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Don Martin
Paul Dunaway
Roger Ray
Last

R ATUZYUW RHEGLLL3588 2902122-UUUU--RHEGNVO. OCT 17 5 10 PM '78

ZNR UUUUU

405189

R 172122Z OCT 78

FM UCLLL WILLIAM L ROBISON L-453 LIVERMORE CA

TO RHEGNVO/US DOE NVOO ROGER RAY LAS VEGAS NV

INFO RUHVAAA/ENEWETAK RADIOLOGICAL SURVEILLANCE PROGRAM MANAGER ENEWETAK ATOLL

AE

BT

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UNCLAS

TO EVALUATE THE POTENTIAL DOSE TO POPULATION THROUGH THE FOOD CHAIN IS IS ESSENTIAL TO HAVE INFORMATION ON THE SOIL CONCENTRATIONS AS A FUNCTION OF DEPTH. I RECOMMEND THAT SOIL SAMPLES BE TAKEN, AFTER CLEAN-UP OF THE NORTHERN ISLANDS AT ENEWETAK ATOLL ACCORDING TO THE FOLLOWING PROFILE SEQUENCE:

0-5 CM

5-10 CM

10-15 CM

15-25 CMM

25-40 CM

40-60 CM /OPTIONAL/

PASO ROUTING SLIP

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DIRECTOR		✓		
Admin. Assistant				
PROJECT ENGINEER		✓		
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REMARKS:

081

ANALYSIS OF THESE SAMPLES FOR 137CS, 90SR, 241AM AND 239 PLUS 240PU WOULD LEAD TO A DATA BASE WHICH WOULD BE MOST USEFUL FOR ASSESSING DOSES ASSOCIATED WITH USE OF THE NORTHERN ISLANDS PORT CLEAN-UP.

AS MANY OF THESE SAMPLES AS POSSIBLE SHOULD BE TAKEN ON THE NORTHERN ISLANDS OF ALICE THROUGH URSULA. THE FOLLOWING IS A RECOMMENDED PRIORITY FOR SAMPLING OF THE ISLANDS:

1.	ENJEBI	/JANET/
2.	AOMON	/SALLY/
3.	BIJIRE	/TILDA/
4.	BOKEN	/IRENE/
5.	MIJIKADREK	/KATE/
6.	LUJOR	/PEARL/
7.	KIDRINEN	/LUCY/
8.	BOKENELAB	/MARY/
9.	LOUJ	/DAISY/
10.	ELLE	/NANCY/
11.	BOKOMBAKA	/BELLE/
12.	KIRUNU	/CLARA/
13.	BOKOLUO	/ALICE/
14.	LOJWA	/URSULA/

THE EMPHASIS OF COURSE SHOULD BE ON THOSE ISLANDS THAT HAVE BEEN SUBJECT TO SOIL REMOVAL OR REDISTRIBUTION.

THE 0-5 CM SAMPLE OF EACH PROFILE WILL PROVIDE THE DATA NEEDED TO EVALUATE THE RESUSPENSION/INHALATION PATHWAY; THE REST OF THE PROFILE SAMPLES WILL BE USED IN CONJUNCTION WITH THE 0-5 CM SAMPLE TO EVALUATE THE TERRESTRIAL FOOD CHAINS.

END REF LSO/BA-3588

BT

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OCT 23 1978

PRIORITY

TEN2 MSG909 PAGE 01 295 2158

PRIORITY

PASO ROUTING SLIP

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DIRECTOR				
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REMARKS:

16

ACTION: JTG85-02,
INFO:

12

PTTUZYUW RUHHDNA0501 2950645-UUUU--RUHVAAA.
ZNR UUUUU
P 220520Z OCT 78
FM DOE/ERSP ENEWETAK MI
TO RHEGLLL/LAWRENCE LIVERMORE LAB LIVERMORE CA
RHEGNVO/USDOE LAS VEGAS NV
RUHVAAA/USDOE/PASO HICKAM AFB HI
INFO RHEGGTN/USDOE HQ GERMANTOWN MD
BT
UNCLAS NONWD
BRUCE CHURCH SENDS TO W. L. ROBISON, LLL; ROGER RAY, LV; ROGER RAY, HICKAM; INFO ATTN: TOM MCCRAW, MD.

SUBJECT: SOIL SAMPLING FOR SR-90

REF: MSG 172122Z OCT 78 SMAE SUBJECT FROM LLL.

THE ERSP HAS EXAMINED THE SOIL SAMPLE THRU PUT CAPABILITY WITH PRESENT PERSONNEL AND EQUIP (ALT 1) AND WXPANDED PERSONNEL AND EQUIPMENT (ALT 2). FOLLOWING IS A PRESENTATION OF ALTERNATIVES AND QUESTIONS THAT SHOULD BE CONSIDERED BEFORE LAUNCHING A SAMPLING PROGRAM - LAB PRESENTLY UNDERWAY TO TRIAL TEST ANALYTICAL PROCEDURES.

ALT 1 : SUSTAINED PRODUCTION RATE - 12 SAMPLES/DAY - SR-90, CS-137, AM-241, PU-239, 240.
PERSONNEL - EXISTING MANPOWER - CHEMISTRY 1 SHIFT.
PAGE 2 RUHHDNA0501 UNCLAS
EQUIPMENT - ADD ONE AUTOMATIC SAMPLE CHANGER UNIT (AVAILABLE FROM FRST).
COUNTING - EXTENDED HOURS.
NINE MONTHS OF OPERATION - ASSUME LAB ROLLUP JUL 79.
TOTAL PRODUCTION - 2800 SAMPLES.
SOME INCREASE OF LAB SUPPLIES WILL BE REQUIRED.
INCREASE BALL MILL CAPACITY IN PREP LAB.

ALT 2 : SUSTAINED PRODUCTION RATE - 24 SAMPLES/DAY - SR-90, CS-137, AM-241, PR-239, 240.
PERSONNEL - ADD 2 CHEM TECHS - CHEMISTRY 2 SHIFTS.
- ADD 1 COUNT TECH - COUNTING 3 SHIFTS.
EQUIPMENT - ADD ONE MORE AUTOMATIC SAMPLE CHANGER UNIT FROM FRST

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(TOTAL OF 3 SYSTEMS IN LAB).
- ADD 1 MORE GAMMA COUNTING SYSTEM (USE IMP SPARE SYSTEM).
EIGHTEEN MONTHS OF OPERATION - ASSUME LAB ROLLUP APR 80.
TOTAL PRODUCTION - 11200 SAMPLES.
INCREASE IN LAB SUPPLIES.
INCREASE BALL MIL CAPACITY IN PREP LAB.
FOR THE 14 ISLANDS LISTED IN REFERENCED TWX, A 50 METER GRID YIELDS 1053 LOCATIONS (FOR INFORMATION NV-140 LISTS 76 PROFILE
PAGE 3 RUHHDNA0501 UNCLAS
LOCATIONS FOR THESE 14 ISLANDS). REF TWX SPECIFIES PROFILE SAMPLING ONLY AND WITH 6 INCREMENTS PER PROFILE EQUALLING 6318 TOTAL SAMPLES. COMPARE THESE NUMBERS TO POSSIBLE PRODUCTION RATES RAISES THE FOLLOWING QUESOIONS:
1. WHAT PROFILE LOCATION DENSITY IS ACCEPTABLE? (IS A GRID ACCEPTABLE?)
2. WHAT TRADE OFFS CAN BE MADE TO REDUCE SAMPLE LOAD (E.G. REDUCE NO. OF ISLANDS, N. OF CHEMICAL ANALYSIS REQUIRED PER PROFILE)?
3. CAN INCREASED MANPOWER BE PROVIDED IN TIMELY MANNER (I.E. ALT 2)?
4. IS IT REASONALBE TO ASSUME LAB OPERATIONS UNTIL 1980?
5. ARE ALL ORGANIZATIONS INVOLVED IN THE CLEANUP WILLING TO COMMIT THEMSELVES TO THIS NEW TASK?
OTHER QUESTIONS RELATING ARE:
1. A METHOD IS NEEDED TO INTEGRATE OVER THE 10, 15 AND 20 CM INCREMENTS SPECIFIED IN THE PROFILE? SOME OPTIONS - USE EXISTING ON-ISLAND EQUIPMENT AND TAKE A 5 CM (10 CM WIDE, 10 CM LONG) THICK SECTION FROM THE MIDDLE (TOP OR BOTTOM) OF THE LAST 3 LARGE IN-
PAGE 4 RUHHDNA0501 UNCLAS
CREMENTS AND INTEGRATE OVER THE PROFILE MATHEMATICALLY OR DEVISE A METHOD OF SAMPLING THE INCREMENT INTACT WHICH INTEGRATES OVER THE ENTORE INCREMENT MECHANICALLY.
2. SHOULD CONSIDER SURFACE MEASUREMENT WORK OF IMP AND RELATED LAB WORK AS ESTIMATE OF SURFACE ACTIVITY FOR CS-137, AM-241 AND PU-239, 240. COVERAGE IS BETTER THEREFORESTATISTICS OFR ACTIVITY DISTRIBUTION WOULD BE BETTER - PRELIMINARY WORK HERE INVESTIGATING THE CORRELATION BEOWEEN VAIOUS ISOTOPES AND SR-90 FROM NVO-140 DATA SUGGESTS THIS METHOD MIGHT BE USED TO FILL IN DATA GAPS, PARTICULARLY FOR SURFACE INFORMATION.
FINALLY - IT IS NECESSARY TO SCOPE THE SIZE OF THE OVERALL TASK AS ILLUSTRATED ABOVE SO THAT SUFFICIENT PLANNING CAN BE MADE TO FIT IT

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INTO THE CLEANUP PLAN. THESE DECISIONS SHOULD BE MADE SOON.
BT
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