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U.S. ATOMIC ENERGY COMM.
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FM MAHLON E GATES MGR USAEC NVOO LAS VEGAS NEV
 TO RHEGAAA/MAJ GEN F A CAMM AGMMA USAEC WASHDC
 INFO RUEBDBA/LT GEN CARROLL H DUNN DNA DIR WASHDC

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BEST COPY AVAILABLE

UNCLAS CAPT GAY'S CONVERSATIONS WITH ME AND WITH ROGER RAY
 FOLLOWING HIS MEETING AT DNA TUESDAY AND LCDR BROWN'S CONVERSATION
 WITH RAY TODAY HAVE LEFT ME WITH THE IMPRESSION THAT WE PERHAPS
 HAVE NOT WITH SUFFICIENT CLARITY DESCRIBED WHAT THE SOIL
 SURVEY IS AND WHAT ITS END PRODUCT MAY BE EXPECTED TO BE.
 CONSISTENT WITH YOUR DIRECTIVE OF SEPT. 13, 1972, TO
 ME "TO ... CONDUCT A RADIOLOGICAL FIELD SURVEY TO DEVELOP
 SUFFICIENT DATA ON THE TOTAL RADIOLOGICAL ENVIRONMENT ... TO
 PERMIT ... THE (REQUIRED) JUDGMENTS (TO BE MADE)," WE HAVE
 DEVELOPED, ON A STATISTICALLY SOUND BASIS, A SOIL MEASUREMENT
 AND SAMPLING PLAN FOR THE ATOLL AS A TOTALITY. THIS IS BUT ONE
 PART OF A COMPLEX SCIENTIFICALLY BASED PROGRAM WHICH INCLUDES
 AIR AND WATER SAMPLING, LAND BIOTA AND MARINE LIFE AND BOTTOM
 SAMPLING THROUGHOUT THE ATOLL AREA. THE SOIL EFFORT (MORE

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PROPERLY, THE EXTERNAL DOSE AND SOIL SURVEY), AS DEFINED IN SECTION III OF THE SURVEY PLAN INCLUDES A DETAILED FIELD METER SURVEY AT INTERVALS IN THE RANGE OF 50-100 FEET ON ALL LAND AREAS (FOR A TOTAL ESTIMATED TO EXCEED 25,000 READINGS) AND THE WITHDRAWAL OF SEVERAL HUNDREDS OF SAMPLES OF SOIL FOR STATESIDE RADIOCHEMICAL ANALYSIS. THE PRODUCT OF ALL OF THIS, AFTER A CONSIDERABLE PERIOD OF DATA REDUCTION AND INTERPRETATION, WILL BE A COMPREHENSIVE PICTURE OF THIS ASPECT OF THE ENVIRONMENT OF POTENTIAL INHABITANTS. JUST AS THE PROGRAM ITSELF IS STATISTICALLY DEVELOPED, THE INTERPRETATION OF RESULTS WILL BE STATISTICALLY DERIVED RATHER THAN SPECIFICALLY DEMONSTRATED. WHEN THESE RESULTS, THEN, ARE INTEGRATED WITH THE RESULTS OF THE OTHER FIELD EFFORTS AND EXAMINED IN THE PERSPECTIVE OF AN ASSUMED MODEL FOR THE CULTURE AND LIFE STYLE OF THE NEW ENIWETOK, IT IS HOPED THAT A SUFFICIENT BASIS WILL EXIST FOR SUPPORTABLE JUDGMENTS BY AN INDEPENDENT REVIEW COMMITTEE.

TO RETURN TO THE SOIL SURVEY PROGRAM, THE FIELD METER SURVEY IS NOT DESIGNED TO RESULT DIRECTLY IN THE IDENTIFICATION OF DEBRIS OR SOIL HOTSPOTS TO BE REMOVED. WHEN FOUND, THESE, OF COURSE, WILL BE PLOTTED AND MARKED FOR FUTURE REFERENCE,

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BUT SUCH RESULTS WILL BE A BYPRODUCT OF THE EFFORT TO GATHER SCIENTIFICALLY USEFUL INFORMATION.

THE EXTERNAL DOSE AND SOIL SURVEY IS THUS SEEN TO BE DIRECTED TOWARD THE ASSUMED REQUIREMENTS OF THE INDEPENDENT REVIEW GROUP IN MAKING ITS JUDGMENTS AS TO THE BROAD PARAMETERS OF LATER COURSES OF ACTION. ITS TIMING IN THE CURRENTLY PLANNED SCHEDULE IS CONSISTENT WITH THAT PURPOSE AND IS BELIEVED TO MAXIMIZE THE USEFULNESS OF THE AIRBORNE RADIOMETRIC DATA ACQUISITION CURRENTLY PLANNED FOR NOV. 8-22, ALLOWING A REASONABLE PERIOD FOR THAT DATA TO BE USED IN REFINING THE SOIL SURVEY PLAN.

AS A SEPARATE ACTIVITY, IN SUPPORT OF THE DNA ENGINEERING SURVEY, NY PLANS TO PROVIDE QUITE SPECIFIC RADIOLOGICAL SUPPORT. QUALIFIED MONITORING TEAMS WILL ACCOMPANY HOLMES & NARVER ENGINEERING PERSONNEL TO ASSIST IN THE EXAMINATION, PLOTTING AND MARKING OF ALL CONTAMINATED STRUCTURES AND DEBRIS, AND IN NOTING ANY UNUSUAL RADIOLOGICAL HAZARDS OR PROBLEMS. THEY WILL ALSO ASSIST IN THE EXAMINATION AND DOCUMENTATION OF CRYPTS, BURIAL GROUNDS AND DISPOSAL SITES AND IN SUGGESTING APPROPRIATE PRECAUTIONS TO BE TAKEN IN THEIR REMOVAL.

WE RECOGNIZE THAT THE ABOVE-DESCRIBED ACTIVITY LEAVES UNANSWERED WHAT MAY BECOME DNA'S MOST DIFFICULT PROBLEM -- THE EXTENSIVE PLUTONIUM

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CONTAMINATION OF A LARGE FRACTION OF RUNIT ISLAND. OUR CURRENT SURVEY PLAN IS NOT DESIGNED TO QUANTIFY THAT PROBLEM OR SUGGEST A SOLUTION FOR IT. RUNIT ISLAND HAS SUSTAINED NUMEROUS TEST DETONATIONS AND WHOLESALE EARTH MOVING WHICH HAVE LEFT SUCH A HETEROGENEOUS CONTAMINATION PROBLEM AS TO DEFY ANY KNOWN SAMPLING OR CALCULATIONAL TECHNIQUES. SEPARATELY, WE WILL SHORTLY SUBMIT A RECOMMENDATION FOR ONE RESEARCH APPROACH TO THE RUNIT PUZZLE BUT FOR THE MOMENT WE CANNOT PROMISE ANY SUBSTANTIALLY IMPROVED UNDERSTANDING OF IT FROM THIS SURVEY.

NV'S PLANS ARE NECESSARILY FLUID. WE CLEARLY INTEND NO INTERRUPTION IN THE FLOW OF SAMPLES AND DATA THRU THE LABORATORIES AND INTO AND THRU THE DATA EVALUATION PROGRAM. SHOULD WE FIND THAT THE AIRBORNE SURVEY RESULTS ARE AVAILABLE SOONER THAN NOW ANTICIPATED AND ESPECIALLY SHOULD SUCH RESULTS YIELD INFORMATION WHICH HAS DIRECT CLEANUP IMPLICATIONS, WE WILL, OF COURSE, FOLLOW THAT UP AS A MATTER OF HIGH PRIORITY. MEANWHILE, SHOULD THERE BE SPECIFIC OBTAINABLE INFORMATION WHICH WOULD ASSIST DNA IN MAKING ITS JUDGMENTS, WE WILL DO EVERYTHING WITHIN OUR CAPABILITY TO OBTAIN IT IN TIMELY FASHION. OA:RR

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