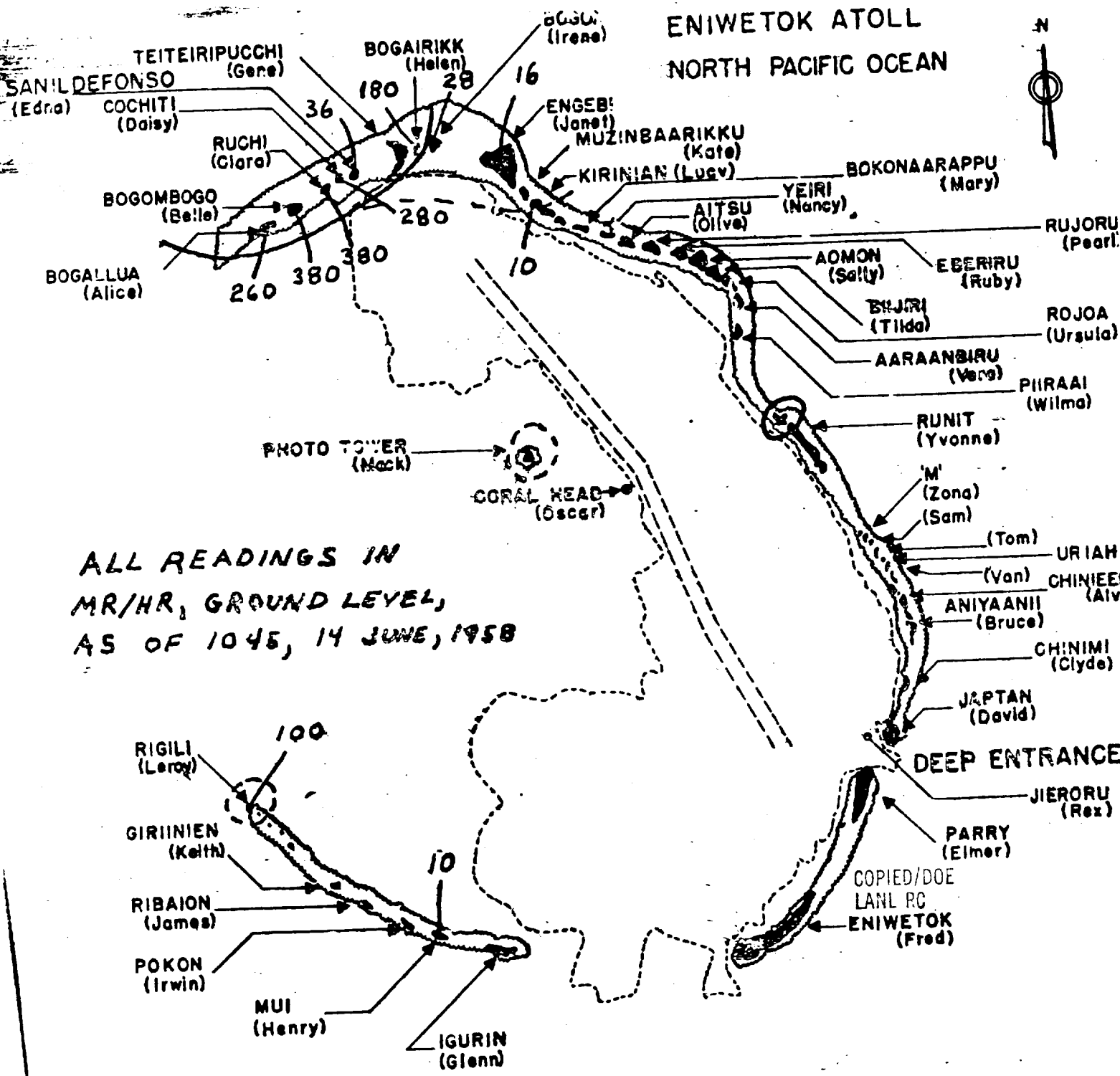
Hot Spot A4
1000 MA/HR

Mike
Love
King
Jig
Man



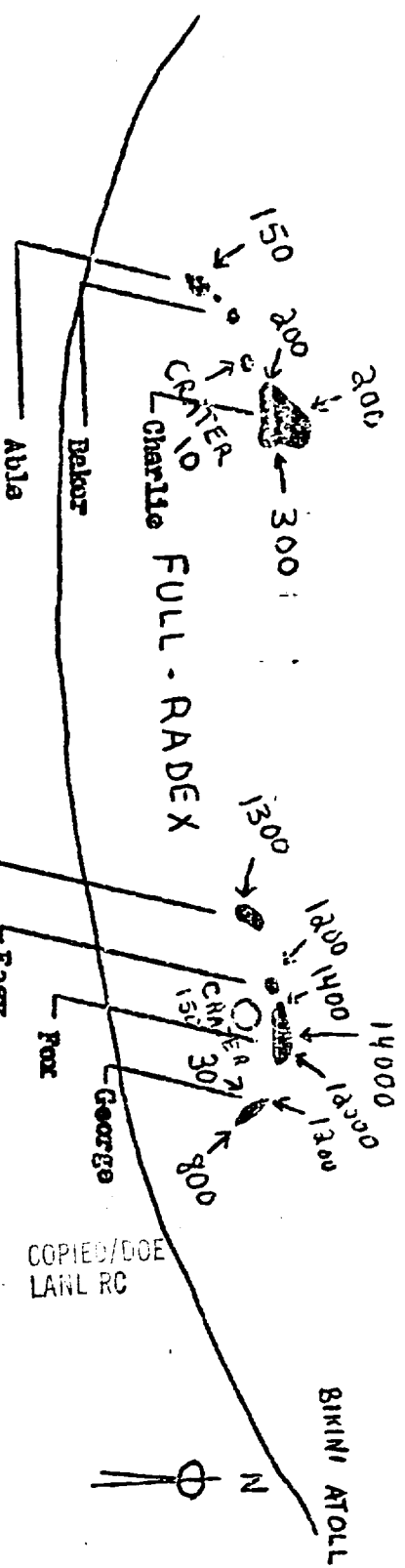
ALL Readings In MR
At Ground Level AS
1515 HRS. 14 June

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

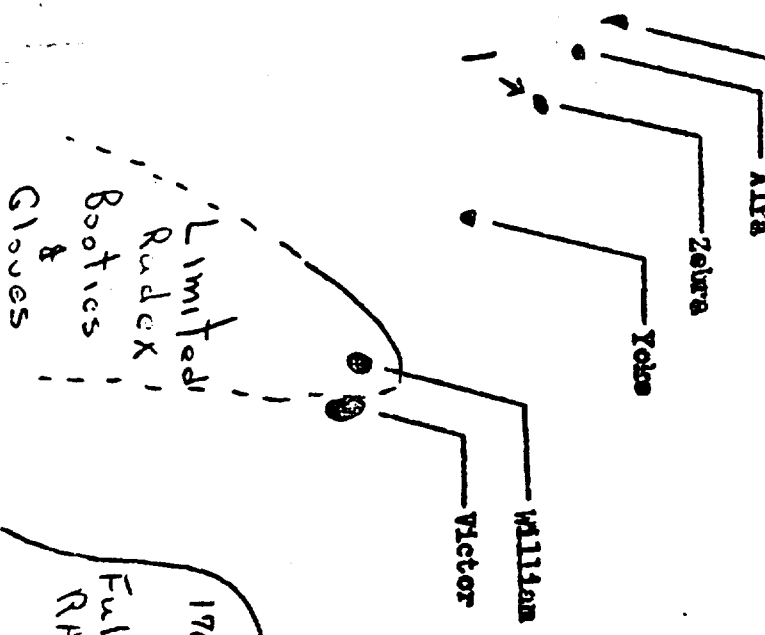


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1045, 14 JUNE, 1958

--- LIMITED RAD
— FULL RADEX



NON-RADEX



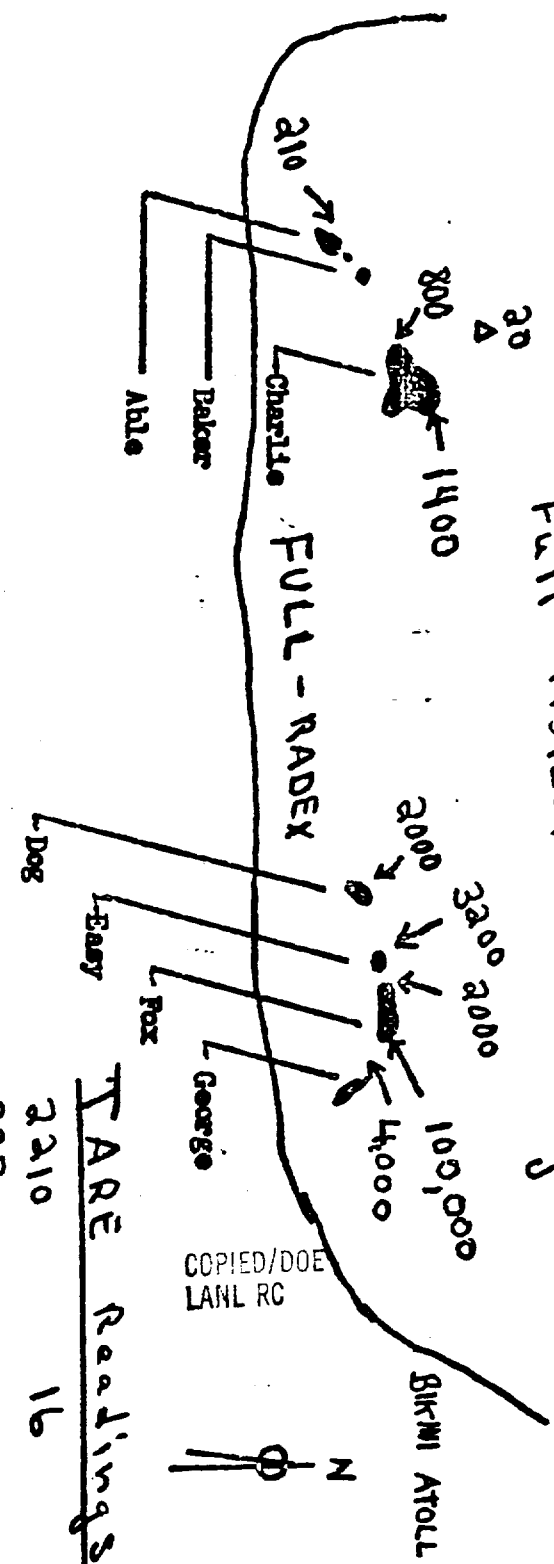
TARE Readings

2270	30	Mike
2230.01	25	Love
2230.02	20	King
2420.01	50	How
2210	16	Item
2420.02	20	Jig
630.01	22	King
650.02	4	Love
2420.02	1000	Mike
2420.02	1000	Nan

1st Sp. t At

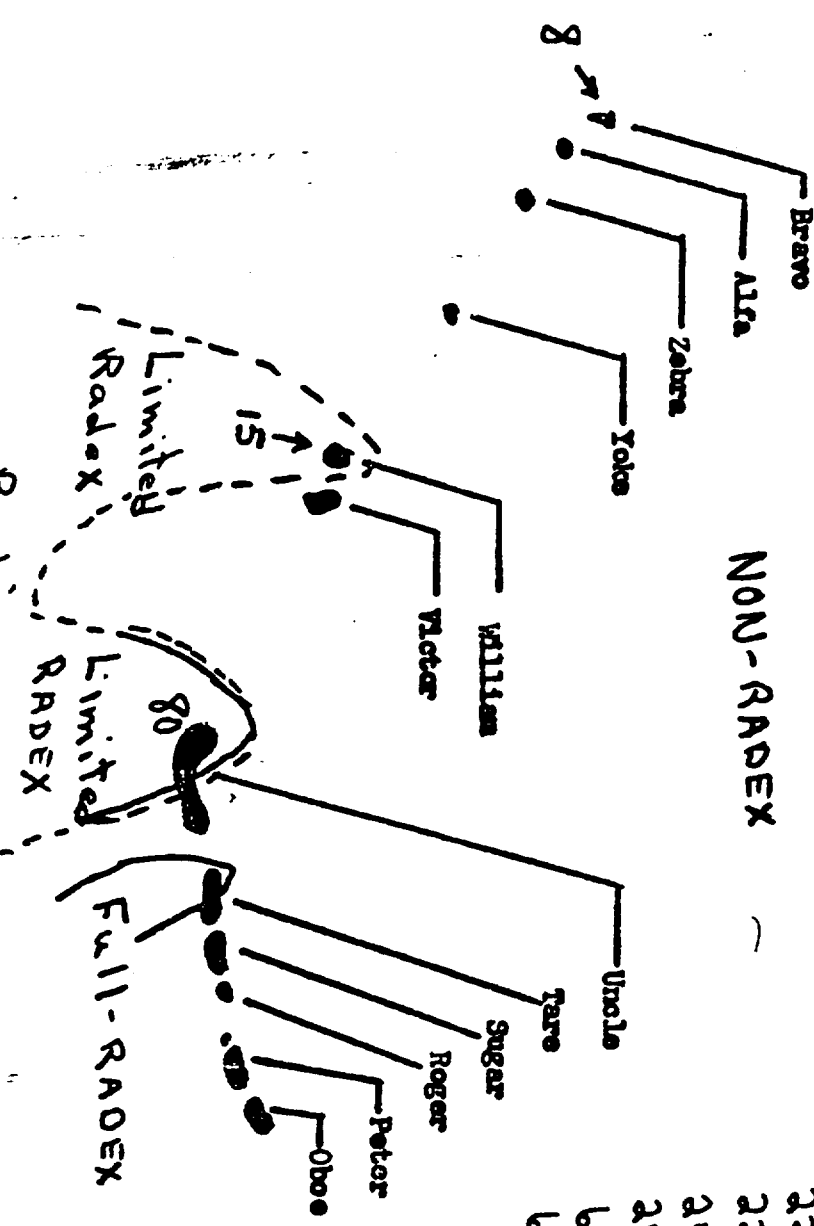
ALL Readings In MR
At Ground Level As
1530 HRS. 13 June

Full Protective Clothing



COPIED/DOE
LANL RC

NON-RADEX



Booties & Gloves

TARE Readings

2210	16	King
2270	30	Love
2230.01	25	How
2230.02	20	Item
2420.01	50	
2420.02	20	
630.01	22	
630.02	4	

Hot Spot At
2420.01

1000 MA/HR

ALL Readings In MA/HR
At Ground Level AS OF

1615 HRS. 12 June 58

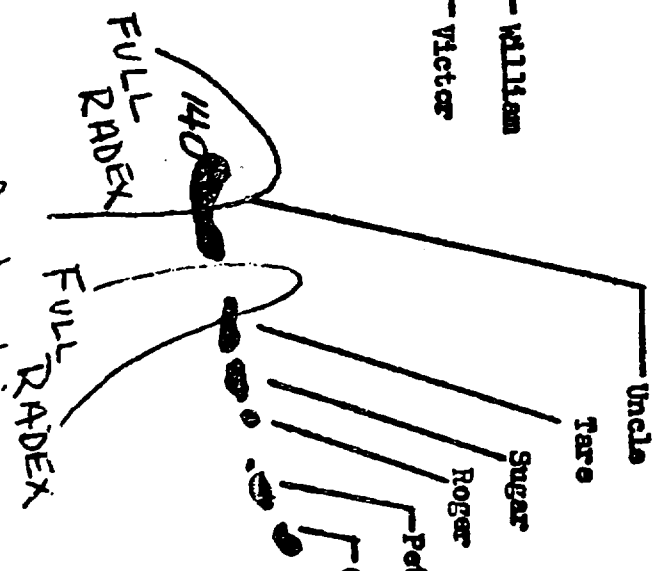
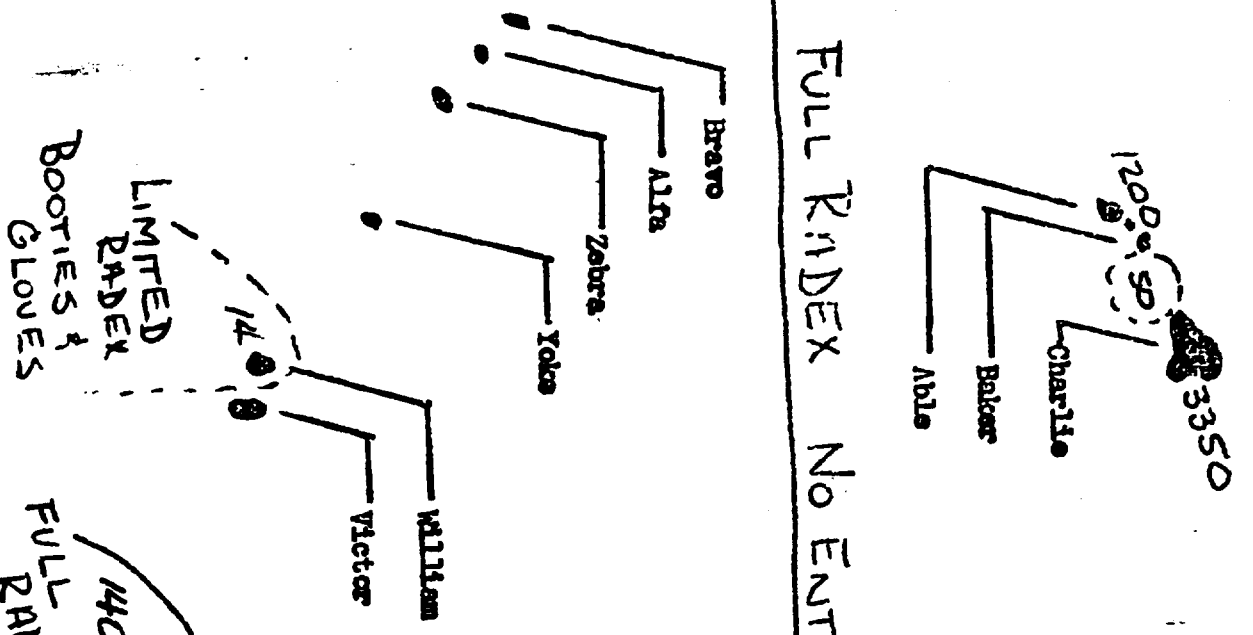
58

50

2,400,000 at E 0735
 BIKINI ATOLL

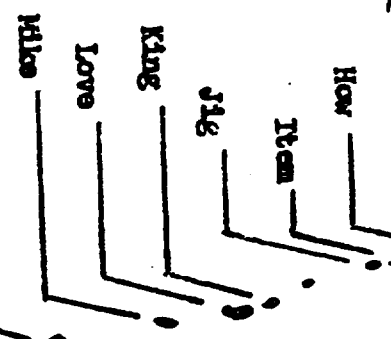
COPIED FOR
 LANL RC

FULL RINDEX NO ENTRY FOR FOX OR GEORGE



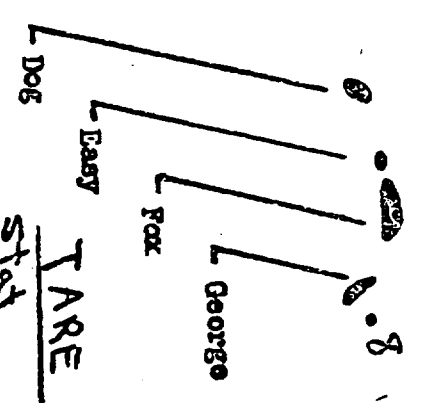
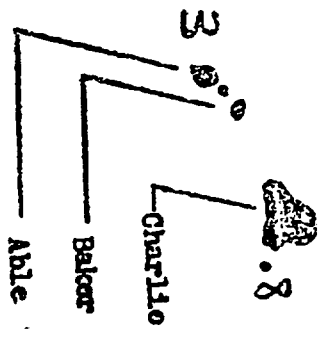
Full Protective Clothing

TARE	STAT	MR/HR
2210		20
2270		30
630.02		4
630.01		20
2230.02		20
2230.01		25
2420.02		20
2420.01		50
F-0000	SW TIP	4000 Nan
	NW TIP	450

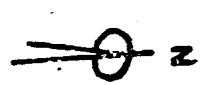


ALL READINGS IN MR/HR AT GROUND LEVEL AS OF 1645 HRS (EXCEPT AS NOTED)

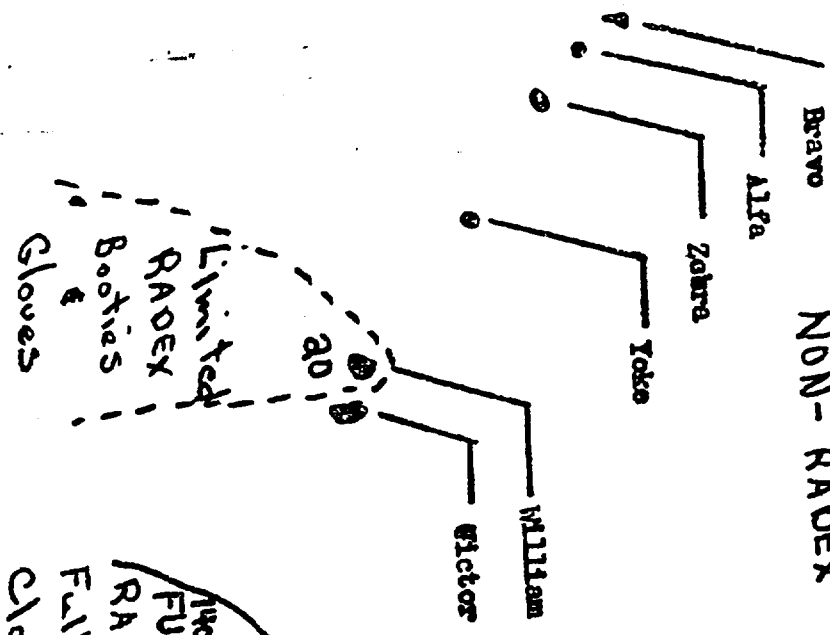
11 JUNE 1958



COPIED/DGE
LANL RC

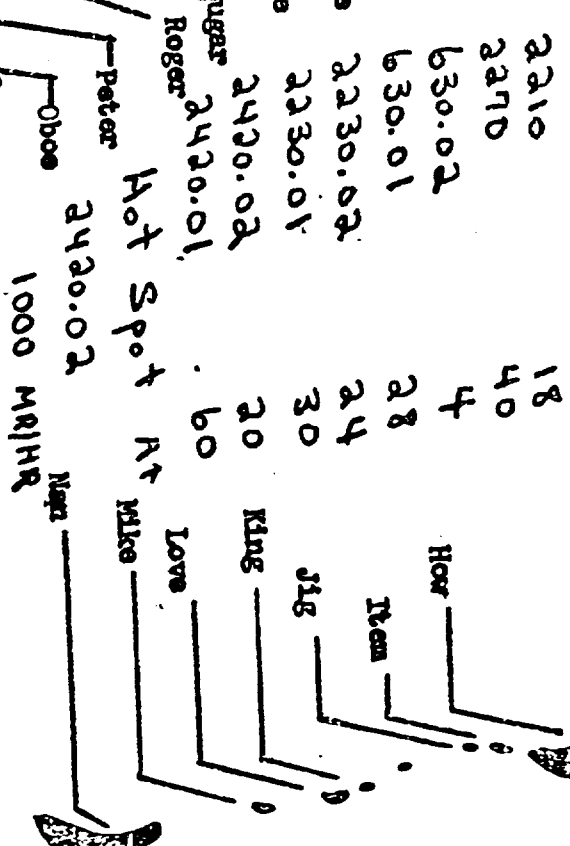


NON-RADEX



Limited
RADEX
Booties
&
Gloves

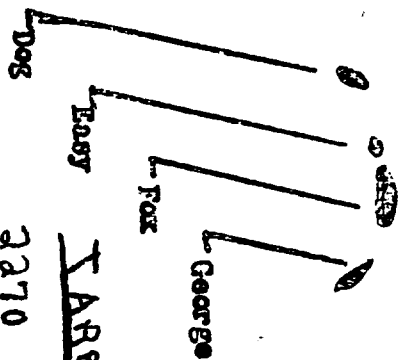
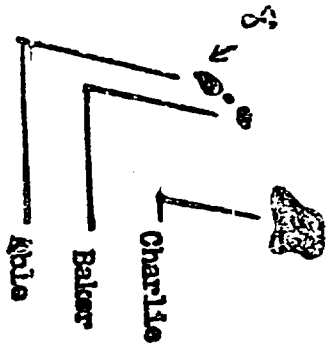
TARE Readings
Stat MR/HR



Full
RADEX
Full protective
Clothing

ALL Readings In MR/HR
At Ground Level As of
1530 HRS. 9 June 58

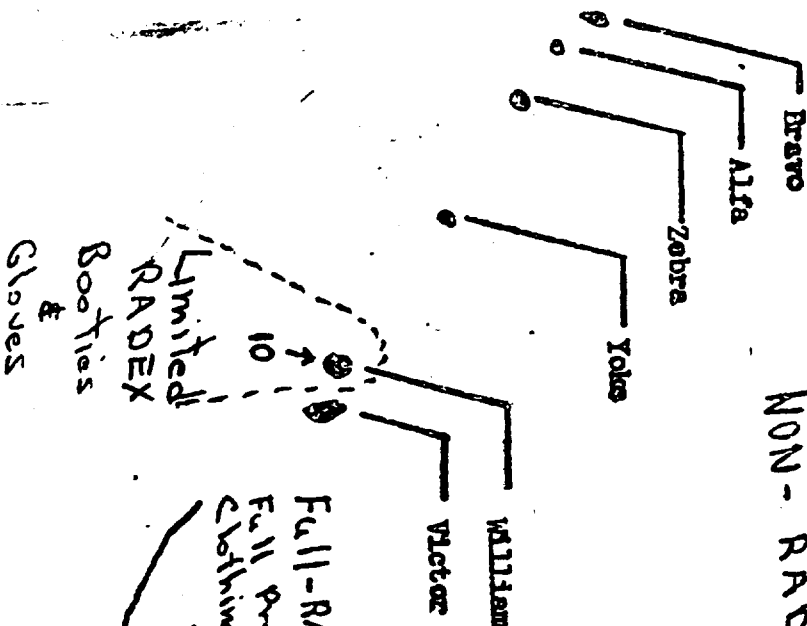
COPIED/DCE
LANL PC



TARE Readings

2270	36	How
2230.01	30	Itan
2230.02	26	Jig
2420.01	60	King
2420.02	20	Love
630.01	24	Man
630.02	2	
2210	18	
Roger Hot Spot	At	
Peter	800-900	
Obce		

NON - RADEX

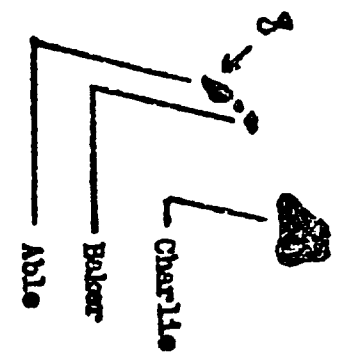


Full-RADEX
Full protective
clothing use
Full-RADEX

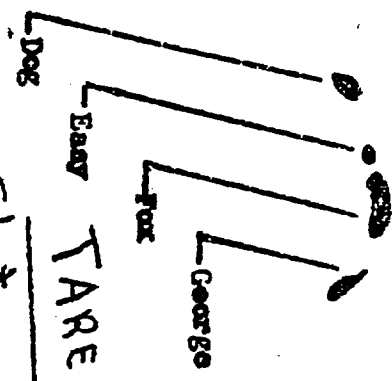
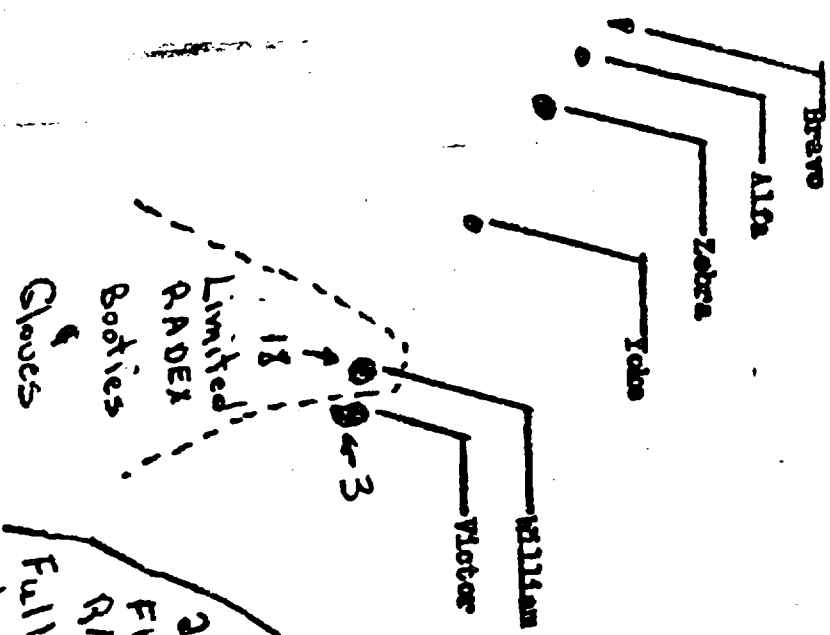
ALL Readings At Ground
Level In Major As of
1520 HRS. 7 June 58

EIKIMI KROLL

COPIED/DOE
LANL RC



NON-RADEX



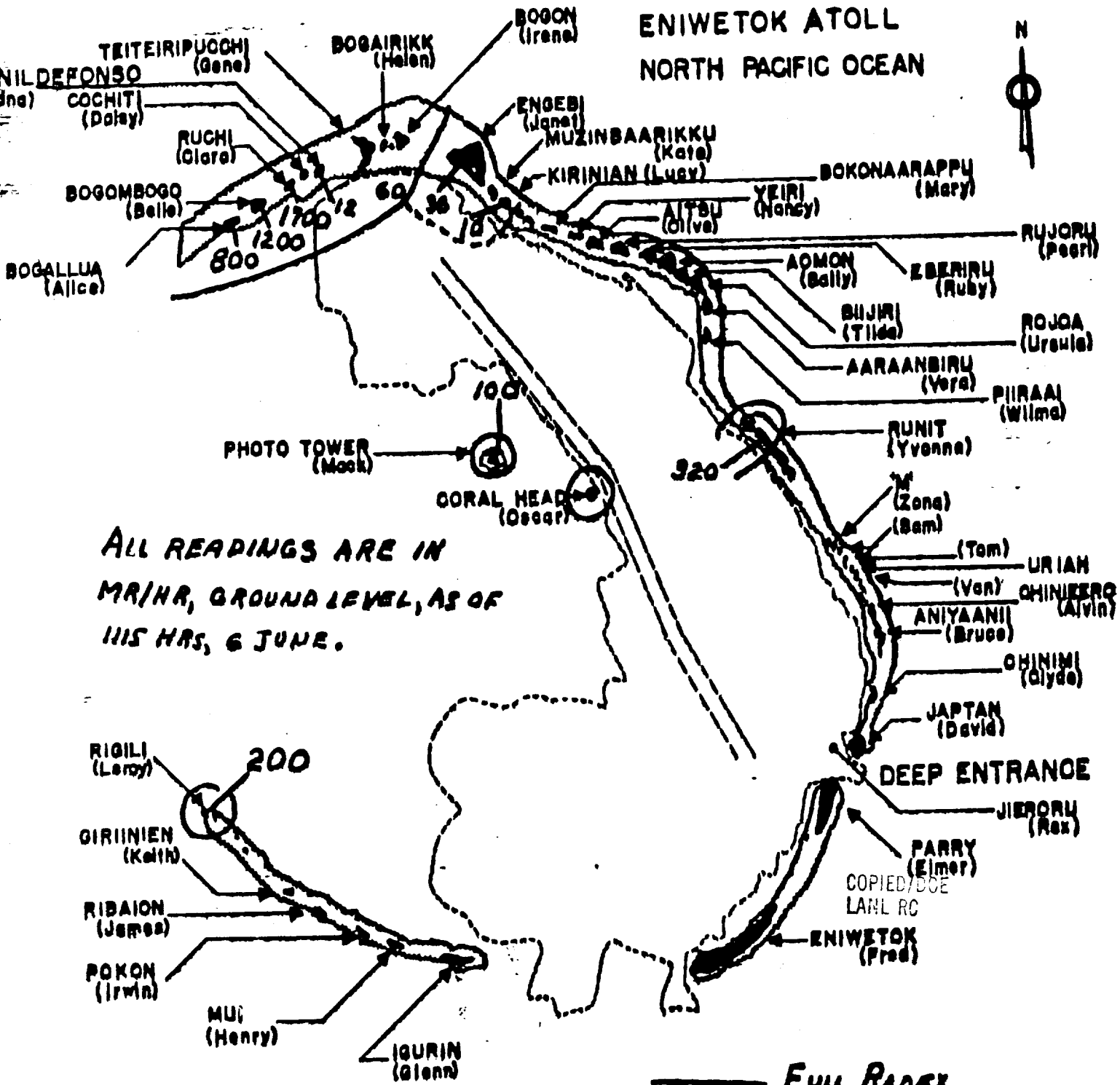
TARE Readings

Stat.	MR/HR
2270	20
2230.01	38
2230.02	40
2420.01	75
2260	38
2420.02	20
2420.02	20
Sugar 630.02	20
Roger 2210	20
Peter	
Obso	
Uncle	
Tare	
King	
Loce	
Yllo	
Hay	
How	
Item	

220
FULL
RADEX
Full Protective
Clothing

ALL Readings In MR/HR
At Ground Level As Of
1530 Hrs. 6 June 58

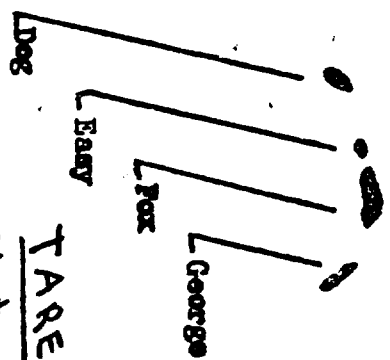
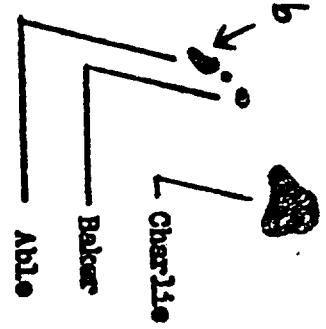
ENIWETOK ATOLL
NORTH PACIFIC OCEAN



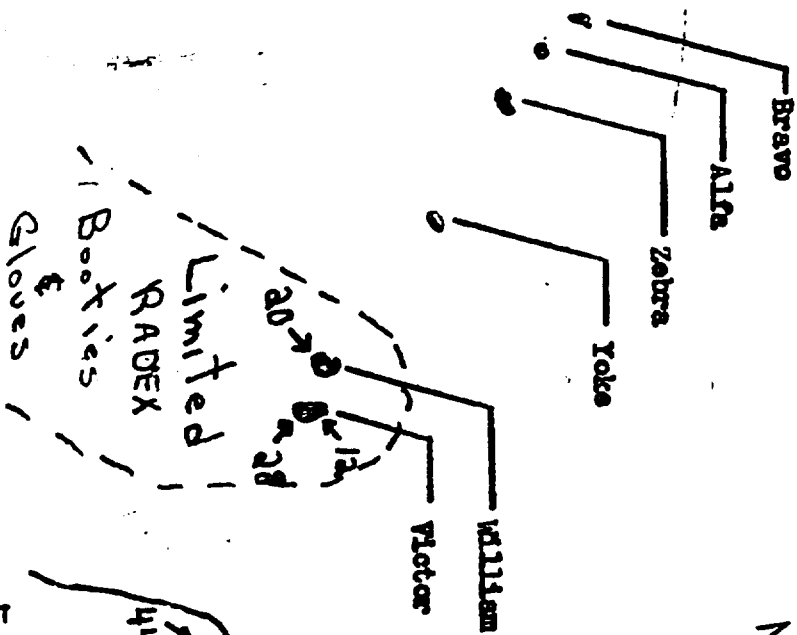
ALL READINGS ARE IN
M/HR, GROUND LEVEL, AS OF
115 HRS, 6 JUNE.

———— FULL RADAR
----- LIMITED RADAR

COPIED/DGE
LANL RC

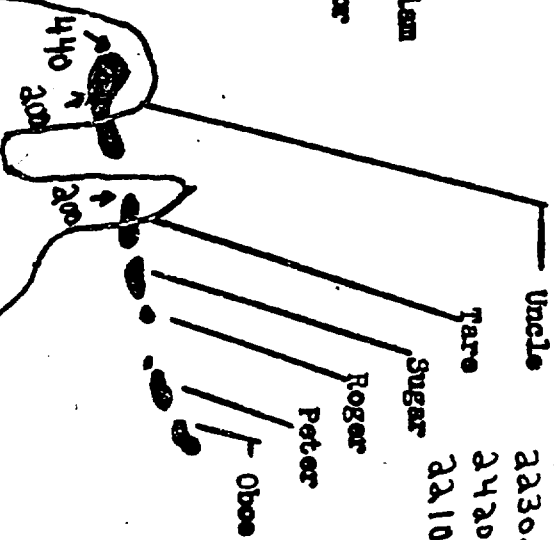


NON-RADEX



Full Protective
Clothing

FULL-RADEX



Stat.	TARE Readings	MR/HR	Time
2420.01	60-80	10	How
630.01	24-38	20	Time
630.02	10	50	31g
2270	20	25-60	10-25 King
2230.01	20	10-25 King	Love
2230.62	50	Love	Moko
2420.02	25-60	Nan	
2210	10-25 King		

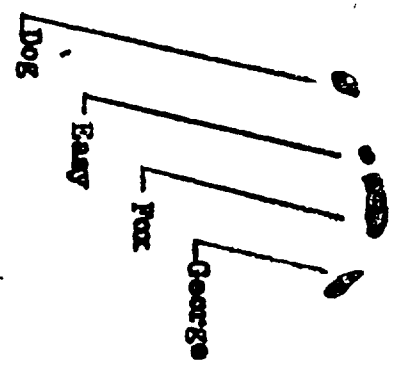
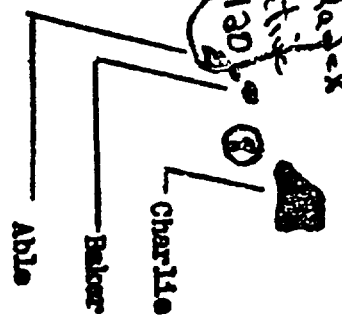
ALL Readings In MR/HR
At Ground Level As of
1530 HRS. 5 June 58

BIKINI ATOLL

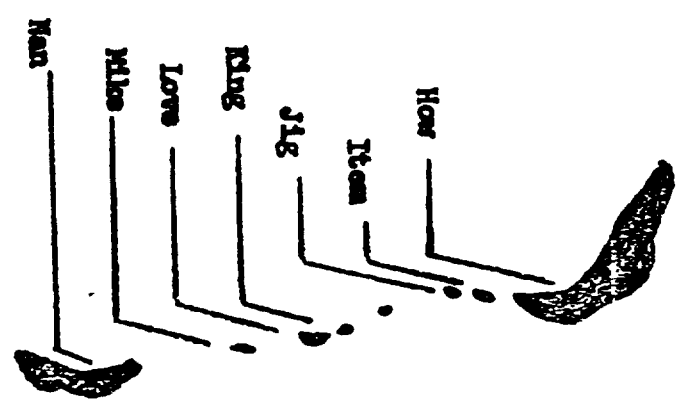
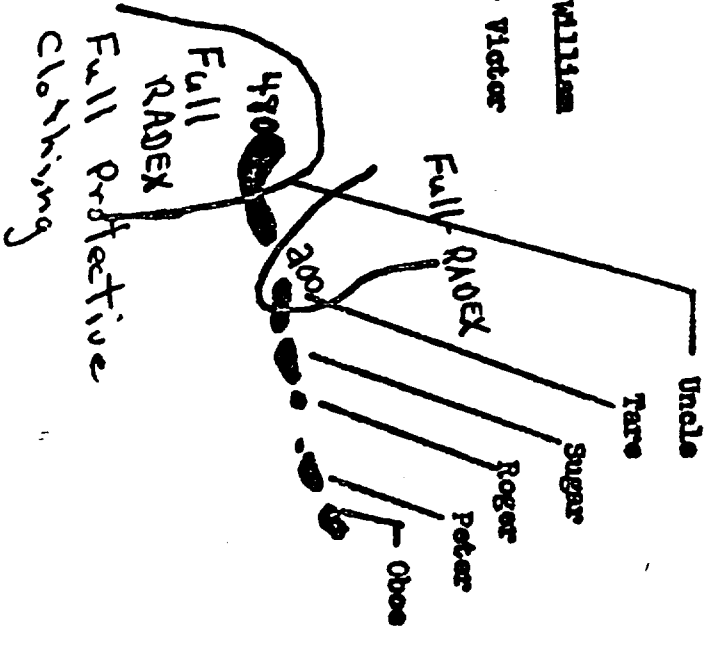
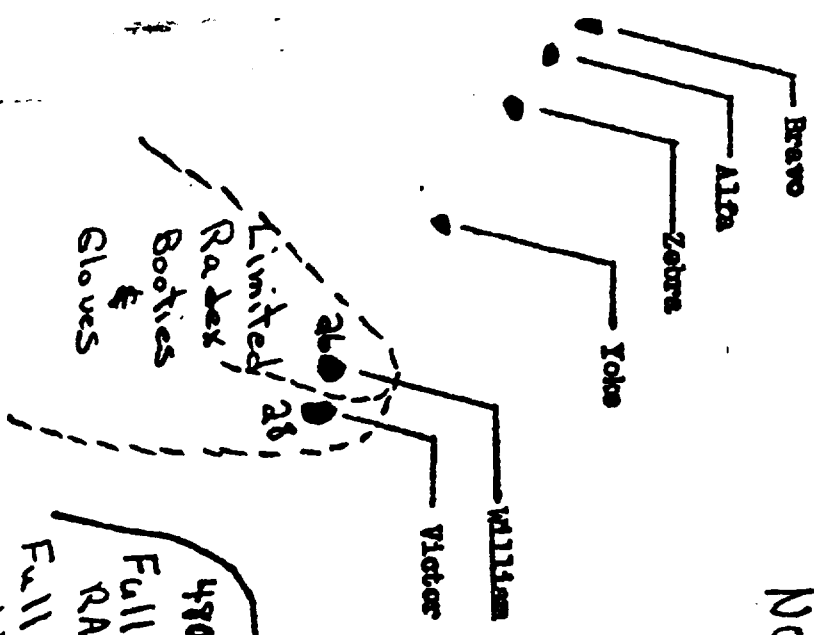
COPIED/DOE
LANL RC



Full-Radex
Full Protective
Clothing 130



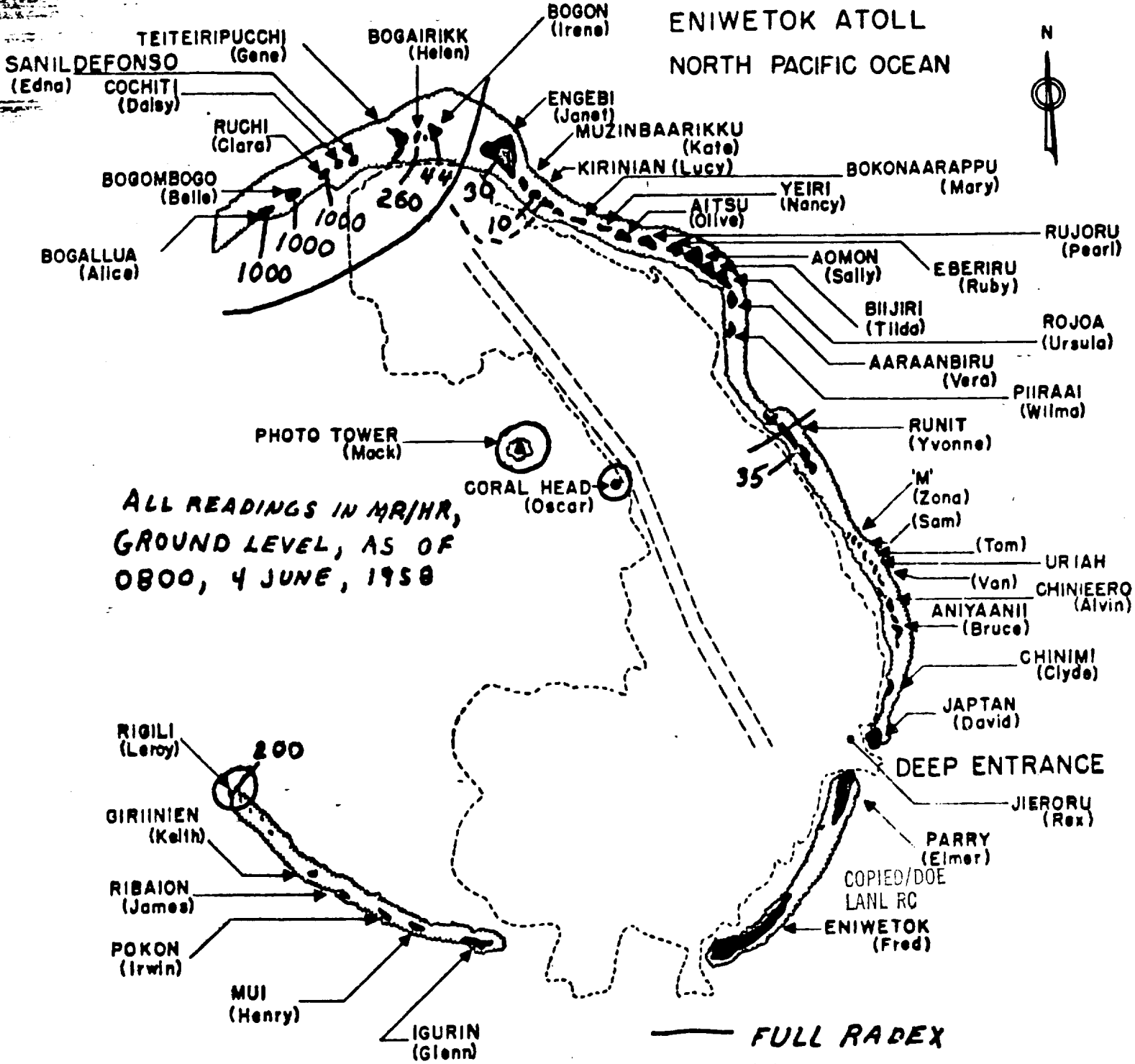
NON-RADEX



ALL Readings AT
Ground Level In MALHP
AS OF 0830 HRS. 4 Sun

55

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

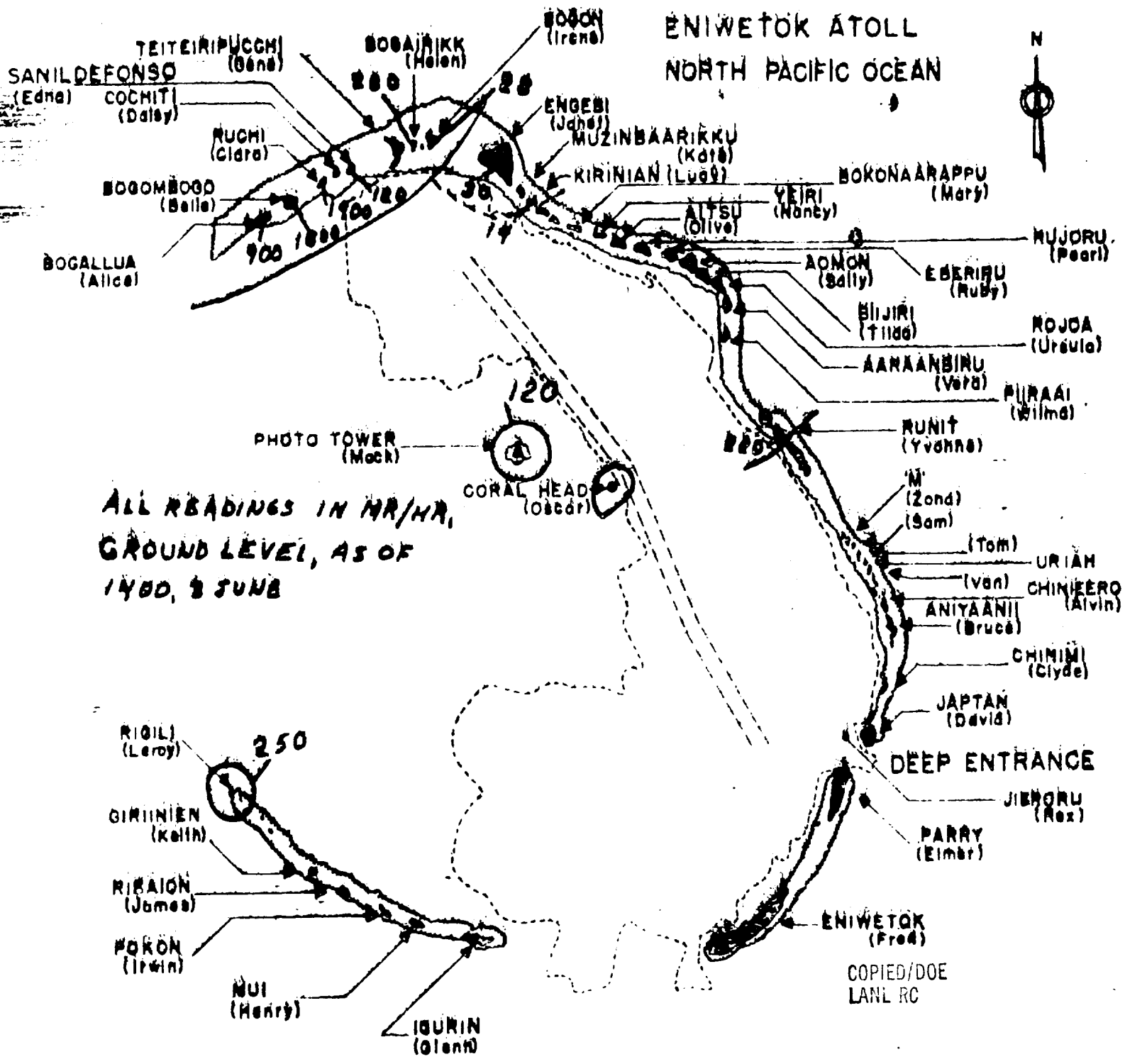


ALL READINGS IN MPH/HR,
GROUND LEVEL, AS OF
0800, 4 JUNE, 1958

— FULL RADEX
- - - LIMITED RADEX

60

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN NR/HR,
GROUND LEVEL, AS OF
1400, 3 JUNE

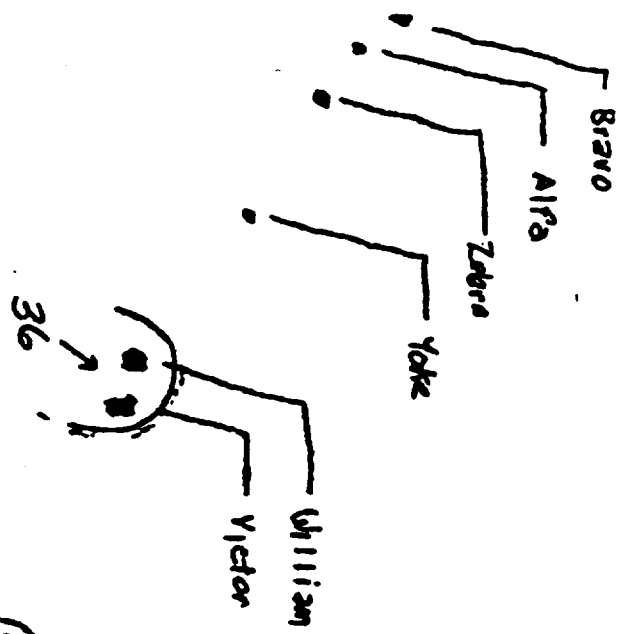
NOTE: MACK TOWER READING
AS OF 1000, 3 JUNE

————— FULL RADEX
----- LIMITED RADEX

30

BIRINI ATOLL

COPIED/DOE
LANL RC



NON RADAR
Tape Readings



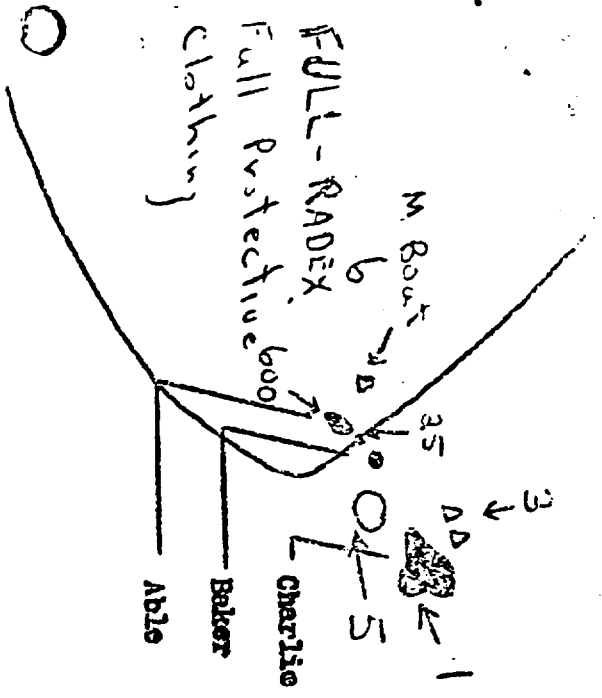
2210	16-28	How
630.01	16-20	Item
2230.01	40-60	
Callent	20-30	
2420.01	60-280	
2270	50-80	King
2420.02	12-34	Love
630.02	0-5	
2230.02	80-100 mile	Non

Full Radar
Full Protective
Clothing

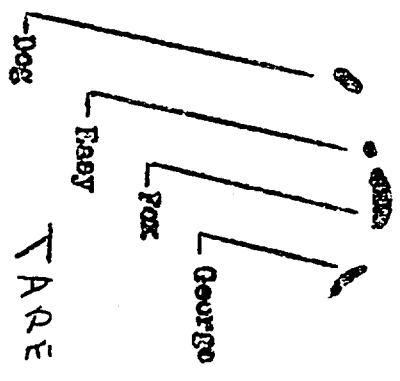
All Readings in MR/AS
At Ground level AS
0830 hrs 3 wave 58

BIKINI ATOLL

COPIED/DGE
LANL RC

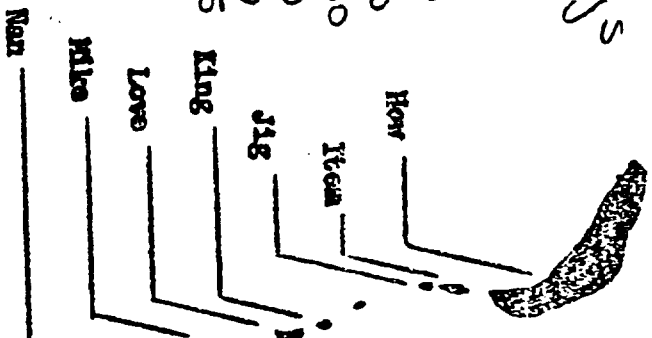


NON-RADEX

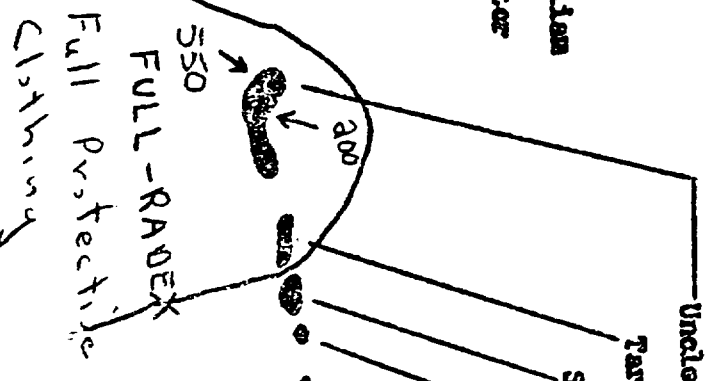
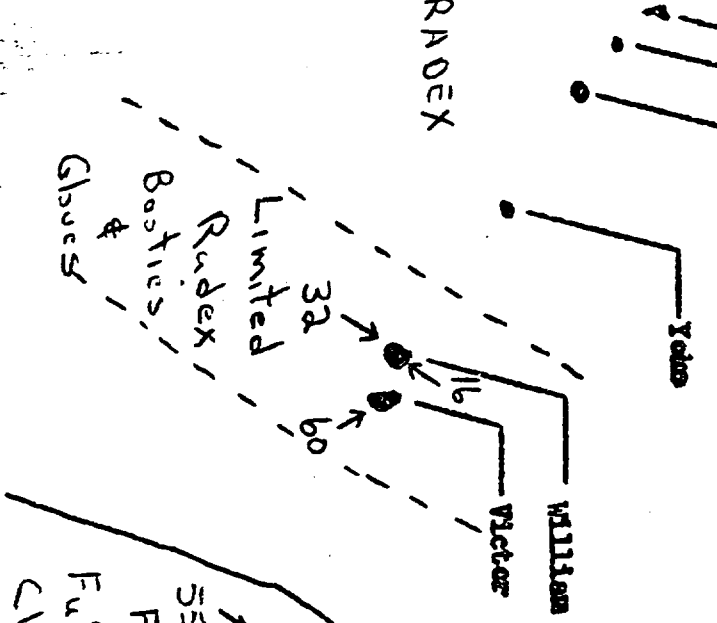


TARE Readings

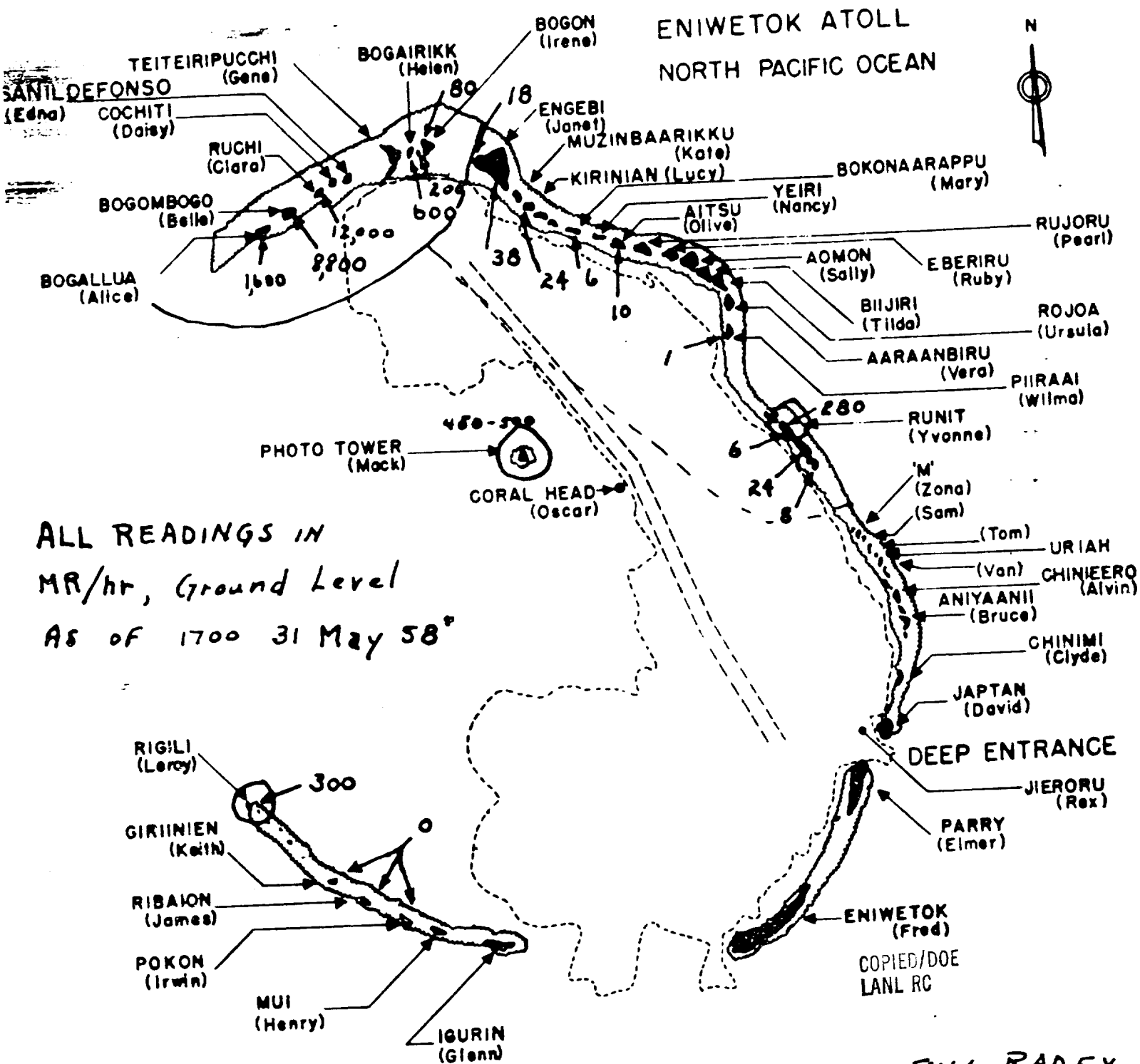
- Calvert 50
- 630.02 7
- 630.01 60
- 2270 130
- 2120.01 500
- 2120.02 40
- 2230.01 80
- Sugar 2219 25
- Roger
- Peter
- Obos



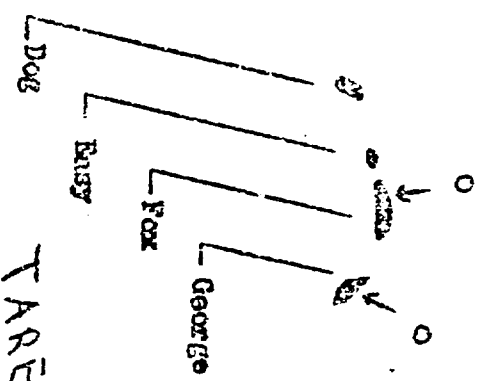
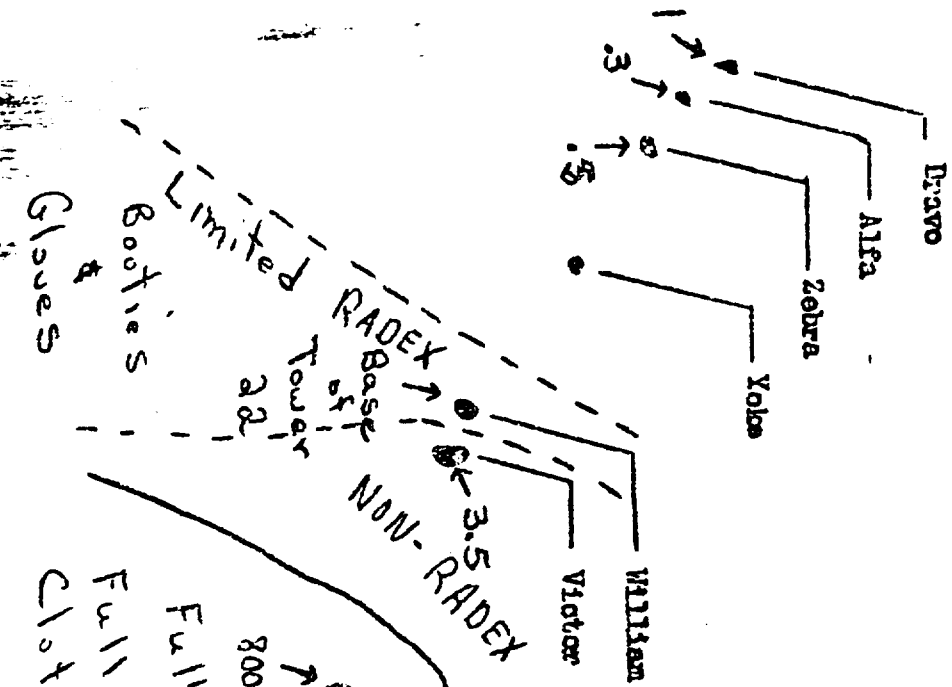
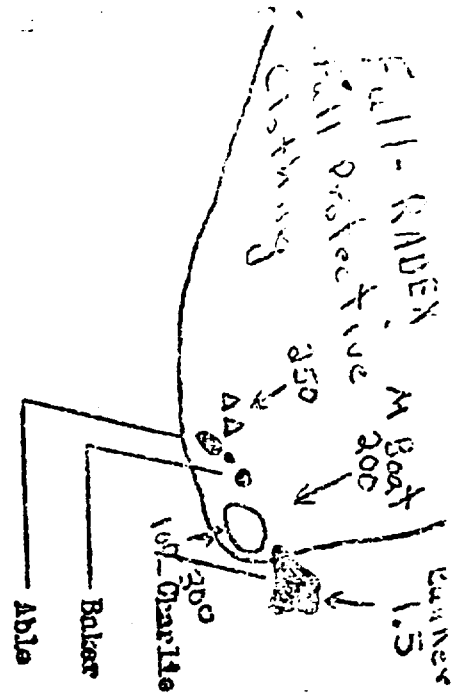
NON-RADEX



ALL Readings In MI
At Ground Level As
1535 HRS. 2 June



* Mack Photo Tower
1200 hrs 1 June 58



NON-RADEX 630.02
630.01
Culvert
2210

TARE Readings
STAT MR/PR

Uncle 2310
Tare 2230.01
Sugar 2230.02
Roger 2420.01
Potter 2420.02
Opoo

10
90
80
40
340
80
140
500
80
1315
1100

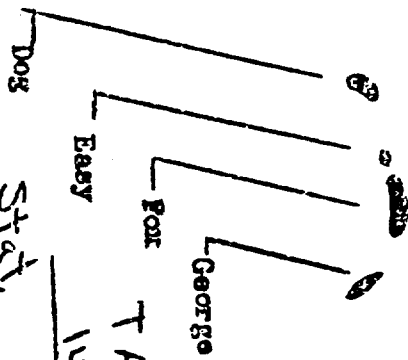
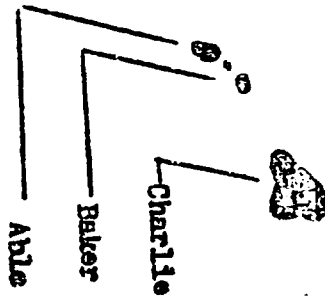
COPIED/DOE
LANL RC

BIKINI ATOLL



ALL Readings AT
Ground Level In MR/PR
AS OF 1545 HRS.
June

COPIED/DOE
LANL RC



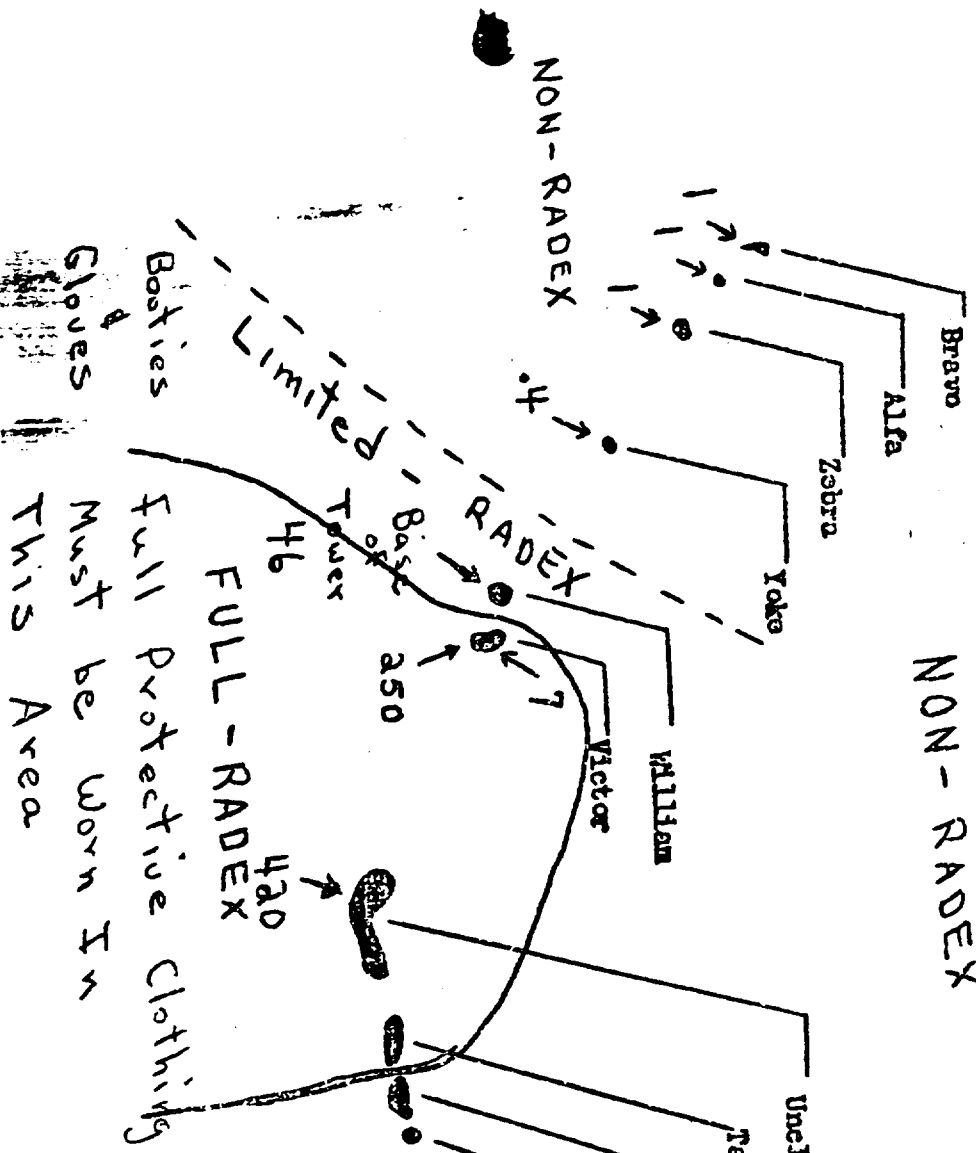
TARE Readings
1406 HRS. 30 MAY

Stat.

MR/HR

2210	100		
630.01	120		
2230.02	100-180	How	
2270	140	Item	
2230.01	100		
Culvert	80		
2420.01	300-550	Site	
2420.02	180	King	
630,03	18	Love	
		Mike	
		Man	

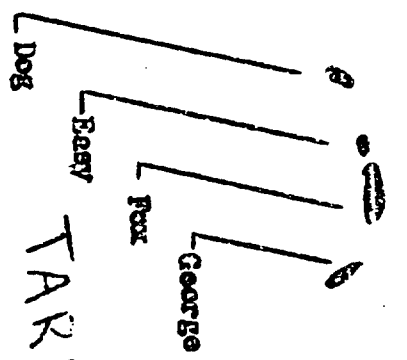
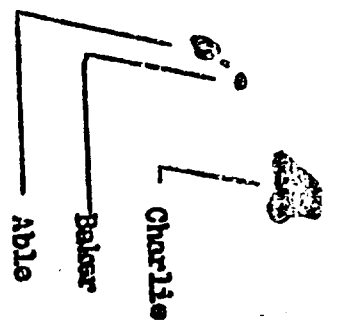
NON-RADEX



ALL Readings In MR/H
At Ground Level
(Island Survey)
1450 HRS 29 MAY

(See TARE Above)

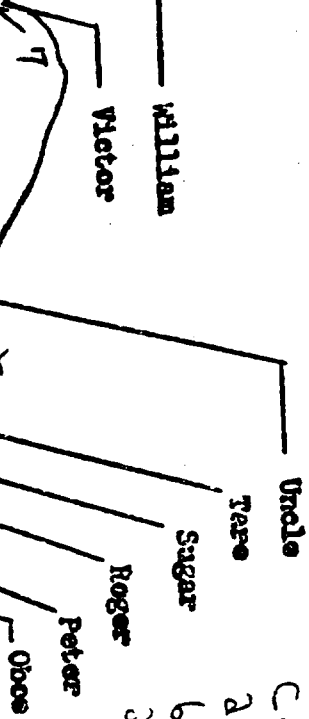
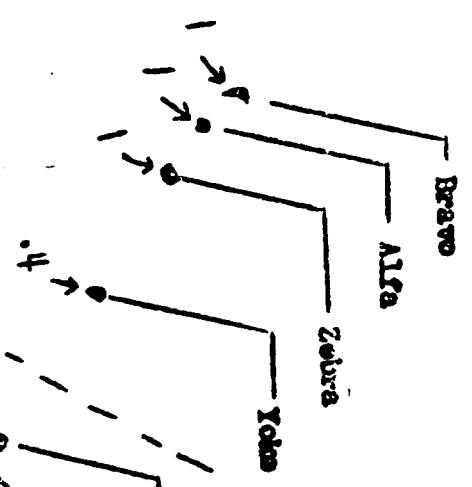
COPIED/DOE
LANL RC



NON-RADEX

Sta. 2310
630.01
2230.02
2390
2230.01
2440.02
630.02
2420.01

Readings
80-130
80-160
100-260
300-350 Row
100-200 Items
200
150-450 Jg
30-40 King
400-1000
Lowe
11100



ALL Readings At
Ground Level IN M

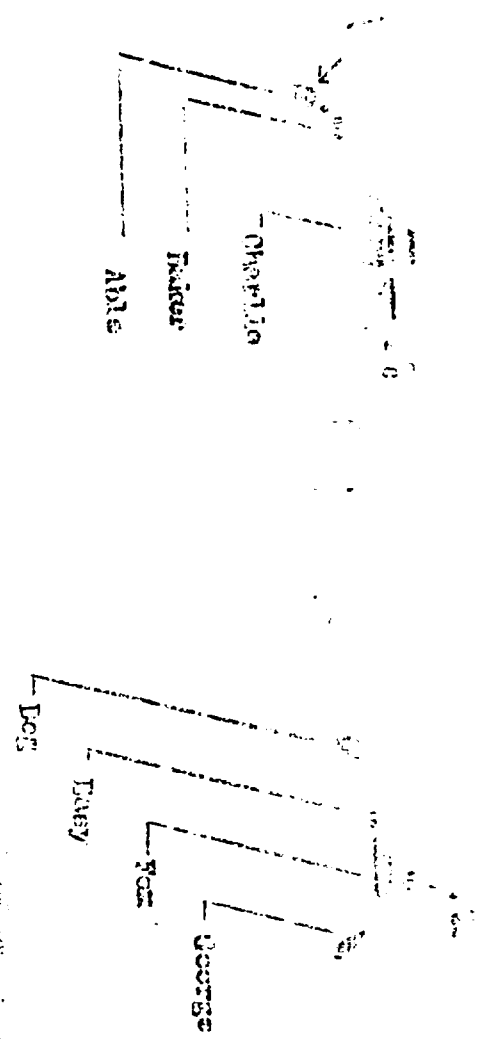
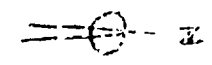
1450 HRS. 29 MAY

Limited
RADEX
Bottles
&
Gloves

Full Protective Clothing
Worn In This Area



COPIED/DOE
LANL RC

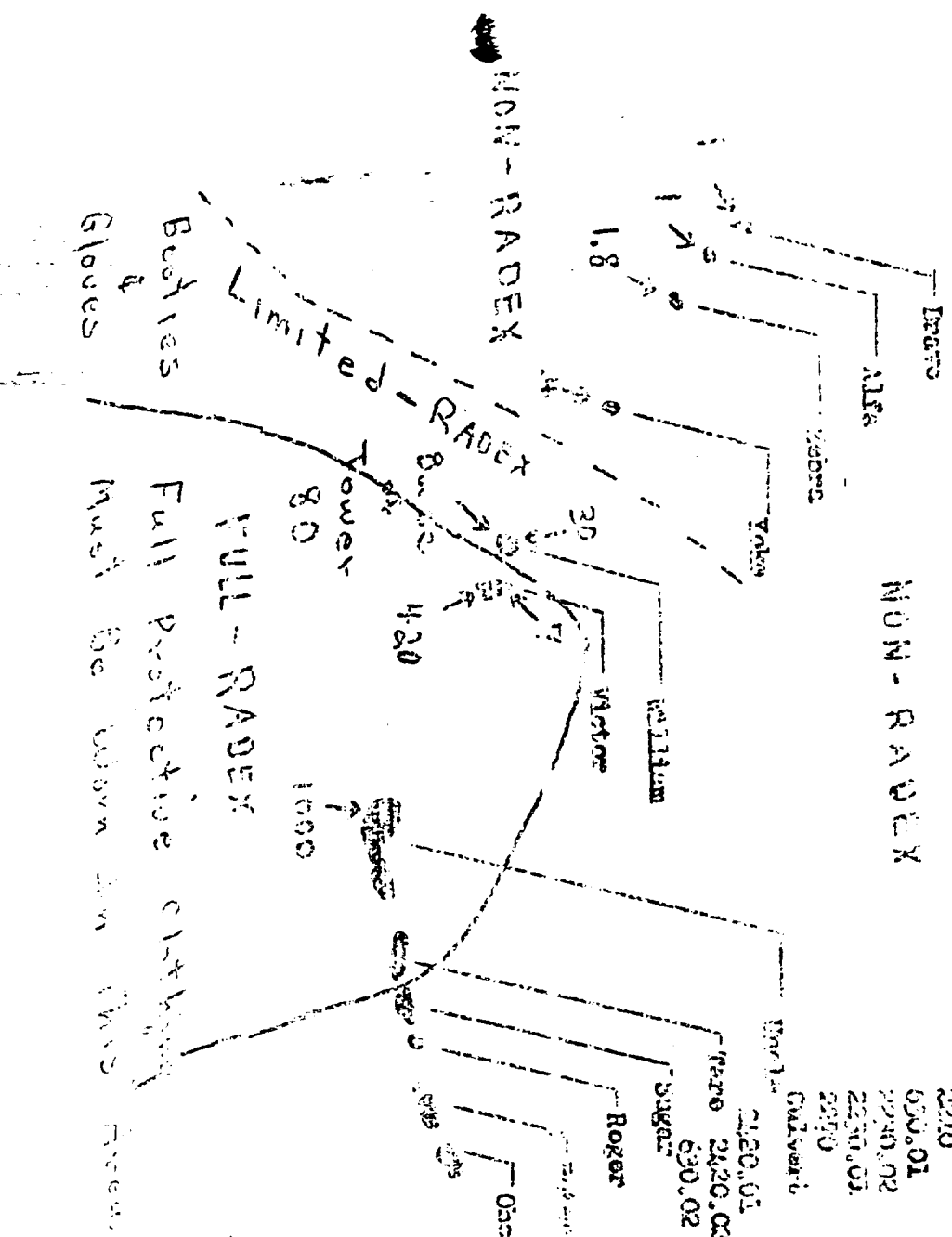
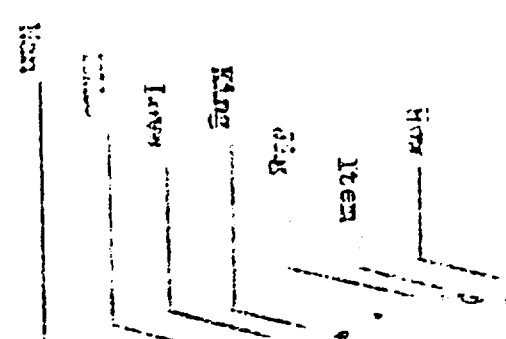


State. 2210
 550.01
 2240.02
 2250.01
 2270
 Culvert

Range 10/15
 100-140
 90-100
 100-110
 100-110
 200-200
 200-250

2120.01
 2120.02
 630.02
 Roger
 Oscar

600-700
 260-300
 34-40

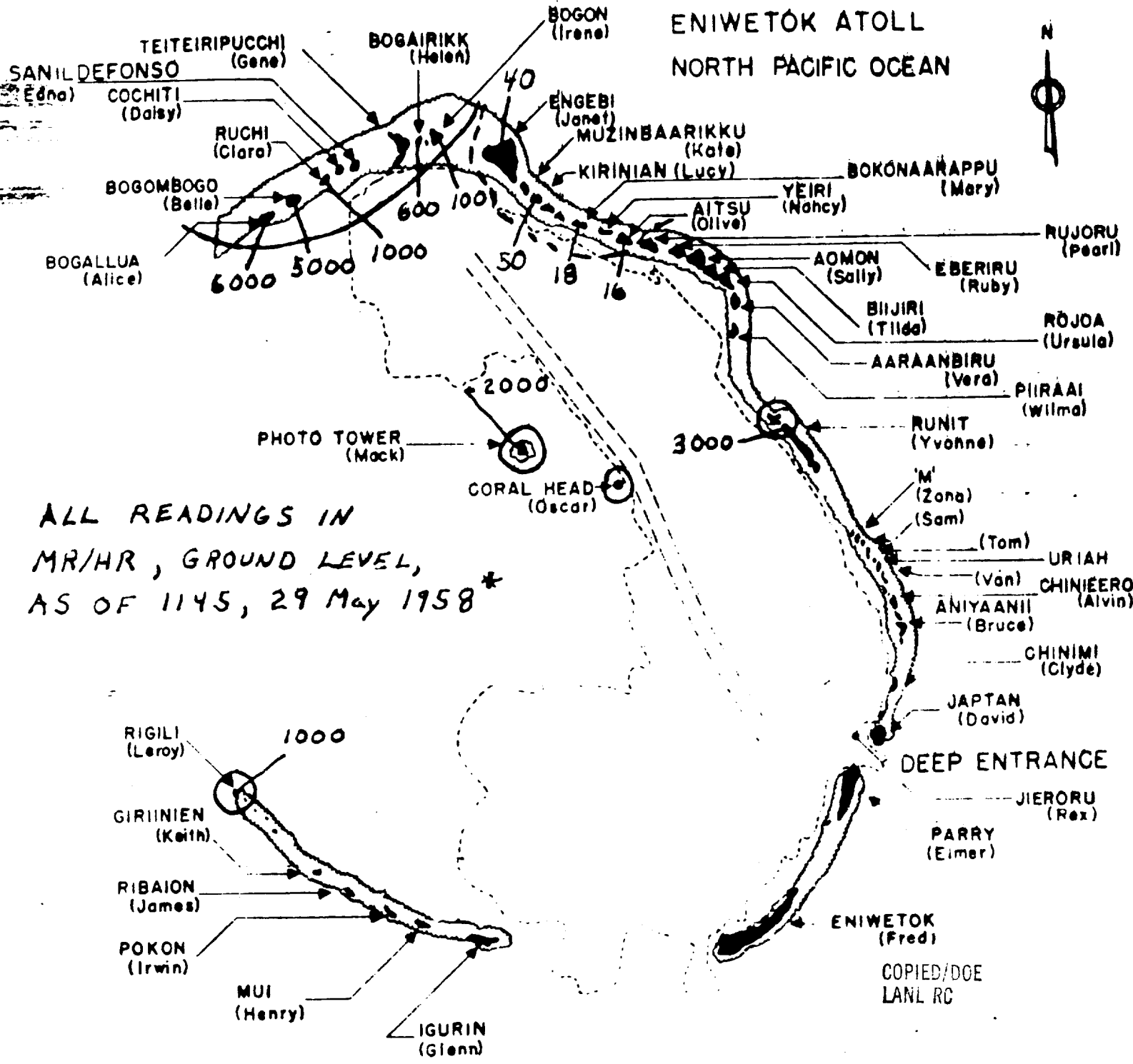


ALL Readings (Except At Ground Level) See N. IN MR/PA AS OF 1430 WNS 22 MAY

201000000

2

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

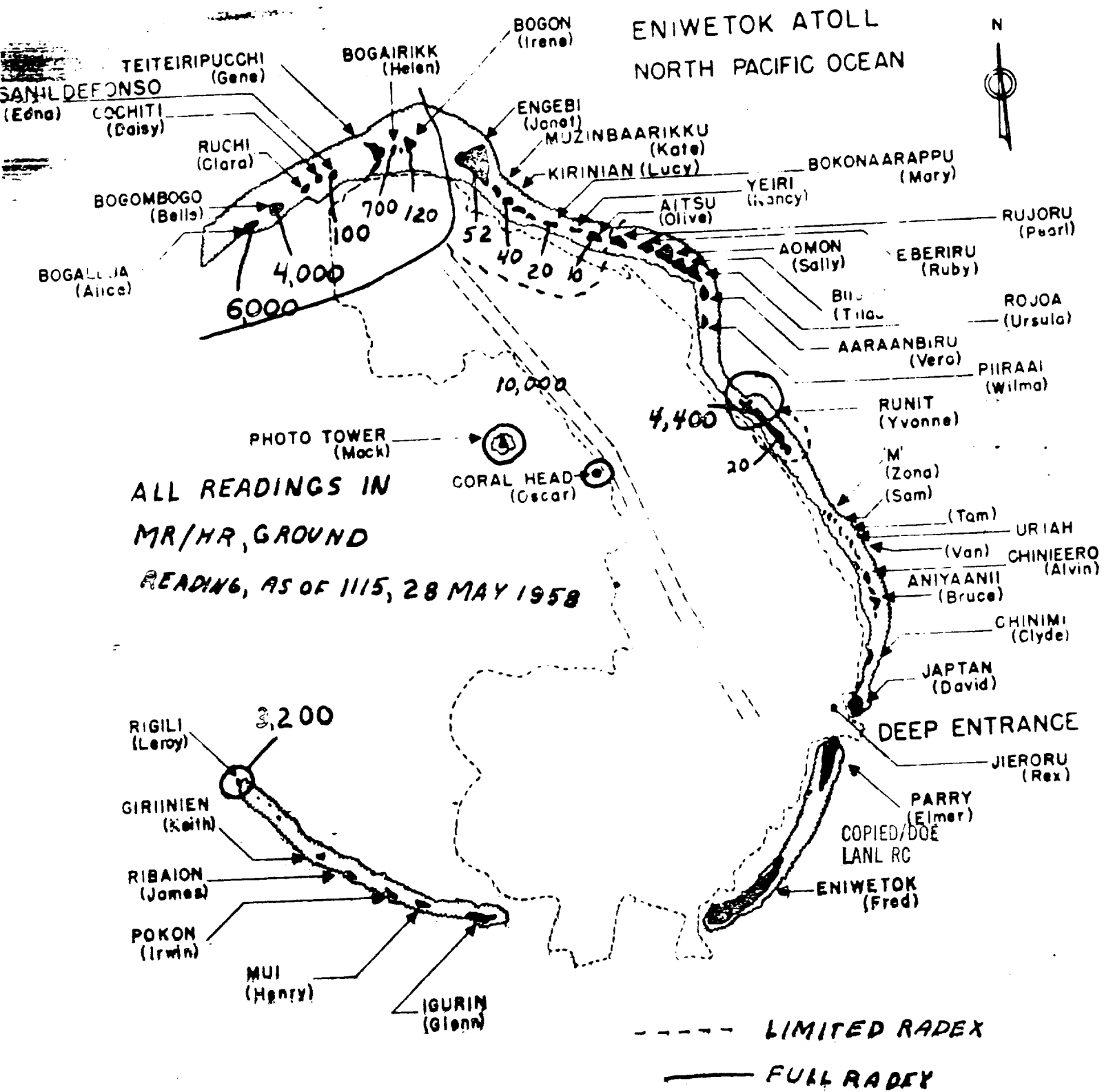


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1145, 29 May 1958*

Mack Photo Tower Reading
As of 1500, 28 May 1958

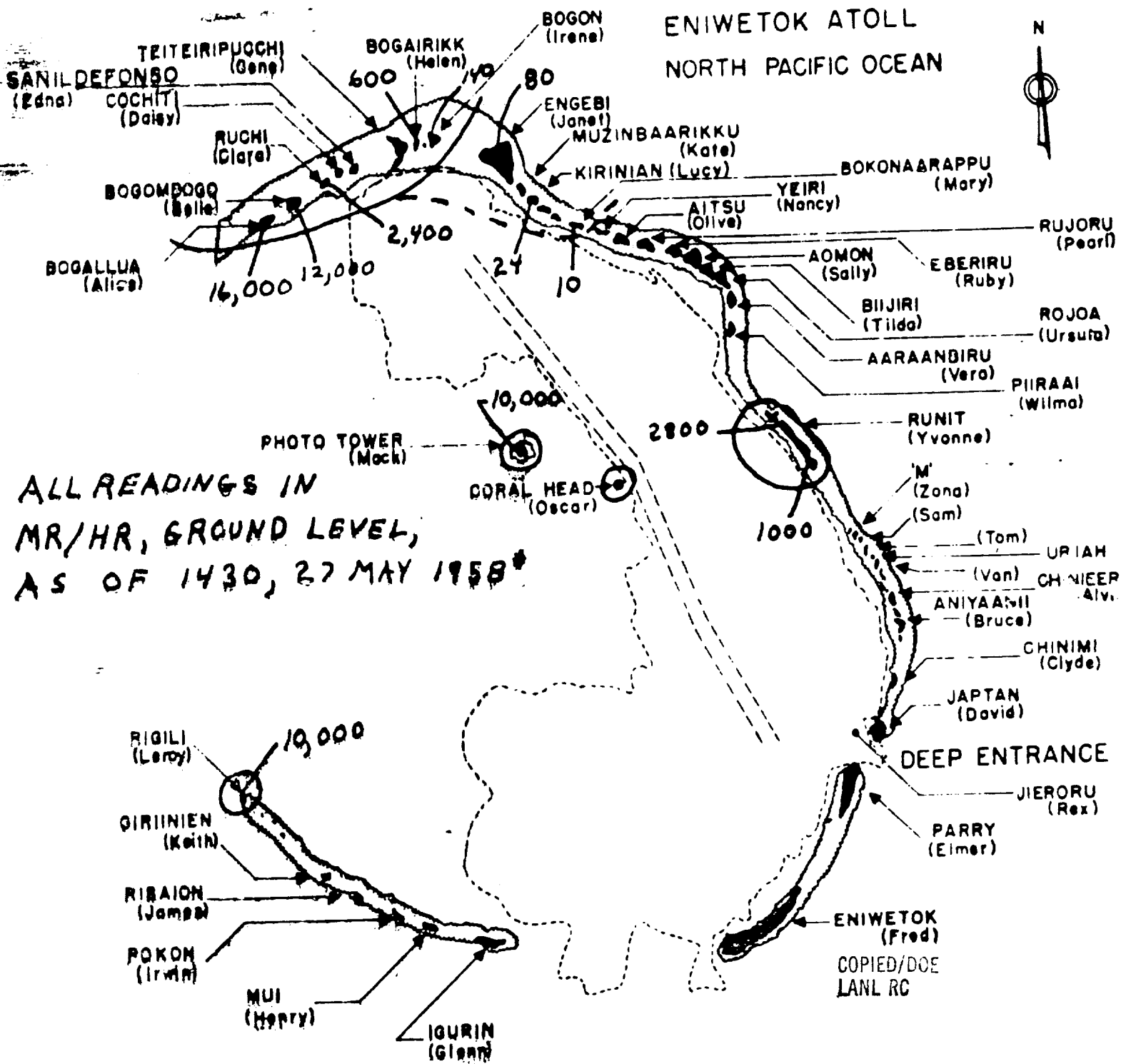
----- LIMITED RADEX
———— FULL RADEX

15



70

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1430, 27 MAY 1958*

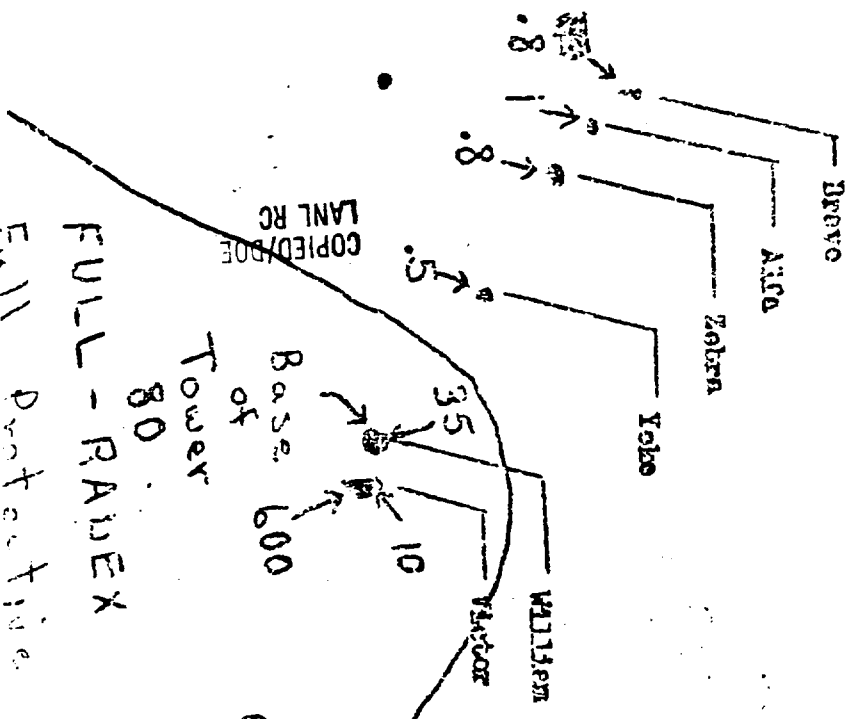
* MACK PHOTO TOWER
AS OF 1100.
YELLOWWOOD G. Z. - 10 MR/HR.

--- LIMITER RADI
— FULL RADI

↑

78

FULL - RADEX
 Full Protective Clothing
 Must Be Worn In This Area



NON - RADEX

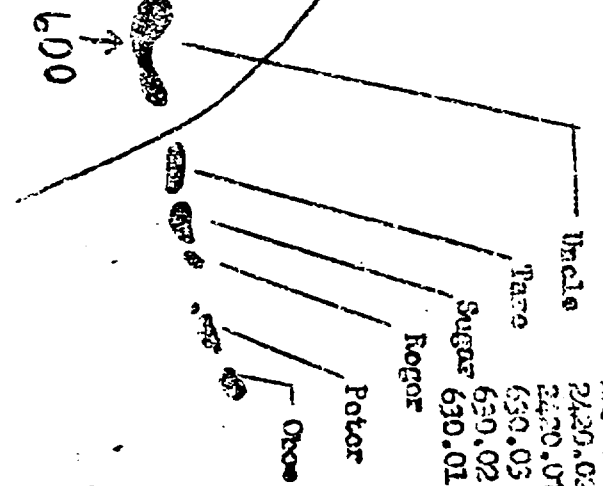
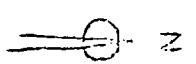
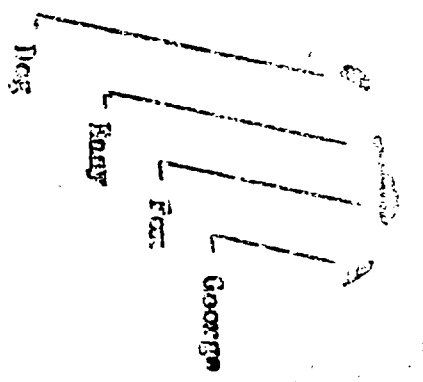
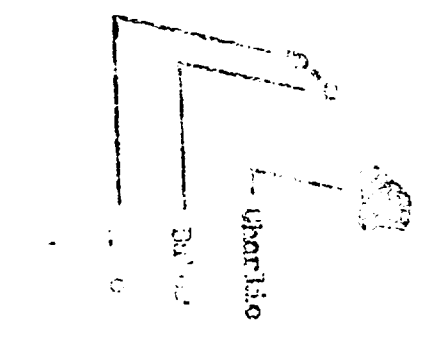
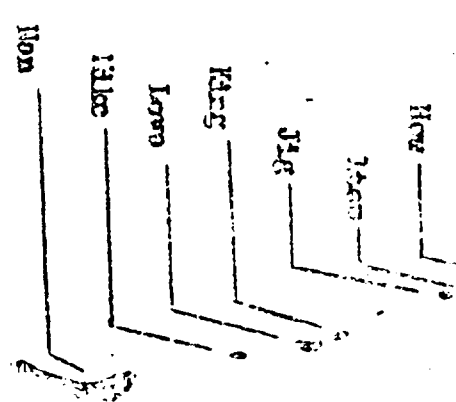


TABLE RECALCULATED 0915 Dec 27/197

2270.01	300
2220.02	260
2120.02	500
2420.01	800
630.05	6
630.02	80
SUGAR 630.01	280

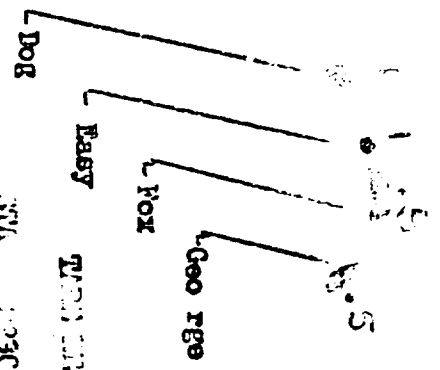
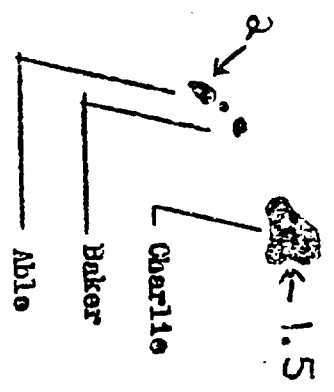
ALL Reading At
 Ground Level In MR/HR
 AS. OF 1430 HAS AT MR/HR



61101 M 511



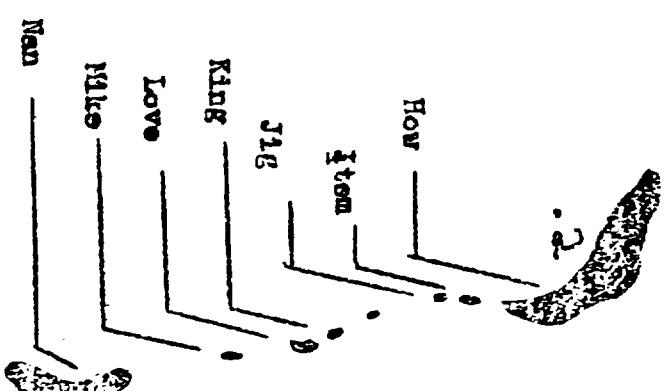
COPIED/DOE
LANL RC



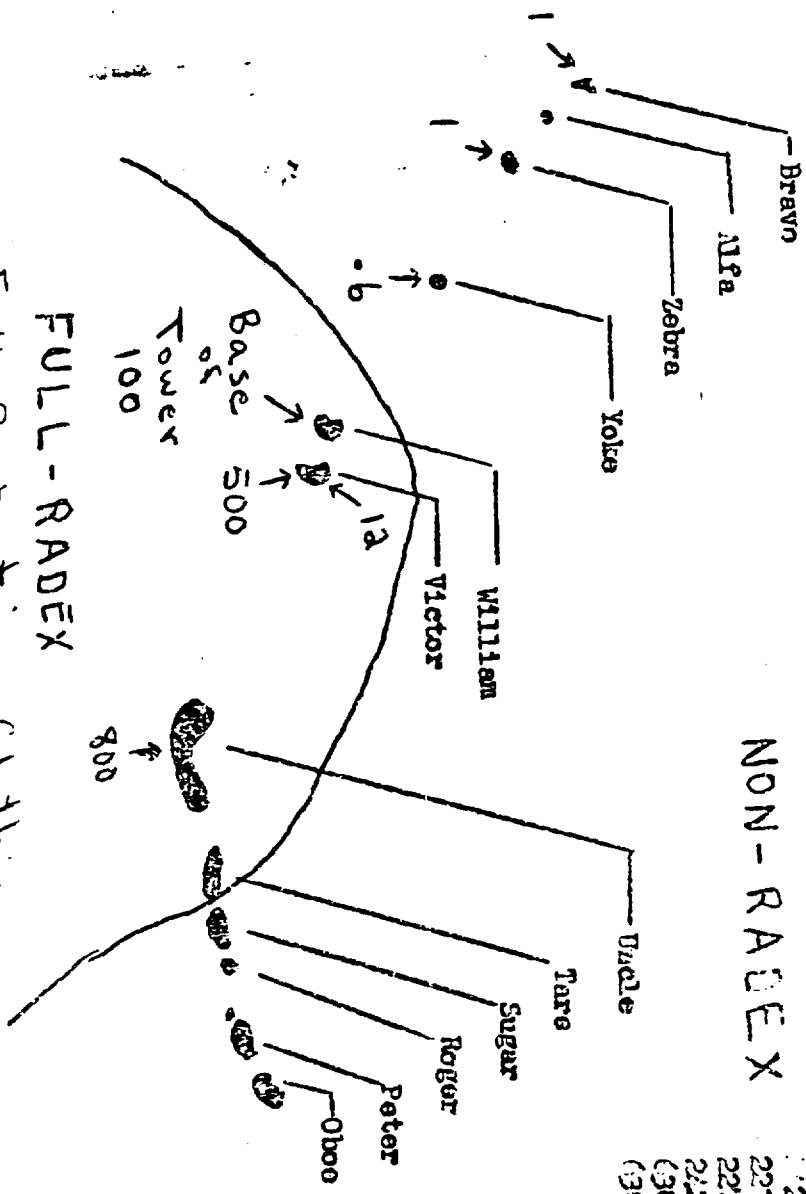
SIN

- 103C.01
- 103D.02
- 19C.01
- 120.1
- 2310
- 2270
- 2420.C2
- 130.03
- 130.02

- 400
- 55
- 420
- 1600
- 400
- 1900
- 1000
- 6
- 75



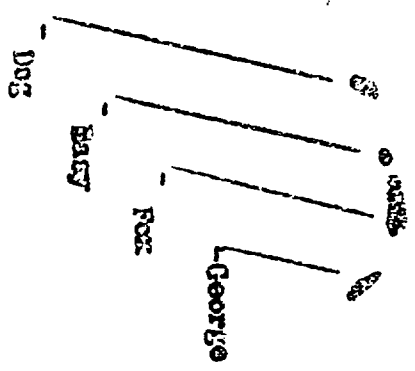
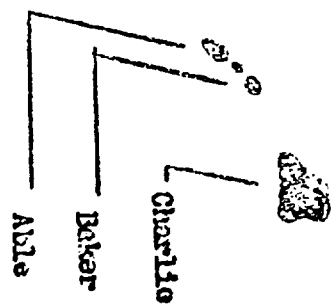
NON-RADEX



FULL-RADEX
Full Protective Clothing
Will Be Worn In This Area

ALL Readings At Ground
Level In MR/HR AS OF
1500 HRS. 26 May

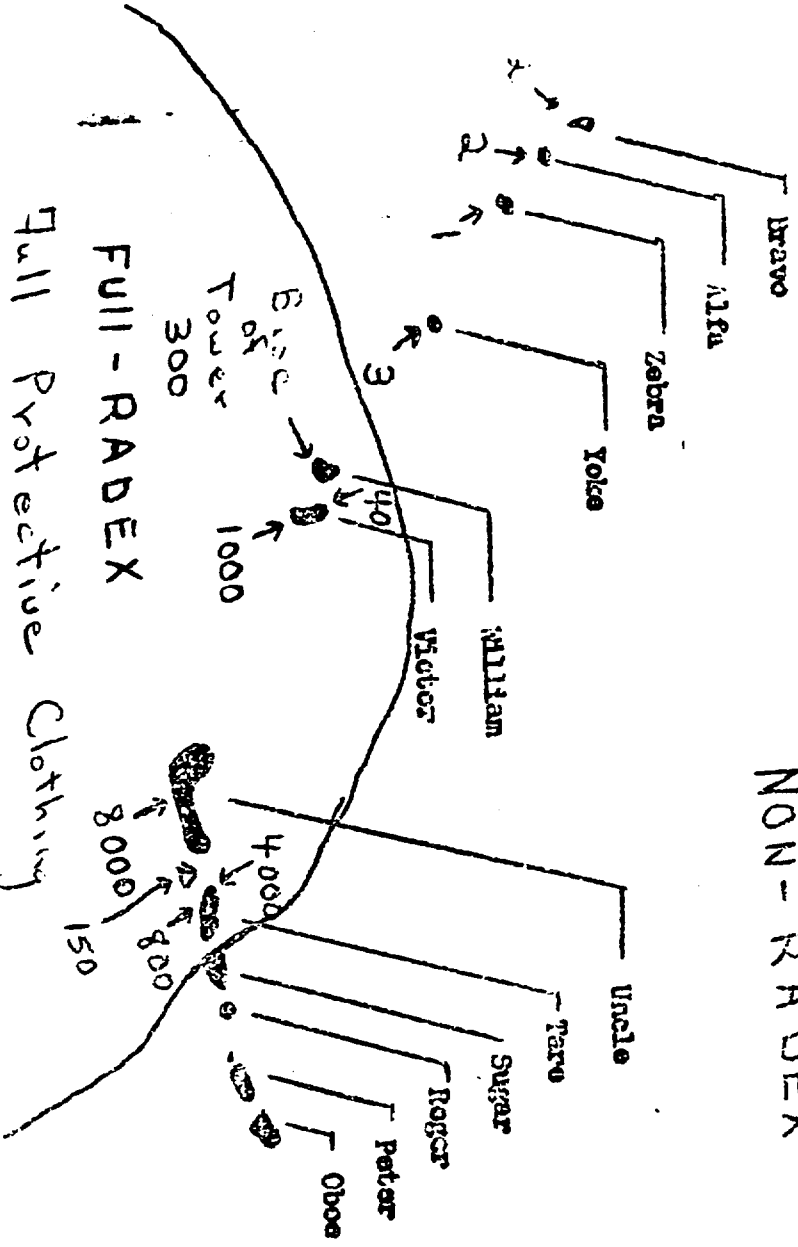
28



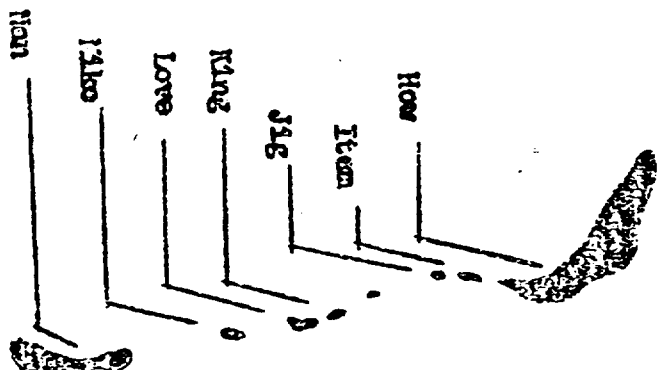
COPIED/DOE
LANL RC



NON-RADDEX

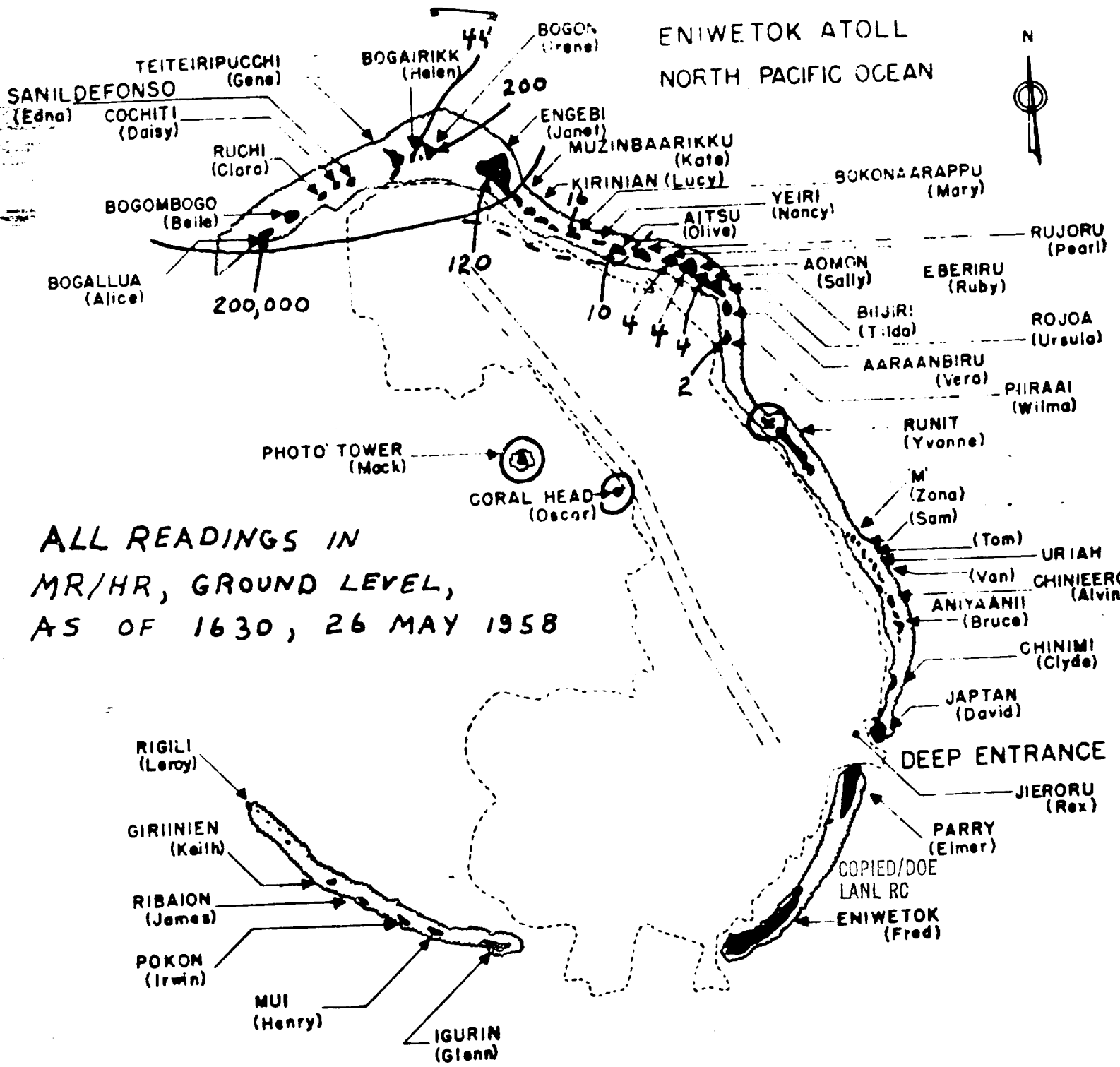


Full Protective Clothing
Will Be Worn In
THIS AREA



ALL Readings AT
Ground Level IN
MR/MR AS OF 1630 HR
24 MAY 58

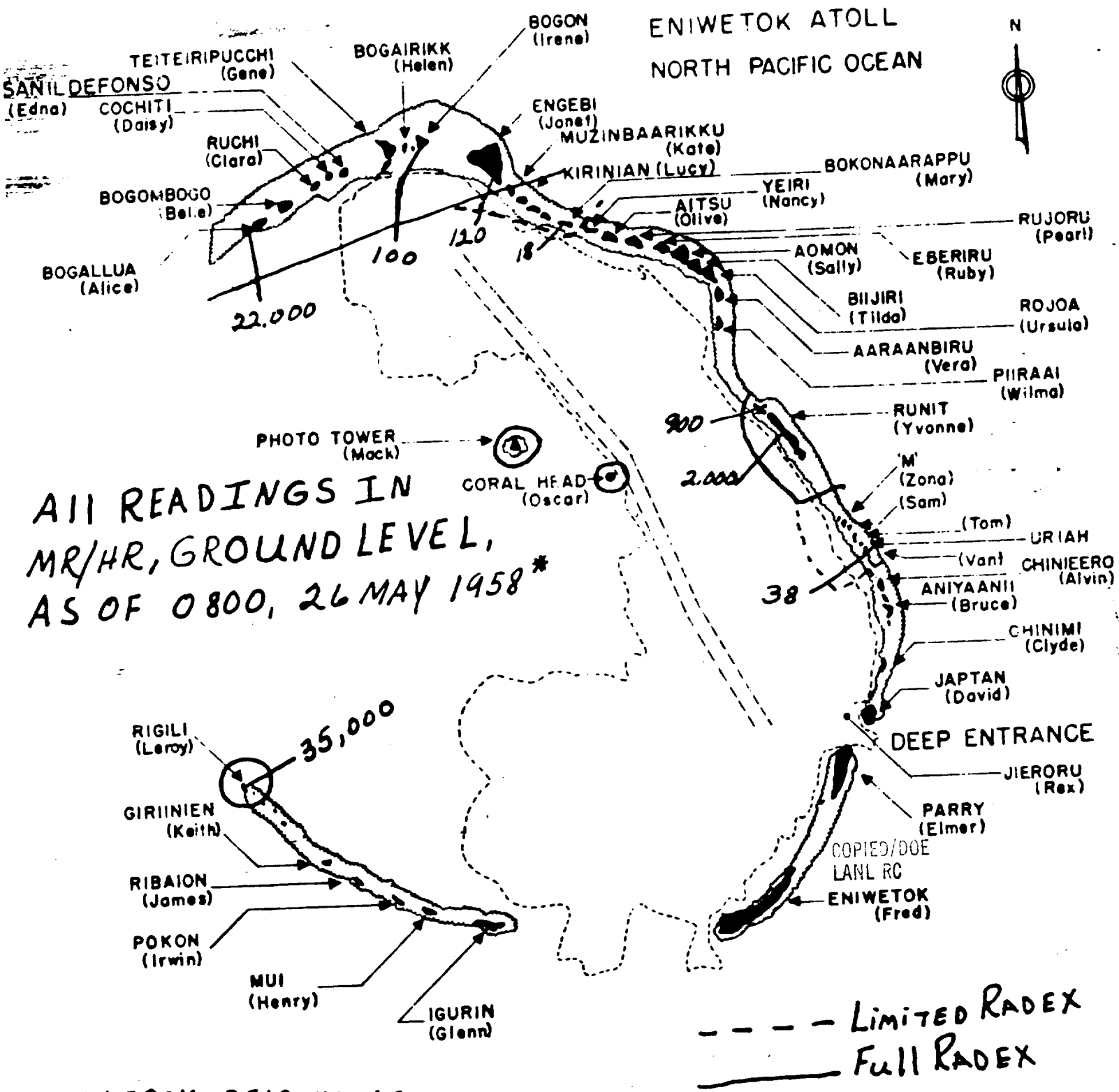
ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1630, 26 MAY 1958

--- LIMITED RADEX
— FULL RADEX

81



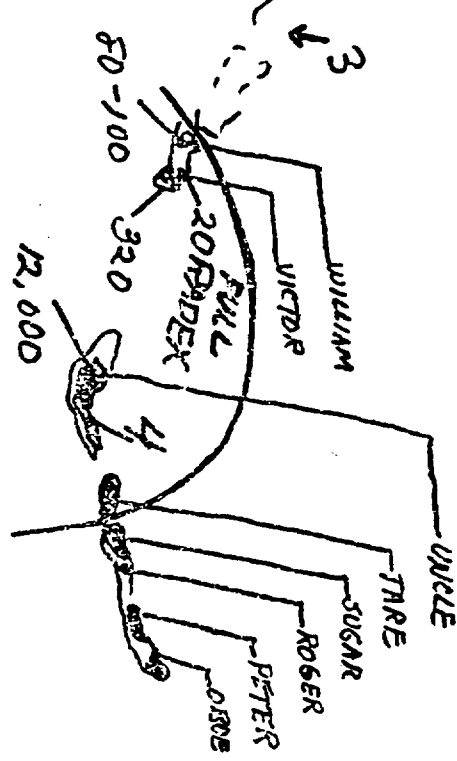
ALL READINGS IN
 MR/HR, GROUND LEVEL,
 AS OF 0800, 26 MAY 1958*

* LEROY READING AS
 OF 0930.

87

TARE READINGS

STA	630.02	- 200
	2210	- 1000
	2270	- 2500
	2230.01	- 1000
	2230.02	- 1500
	2420.01	- 3500
	2420.02	- 500
	630.03	- 9
	630.01	- 1000

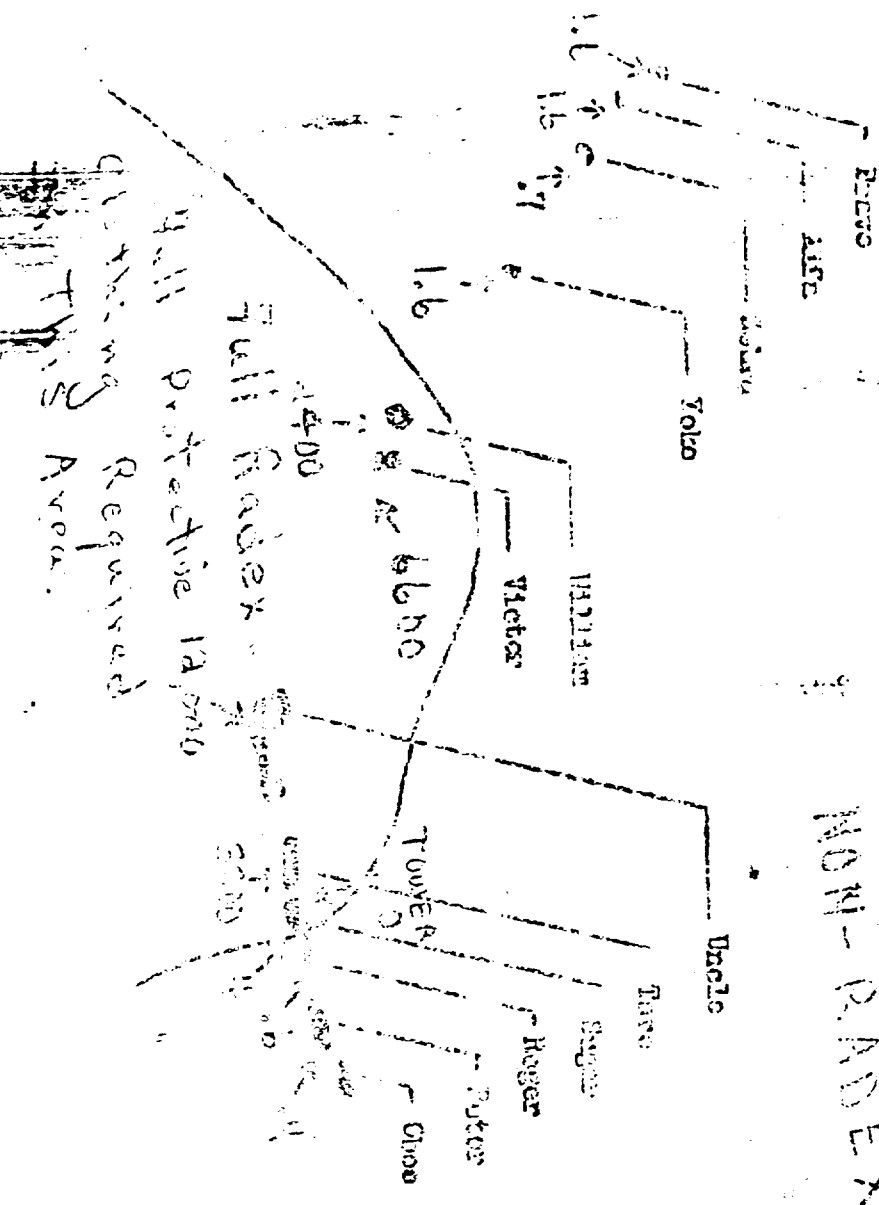


RAD. SAFE
SIT - MAN

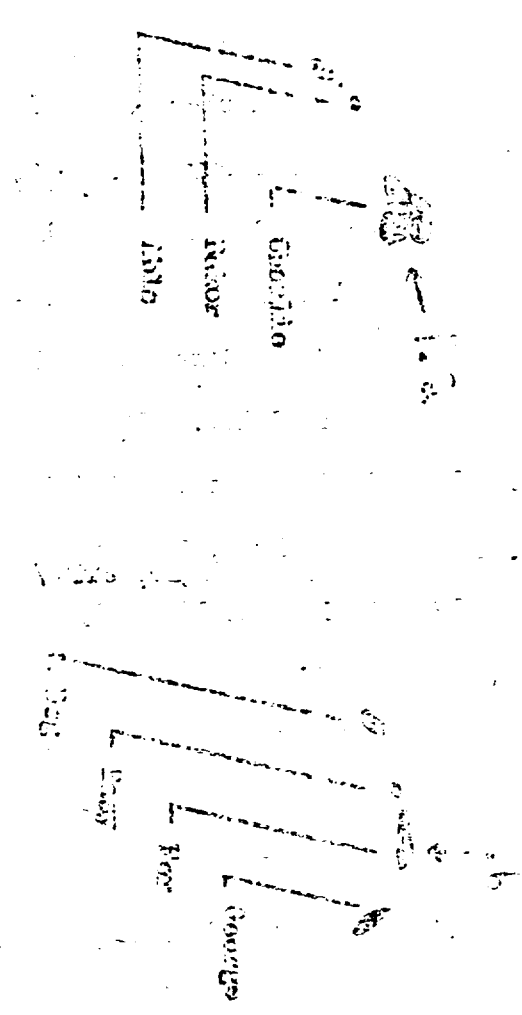


ALL READINGS IN
MR/HR AS OF
1600 (ground level)

10000 20000

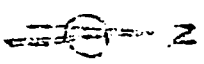


NON-RADAR



COPIED/DOE
LANL RC

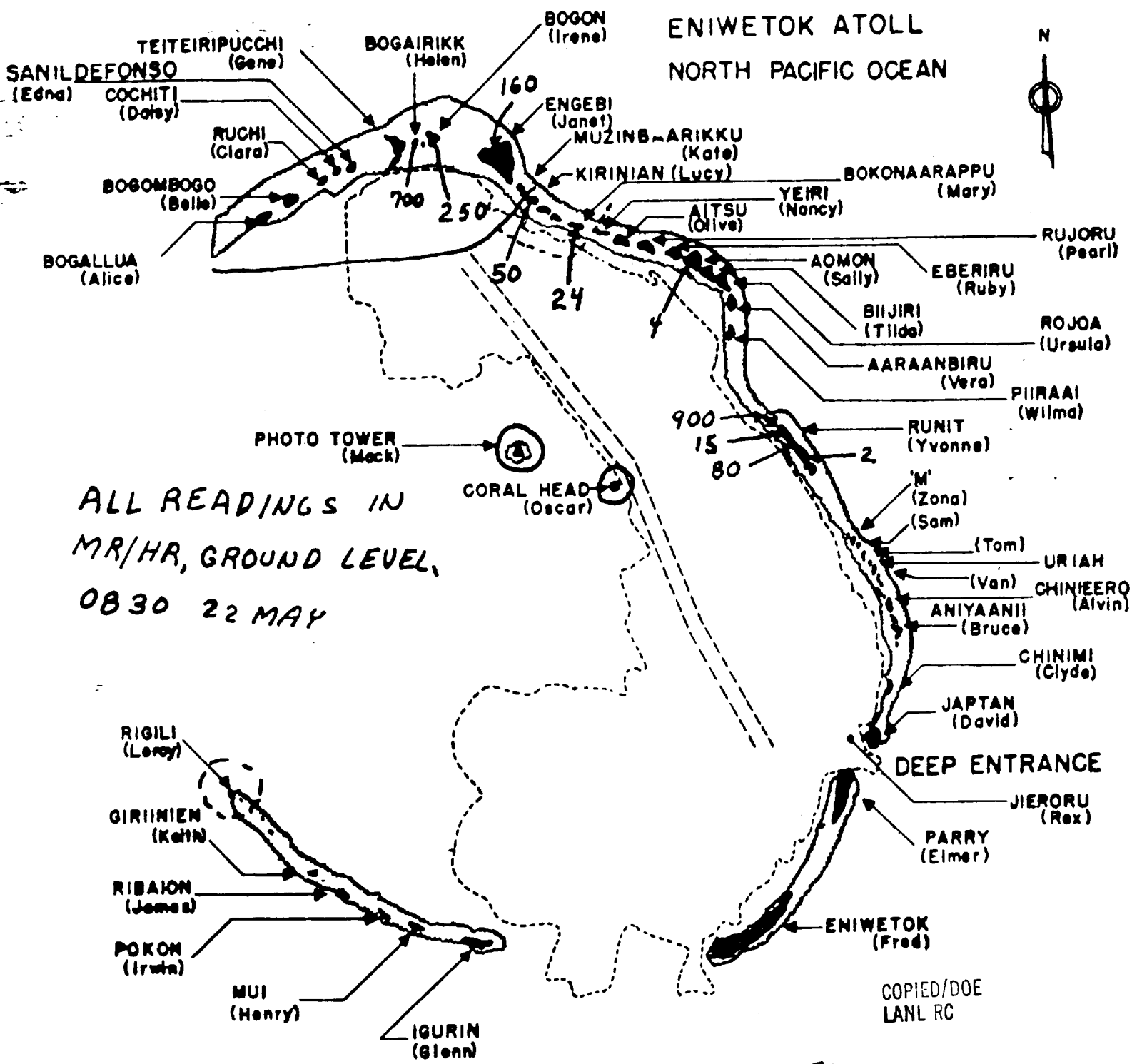
SHANNON



All Readings in M/HR
To Ground Reading
US OF 1708 hrs 22 MAY
Readings in M/HR

28

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
0830 22 MAY

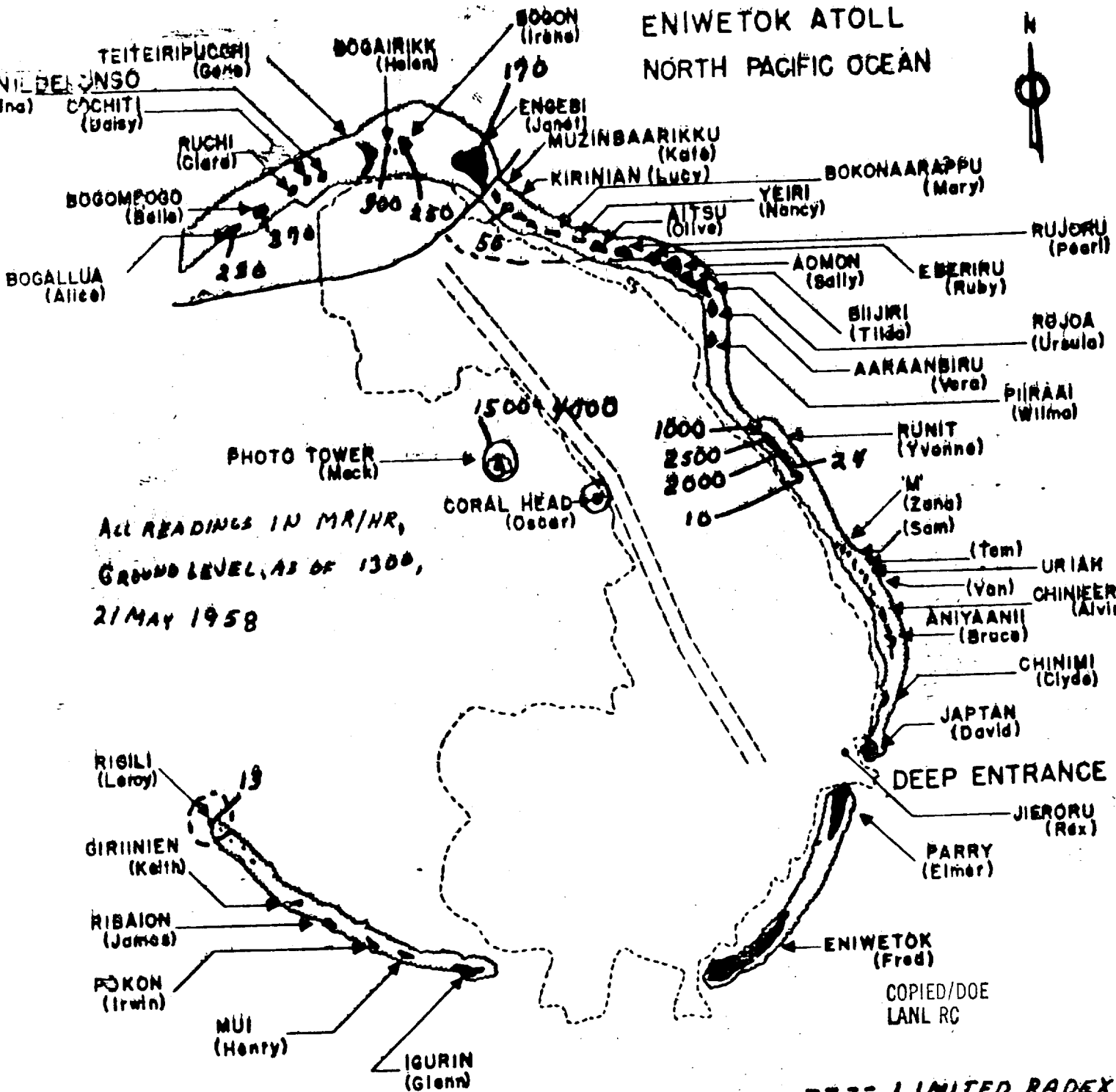
COPIED/DOE
LANL RC

NOTE: HOLLY G.Z. - 20 to 120 mr/hr

— FULL RADEX
- - - LIMITED RADEX

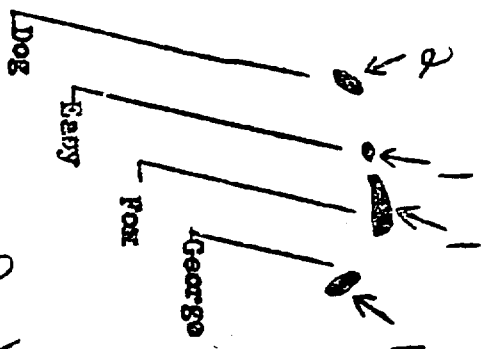
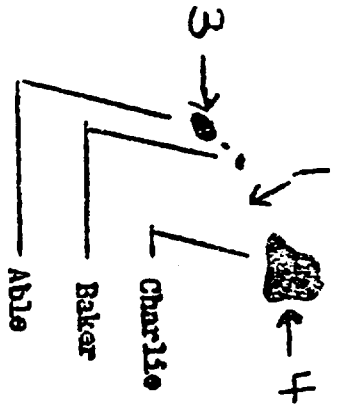
8

ENIWETOK ATOLL
NORTH PACIFIC OCEAN



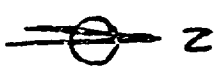
COPIED/DOE
LANL RC

88

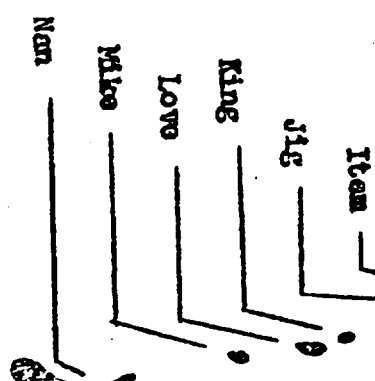
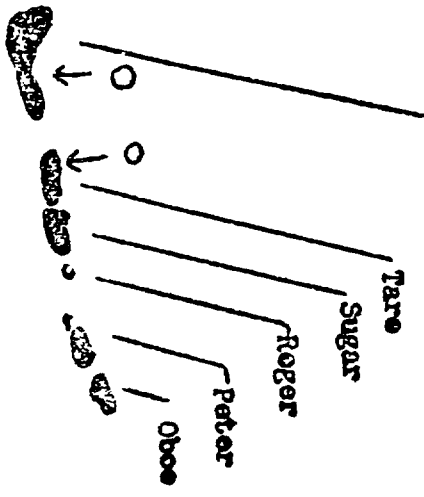
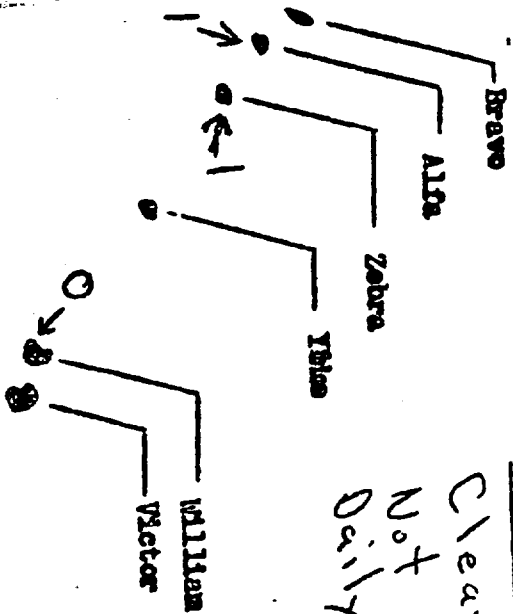


COPIED/DOE
LANL RC

BIKINI ATOLL

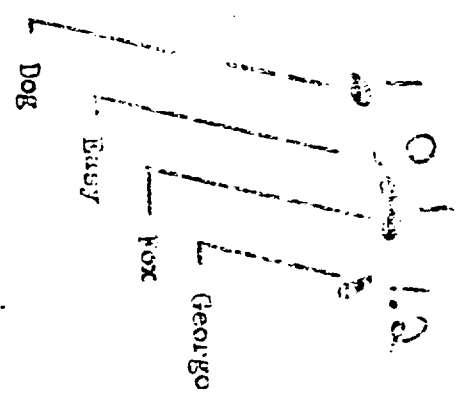
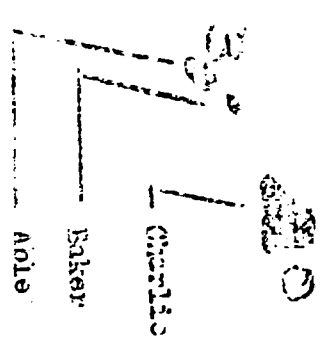


All Areas Non-Radex Rad-Safe
 Clearance Through TU-6
 Not Required. This will be last
 Daily Situation Map till Next Shiftover



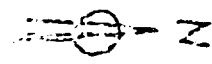
All Readings IN
 MR/HR AT Ground
 Level AS of 1435 hrs.
 18 MAY

8

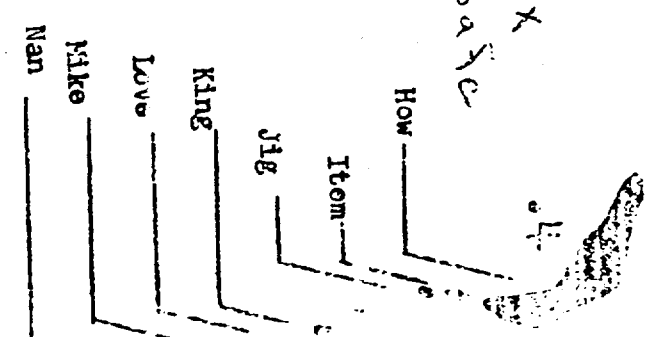
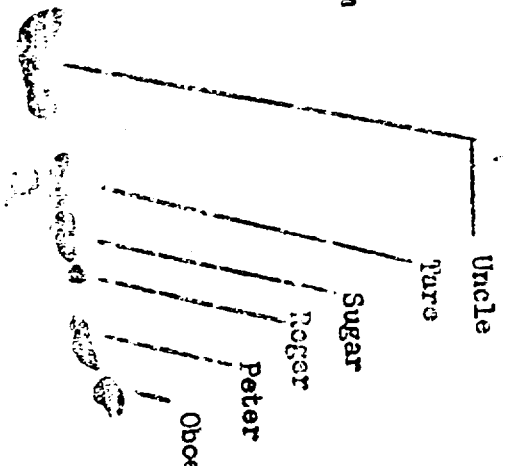
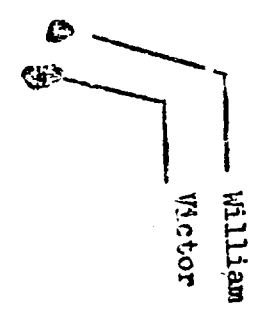
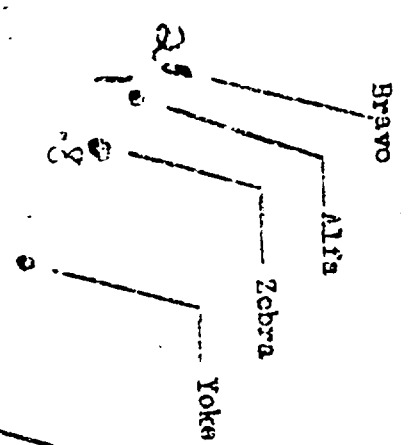


COPIED/DOE
LANL RC

BIRN/ADLL



All Areas Are Non-Radar
Clearance Not Required
Rad-Safe

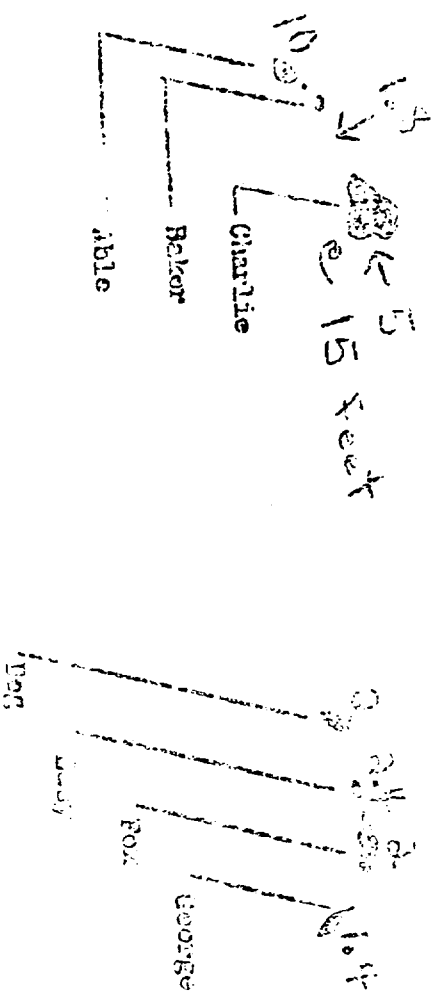
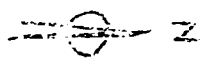


ALL Readings In
M/R at Ground Level
NS of 1650, 17 May

25

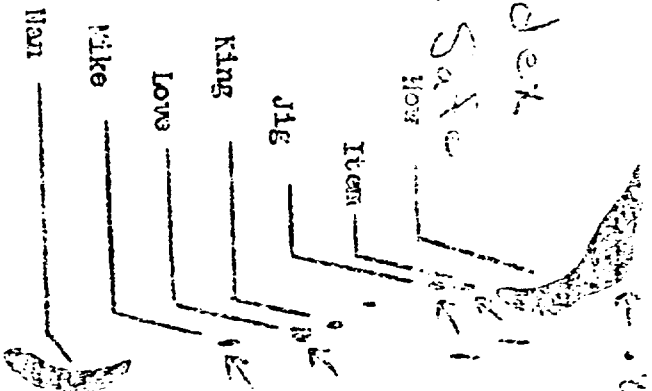
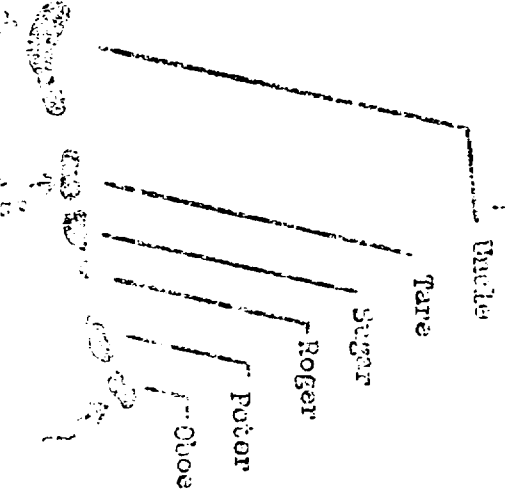
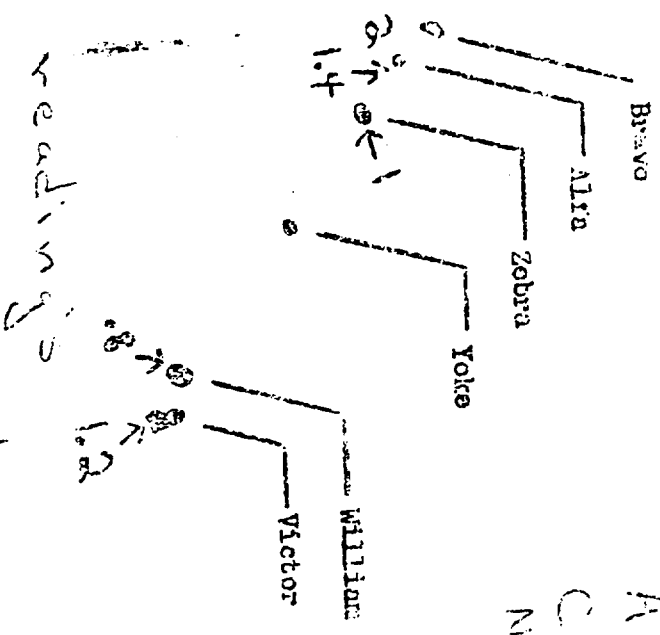
NIKINI ATOLL

COPIED/DOE
LANL RC



ALL AREAS ARE NON-RAD EX
 CLEARANCE THROUGH RAD-SAFE

NOT REQUIRED



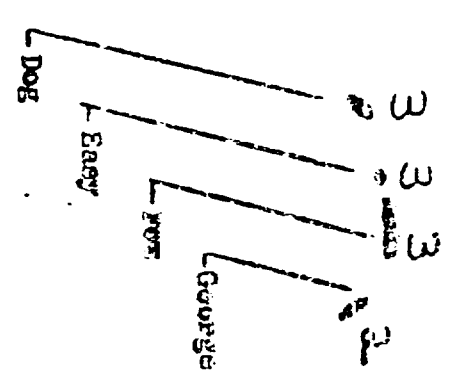
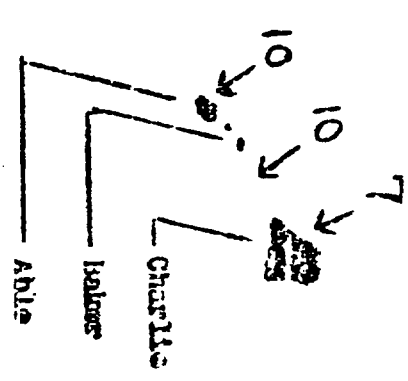
ALL READINGS

AT Ground Level IN

PARTRAS OF 1645 HRS

16 May 56

*Make a file for 31
Three for 31*

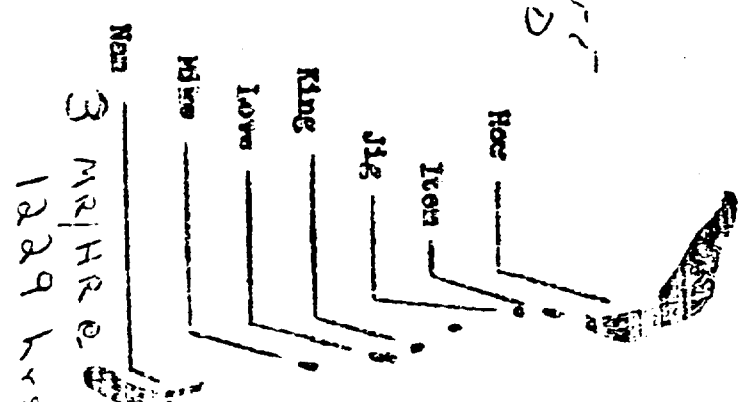
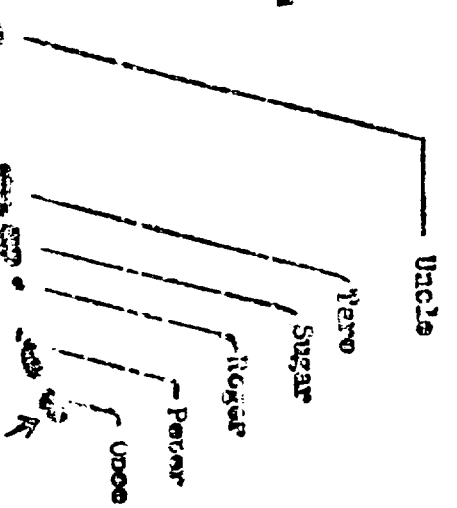
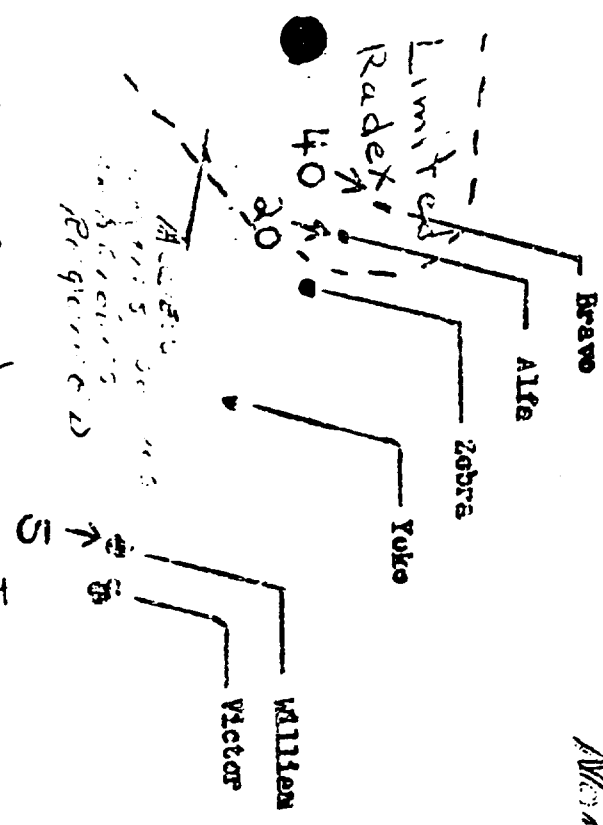


COPIED/DOE
LANL RC

BIKINI ATOLL



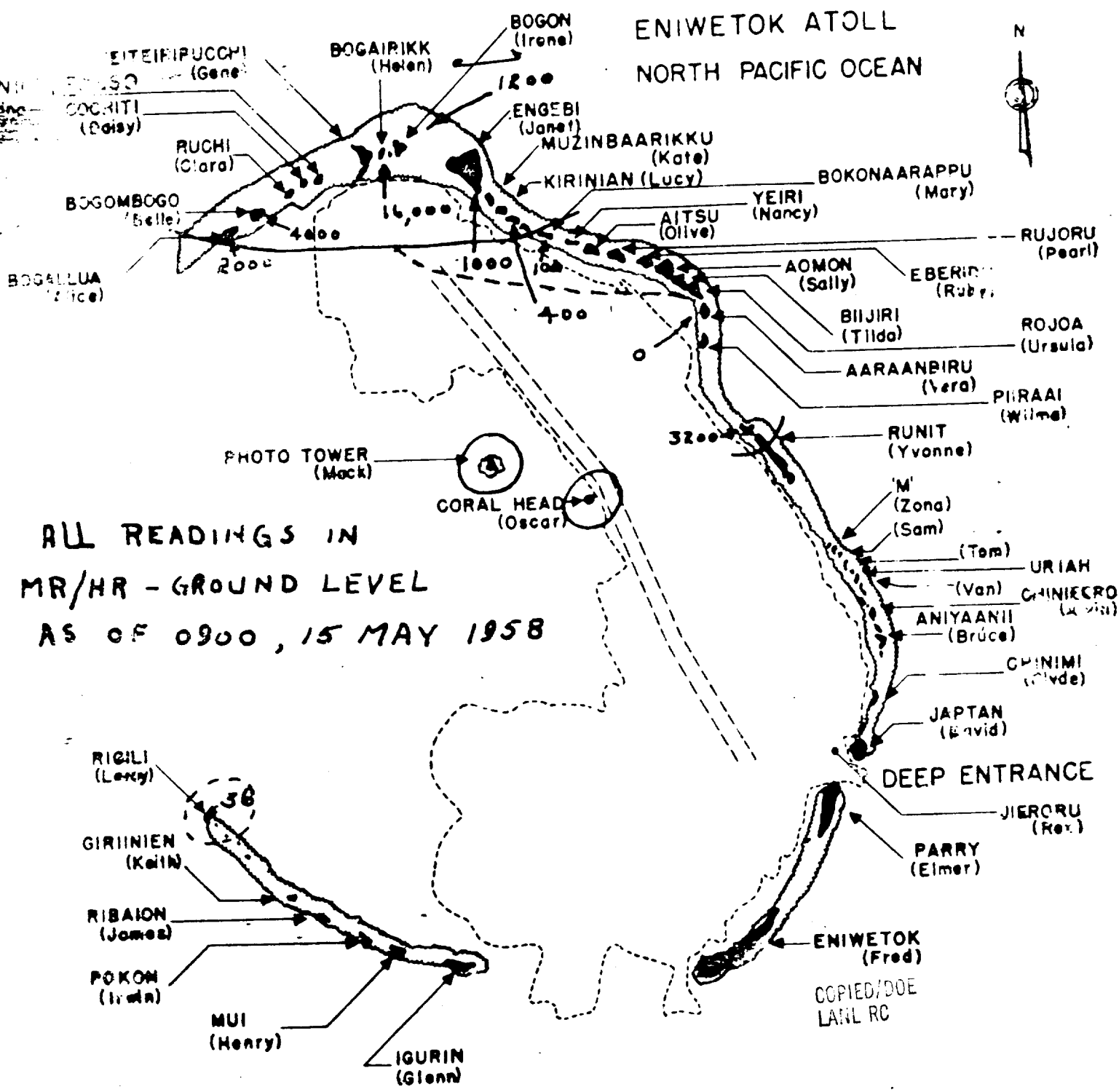
*MAN RADER'S COORDINATES
ARE TO BE MEASURED
AS REQUIRED*



All readings in
MR/HR AT Ground
Level AS OF 1150 hrs.
15 MAY

--- Limited Ro
--- Full Rader

ENIWETOK ATOLL
NORTH PACIFIC OCEAN

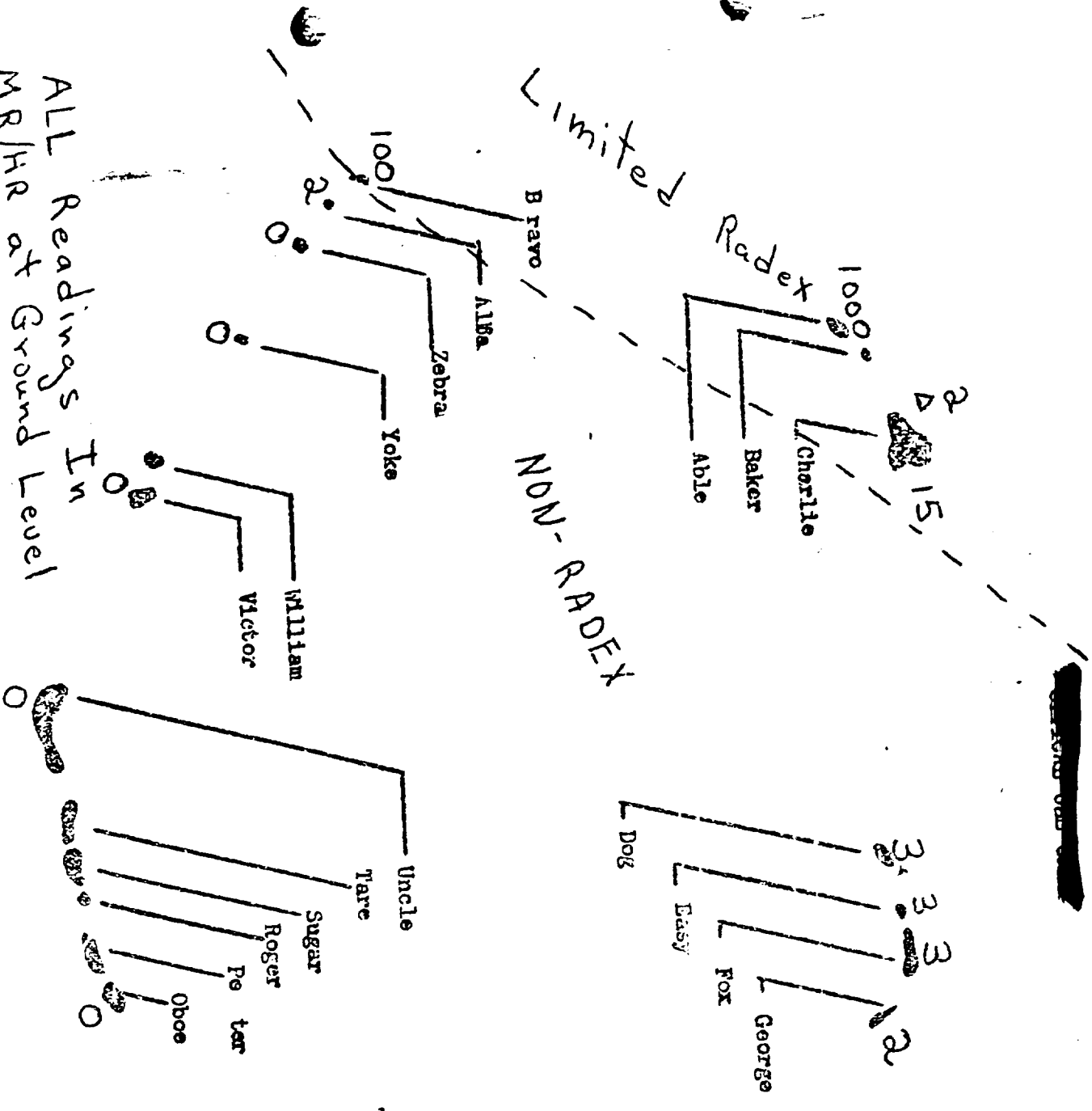


ALL READINGS IN
MR/HR - GROUND LEVEL
AS OF 0900, 15 MAY 1958

--- LIMITED RADE
— FULL RADEX

95

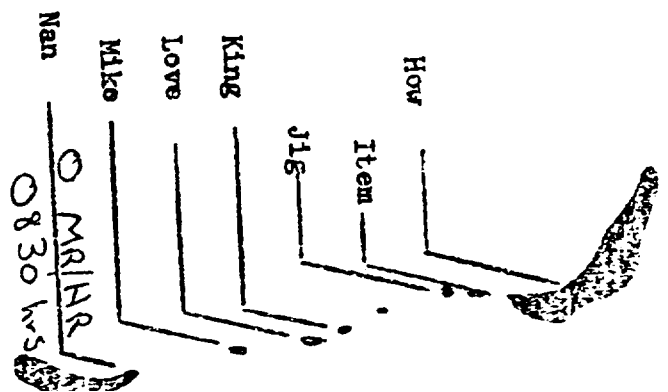
ALL Readings In
MR/HR at Ground Level
AS OF 0800, 14 May



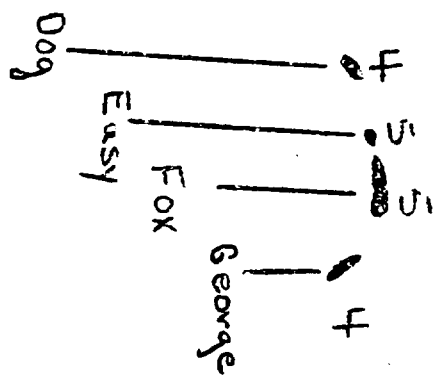
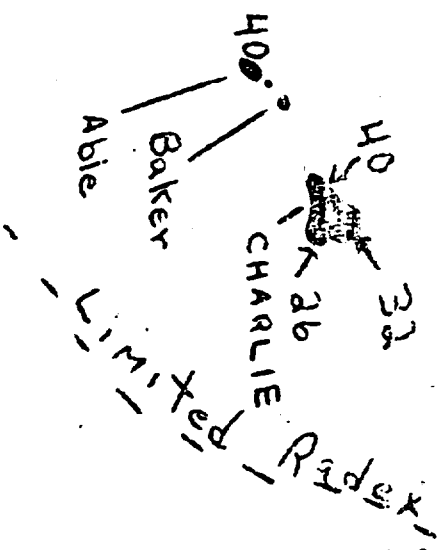
COPIED/DOE
LANL RC

BIKINI ATOLL

----- Limited Radex
----- Full Radex



9



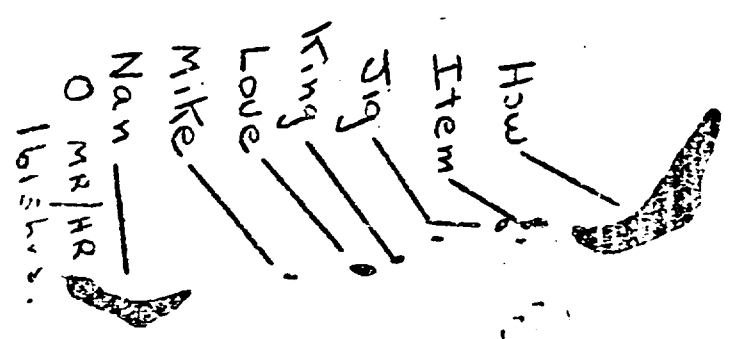
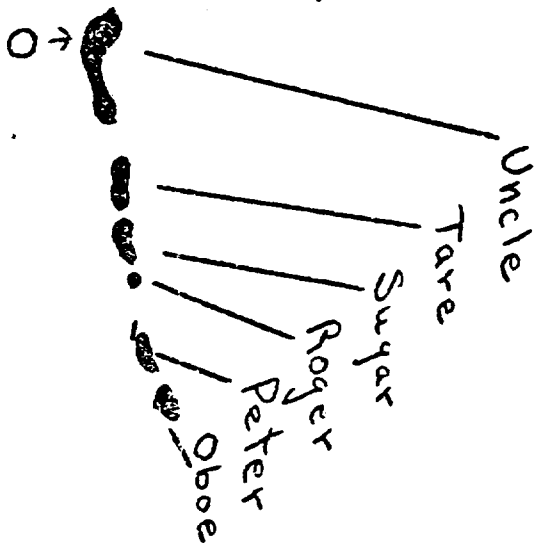
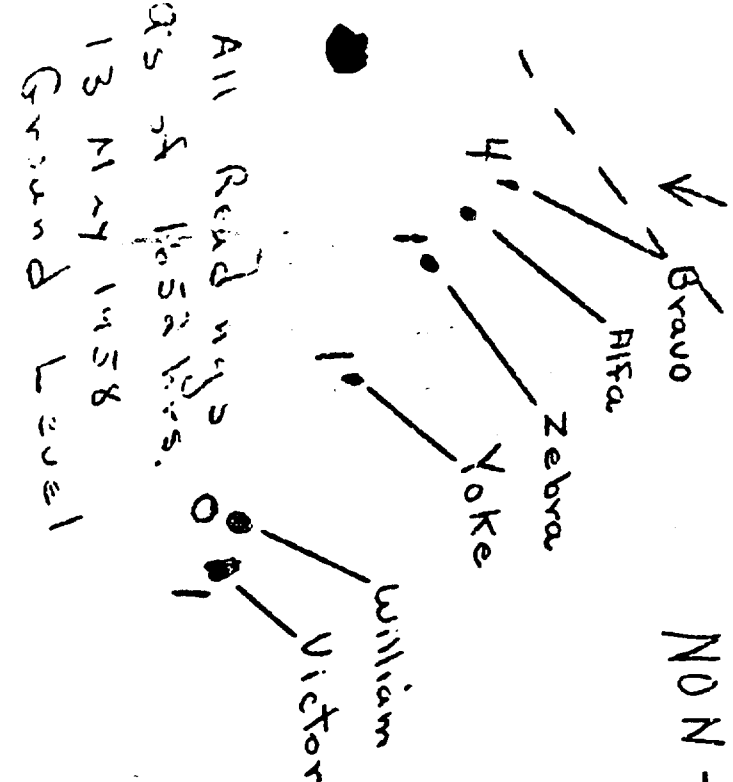
COPIED/DOE
LANL RC

BIKINI ATOLL



REEF 100-200

NON-RADEX

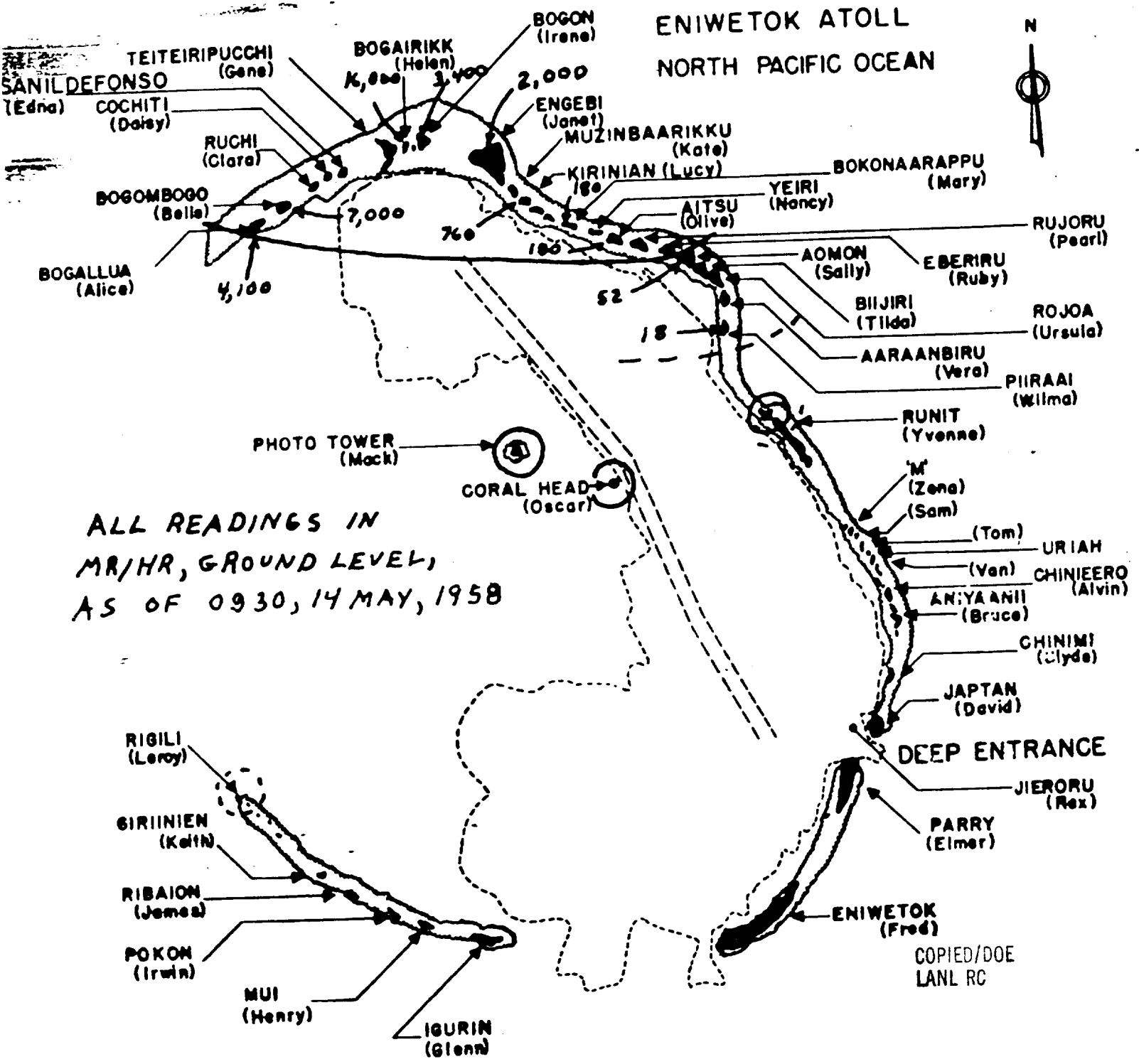


--- Limited Radex
--- Full Radex

ALL Readings IN MR/HR

PS

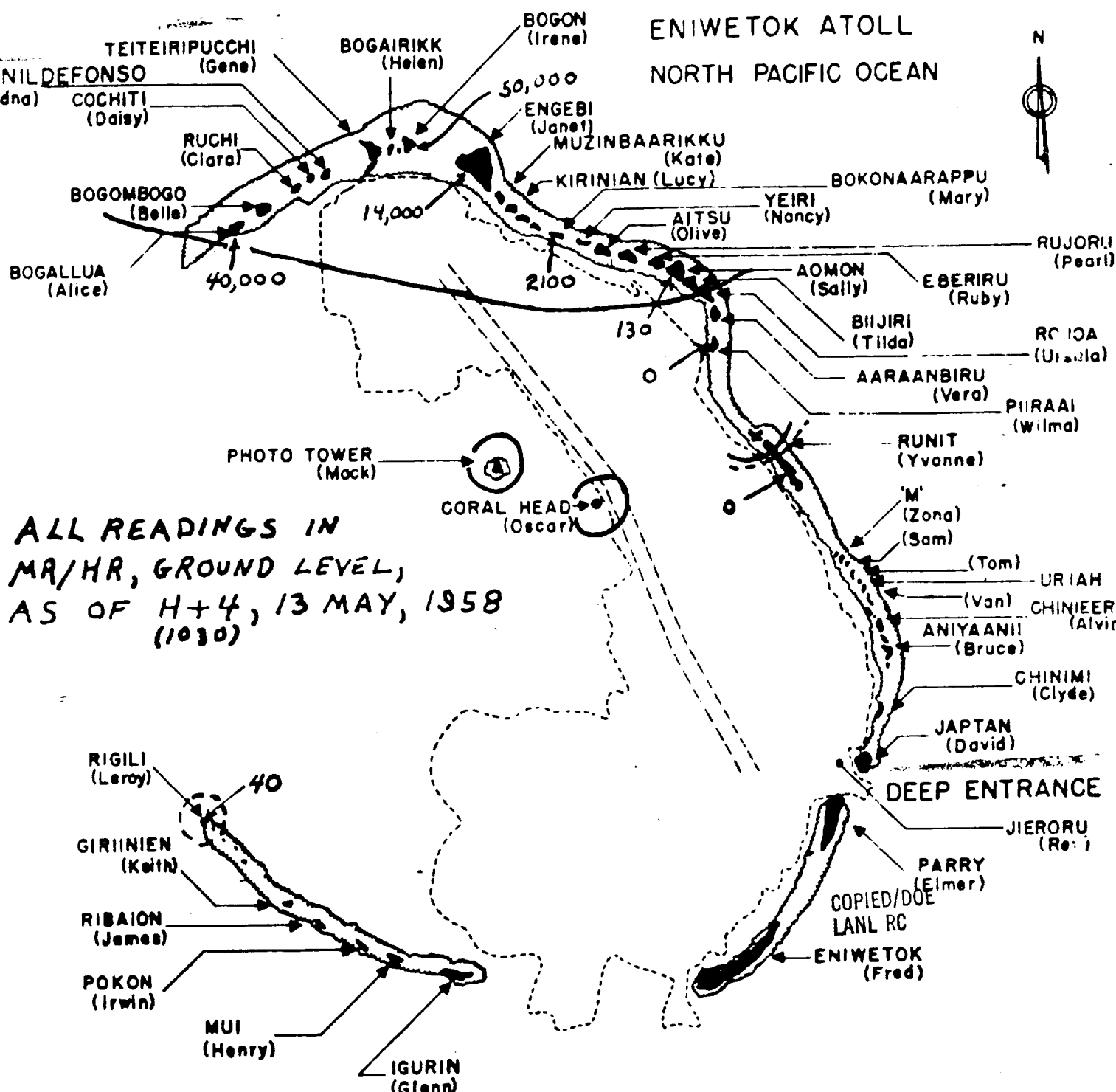
Dr. Wm. E. Ogle
JTF-7



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0930, 14 MAY, 1958

--- LIMITED RADEX
— FULL RADEX

Dr. Wm. E. Ogle
JTF-7



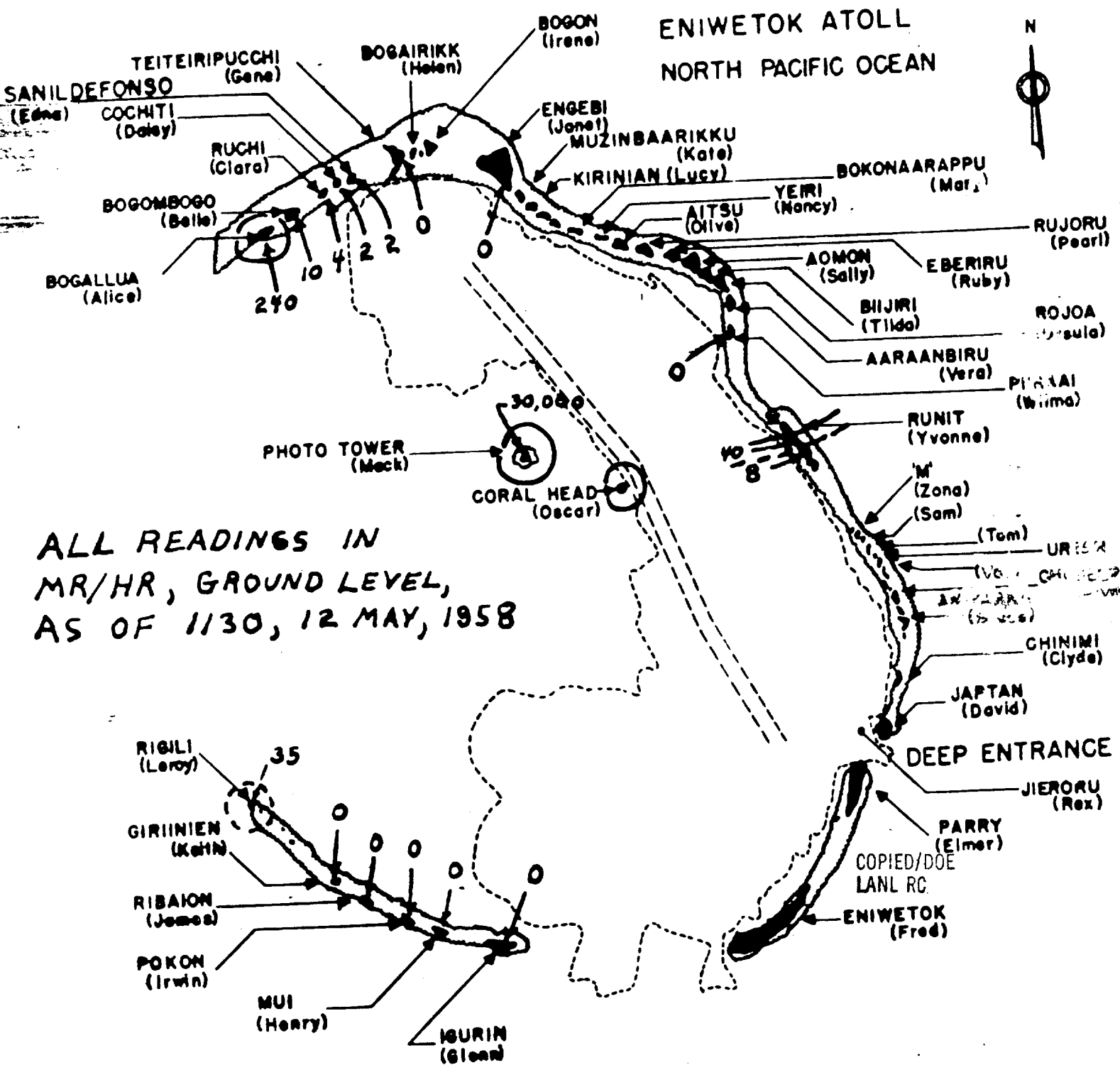
ALL READINGS IN
M/R/HR, GROUND LEVEL,
AS OF H+4, 13 MAY, 1958
(1030)

NOTE: Holly Moor - 70 m/hr at 25'
 Yellowwood Moor - 250 m/hr at 25'
 Irene Pinex Recovery Area - 5,000
 to 10,000 m/hr at 25'

--- LIMITED RAD
 — FULL RAD EX

90

Dr. Wm. E. Ogle
JTF-7

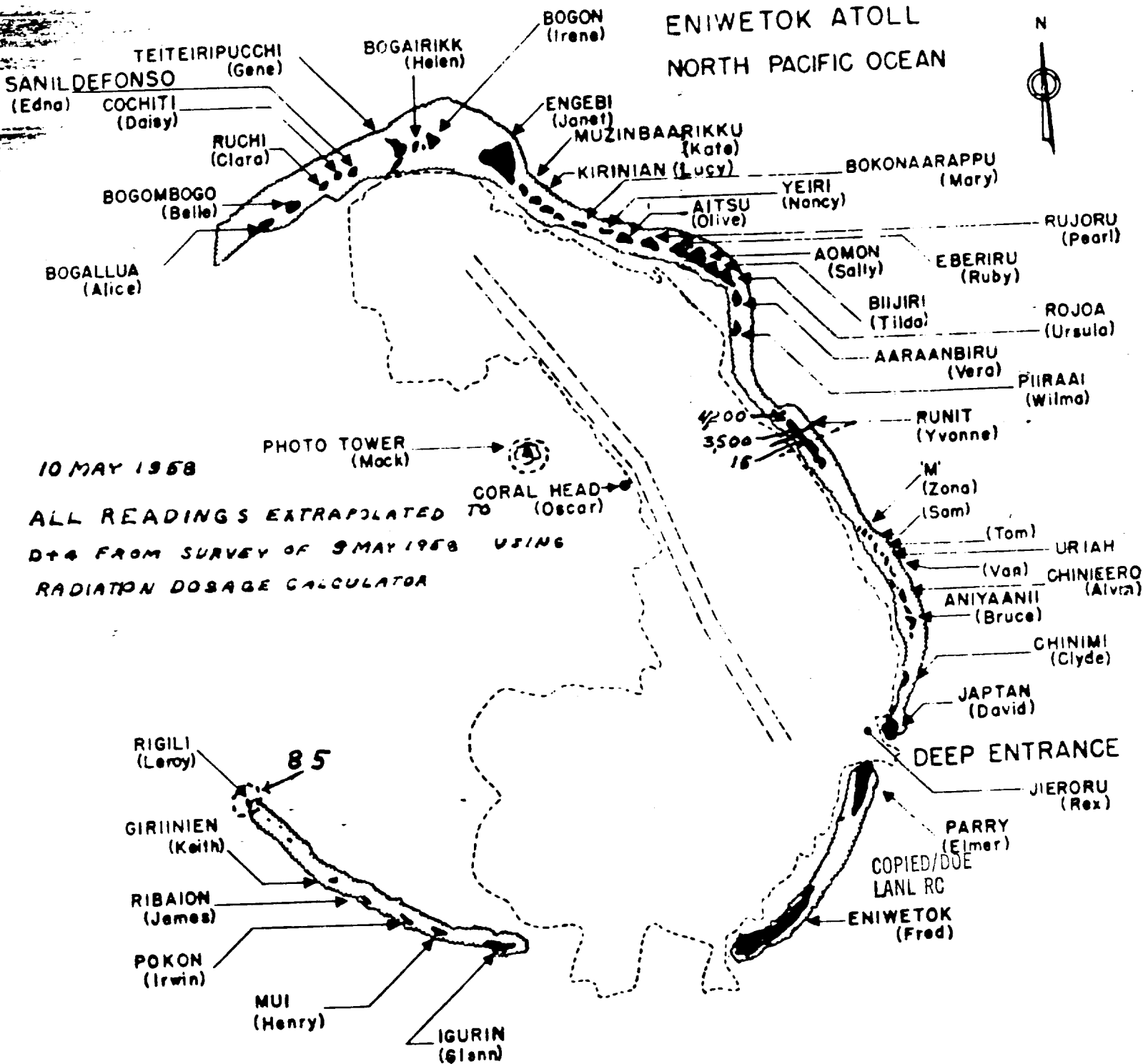


ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1130, 12 MAY, 1958

--- LIMITED RAD
— FULL RADEX

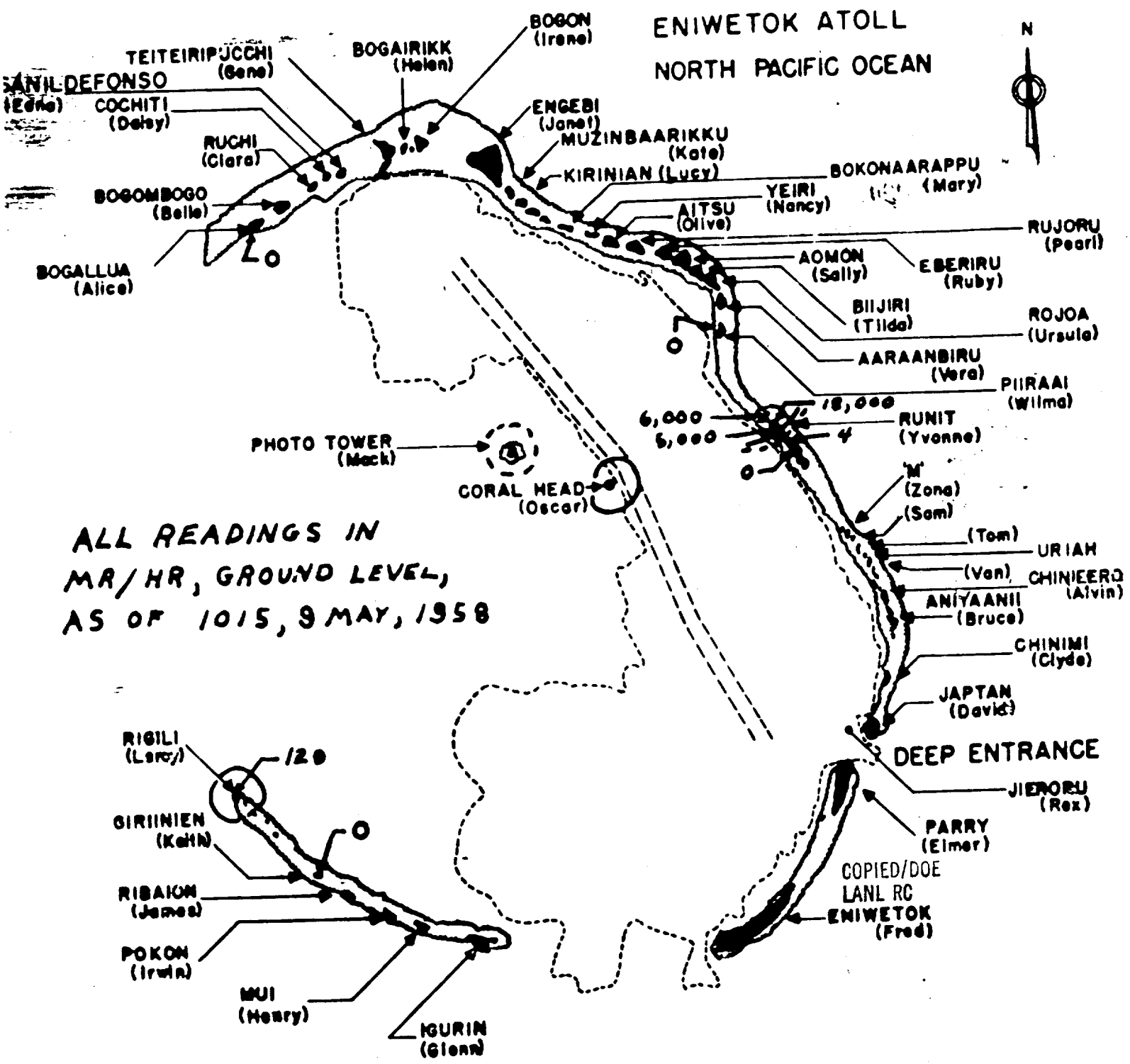
100

Dr. Wm. E. Ogle
JTF-7



Dr. Wm. E. Cogle
JTF-7

ENIWETOK ATOLL NORTH PACIFIC OCEAN



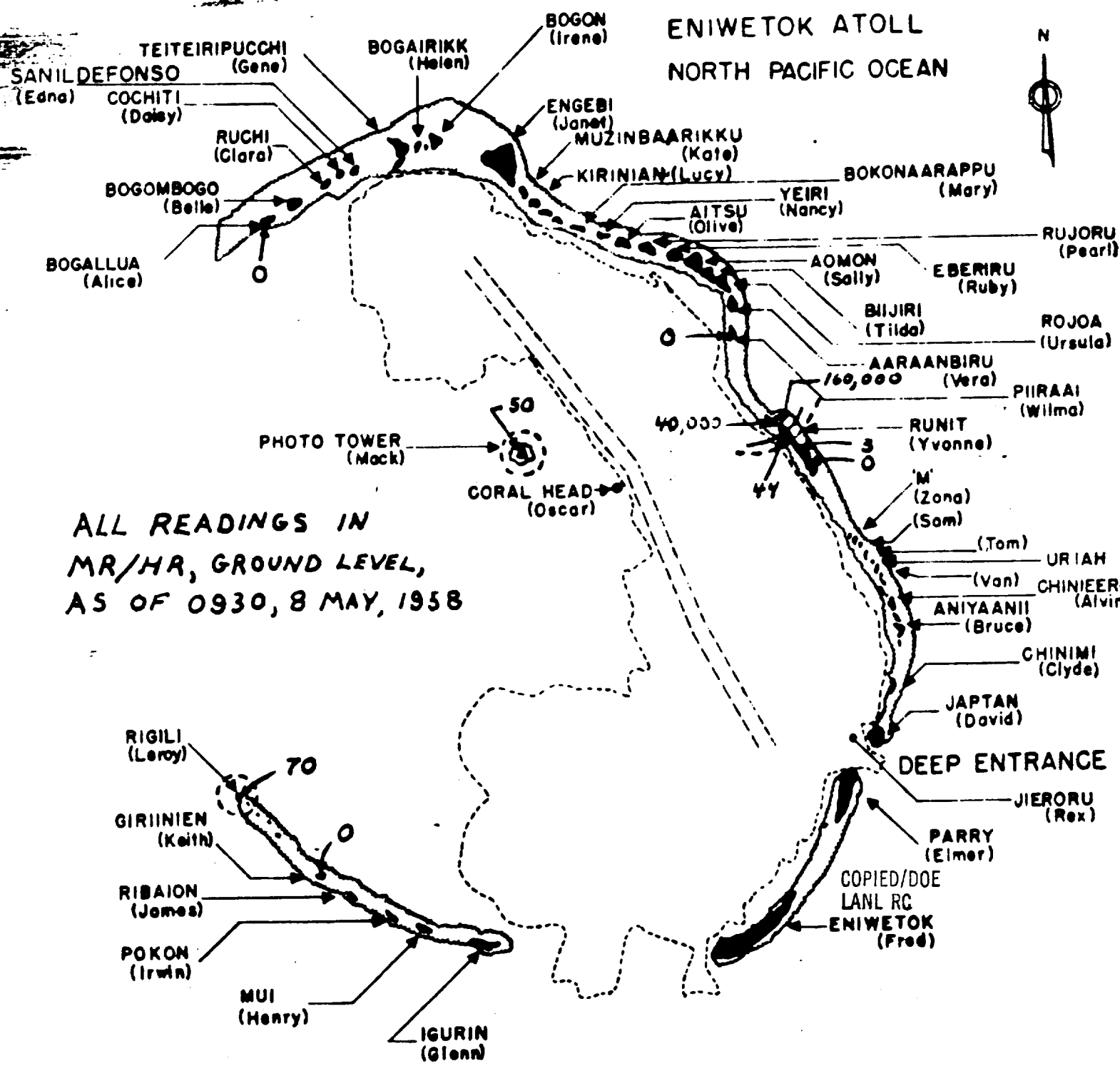
ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 1015, 9 MAY, 1958

--- LIMITED RADEX
— FULL RADEX

10

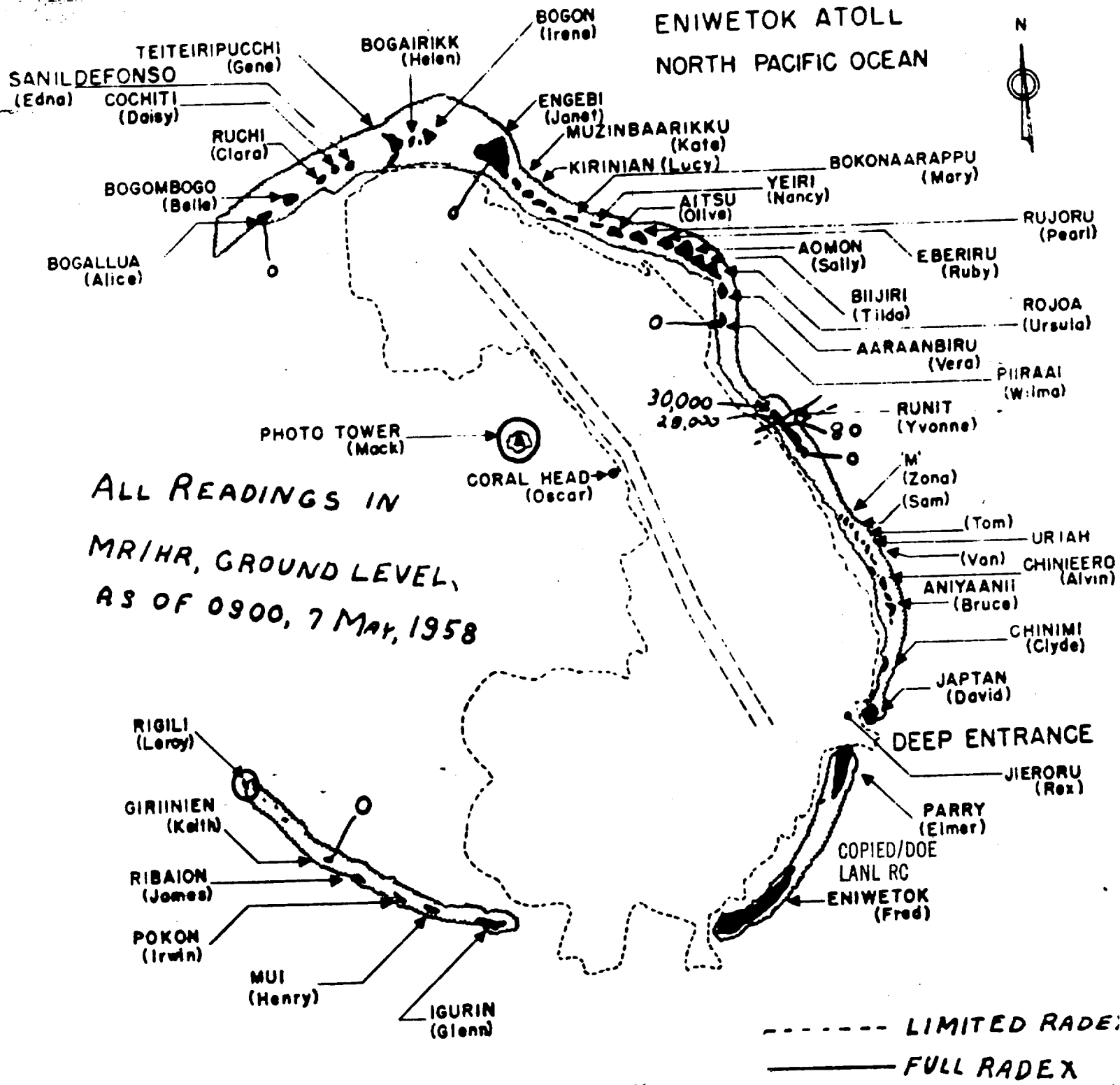
Dr. Wm. E. Cogle
JTF-7

ENIWETOK ATOLL NORTH PACIFIC OCEAN



ALL READINGS IN
MR/HR, GROUND LEVEL,
AS OF 0930, 8 MAY, 1958

Dr. Wm. E. Ogle
JTF-7



100